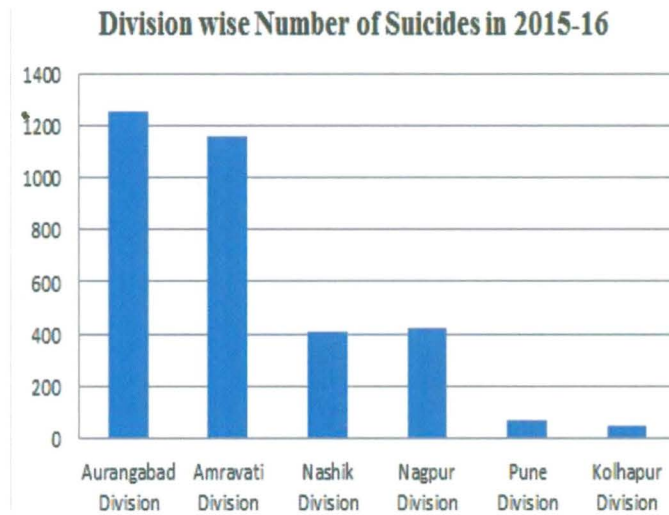


AERC Report

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 (AERC)**

Farmer Suicides in Maharashtra

Sangeeta Shroff
 Jayanti Kajale
 Prashant Bansode

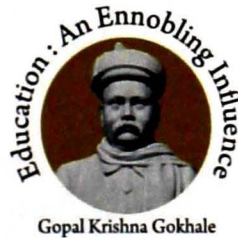


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Farmer Suicides in Maharashtra

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Foreword

Indian agriculture is currently passing through a period of severe crisis and the overall scenario in this sector is that of stagnation, underperformance and lack of dynamism. The Eleventh Plan target growth of 4 percent in the agricultural sector could not be achieved and the Twelfth Plan , has not shown any encouraging picture. The data from 70th Round of NSSO reveal that farmers cannot solely depend upon farming to meet their consumption requirements and in case of 70 percent of households, the monthly per household consumption expenditure was higher than income.

In view of the above agrarian crisis, a study on suicides by farmers in Maharashtra was undertaken. The findings of the study revealed that suicides were concentrated in Marathwada and Aurangabad region which every year, together, accounted for more than 70 percent of suicides in the state. Field level data from suicide prone districts for 2015-16 revealed that the deceased households suffered negative net returns of Rs. 27301/- per acre and there were several cases when sample households suffered from total crop loss but had incurred huge cost of cultivation. Crop failure was often accompanied by fall in prices due to imports or high output in other regions and hence farmers suffered from yield loss, price fall and high cost of cultivation. This state of affairs has led to indebtedness of farmers who borrow heavily from informal sources and out of total borrowing of sample farmers, 61.08 percent was from informal sources. The expenditure of a sample household exceeded income by Rs 60,335/-.

The main policy implications that emerged from the study was that top priority must be given to water shed strategies and irrigation. Marathwada is a water stressed region and continuous drought has led to ground water depletion. Besides, there are natural calamities such as hailstorms which cause pest attack and hence there is a need to install automated weather stations. Allied activities and rural non-farm income must also be promoted.

The findings of the study will certainly be useful to policy makers. I thank Sangeeta Shroff, Jayanti Kajale and Prashant Bansode for undertaking this study.

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January, 2017

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List of Abbreviations

GVA	Gross Value Added
NSSO	National Sample Survey Organization
GoM	Government of Maharashtra
NSA	Net Sown Area
GCA	Gross Cropped Area
PM	Prime Minister
MSP	Minimum Support Price
AAJ	Antyodaya Anna Yojana
ha	hectares
Qtls	Quintals
HH	Household
RRBs	Regional Rural Banks

Chapter 1

Introduction

1.1 Background:

Indian agriculture is currently passing through a period of severe crisis. While this sector has experienced technological interventions which contributed to self-sufficiency in foodgrains, diversification to commercial and horticultural crops and also promotion of dairy, poultry and other allied activities, the overall scenario in this sector is that of stagnation, underperformance and lack of dynamism. The contribution of agriculture to gross value added (GVA) in 2015-16 was 16.1 percent (Government of India, 2016a). While as per 2011 census, the workforce engaged in this sector is 54.6 percent. As per the Agricultural Census 2010-11, the average size of holding is fast declining and is presently 1.16 hectares with 66.8 percent of holdings being marginal and 18 percent being small and therefore constituting 84.8 percent of total holdings (Government of India, 2014). The Eleventh Plan target growth of 4 percent per annum for the agricultural sector could not be achieved as the average growth rate turned out to be 3.67 percent per annum while that of the economy as a whole was 7.9 per cent. Again the Twelfth Plan (2012-17) for agriculture, which is now in its last year, has again not shown any encouraging picture. The growth in 2013-14 as against 2012-13 was 4.2 per cent while it was -0.2 percent in 2014-15 as against in 2013-14. It improved to a miniscule 1.1 percent in 2015-16 as against 2014-15. The overall growth of the economy during each year of twelfth Plan was however around 7 percent (Government of India, 2016a).

Although, slower growth of GVA in agriculture compared to other sectors is expected, the main failure has been the inability to reduce the dependence of the workforce on agriculture significantly leading to marginalization of land holdings coupled with low productivity in agriculture.

The productivity per worker in agriculture in 2011-12, (calculated from data in Agricultural Statistics at a glance 2014, Directorate of Economics and Statistics) for most states varies between Rs. 10,769 in Orissa to about 38288 in Uttar Pradesh. In Maharashtra the productivity per worker is Rs. 20,754. However in Gujarat it is Rs. 54,537 and higher in states such as Punjab where it is Rs. 97,370,

possibly due to availability of irrigation. With such low productivity from agriculture, the households have to resort to wage income, allied activities and non-farm business for their survival. The data from the 70th Round of National Sample Survey Organization (NSSO) reveal that during the period July 2012 to June 2013, at the All India level, the average monthly income per agricultural household was Rs. 6,426 out of which 47.9 percent was from cultivation, 32.9 percent from wage/salary, 11.9 percent from livestock and 8 percent from non-farm business. It is therefore clear that farmers cannot solely depend upon farming to meet their consumption requirements. Infact even after earning income from other sources, in case of 70 percent of households, the monthly per household consumption expenditure was higher than that of income. In case of 32 percent of households in the NSSO (70th Round) survey the consumption expenditure was higher than income by 30 percent, while in case of 35 percent of households, the expenditure was higher by 14 percent. These households obviously had marginal holdings and could not meet their consumption expenditure even with other sources of income. The net investment in productive assets across all sample households in the NSSO survey during the corresponding period, indicated that it was only Rs. 513 per household which is negligible. Further, the agricultural sector is also witnessing a decline in public sector investment. The share of public sector expenditure as percent of Plan Outlay which was 4.4 percent in Ninth Plan, declined to 3.9 percent in Tenth Plan and further to 3.7 percent in Eleventh Plan (Government of India, 2015).

Lack of investment in agriculture is an important cause of low returns which in turn is causing indebtedness. The 70th Round of NSSO which also collected data on indebtedness of farmers reveals that 51.9 percent of households in India are indebted and in several states this percentage is higher. Highest incidence of indebtedness was observed in Andhra Pradesh (92.9 percent of households), followed by Telangana (89.1 percent) and Tamil Nadu (82.5 percent). The percent of households indebted was also higher than national average in major states such as Karnataka (77.3 percent), Rajasthan (61.8 percent) and Maharashtra (57.3 percent). The average amount of outstanding loan per agricultural household was Rs. 47,000 and higher than national average in 50 percent of states. At the All India level, about 60 percent of the outstanding loans were taken from institutional sources while 25.8 percent were taken from agricultural/professional moneylenders.

The Situation Assessment Surveys of the NSSO (2005) had also observed the worsening situation of farming households and noted that about 40 percent farmers' households in the country did not like farming because it is unprofitable, risky, lacks social status and given an option would like to choose another profession. The crisis in the agricultural sector thus had certain features such as deceleration in growth rates in this sector, declining share of agriculture in GVA, falling public investment, low or negative returns, marginalization of land holdings and low opportunities for rural non farm employment leading to disguised employment in this sector, etc. All these features in the agricultural sector have impoverished the farmers and caused distress. One of the tragic manifestations of the crisis is the large number of suicides committed by farmers in several states of India. Till 1995 the government did not have any separate record on farmers' suicides. However, since then the government began to register cases of farmers' suicides separately in the National Crime Record Bureau. The number of farmers' suicide which was 10720 in 1995, has been increasing over the years and peaked in 2004 at 18241. The wave of suicides is prominent in states such as Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh and even Punjab. The spate of suicides among farming community has continued till date and the problem has been so alarming that it has attracted nationwide attention and been the cause of serious debates in the state as well as Union Legislatures. These debates have raised a series of questions about the distressful conditions of farmers and the state of the agricultural economy. Hence, it has become a matter of great policy concern giving rise to the need to undertake studies on the causes of suicides.

1.2 Review of Literature :

The issue of agrarian distress and consequent suicides among farmers provoked the government to conduct surveys and initiate reports on the causes of suicides as well as remedial measures. At the same time a large number of scientific research studies have also been conducted to probe into the socio-economic and other causes of suicides in different parts of the country. Rasal (2012) provides a detailed review of literature covering several studies on causes of suicides among farmers, starting with the first study conducted in 1998 till 2008. The first incidence of farmer's suicide was reported from a rubber growing farmer in Kerala in 1986 and followed by a few other such cases. Such cases however did not attract much

attention. However, since the 1990s, the spate of farmers' suicide spread to several states such as Karnataka, Andhra Pradesh, Maharashtra and even Punjab. The situation was so serious that the then Hon^{ble} Prime Minister of India, after visiting suicide affected districts, announced a rehabilitation package in 2006. Even till date, the issue on farmers' suicide continues to be an important topic of research and a major cause of concern for policy framers.

The initial study conducted by Assadi (1998), probed into the causes of suicides among farmers in Northern Karnataka and the major signs of rural distress. The heavy losses incurred by farmers were due to crop failure and also mounting debts to the money lender. Many farmers who committed suicide were market oriented and earned profits by cultivating crops such as tur, chillies and tomatoes. This encouraged them to increase area under such crops and the bumper harvest led to crash in prices. There was no intervention by government to lift the produce when prices crashed as legislation seldom worked. In certain years, failure of monsoons or even floods or unseasonal rains, washed off the crop. Another factor that increased the cost of cultivation was purchase of spurious inputs such as pesticides borrowing from money lenders and this added to the debt burden of the cultivator. Peasants who had leased in land were unable to pay the landlord the share of produce due to him. They again borrowed from money lenders huge amounts at very high rates of interest. Finding that they are unable to repay the loan and the perpetual threat of losing their land and thereby losing their social existence haunt them and thus push the peasants into the extreme step.

Though the above study by Assadi (1998) is very brief and deals with northern districts of Karnataka, it captures major causes of suicides among farming community which have similar relevance in other states and till date. Another study in Karnataka, Vasavi (1999) noted that even if farmers have access to inputs they do not have appropriate extension services and sometimes purchase poor quality inputs which increases their cost of cultivation. Yet another study in Karnataka by Deshpande (2002) observed that change in cropping pattern from foodgrains to commercial crops, increase in cost of cultivation, lack of institutional support was the root cause of agrarian distress. Most of the farmers who committed suicides were small and marginal and belonged to backward communities. There was dominance of

middlemen in price determination and also other factors such as high consumption expenditure due to social obligations.

Revathi (1998) focused on some missing issues such as lack of irrigation facilities in Andhra Pradesh. Farmers wanted to invest in private sources of irrigation and made huge investment in digging or deepening wells for which they borrowed from non-institutional sources at exorbitant rates of interest. Another study in Andhra Pradesh (Parthasarathy & Shameen 1998) observed a number of factors such as adverse rainfall and instability of yield, unremunerative prices, rise in cost of cultivation, indiscriminate use of pesticides, inaccessibility to institutional sources of credit and growth of lease holdings made farmers vulnerable and thus caught in a debt trap. According to Ratnam (2002) social factors also played a role in suicides as victims belonged to nuclear families and lacked emotional support. Their low level of literacy made them fall a prey to false information from pesticide dealers and they were further exploited by traders and did not receive the price that they expected. Mohan Rao (2004) in his study noted that farmers committing suicide were small and marginal and shifted themselves to cash crops due to occasional benefits received from these crops but which also increased their risk. There was also low degree of social integration amongst these farmers. Similar observations were made in studies by Murlidharan Rao and Venkata Siva Redy (2004), Nazeeruddin (2004), Chandrashekhar and Ghosh (2004), Ratna Reddy and Galab (2005) and several other studies where erratic rainfall, debt, crop failure, spurious inputs, unfavorable output prices, failure of public extension services and public investment and increasing consumption expenditure have all played their role in making the condition of farmers adverse.

In early 2000s suicide among farmers began to attract nationwide attention and even headlines of media reports. In 2000-01 and 2002-03 the highest rate of suicide was observed in Karnataka while in 2004-05 the rate was highest in Andhra Pradesh. In Maharashtra there was a suicide epidemic in 2006 concentrated in the Vidarbha region of the state. Studies by Mohanty (2001) and Mitra and Shroff (2007) revealed that suicides were high in states where cotton is an important crop. Technology (popularity of Bt Cotton) which increased cost of production as well as liberalization in agricultural trade policies of the government by bringing cotton under Open General License and reducing import tariff made India's cotton economy

susceptible to price shocks from the world market. While usage of Bt seeds does increase yield, it was not enough to compensate for the increase in cost of production. Cotton is mainly a rainfed crop in Maharashtra and in years when monsoons fail, the farmers experience huge crop loss. Farmers in Maharashtra cultivate cotton at the mercy of the monsoons and are thus highly vulnerable. In drought conditions, they experience crop loss due to falling yields which is not compensated by higher prices due to loss of competitiveness in a global market. Thus farmers suffer from low yield, low price and high cost of production which finally push him into debt which is a proximate cause for suicide.

The suicide epidemic in Maharashtra in 2006 pushed the government into conducting a number of inquiries (Dandekar et al., 2005; Jadhav, 2008; Mishra, 2006; Planning Commission, 2006). The study by Dandekar et al. (2005) was carried out in the major suicide belt comprising of Vidarbha, Marathwada and Khandesh of Maharashtra. Repeated crop failure, inability to cope up with the rising cost of cultivation, unremunerative prices and consequent indebtedness forced the farmers to commit suicide. The study revealed that more than failure of monsoons, it was pest attack and spurious seeds alongwith high dosage of fertilizers between 2001 and 2004 which not only increased cost but also polluted the ecosystem. The Minimum Support Price fixed by the government did not always cover cost of production and also farmers lacked access to government agencies to dispose off their produce when required. Farmers are also found to be defaulters in repayment of loans from institutional sources and forced to go to private moneylenders who charge a rate of interest of 36 to 72 percent per annum. There is also absence of rural non-farm opportunities and those farmers who faced repeated crop failures and accumulated loans were mainly the ones who took an extreme step. The Planning Commission (2006) report also made similar observations regarding the causes of suicides among farmers. The Report also concluded that Vidarbha and Marathwada face a backlog for irrigation which increased upto 60 percent in 2002 but was 38 percent in 1984. This accounts for low productivity and finally low capacity of farmers to repay their loans. The Committee therefore recommended long term as well as short term policy measures such as distribution of quality seeds, extension services, waiver of institutional loans, water harvesting and conservation, procurement and pricing policies, crop insurance, etc. The study by Mishra (2006) on the basis of an analysis

of 111 suicide cases, identified the socio-economic stressors in order of frequency as indebtedness, deterioration of economic status, conflict with other members of family, crop failure, decline in social position, burden of daughter or sister's marriage, suicide in a nearby village, addictions, change in behavior of deceased, dispute with neighbors/others, health problem, a recent death in the family, history of suicide in family and other family members being ill. A statistical exercise comprising suicide case with non-suicide control once again confirmed that indebtedness and absence of productive asset are significant risk factors. Farmers are vulnerable to yield and price shocks in case of cotton farmers. Given the seriousness of the problem of agrarian distress, a report (Jadhav, 2008) was submitted to Government of Maharashtra to frame an action plan for the agricultural development of Maharashtra against the background of farmers' suicides. While the report observed like most studies that indebtedness is the main reason for economic distress, it also noted that farming in Vidarbha is no longer financially viable mainly due to grossly inadequate irrigation facilities, acute shortage of electric pump-sets and inadequate supply of institutional credit. In addition to irrigation backlog, Vidarbha traditionally has had a very large backlog in electric pumpset connections. As a result, even where wells or lakes had enough storage of water, farmers could not use the water for agricultural purposes due to unavailability of electric pumpsets. A similar situation was with respect to bank credit. In 1995, the institutional credit to agriculture in Vidarbha was 22 percent of total credit to Maharashtra but in 2005, this share declined to 13 percent. Despite lack of irrigation facilities, the cropping pattern has remained largely unchanged and mono cropping rather than diversification was undertaken. Even in years when farmers experienced good yields, the prices for their produce was not favorable thus leading to low incomes. Farmers did not have access to supplementary activities during natural calamities and this caused economic distress. Coupled with this were mental stress from banks and unauthorized moneylenders for repayment of their dues which caused extreme frustration followed by suicide. The Report therefore recommended a package of practices such as promotion of irrigation facilities, supply of credit, moneylender free village, reasonable prices for produce and price awareness. Infrastructure should be strengthened and employment guarantee schemes should be created while crop insurance should be strengthened.

Since suicide among farmers was hype at a time when Bt cotton was also approved for commercialization, i.e in mid-2000, studies Gruère, Mehta-Bhatt, and Sengupta (2008) have conducted a detailed study and reviewed the evidence in order to observe if Bt cotton played a role in being the cause of suicides among farmers. The study noted that Bt cotton has contributed to increase in yield of cotton in India and also brought about reduction in use of pesticide despite bringing about an increase in overall cost of cultivation. There were however certain regions where Bt did not show encouraging results mainly because of lack of irrigation in the event of failure of monsoons, fall in cotton prices, lack of suitable extension services with respect to use of Bt seeds and also use of unbranded spurious seeds. Other factors have also played a major role in Andhra Pradesh and Maharashtra which were the hotspots of suicide such as poor credit delivery system and availability of toxic pesticides. Perhaps Bt can be linked only to specific cases of suicides but is neither a necessary nor specific condition for suicide among farmers. Another study, Guha (2012) studied the facts and factors on suicides among farmers in Maharashtra and India. The study concluded that suicide occur due to international, national and local factors. International factors include negative effects of globalization due to imported agricultural goods being purchased rather than domestic and also price volatility due to integration with world markets. Indian farmers are unable to compete with other countries in the world market. At the national level, although there are several government schemes and package for farmers who committed suicide, it has hardly reduced the spate of suicides. Local factors such as weather, lack of irrigation and social factors have contributed to bringing about distress among farmers.

Farmers' suicide has always been highest in Maharashtra and hence a recent study was conducted Shroff, Kajale and Bodkhe (2015) to observe the cause of agrarian distress in Maharashtra. It was observed that more than half the area under Kharif crops is under cotton and soyabean and both these crops are becoming unremunerative. Suicides are also more prominent in Marathwada and Vidarbha where both cotton and soyabean are major crops. Maharashtra is a high cost state and in case of crops such as jowar and cotton, the Minimum Support Price is not covered. Market prices hover around support level and farmers are unable to cover their cost of production. In case of soyabean there is drastic fall in yield to the extent of 80 percent in certain drought years and field observations revealed that farmers did not even

harvest the crop because the cost of hiring labor would exceed the value of harvest. The irrigated area under cotton is barely 3 percent, while in case of soyabean it is 0.4 percent. Thus in years when there is drought and failure of monsoons, farmers do not have even protective irrigation which leads to sharp fall in yield. The study noted that policy must be directed towards increase in irrigation coverage so that yield potential can be realized.

While lack of irrigation is also considered to be a major cause of suicides in states such as Maharashtra, the same phenomenon was observed in irrigated states such as Punjab and Haryana. Jodhka (2006) observed that in Punjab there was tendency of farmers to borrow for unproductive purposes such as social functions which pushed the farmers into a debt trap and thereby suicide. In Haryana, the socio-economic reasons for suicides was probed by Ahlawat, (2003) and it was observed that 91 percent of the deceased farmers were living in nuclear families and perhaps had less social support. Crop failure was also experienced due to water logging and pest attack and cost of cultivation increased. This coupled with rise in consumption expenditure in order to maintain their status in society forced them to borrow from private sources which they were unable to repay. The cause of agrarian crisis in Kerala was pointed towards the loss of competitiveness of the main commercial crop, i.e. rubber in a global market (Mohanakumar and Sharma 2006). Farmers borrowed at high interest rates for both agricultural as well as social purposes to bridge their gap between income and expenditure and found it difficult to repay and thus caught in a debt trap.

To conclude, from the review of literature, it appears that a large number of factors – social, economic and institutional, have been responsible for distress among farming community. Agriculture in several years no longer seems to be a profitable enterprise due to rising cost of cultivation coupled with low yields and low prices. This leads to low farm revenue and poor repaying capacity of loans and a vicious circle is created into which the farmer is trapped. Social isolation and certain government rescue operations have also not helped to salvage the situation.

1.3 Main Objectives and Scope of the Study:

In the above section it was observed that a large number of studies on suicides among farmers since nearly last two decades have been conducted. The studies deal with different states, cover various causes and suggest various interventions. However, given the magnitude of the problem leading to frantic discussions in Union and State Legislatures, yet another study is being conducted with the following objectives :

1. To analyse the incidence and spread of suicides among farmers in the state of Maharashtra;
2. To study the socio-economic profile, cropping pattern and profitability of victim farm households;
3. To study the causes leading to farmers' suicides including production and market risks, sociological, psychological and other family related factors responsible for farmer suicides;
4. To recommend suitable policies to eliminate the occurrence of incidence of farmers' suicides.

The study will focus in the major regions in the state of Maharashtra where suicides are concentrated.

1.4 Data and Methodology :

The study deals with both secondary as well as primary data. Secondary data has been collected in order to understand the trend in the incidence of suicides since 2001. The data on incidence of suicides is also collected across districts and divisions of Maharashtra, in order to capture the concentration of such incidents. The district wise list of the deceased farmers was obtained from the Agriculture Department (Divisional Office) of Government of Maharashtra Further, the households which suffered from the occurrence of suicides were also entitled to compensation by the government if it was observed that indebtedness or crop loss or any factor related to farming was the main cause of suicide. Therefore the data on

those eligible for compensation out of total suicide cases among farmers has also been collected.

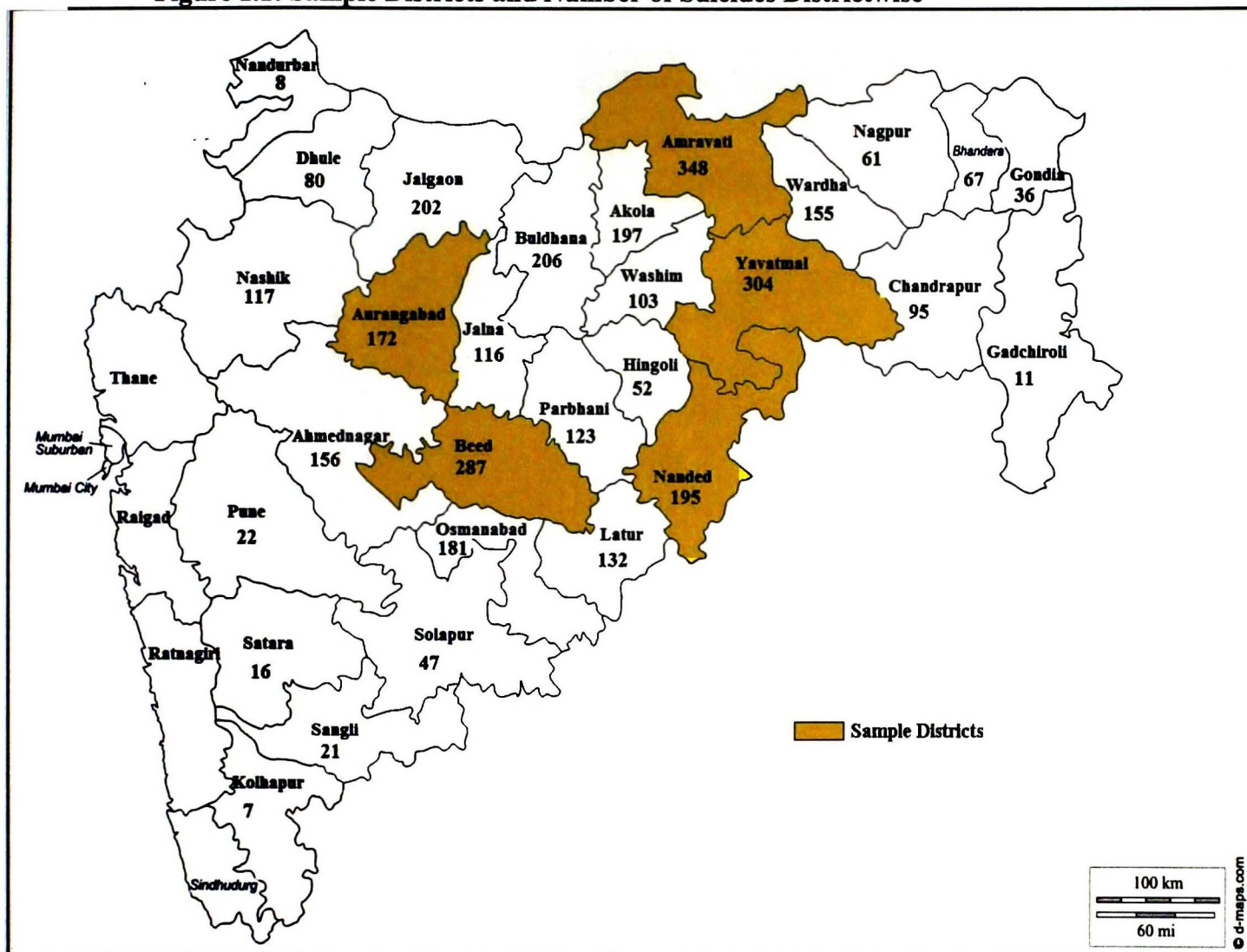
Primary data has been collected from 50 agricultural households which had an incidence of suicide. After selecting districts which were hotspots for suicides, a structured questionnaire was addressed to them. The questionnaire firstly attempted to capture the agricultural status of the household and then try and probe into the causes. Hence primary data has been collected on family size, level of education, social group, cropping pattern, size of holding, source of irrigation, cost of cultivation, etc. In order to observe the extent of agrarian distress, the loan borrowed from institutional as well as non-institutional sources is observed and also the extent of indebtedness. Besides income from agriculture, the income of farmers from other sources was also observed. By and large questions were addressed to observe the socio-economic causes of suicides and also the impact of suicide on the household. After collecting data from sample households, it was neatly tabulated in order to observe the socio economic characteristics of the households and main trigger factors.

The districts selected were those where suicides were concentrated in 2015-16 which is the reference year of the study. The districts selected are from Aurangabad division which had a share of 37.43 percent in number of suicides in 2015-16 and Amravati division where the share was 34.45 percent. Thus these two divisions together accounted for 71.88 percent of suicides in Maharashtra. The five districts selected were Beed, Yavatmal, Amravati, Nanded and Aurangabad which together accounted for 38.85 percent of suicides among farmers in Maharashtra. The list of districts and sample size is indicated in Table 1.1.

Table 1.1 : District wise selection of Households of Suicide Victims

Sr no.	Name of selected District (and Number of suicide households)	Name of select Tauka	Name of village	No.of Victims'families Interviewed
1	Beed (16)	Beed	Ravalsgoan	1
			Beed	2
			Navgan Rajuri	1
		Gevrai	Sakshal Pimpri	1
		Ambejogai	Vadgoan	1
			Kodari	1
		Kej	Sungaoan	1
			Jadhav Javla	1
			Shirur Ghat	1
			Dhanegoan	1
			Jawalban	1
			Sadola	1
			satephal	1
Malegoan	1			
Gotegoan	1			
2	Yavatmal (10)	Darvha	Chani	1
			ChiKhali	1
			Morghavan	1
		Yavatmal	Pandhari	1
			Ghodkhindi	2
			Yavali	1
			Varud	1
			Kamathwada	1
Rui Wai	1			
3	Amravati (9)	Amravati	Nandura Bu.	1
			Anjangoan Bari	1
			Badnera	2
			Shirasgaon Kasaba	1
		Chandurbazar	Masod	2
			Karajgaon	2
4	Nanded (8)	Hadagaon	Kharatwadi	1
			Kharbi	1
		Nanded	Daryapur	1
			Sugav (khu.)	2
			Dhanora	1
			Sugav (bu.)	1
		Ardhapur	Belsar	1
5	Aurangabad (7)	Aurangabad	Pimpiriraja	1
			Pimpri Bk	1
			Harshi BK.	1
			Thergaon	1
		Paithan	Dawarundi	2
			Hanuman Nagar	1
Total Sample Size of 5 districts				50

Figure 1.1: Sample Districts and Number of Suicides Districtwise



1.5 Organisation of the Report

After an introductory chapter, the incidence and intensity of suicides is observed in chapter 2. The number of cases eligible for compensation is also indicated across districts and over the years. Chapter 3 is an analysis of primary data with respect to the socio-economic profile of the victim and the household. In chapter 4 an attempt is made to study the causes of suicides. Finally in chapter 5 the broad conclusions and issues to be addressed by policy are discussed.

Chapter 2

Farmers' Suicide Scenario

2.1 Introduction:

The state of Maharashtra is one of the top economic performers with respect to per capita income which is 1.5 times that of all India (2013-14) (Government of Maharashtra [GoM], 2016). The relatively high per capita income in the state, however, conceals the enormous urban-rural contrast and the regional disparities in per capita income. This gets reflected from the fact that in 2013-14, the per capita district domestic product for Mumbai was 1.6 times that of state average. Only 18 percent of districts, three in Konkan region (Mumbai, undivided Thane and Raigad), in addition to Pune, Nagpur and Kolhapur had per capita income above state average. The remaining 82 percent of districts have per capita district domestic product below state average and in case of 41 percent of these districts, it is below national average. It is in these districts that agriculture is the main economic activity. Although on an average, 52.71 percent of workforce is engaged in agriculture in the state, which is below national average, the disaggregated picture presents an entirely different scenario. In case of 50 percent of the districts mainly concentrated in Vidarbha and Marathwada regions of the state, the share of workforce in agriculture is above 70 percent and in case 76 percent of districts, the share of workforce in agriculture is above 60 percent. Their contribution to state domestic product is also very low in comparison with state average which clearly speaks of agriculture being economically unviable or even loss making enterprise. This situation has worsened over the years and the agrarian distress has manifested into suicide among farmers. In order to understand the causes of suicides, it is first of all necessary to note the regions and districts where suicides are concentrated as it will facilitate an in depth study into the major issues related with distress among farmers.

2.2 Intensity of Farmers' Suicide:

Maharashtra is broadly divided into 6 regions. Suicides among farmers however do not occur in a big way in all regions but are only concentrated in some regions. In Table 2.1 we have indicated the incidence of suicides according to districts in the state.

Table 2.1 : District –wise details of farmers’ suicides in Maharashtra (July 2015 to June 2016)

District	No. of farmers' suicide	Percentage to state total	No. of farmers' suicide per lakh ha of NSA	No. of farmers' suicide per lakh ha. Of GCA	No. of farmers' suicide per lakh farming families
Aurangabad	172	5.12	25.29	15.96	32.45
Jalana	116	3.45	20.35	13.26	28.29
Parbhani	123	3.66	25.63	14.39	35.34
Hingoli	52	1.55	15.76	9.03	24.41
Nanded	195	5.80	27.78	22.67	33.51
Beed	287	8.54	38.22	27.73	44.09
Latur	132	3.93	25.43	17.98	33.93
Osmanabad	181	5.39	38.76	19.05	50.84
Aurangabad Division	1258	37.43	27.96	18.07	36.16
Amravati	348	10.35	46.34	35.37	83.86
Akola	197	5.86	45.81	28.97	81.40
Yavatmal	304	9.04	35.76	30.63	80.21
Buldhana	206	6.13	30.88	21.50	47.91
Washim	103	3.06	27.47	19.36	52.55
Amravati Division	1158	34.45	37.68	32.66	69.68
Nashik	117	3.48	13.45	11.85	18.20
Dhule	80	2.38	18.60	14.76	33.90
Nandurbar	8	0.24	2.76	2.19	5.44
Jalgaon	202	6.01	23.76	17.38	46.01
Nashik Division	407	12.11	16.68	13.31	27.78
Nagpur	61	1.81	11.09	9.52	22.68
Wardha	155	4.61	43.06	33.33	79.08
Bhandara	67	1.99	37.22	26.59	30.59
Gondia	36	1.07	20.00	15.13	15.13
Chandrapur	95	2.83	20.65	17.82	31.25
Gadchorili	11	0.33	6.47	5.14	8.15
Nagpur Division	425	12.65	22.37	18.14	31.23
Ahmednagar	156	4.64	14.44	10.52	16.32
Pune	22	0.65	2.39	1.89	2.96
Solapur	47	1.40	4.60	3.97	7.01
Pune Division	69	2.05	2.28	1.80	2.91
Satara	16	0.48	2.96	2.37	1.86
Sangli	21	0.62	3.56	2.90	3.90
Kolhapur	7	0.21	1.63	1.11	1.10
Kolhapur Division	44	1.31	2.82	2.16	2.16
Maharashtra	3361	100	19.38	14.44	24.53

Source: Office of Divisional Commissioner of Government of Maharashtra (Unpublished Data) and Land Utilization Statistics (GoM)

It can be observed from Table 2.1 that in 2015-16 the highest share of number of suicides in Maharashtra was in Aurangabad division (37.43 percent), followed by Amravati Division (34.45 percent). However, the picture undergoes a change when the number of suicides per lakh hectare of NSA and GCA as well as per lakh farming families is observed. While the number of suicides per lakh hectare of NSA was 37.68 in Amravati division, it was 27.96 in Aurangabad division while with respect to GCA the corresponding figures were 32.66 in Amravati division and 18.07

in Aurangabad division. A similar observation was made with respect to suicides per lakh farming families where it was 69.68 for Amravati division and 36.16 for Aurangabad division.

From Annexure 2.1, it can also be observed that in Maharashtra suicides which were 62 in number in 2001 increased to 2376 in 2006, i.e increase by 38 times and a little more than half was contributed by Amravati division. While this figure did show some decline in the following years, it touched a higher peak in 2015 and was 3228, the highest in India. The share of Aurangabad which was 15.91 percent in 2006 now showed a massive rise to 35.01 percent.

In Table 2.2, the number of suicides in Maharashtra in 2015-16 (month-wise) is indicated. It can be observed that in 2015-16 the state witnessed 3361 number of suicides and the highest number of suicides were in the month of October (10.24 percent), followed by August (10.12 percent).

Table 2.2 Month-Wise Number of Farmers' Suicide in Maharashtra (July 2015 to June 2016)

Month	Number of farmers' Suicides	Percent to total number of farmers' suicides
July 2015	272	8.08
August 2015	340	10.12
September 2015	324	9.64
October 2015	344	10.24
November 2015	293	8.72
December 2015	321	9.54
January 2016	240	7.14
February 2016	214	6.37
March 2016	259	7.71
April 2016	263	7.83
May 2016	254	7.56
June 2016	237	7.05
Total	3361	100

Source : Office of Divisional Commissioner of Maharashtra (Unpublished Data)

2.3 Procedure adopted and criteria for compensation:

In the above section, the incidence of suicides among farmers in Maharashtra with the Vidarbha region being the epicenter of a major farmer suicide crisis, followed by Marathwada region. Given the seriousness of the problem and the level of distress which led several farmers to take the extreme step, several compensation measures both at the individual level as well as for the agricultural sector as a whole have been implemented.

In early years of the 2000 decade, whenever a suicide case was brought to the notice of the Divisional Commissioner, an enquiry was carried out by Tahsildars or Sub Divisional Officers to ascertain the causes of suicide. If it was established that indebtedness of the farmer from a financial institutional was the primary cause for suicide, the case was treated as a suicide due to agricultural indebtedness. The government stated that although it had no formal scheme for providing assistance to families of farmers who committed suicide, an amount of Rs. 1 lakh is provided on a discretionary basis from the Chief Minister's Relief Fund. The criterion applicable was that agricultural indebtedness should be established as the cause of suicide. Those who were found to be ineligible for compensation was because it was observed that they had not taken loan from formal institutional source, did not own land either in his name or in the name of his family, was addicted to alcohol, had conflicts or had accidental death.

While assistance to the deceased farmer was provided from the Chief Minister's Relief Fund, as mentioned above, a policy decision was made on 23rd January 2006 by the state government to constitute a separate and independent Committee for each District with the Collector as its head. Further, the assistance will not be from the Chief Minister's Relief Fund, but from Social Security and Welfare Fund which is a regular budgetary head. The Committee will consist of (i) A representative of agriculturists; (ii) A representative of non-governmental organizations; (iii) The Chief Executive officer of the Zilla Parishad; (iv) the superintendent of Police (v) the superintending Agricultural Officer. All cases relating to suicide by farmers are to be considered at the district level by the committee constituted for each district and the disbursement of assistance is to be made strictly by the committee from the funds available at its disposal. The state government further submitted that initially assistance was being given only to those cases which

satisfied a triple test namely (i) the deceased farmer should be an agriculturist; (ii) the deceased farmer should have been indebted to a financial institution that had disbursed a loan to him; and (iii) there should have been pressure for the recovery or repayment of the loan at the behest of the creditor. However, on 27th February, 2006, a policy decision was taken by the state government to broaden the criterion for providing financial assistance to families of those farmers who had committed suicide. Under the new criteria, the deceased farmer is to be presumed to be an agriculturist, if any member in the family holds agricultural land. All such cases will be considered to be eligible where the loan has been obtained by any member of the family of the deceased farmer from a Nationalized Bank, a Cooperative Bank, Cooperative Credit Society or licensed Money lender and where on account of non-payment of loan installments, there are outstanding overdues. In view of the changed criterion, the state government had agreed to reconsider all cases that were found to be ineligible and assistance declined from 1st January 2001 (The Secretary, All India Bio Dynamic and Organic Farming Association vs the Principal Secretary, Government of Maharashtra, 2006)

2.4 Payment of Compensation and Measures to Prevent Suicides by Farmers :

The number of cases eligible for compensation and the percentage to total suicides is indicated in Table 2.3 for each district in the state. The compensation package was Rs. 1 lakh per family where suicide took place, out of which Rs. 30,000 was paid in cash and Rs. 70,000 was deposited in the bank as a Fixed Deposit.

From Table 2.3, it can be observed that on an average, in the state of Maharashtra, 65.74 percent of families where suicide was committed received compensation. In Aurangabad division where maximum number of suicides was committed, the number of families which received compensation was 67.41 percent while the corresponding figure for Amravati was 60.45. In western Maharashtra where the number of suicides was relatively negligible, in three districts, namely Pune, Solapur and Kolhapur, all families where suicide was committed received compensation.

Discussions with the bereaved families revealed that in addition to the compensation of Rs 1 lakh, they also received seed and fertilizer as some compensation in kind.

Table 2.3 District-wise details of compensation (July 2015 to June 2016)

District	Number of families compensated	Percent of families compensated to total farmers' suicides	Total amount of compensation in lakhs	Compensation paid per family (Lakhs)
Aurangabad	125	72.67	125	1
Jalana	60	51.72	60	1
Parbhani	73	59.35	73	1
Hingoli	46	88.46	46	1
Nanded	117	60.00	117	1
Beed	220	76.66	220	1
Latur	94	71.21	94	1
Osmanabad	113	62.43	113	1
Aurangabad Division	848	67.41	848	1
Amravati	214	61.49	214	1
Akola	134	68.02	134	1
Yavatmal	143	47.04	143	1
Buldhana	154	74.76	154	1
Washim	55	53.40	55	1
Amravati Division	700	60.45	700	1
Nashik	95	81.20	95	1
Dhule	64	80.00	64	1
Nandurbar	7	87.50	7	1
Jalgaon	144	71.29	144	1
Nashik Division	310	76.17	310	1
Nagpur	29	47.54	29	1
Wardha	124	80.00	124	1
Bhandara	52	77.61	52	1
Gondia	14	38.89	14	1
Chandrapur	56	58.95	56	1
Gadchiroli	1	9.09	1	1
Nagpur Division	276	64.94	276	1
Ahmednagar	76	48.72	76	1
Pune	22	100.00	22	1
Solapur	47	100.00	47	1
Pune Division	145	64.44	145	1
Satara	7	43.75	7	1
Sangli	19	90.48	19	1
Kolhapur	7	100.00	7	1
Kolhapur Division	33	75.00	33	1
Maharashtra	2312	65.74	2312	1

Source : Department of Relief and rehabilitation, Government of Maharashtra (Unpublished data)

The above mentioned package was that of the state government. However, in 2006 when there was virtually a suicide epidemic in Maharashtra and infact this issue was receiving considerable social and public policy attention, a package was also announced by central government. Concerned by farmers' suicides in some parts of the country, the Hon'ble Prime Minister of India, after visiting some parts of the Vidarbha region in Maharashtra, announced a rehabilitation package on July 1, 2006 to mitigate the distress of farmers in the identified districts. This compensation package included credit related schemes as well as measures to improve the productivity of crops and thus augment farm incomes (Kalamkar and Shroff, 2011).

The credit related measures included three sub schemes, viz. debt relief to the farmers (re-schedulement of loans) over a period of three to five years with one year moratorium, interest waiver and credit flow. The entire interest on overdue loans to farmers as on July 1, 2006 was waived and farmers had no past interest burden as on that date. Other features of the package were to increase area under irrigation, undertake a massive seed replacement programme with 50 percent subsidy, and promote watershed development and horticulture development. Area under micro irrigation in the form of drip and sprinkler was to be increased as it is also an important form of irrigation. Under the Prime Minister (PM) package an effective and efficient extension service mechanism was to be encouraged in order to empower the farmers with new technologies. Finally subsidiary income activities such as livestock and fisheries were also to be promoted. The total amount allocated for various schemes under PM package is indicated in Annexure 2.12. It can be observed from Annexure 2.12 that highest allocation (64.5 percent) was under assured irrigation facilities for the purpose of major, medium and minor irrigation projects. Besides provision was also made for micro irrigation, check dams watershed and rain water harvesting. This clearly indicates the crying need for protective irrigation in case of failure of monsoons.

Further, with a view to alleviate the sufferings of debt stressed families of farmers in the six affected districts of Vidarbha, a sum of Rs. 50 lakhs for each district was placed at the disposal of the respective district collectors. Therefore a sum of Rs. 3 crore was received from Prime Minister's National Relief Fund during 2006-08 and Rs. 3.60 crore was also received from Chief Minister's Relief Fund during 2008-09 as

ex-gratia Relief Fund. This ex-gratia assistance was given to 9,555 farmers, out of which 7341 farmers received health assistance and 2214 farmers received educational assistance. About 20 percent assistance was provided for education and 80 percent assistance for health.

Besides overall state and central schemes, a number of other schemes were also introduced and implemented by the government at the district level to arrest suicides among the farming community. It was observed that spate of suicides among farmers was highly concentrated in the districts of Yavatmal and Osmanabad and more or less peaked in 2015. Thus the Yavatmal district administration submitted a proposal to the state government which in turn issued a Government Resolution on July 24th, 2015, wherein it resolved to make two districts – Osmanabad and Yavatmal suicide free in two years. The government recommended to the district administration to launch a project “Baliraja Chetana Abhiyan” with the purpose of creating mass awareness among the distressed farmers across the districts with respect to government sponsored schemes for the overall welfare of farmers so as to prevent them from taking any extreme steps. The state allotted Rs. 32 crore annually for the implementation of the scheme to be carried out in the district in the next three years. The scheme is implemented by the village level committee headed by the sarpanch of the village and overall supervision is to be done by the district level committee. The scheme entails mass marriages for the daughters of farmers, counseling to minimize the mental stress of the farmers, boost the morale of the farmers through health care camps, training to educated youths for setting up small industrial units and encouraging the farmers to join the village based cooperative credit societies (Abraham, 2016). Initiatives under this scheme included spreading awareness of success stories among farmers, facilitating marketing of agricultural produce, setting up of skill development centres, restructuring of defaulted crop loan and provision of fresh crop loan. Further, allocation was also made towards irrigation projects, farm wells and energy connections. The village level committees headed by the sarpanch also had Rs. 1 lakh each to help the families of farmers for meeting expenses related to health, education and loan installments which were major causes of distress.

Other measures undertaken by the government were awareness of crop insurance, maintaining soil health cards so as to improve productivity, promoting irrigation, and also launching of schemes for accident insurance of farmers. Farmers

were also given two bags of seed and some other inputs for which they did not have to make payment.

2.5 Summary:

In the last two decades the state, like many other states has been suffering from underperformance in the agricultural sector due to crop failure and unsatisfactory farm prices. This state of affairs has caused agrarian crisis and led to a spate of suicides among farmers. The state of Maharashtra is divided into 6 regions. However, the suicides are concentrated mainly in the regions of Vidarbha and Marathwada. If we consider the period from 2001 to 2016, it can be observed that 50.55 percent of total suicides in the state are in the division of Amravati, followed by Aurangabad division where it was 20.36 percent. The year wise picture however reveals that in 2015, the share of Amravati was 36.52 percent and that of Aurangabad was 35.01 percent, thus indicating rapid rise in distress in Aurangabad division. In Amravati division, it was observed that Yavatmal had maximum number of suicides. The data with respect to suicides per lakh hectare indicate that in Vidarbha region in 2015 the suicides were 39.14 per lakh hectare NSA and 29.22 per lakh hectare GCA. In Marathwada the corresponding figure was 25.16 and 16.27. In Marathwada region, a number of districts showed an alarming rise in number of suicides from 2014 to 2015.

Given the magnitude of the problem and crisis in the state in the agricultural sector, certain relief and compensation packages had to be implemented by the state and central government. The state government had a compensation package wherein Rs. 1 lakh was given to families who were eligible. The data indicate that in 2006 which experienced high incidence of suicides, less than half or 43.64 percent of farmers received compensation and this share was only 39.46 percent in Amravati division which had 54.5 percent of suicide cases. With change in criteria for compensation, where the deceased was presumed to be an agriculturist if any member of the family had agricultural land, the share in Amravati division for those eligible for compensation increased to 60.31 percent in 2015 and was 57.03 percent for the state.

Besides providing for Rs. 1 lakh compensation to the family of the deceased, several socio-economic welfare schemes were also launched at the district

and village level to improve the welfare of farmers and reduce distress levels. Further, in 2006, when there was a sudden spurt in suicides in Maharashtra, there were several measures through Prime Minister's Relief Fund to enable the farmers to reschedule loans, waiving of interest, ex-gratia payment and also other measures to strengthen delivery of inputs.

Overall, it can be observed that while the situation related to agrarian distress is acute, the government is making all round efforts to compensate the family of the deceased as well as implement schemes so that farmers can access all inputs and thus improve his productivity.

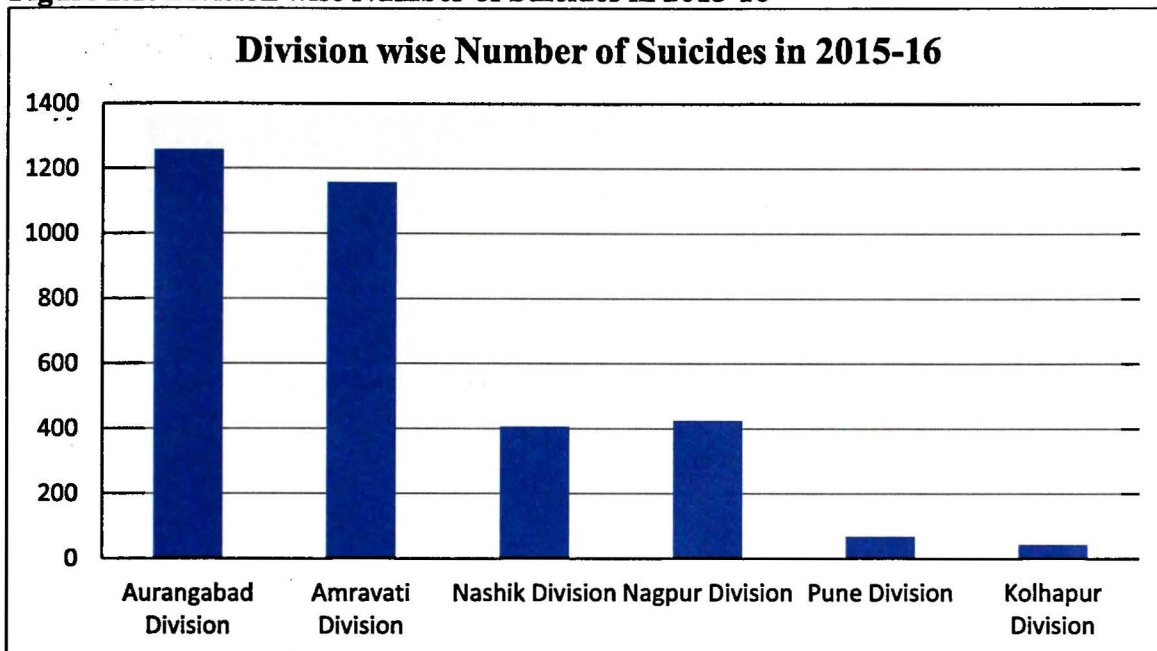
Annexure 2.1 : Division wise Number of Suicides in Maharashtra

Suicide Cases 2001 to 2016								
Sr.No.	Year	Konkan	Nashik	Pune	Aurangabad	Amravati	Nagpur	Maharashtra
1	2001	0 (0)	10 (16.13)	0 (0)	0 (0)	49 (79.03)	3 (4.84)	62 (100)
2	2002	0 (0)	2 (1.64)	1 (0.82)	9 (7.38)	80 (65.57)	30 (24.59)	122 (100)
3	2003	0 (0)	2 (1.11)	3 (1.67)	14 (7.78)	134 (74.44)	27 (15)	180 (100)
4	2004	0 (0)	38 (5.94)	9 (1.41)	95 (14.84)	418 (65.31)	80 (12.5)	640 (100)
5	2005	0 (0)	33 (5.42)	19 (3.12)	58 (9.52)	419 (68.8)	80 (13.14)	609 (100)
6	2006	3 (0.13)	212 (8.92)	121 (5.09)	378 (15.91)	1295 (54.5)	367 (15.45)	2376 (100)
7	2007	0 (0)	183 (8.82)	123 (5.92)	327 (15.75)	1119 (53.9)	324 (15.61)	2076 (100)
8	2008	2 (0.1)	172 (8.75)	120 (6.1)	285 (14.5)	1061 (53.97)	326 (16.58)	1966 (100)
9	2009	0 (0)	125 (7.79)	91 (5.67)	228 (14.21)	905 (56.39)	256 (15.95)	1605 (100)
10	2010	4 (0.23)	123 (7.06)	67 (3.85)	191 (10.97)	1051 (60.37)	305 (17.52)	1741 (100)
11	2011	3 (0.2)	172 (11.33)	36 (2.37)	169 (11.13)	886 (58.37)	252 (16.6)	1518 (100)
12	2012	4 (0.27)	202 (13.71)	35 (2.38)	198 (13.44)	841 (57.09)	193 (13.1)	1473 (100)
13	2013	0 (0)	170 (13.12)	37 (2.85)	207 (15.97)	705 (54.4)	177 (13.66)	1296 (100)
14	2014	4 (0.2)	283 (14.29)	23 (1.16)	574 (28.98)	828 (41.8)	269 (13.58)	1981 (100)
15	2015	2 (0.06)	459 (14.22)	96 (2.97)	1130 (35.01)	1179 (36.52)	362 (11.21)	3228 (100)
16	2016	0 (0)	449 (15.83)	72 (2.54)	985 (35.74)	1011 (34.11)	318 (11.22)	2835 (100)
	Total 2001 to 2016	22 (0.09)	2600 (11.09)	849 (3.62)	4770 (20.36)	11843 (50.55)	3348 (14.29)	23432 (100)

Note: Figure in bracket are percentage to total suicides in Maharashtra

Source : Department of Relief and Rehabilitation, Government of Maharashtra, Mumbai

Figure 2.1: Division wise Number of Suicides in 2015-16



Annexure 2.2 : Division wise Suicide for per lakh hectare of GCA and NSA

Year	Konkan		Nashik		Pune		Aurangabad		Amravati		Nagpur		Maharashtra	
	Per lakh ha of GCA	Per lakh ha of NSA	Per lakh ha of GCA	Per lakh ha of NSA	Per lakh ha of GCA	Per lakh ha of NSA	Per lakh ha of GCA	Per lakh ha of NSA	Per lakh ha of GCA	Per lakh ha of NSA	Per lakh ha of GCA	Per lakh ha of NSA	Per lakh ha of GCA	Per lakh ha of NSA
2001	0.00	0	0.32	0.41	0.00	0	0.00	0	1.25	1.58	0.14	0.16	0.28	0.35
2002	0.00	0	0.06	0.08	0.03	0.03	0.14	0.2	2.01	2.58	1.41	1.58	0.54	0.69
2003	0.00	0	0.06	0.08	0.08	0.10	0.22	0.31	3.33	4.32	1.27	1.42	0.80	1.02
2004	0.00	0	1.21	1.55	0.25	0.29	1.51	2.08	10.45	13.49	3.72	4.21	2.88	3.67
2005	0.00	0	1.02	1.34	0.51	0.61	0.92	1.27	10.60	13.6	3.78	4.23	2.61	3.48
2006	0.34	0.37	6.58	8.61	3.27	3.91	6.00	8.3	32.77	42.02	17.33	19.42	10.17	13.58
2007	0.00	0	5.68	7.43	3.32	3.97	5.19	7.18	28.32	36.31	15.30	17.15	8.88	11.87
2008	0.23	0.24	5.59	6.99	3.21	3.88	4.31	6.26	26.78	34.43	14.25	17.25	8.69	11.24
2009	0.00	0	4.06	5.08	2.44	2.96	3.45	5.04	22.84	29.39	11.19	13.47	7.10	9.21
2010	0.45	0.49	4.00	5	1.79	2.2	2.89	4.22	26.53	34.15	13.33	16.07	7.70	10.01
2011	0.34	0.37	5.54	6.99	0.95	1.18	2.44	3.73	21.75	28.8	10.64	13.25	6.55	8.72
2012	0.45	0.49	6.63	8.21	0.93	1.15	2.83	4.37	20.54	27.29	8.20	10.15	6.37	8.47
2013	0.00	0	5.58	6.91	0.98	1.23	2.96	4.58	17.22	22.87	7.52	9.31	5.61	7.47
2014	0.45	0.48	9.26	11.56	0.61	0.76	8.05	12.69	20.00	26.83	11.39	14.12	8.47	11.41
2015	0.23	0.24	15.01	18.76	2.50	3.17	16.22	25.1	28.42	38.27	15.38	18.98	13.87	18.61
2016	0	0	14.68	18.35	1.87	2.38	14.14	21.87	24.37	32.81	13.51	16.67	12.18	16.34

Source: Calculated from data from Department of Relief and Rehabilitation, GoM along with data on GCA and NSA from Land Utilization Statistics, GoM

Annexure 2.3: District wise Number of Suicides in Maharashtra

Districts	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aurangabad	0 (0)	0 (0)	0 (0)	13 (2.03)	4 (0.66)	32 (1.35)	16 (0.77)	17 (0.86)	11 (0.69)	2 (0.11)	0 (0)	2 (0.14)	4 (0.31)	56 (2.83)	144 (4.46)	141 (4.97)
Jalna	0 (0)	5 (4.1)	8 (4.44)	19 (2.97)	6 (0.99)	39 (1.64)	25 (1.2)	20 (1.02)	2 (0.12)	4 (0.23)	6 (0.4)	6 (0.41)	8 (0.62)	32 (1.62)	83 (2.57)	73 (2.57)
Parbhani	0 (0)	2 (1.64)	4 (2.22)	6 (0.94)	10 (1.64)	51 (2.15)	28 (1.35)	18 (0.92)	28 (1.74)	22 (1.26)	23 (1.52)	35 (2.38)	17 (1.31)	70 (3.53)	104 (3.22)	91 (3.21)
Hingoli	0 (0)	0 (0)	0 (0)	7 (1.09)	6 (0.99)	21 (0.88)	16 (0.77)	12 (0.61)	9 (0.56)	2 (0.11)	5 (0.33)	3 (0.2)	2 (0.15)	31 (1.56)	41 (1.27)	48 (1.69)
Nanded	0 (0)	0 (0)	2 (1.11)	29 (4.53)	11 (1.81)	60 (2.53)	72 (3.47)	59 (3)	60 (3.74)	55 (3.16)	33 (2.17)	39 (2.65)	46 (3.55)	118 (5.96)	190 (5.89)	167 (5.89)
Beed	0 (0)	0 (0)	0 (0)	11 (1.72)	12 (1.97)	124 (5.22)	95 (4.58)	86 (4.37)	88 (5.48)	79 (4.54)	73 (4.81)	91 (6.18)	98 (7.56)	152 (7.67)	301 (9.32)	208 (7.34)
Latur	0 (0)	0 (0)	0 (0)	5 (0.78)	6 (0.99)	17 (0.72)	23 (1.11)	23 (1.17)	8 (0.5)	4 (0.23)	4 (0.26)	0 (0)	3 (0.23)	44 (2.22)	106 (3.28)	107 (3.77)
Osmanabad	0 (0)	2 (1.64)	0 (0)	5 (0.78)	3 (0.49)	34 (1.43)	52 (2.5)	50 (2.54)	22 (1.37)	23 (1.32)	25 (1.65)	22 (1.49)	29 (2.24)	71 (3.58)	164 (5.08)	150 (5.29)
Total Marathwada	0 (0)	9 (7.38)	14 (7.78)	95 (14.84)	58 (9.52)	378 (15.91)	327 (15.75)	285 (14.5)	228 (14.21)	191 (10.97)	169 (11.13)	198 (13.44)	207 (15.97)	574 (28.98)	1133 (35.1)	985 (34.74)
Amravati	11 (17.74)	20 (16.39)	41 (22.78)	101 (15.78)	102 (16.75)	270 (11.36)	265 (12.76)	264 (13.43)	220 (13.71)	283 (16.26)	254 (16.73)	190 (12.9)	167 (12.89)	209 (10.55)	306 (9.48)	308 (10.86)
Akola	6 (9.68)	7 (5.74)	21 (11.67)	46 (7.19)	43 (7.06)	174 (7.32)	125 (6.02)	165 (8.39)	136 (8.47)	200 (11.49)	177 (11.66)	178 (12.08)	136 (10.49)	156 (7.87)	195 (6.04)	148 (5.22)
Yavatmal	17 (27.42)	38 (31.15)	52 (28.89)	142 (22.19)	167 (27.42)	360 (15.15)	359 (17.29)	311 (15.82)	325 (20.25)	309 (17.75)	240 (15.81)	238 (16.16)	231 (17.82)	266 (13.43)	386 (11.96)	226 (7.97)
Buldhana	8 (12.9)	9 (7.38)	14 (7.78)	85 (13.28)	81 (13.3)	306 (12.88)	193 (9.3)	195 (9.92)	103 (6.42)	137 (7.87)	126 (8.3)	153 (10.39)	111 (8.56)	111 (5.6)	189 (5.86)	217 (7.65)
Washim	7 (11.29)	6 (4.92)	6 (3.33)	44 (6.88)	26 (4.27)	185 (7.79)	177 (8.53)	126 (6.41)	121 (7.54)	122 (7.01)	89 (5.86)	83 (5.63)	60 (4.63)	88 (4.44)	108 (3.35)	89 (3.14)
Wardha	3 (4.84)	24 (19.67)	14 (7.78)	29 (4.53)	26 (4.27)	154 (6.48)	128 (6.17)	87 (4.43)	100 (6.23)	126 (7.24)	113 (7.44)	109 (7.4)	100 (7.72)	134 (6.76)	164 (5.08)	121 (4.27)
Total Vidharbha	52 (83.87)	104 (85.25)	148 (82.22)	447 (69.84)	445 (73.07)	1449 (60.98)	1247 (60.07)	1148 (58.39)	1005 (62.62)	1177 (67.6)	999 (65.81)	951 (64.56)	805 (62.11)	964 (48.66)	1348 (41.76)	1109 (39.12)
Total Vidharbha & Marathwada	52 (83.87)	113 (92.62)	162 (90)	542 (84.69)	503 (82.59)	1827 (76.89)	1574 (75.82)	1433 (72.89)	1233 (76.82)	1368 (78.58)	1168 (76.94)	1149 (78)	1012 (78.09)	1538 (77.64)	2481 (76.86)	2094 (73.86)
Rest of Maharashtra	10 (16.13)	9 (7.38)	18 (10)	98 (15.31)	106 (17.41)	549 (23.11)	502 (24.18)	533 (27.11)	372 (23.18)	373 (21.42)	350 (23.06)	324 (22)	284 (21.91)	443 (22.36)	747 (23.14)	741 (26.14)
Maharashtra	62 (100)	122 (100)	180 (100)	640 (100)	609 (100)	2376 (100)	2076 (100)	1966 (100)	1605 (100)	1741 (100)	1518 (100)	1473 (100)	1296 (100)	1981 (100)	3228 (100)	2835 (100)

Note: Figures in Bracket are percentage to Maharashtra; Source : Department of Relief and Rehabilitation, GoM

Annexure 2.4 : District wise suicide for per lakh hectare of GCA and NSA in Marathwada

Distri cts	Aurangabad		Jalna		Parbhani		Hingoli		Nanded		Beed		Latur		Osmanabad		Total Marathwada		
	Suicide per lakh GCA	Suicide per lakh NSA	Suicide per lakh GCA	Suicide per lakh NSA	Suicide per lakh GCA	Suicide per lakh NSA	Suicide per lakh GCA	Suicide per lakh NSA	Suicide per lakh GCA	Suicide per lakh NSA	Suicide per lakh GCA	Suicide per lakh NSA	Suicide per lakh GCA	Suicide per lakh NSA	Suicide per lakh GCA	Suicide per lakh NSA	Suicide per lakh GCA	Suicide per lakh NSA	
2001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2002	0.00	0.00	0.68	0.85	0.24	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.41	0.14	0.20	0.20
2003	0.00	0.00	1.04	1.37	0.48	0.82	0.00	0.00	0.24	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.31	0.31
2004	1.29	1.87	2.46	3.28	0.95	1.23	1.50	2.12	2.81	4.11	1.03	1.44	0.70	0.96	0.67	1.03	1.47	2.08	2.08
2005	0.38	0.58	0.82	1.04	1.19	2.04	1.15	1.82	1.34	1.56	1.34	1.58	0.83	1.15	0.42	0.63	0.92	1.27	1.27
2006	3.04	4.64	5.32	6.75	6.09	10.42	4.02	6.37	7.32	8.52	13.85	16.31	2.35	3.26	4.75	7.11	6.00	8.30	8.30
2007	1.52	2.32	3.41	4.32	3.34	5.72	3.07	4.86	8.78	10.22	10.61	12.50	3.17	4.40	7.26	10.87	5.19	7.18	7.18
2008	1.60	2.46	2.57	3.46	2.14	3.68	2.35	3.64	6.68	8.37	8.79	11.31	3.11	4.40	6.05	10.45	4.31	6.26	6.26
2009	1.04	1.59	0.26	0.35	3.32	5.80	1.77	2.72	6.79	8.53	9.00	11.74	1.08	1.54	2.66	4.59	3.45	5.04	5.04
2010	0.19	0.29	0.51	0.70	2.61	4.55	0.39	0.61	6.23	7.82	8.08	10.55	0.54	0.77	2.78	4.80	2.89	4.22	4.22
2011	0.00	0.00	0.75	1.05	2.57	4.76	0.94	1.52	3.48	4.66	7.21	9.75	0.52	0.77	2.78	5.22	2.44	3.73	3.73
2012	0.17	0.29	0.76	1.05	3.92	7.25	0.57	0.91	4.11	5.50	9.00	12.16	0.00	0.00	2.44	4.60	2.83	4.37	4.37
2013	0.35	0.58	1.01	1.41	1.90	3.52	0.38	0.61	4.85	6.49	9.69	13.09	0.39	0.58	3.21	6.13	2.96	4.58	4.58
2014	4.85	8.16	4.05	5.63	7.83	14.50	5.38	9.36	12.44	16.66	14.63	20.14	5.65	8.43	7.45	15.06	8.05	12.69	12.69
2015	13.36	21.14	9.48	14.50	12.16	21.65	7.12	12.45	22.11	27.05	29.08	40.09	14.43	20.44	17.25	35.09	16.27	25.16	25.16
2016	12.15	19.22	7.65	11.70	9.7	17.28	7.29	12.75	17.57	21.49	18.93	27.9	13.47	19.08	14.52	29.53	14.14	21.88	21.88

Source : Calculated from data from Dept of Relief and Rehabilitation. GOM and data on land Utilization Statistics, GoM.

Annexure 2.5 District wise suicide for per lakh hectare of GCA and NSA in Vidharbha

Districts	Amravati		Akola		Yavatmal		Buldhana		Washim		Wardha		Total Vidharbha	
	Suicide per lakh ha GCA	Suicide per lakh ha NSA	Suicide per lakh ha GCA	Suicide per lakh ha NSA	Suicide per lakh ha GCA	Suicide per lakh ha NSA	Suicide per lakh ha GCA	Suicide per lakh ha NSA	Suicide per lakh ha GCA	Suicide per lakh ha NSA	Suicide per lakh ha GCA	Suicide per lakh ha NSA	Suicide per lakh ha GCA	Suicide per lakh ha NSA
2001	1.07	1.47	1.10	1.37	1.74	2.00	0.96	1.17	1.29	1.84	0.78	0.82	1.21	1.50
2002	1.94	2.67	1.28	1.60	3.89	4.47	1.06	1.31	1.04	1.58	6.25	6.57	2.38	3.00
2003	3.91	5.47	3.80	4.82	5.32	6.12	1.65	2.05	1.02	1.58	3.64	3.82	3.36	4.27
2004	9.00	13.43	8.47	10.58	10.50	16.75	8.79	12.72	8.58	11.61	4.61	7.96	8.72	12.97
2005	9.52	13.56	8.17	9.89	17.11	19.70	9.67	12.12	4.82	6.86	6.76	7.13	10.26	12.91
2006	25.19	35.90	33.08	40.01	36.88	42.47	36.52	45.78	34.29	48.81	40.02	42.25	33.42	42.04
2007	24.73	35.24	23.76	28.74	36.78	42.35	23.03	28.87	32.81	46.70	33.26	35.12	28.76	36.18
2008	26.83	35.09	27.85	38.03	31.85	36.75	21.71	29.14	24.66	33.36	18.96	23.86	25.97	33.33
2009	22.36	29.26	22.95	31.36	33.29	38.47	11.47	15.39	23.68	32.04	21.79	27.46	22.73	29.20
2010	28.76	37.68	33.76	46.06	31.65	36.60	15.25	20.47	23.87	32.29	27.46	34.58	26.62	34.21
2011	25.81	33.82	28.32	40.85	24.34	28.21	13.34	18.82	16.64	23.56	24.00	31.01	21.98	28.99
2012	19.31	25.30	27.78	41.08	23.98	27.98	16.25	22.86	15.52	21.97	23.15	29.91	20.83	27.59
2013	16.97	22.24	21.23	31.39	23.27	27.15	11.79	16.58	11.22	15.88	21.24	27.44	17.63	23.36
2014	21.24	27.81	23.03	36.03	26.69	31.12	11.70	16.58	16.47	23.28	28.56	36.93	20.91	27.95
2015	31.09	40.72	28.66	45.10	38.89	45.16	19.73	28.34	20.28	28.77	35.27	45.12	29.22	39.14
2016	28.95	37.93	18.37	28.91	20.45	23.75	20.25	29.08	14.19	17.58	21.07	26.96	24.04	32.20

Source : Calculated from data from Dept of Relief and Rehabilitation , GoM and data on land Utilization Statistics, GoM.

Annexure 2.6 :Regionwise suicide per lakh hectare of GCA and NSA

Years	Vidharbha and Marathwada		Rest of Maharashtra		Maharashtra	
	Suicide per lakh ha GCA	Suicide per lakh ha NSA	Suicide per lakh ha GCA	Suicide per lakh ha NSA	Suicide per lakh ha GCA	Suicide per lakh ha NSA
2001	0.49	0.64	0.09	0.10	0.28	0.35
2002	1.05	1.42	0.08	0.09	0.54	0.69
2003	1.50	2.01	0.16	0.19	0.80	1.02
2004	4.68	6.77	0.51	1.04	2.88	3.67
2005	4.73	6.29	0.83	1.12	2.61	3.48
2006	17.18	22.84	4.31	5.78	10.17	13.58
2007	14.80	19.68	3.94	5.29	8.88	11.87
2008	12.98	17.92	4.61	5.61	8.69	11.24
2009	11.17	15.47	3.21	3.93	7.10	9.21
2010	12.39	17.18	3.22	3.95	7.70	10.01
2011	10.19	14.65	2.99	3.71	6.55	8.72
2012	9.93	14.41	2.81	3.44	6.37	8.47
2013	8.75	12.71	2.46	3.03	5.61	7.47
2014	13.10	19.29	3.81	4.72	8.47	11.41
2015	21.43	31.22	6.39	7.95	13.87	18.61
2016	18.08	26.35	5.82	7.25	12.18	16.34

Source : Calculated from data from Dept of Relief and Rehabilitation, GoM and data on Land Utilization Statistics, GoM.

Figure 2.2: Division wise Suicide for per lakh hectare of GCA and NSA for 2015-16

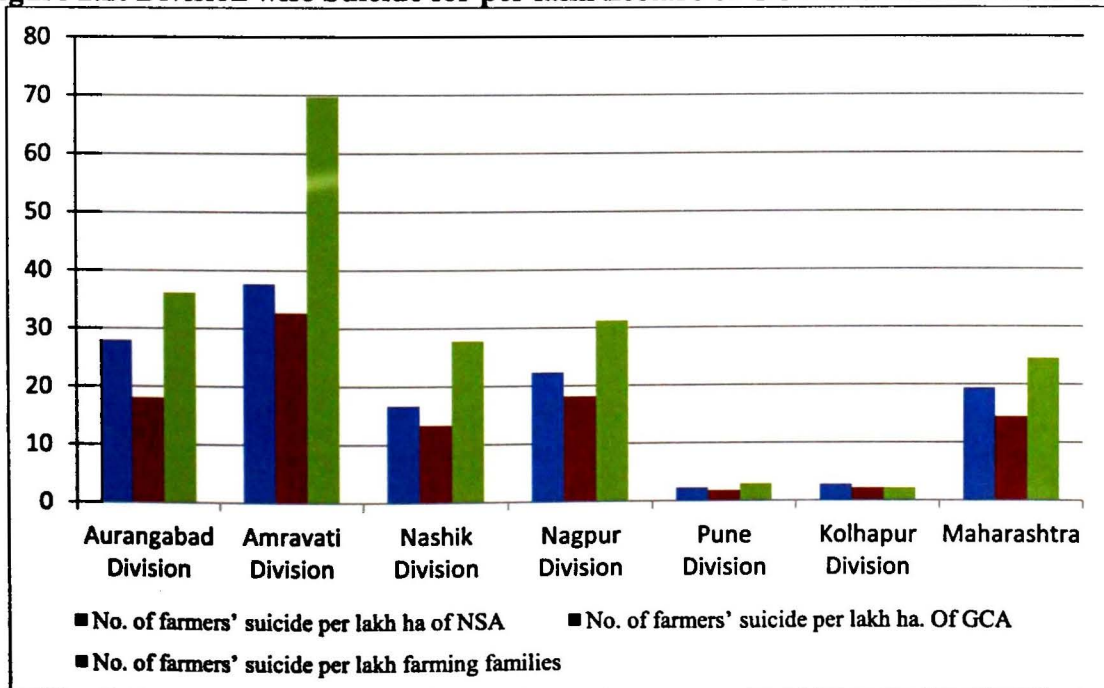


Figure 2.3: Region wise suicide per lakh hectare of GCA and NSA, 2015-16

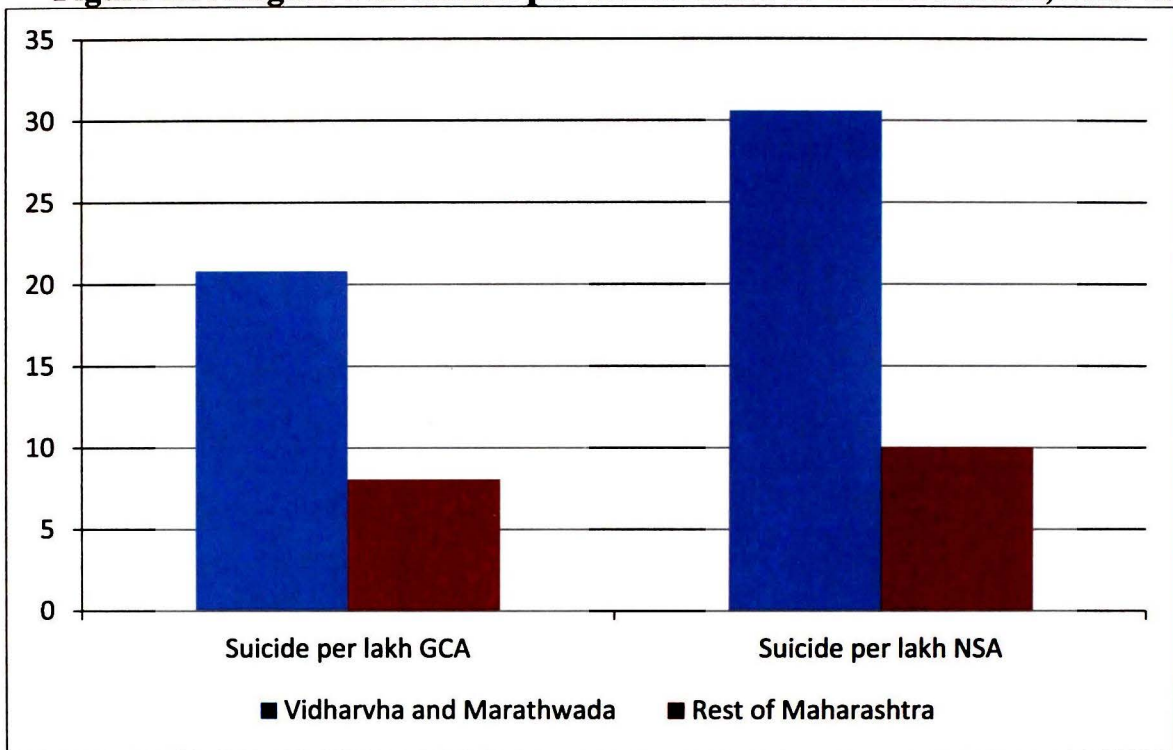
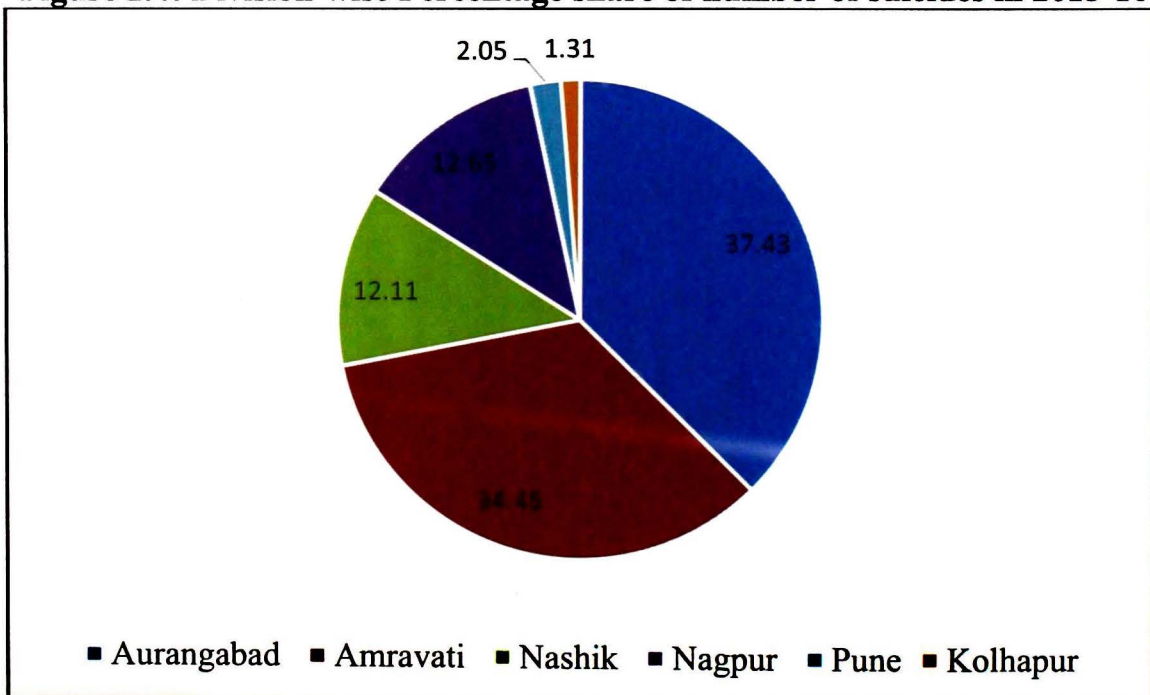


Figure 2.4: Division-wise Percentage share of number of suicides in 2015-16



Annexure 2.7 : District wise Month wise Number of Suicides (2015-16)

	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total
	15	15	15	15	15	15	16	16	16	16	16	16	2015-16
Aurangabad	8	15	21	17	16	13	11	20	15	11	16	9	172
Jalana	9	14	4	12	8	17	16	9	6	8	8	5	116
Parbhani	7	7	11	15	12	24	8	3	8	10	10	8	123
Hingoli	2	5	4	5	3	3	3	6	9	6	3	3	52
Nanded	13	19	27	18	15	16	14	12	12	19	18	12	195
Beed	25	25	41	32	33	17	11	19	17	18	25	24	287
Latur	11	13	6	10	12	16	13	10	14	14	11	2	132
Osmanabad	10	20	12	26	8	18	13	11	8	16	15	24	181
Aurangabad Division	85	118	126	135	107	124	89	90	89	102	106	87	1258
Amravati	36	41	22	27	23	32	39	21	28	31	25	23	348
Akola	13	21	27	26	22	9	11	18	20	12	9	9	197
Yavatmal	34	45	31	40	21	34	20	14	11	21	21	12	304
Buldhana	15	16	22	21	22	11	9	16	22	16	18	18	206
Washim	8	13	12	12	16	3	9	7	8	6	4	5	103
Amravati Division	106	136	114	126	104	89	88	76	89	86	77	67	1158
Nashik	13	12	9	5	11	12	3	5	10	5	18	14	117
Dhule	2	5	6	8	10	10	5	2	8	6	8	10	80
Nandurbar	1	0	0	2	0	0	0	0	1	4	0	0	8
Jalgaon	21	22	16	22	12	26	10	9	15	15	15	19	202
Nashik Division	37	39	31	37	33	48	18	16	34	30	41	43	407
Nagpur	9	5	4	3	7	6	4	2	6	4	3	8	61
Wardha	14	23	21	18	7	18	10	7	5	11	8	13	155
Bhandara	5	3	5	9	4	8	10	4	4	5	4	6	67
Gondia	3	1	2	4	4	3	5	1	2	4	3	4	36
Chandrapur	3	9	8	2	12	11	7	12	10	9	6	6	95
Gadchorili	0	1	1	1	2	0	3	0	2	0	1	0	11
Nagpur Division	34	42	41	37	36	46	39	26	29	33	25	37	425
Ahmednagar	13	15	9	13	13	13	15	9	11	14	15	16	156
Pune	0	2	0	4	6	3	0	1	0	4	1	1	22
Solapur	8	3	7	3	4	8	3	2	6	2	0	1	47
Pune Division	8	5	7	7	10	11	3	3	6	6	1	2	69
Satara	1	0	0	0	0	1	3	2	6	2	0	1	16
Sangli	0	0	4	0	3	2	0	1	4	3	4	0	21
Kolhapur	1	0	1	2	0	0	0	0	2	1	0	0	7
Kolhapur Division	2	0	5	2	3	3	3	3	12	6	4	1	44
Maharashtra	272	340	324	344	293	321	240	214	259	263	254	237	3361

Source: Office of Divisional Commissioners Government of Maharashtra (Unpublished Data)

Annexure 2.8 :District wise Month wise (Percentage) of Suicides (2015-16)

	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total
	15	15	15	15	15	15	16	16	16	16	16	16	2015-16
Aurangabad	2.94	4.41	6.48	4.94	5.46	4.05	4.58	9.35	5.79	4.18	6.30	3.80	5.12
Jalana	3.31	4.12	1.23	3.49	2.73	5.30	6.67	4.21	2.32	3.04	3.15	2.11	3.45
Parbhani	2.57	2.06	3.40	4.36	4.10	7.48	3.33	1.40	3.09	3.80	3.94	3.38	3.66
Hingoli	0.74	1.47	1.23	1.45	1.02	0.93	1.25	2.80	3.47	2.28	1.18	1.27	1.55
Nanded	4.78	5.59	8.33	5.23	5.12	4.98	5.83	5.61	4.63	7.22	7.09	5.06	5.80
Beed	9.19	7.35	12.65	9.30	11.26	5.30	4.58	8.88	6.56	6.84	9.84	10.13	8.54
Latur	4.04	3.82	1.85	2.91	4.10	4.98	5.42	4.67	5.41	5.32	4.33	0.84	3.93
Osmanabad	3.68	5.88	3.70	7.56	2.73	5.61	5.42	5.14	3.09	6.08	5.91	10.13	5.39
Aurangabad Division	31.25	34.71	38.89	39.24	36.52	38.63	37.08	42.06	34.36	38.78	41.73	36.71	37.43
Amravati	13.24	12.06	6.79	7.85	7.85	9.97	16.25	9.81	10.81	11.79	9.84	9.70	10.35
Akola	4.78	6.18	8.33	7.56	7.51	2.80	4.58	8.41	7.72	4.56	3.54	3.80	5.86
Yavatmal	12.50	13.24	9.57	11.63	7.17	10.59	8.33	6.54	4.25	7.98	8.27	5.06	9.04
Buldhana	5.51	4.71	6.79	6.10	7.51	3.43	3.75	7.48	8.49	6.08	7.09	7.59	6.13
Washim	2.94	3.82	3.70	3.49	5.46	0.93	3.75	3.27	3.09	2.28	1.57	2.11	3.06
Amravati Division	38.97	40.00	35.19	36.63	35.49	27.73	36.67	35.51	34.36	32.70	30.31	28.27	34.45
Nashik	4.78	3.53	2.78	1.45	3.75	3.74	1.25	2.34	3.86	1.90	7.09	5.91	3.48
Dhule	0.74	1.47	1.85	2.33	3.41	3.12	2.08	0.93	3.09	2.28	3.15	4.22	2.38
Nandurbar	0.37	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.39	1.52	0.00	0.00	0.24
Jalgaon	7.72	6.47	4.94	6.40	4.10	8.10	4.17	4.21	5.79	5.70	5.91	8.02	6.01
Nashik Division	13.60	11.47	9.57	10.76	11.26	14.95	7.50	7.48	13.13	11.41	16.14	18.14	12.11
Nagpur	3.31	1.47	1.23	0.87	2.39	1.87	1.67	0.93	2.32	1.52	1.18	3.38	1.81
Wardha	5.15	6.76	6.48	5.23	2.39	5.61	4.17	3.27	1.93	4.18	3.15	5.49	4.61
Bhandara	1.84	0.88	1.54	2.62	1.37	2.49	4.17	1.87	1.54	1.90	1.57	2.53	1.99
Gondia	1.10	0.29	0.62	1.16	1.37	0.93	2.08	0.47	0.77	1.52	1.18	1.69	1.07
Chandrapur	1.10	2.65	2.47	0.58	4.10	3.43	2.92	5.61	3.86	3.42	2.36	2.53	2.83
Gadchorili	0.00	0.29	0.31	0.29	0.68	0.00	1.25	0.00	0.77	0.00	0.39	0.00	0.33
Nagpur Division	12.50	12.35	12.65	10.76	12.29	14.33	16.25	12.15	11.20	12.55	9.84	15.61	12.65
Ahmednagar	4.78	4.41	2.78	3.78	4.44	4.05	6.25	4.21	4.25	5.32	5.91	6.75	4.64
Pune	0.00	0.59	0.00	1.16	2.05	0.93	0.00	0.47	0.00	1.52	0.39	0.42	0.65
Solapur	2.94	0.88	2.16	0.87	1.37	2.49	1.25	0.93	2.32	0.76	0.00	0.42	1.40
Pune Division	2.94	1.47	2.16	2.03	3.41	3.43	1.25	1.40	2.32	2.28	0.39	0.84	2.05
Satara	0.37	0.00	0.00	0.00	0.00	0.31	1.25	0.93	2.32	0.76	0.00	0.42	0.48
Sangli	0.00	0.00	1.23	0.00	1.02	0.62	0.00	0.47	1.54	1.14	1.57	0.00	0.62
Kolhapur	0.37	0.00	0.31	0.58	0.00	0.00	0.00	0.00	0.77	0.38	0.00	0.00	0.21
Kolhapur Division	0.74	0.00	1.54	0.58	1.02	0.93	1.25	1.40	4.63	2.28	1.57	0.42	1.31
Maharashtra	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: Calculated from Table 2.5 (C)

Annexure 2.9 : Number of Eligible Cases for Compensation (Division wise)

Suicide Cases 2001 to 2016							
Year	Konkan	Nashik	Pune	Aurangabad	Amravati	Nagpur	Maharashtra
2001	0 (0)	0 (0)	0 (0)	0 (0)	30 (61.22)	2 (66.67)	32 (51.61)
2002	0 (0)	1 (50)	1 (100)	2 (22.22)	57 (71.25)	18 (60)	79 (64.75)
2003	0 (0)	0 (0)	1 (33.33)	3 (21.43)	85 (63.43)	17 (62.96)	106 (58.89)
2004	0 (0)	12 (31.58)	7 (77.78)	50 (52.63)	237 (56.7)	41 (51.25)	347 (54.22)
2005	0 (0)	20 (60.61)	14 (73.68)	27 (46.55)	257 (61.34)	49 (61.25)	367 (60.26)
2006	3 (100)	131 (61.79)	75 (61.98)	160 (42.33)	511 (39.46)	157 (42.78)	1037 (43.64)
2007	0 (0)	133 (72.68)	74 (60.16)	189 (57.8)	307 (27.44)	138 (42.59)	841 (40.51)
2008	2 (100)	101 (58.72)	66 (55)	174 (61.05)	324 (30.54)	92 (28.22)	759 (38.61)
2009	0 (0)	67 (53.6)	48 (52.75)	124 (54.39)	247 (27.29)	106 (41.41)	592 (36.88)
2010	4 (100)	84 (68.29)	33 (49.25)	115 (60.21)	251 (23.88)	135 (44.26)	622 (35.73)
2011	3 (100)	99 (57.56)	14 (38.89)	82 (48.52)	327 (36.91)	112 (44.44)	637 (41.96)
2012	2 (50)	117 (57.92)	14 (40)	118 (59.6)	377 (44.83)	104 (53.89)	732 (49.69)
2013	0 (0)	86 (50.59)	13 (35.14)	115 (55.56)	329 (46.67)	122 (68.93)	665 (51.31)
2014	2 (50)	120 (42.4)	6 (26.09)	430 (74.91)	522 (63.04)	170 (63.2)	1250 (63.1)
2015	2 (100)	187 (40.74)	16 (16.67)	711 (62.92)	711 (60.31)	214 (59.12)	1841 (57.03)
2016	0 (0)	221 (49.22)	23 (31.94)	654 (66.39)	427 (42.23)	177 (55.66)	1502 (52.98)
Total	18 (81.82)	1379 (51.46)	405 (47.7)	2954 (60.73)	4999 (41.75)	1654 (48.45)	11225 (47.90)

Note: Figure in brackets is percentage to total suicide cases in the Division

Annexure 2.10 : Number of Eligible Cases for Compensation in Marathwada (District wise)

Districts	Aurangabad	Jalna	Parbhani	Hingoli	Nanded	Beed	Latur	Osmanabad	Total Marathwada
2006	13 (40.6)	15 (38.5)	26 (51)	14 (66.7)	41 (68.3)	23 (18.5)	8 (47.1)	20 (58.8)	160 (42.3)
2007	13 (81.3)	19 (76)	15 (53.6)	12 (75)	54 (75)	39 (41.1)	8 (34.8)	29 (55.8)	189 (57.8)
2008	13 (76.5)	13 (65)	13 (72.2)	10 (83.3)	49 (83.1)	44 (51.2)	10 (43.5)	22 (44)	174 (61.1)
2009	4 (36.4)	1 (50)	17 (60.7)	2 (22.2)	50 (83.3)	41 (46.6)	3 (37.5)	6 (27.3)	124 (54.4)
2010	2 (100)	3 (75)	18 (81.8)	1 (50)	32 (58.2)	51 (64.6)	2 (50)	6 (26.1)	115 (60.2)
2011	0 (0)	4 (66.7)	16 (69.6)	0 (0)	20 (60.6)	36 (49.3)	1 (25)	5 (20)	82 (48.5)
2012	2 (100)	6 (100)	27 (77.1)	2 (66.7)	19 (48.7)	58 (63.7)	0 (0)	4 (18.2)	118 (59.6)
2013	4 (100)	8 (100)	15 (88.2)	2 (100)	20 (43.5)	55 (56.1)	3 (100)	8 (27.6)	115 (55.6)
2014	41 (73.2)	28 (87.5)	60 (85.7)	25 (80.6)	75 (63.6)	116 (76.3)	34 (77.3)	53 (74.6)	432 (75.3)
2015	106 (73.6)	76 (91.6)	67 (64.4)	34 (82.9)	142 (74.7)	228 (75.7)	74 (69.8)	98 (59.8)	825 (72.8)
2016	83 (63.4)	55 (82.1)	42 (50.6)	35 (83.3)	79 (52.3)	145 (74)	71 (71.7)	87 (63)	654 (66.39)

Note: Figure in brackets is percentage to total suicide cases in the Division

Source : Department of Relief and Rehabilitation, Government of Maharashtra

**Annexure 2.11: Number of Eligible Cases for Compensation in Vidharbha
(District wise)**

Year	Amravati	Akola	Yavatmal	Buldhana	Washim	Ward ha	Total Vidharbha
2001	7 (63.64)	5 (83.33)	7 (41.18)	4 (50)	7 (100)	2 (66.67)	32 (61.54)
2002	16 (80)	7 (100)	23 (60.53)	6 (66.67)	5 (83.33)	15 (62.5)	72 (69.23)
2003	22 (53.66)	15 (71.43)	30 (57.69)	12 (85.71)	6 (100)	8 (57.14)	93 (62.84)
2004	49 (48.51)	39 (84.78)	82 (57.75)	38 (44.71)	29 (65.91)	17 (58.62)	254 (56.82)
2005	59 (57.84)	37 (86.05)	97 (58.08)	39 (48.15)	25 (96.15)	19 (73.08)	276 (62.02)
2006	78 (28.89)	81 (46.55)	145 (40.28)	99 (32.35)	108 (58.38)	54 (35.06)	565 (38.99)
2007	81 (30.57)	57 (45.6)	103 (28.69)	42 (21.76)	24 (13.56)	43 (33.59)	350 (28.07)
2008	65 (24.62)	87 (52.73)	79 (25.4)	52 (26.67)	41 (32.54)	16 (18.39)	340 (29.62)
2009	44 (20)	90 (66.18)	39 (12)	49 (47.57)	25 (20.66)	26 (26)	273 (27.16)
2010	34 (12.01)	87 (43.5)	35 (11.33)	67 (48.91)	28 (22.95)	29 (23.02)	280 (23.79)
2011	73 (28.74)	80 (45.2)	94 (39.17)	52 (41.27)	29 (32.58)	32 (28.32)	360 (36.04)
2012	71 (37.37)	80 (44.94)	122 (51.26)	80 (52.29)	27 (32.53)	55 (50.46)	435 (45.74)
2013	80 (47.9)	40 (29.41)	140 (60.61)	57 (51.35)	20 (33.33)	77 (77)	414 (51.43)
2014	167 (79.9)	82 (52.56)	191 (71.8)	91 (81.98)	39 (44.32)	110 (82.09)	680 (70.54)
2015	236 (77.12)	146 (74.87)	251 (65.03)	129 (68.25)	60 (55.56)	138 (84.15)	960 (71.22)
2016	107 (37.54)	62 (49.6)	59 (29.06)	108 (55.67)	37 (56.06)	51 (52.04)	424 (43.67)

Note: Figure in Brackets is percentage to total Suicide Cases in the Districts

Source : Department of Relief and Rehabilitation, Government of Maharashtra

Annexure 2.12 : Scheme -wise and Grantor-wise Amount Received and Expenditure under PM Package as on May 31, 2009

Particular	Total allocation (Rs. in Crore)	Amount received (Rs. in Crore)				Total Expenditure (Rs. in Crore)	Expenditure % to total allocation
		NABARD	Centre Govt.	State Govt.	Total		
Interest Waiver	712	0.00	355.17	412.46	767.63	837.50	117.63
Assured Irrigation Facilities	2,177	223.96	1,276.88	1,140.4	2641.24	2,641.24	121.32
Micro-Irrigation	78	0.00	93.66	18.88	112.54	103.32	132.46
Check dams	180	60.00	0.00	120.0	180	162.53	90.29
Watershed Development Programme	54	18.65	0.00	0.00	18.65	18.65	34.54
Rain Water Harvesting	6	0.00	6.00	0.00	6.0	6.00	100.00
Extension Services (ATMA)	3	0.00	11.06	0.44	11.5	10.44	348.00
Seed Replacement/ Distribution	180	0.00	143.98	0.00	143.98	143.98	79.99
Horticulture Development (NHM)	225	0.00	115.26	0.00	115.26	112.20	49.87
Subsidiary Income Activities	135	0.00	50.97	9.95	60.92	59.05	43.74
Total	3,750	302.61	2,052.98	1,702.13	4057.72	4,094.91	109.20

Source: Office of Vasantnao Naik Sheti Swalamban Mission, Amravati

Chapter 3

Analysis of Primary Data

3.1 Introduction:

The issue of agrarian distress manifesting itself into suicides by farmers provoked the government to conduct grassroot level studies so as to understand the economic, social and other causes of suicides and finally undertake remedial measures. The state of Maharashtra in recent years has been showing highest number of suicides when compared to other states. However, as observed earlier, these suicides are concentrated mainly in certain regions of Vidarbha and Marathwada. While suicides among farmers in different parts of the country began attracting nationwide attention since late 1990s and early 2000s, the problem was considered alarming in Maharashtra in 2006. There was a huge jump in the number of suicides in Maharashtra in the state from 609 in 2005 to 2376 in 2006. Since then the figure has always been four digit but the composition across regions showed change indicating that this phenomenon began spreading to more districts. In 2006 while the share of Marathwada region in total suicides was 15.91 percent that of Vidarbha region was 60.98 percent. However, the scenario in Marathwada began to change in 2014 and share of suicides in state was 28.98 percent which further increased to 35 percent in 2015. In Marathwada, the suicides were more concentrated in Beed, Nanded, Aurangabad and Osmanabad districts as these districts started showing severe signs of distress.

Given the intensity of the problem, primary data through field survey was conducted so that households having a victim could be addressed with a questionnaire and suitable causes could be ascertained. However, before observing the various causes of suicides, it is important to understand the socio-economic profile of the sample households, characteristics of operational holdings, cropping pattern, credit availed, etc. Hence in this chapter field level data collected from 50 suicide households has been tabulated and presented.

3.2 Socio-Economic Profile of the Victims:

It is important to relate the socio-economic profile of the victim with causes of suicides. In Table 3.1 the same has been indicated.

Table 3.1: Socio-economic profile of victim

Total number of victim household (HH) surveyed:		50
Type of respondents (% to Total Sample)	1.Wife /Son /Daughter	48
	2.Brother/Sister/Others	52
Gender (%To Total Sample)	1.Male	98
	2.Female	2
Social Status (% to Total Sample)	1.SC	20
	2.ST	12
	3.OBC	28
	4.General	40
Religion (% to Total Sample)	1.Hindu	96
	2.Muslim	2
	3.Christain	0
	4.Others	2
Age Group (% to Total Sample)	1. Up to 30 Years	20
	2.Between 31 to 60 Year	62
	3. Above 60 year	18
Years of Schooling (% to Total Sample)	1. Illiterate	40
	2. Primary (4 Years)	12
	3.Middle (7 Years)	28
	4.Matriculation/Secondary (10)	6
	5.Higher Secondary (12)	10
	6.Degree/Diploma (15Years)	0
	7.Above Degree (Above 15 Years)	4
Type of Marriage (% to Total Sample)	1.Married	92
	2.Unmarried	8
	3. Arranged	98
	4. Love	2
Married to whom (% to Total Sample)	5.Within relative	40
	6.Outside relative	60
Heirs of the Victim (Average no. to Total Sample)	1.Son	1.14
	2.Daughter	0.32
Victims who had parents And Had Brother & Sister (% to Total Sample)	1.Only Mother	42
	2.Only Father	30
	3.Both Mother And Father	28
	4.Brother And Sister	32
Method of Suicide (% to Total Sample)	1.poison Consumption	38
	2.Hanging	52
	3.Jumping into river/well	4
	4.Current Shock	0
	5.Self immolation	0
	6.Railway track	2
	7.Others	4
Place of Suicide (% to Total Sample)	1.House	38
	2.Farm	54
	3.Lodge/Hotels	0
	4.Others	8

Source : Field Survey

It can be observed that when the households were addressed with the questionnaire in case of 48 percent of households, the respondent was wife/son/daughter while in case of 52 percent it was brother/sister/other. The respondent was male in 98 percent cases and religion of victim household was Hindu in 98 percent cases. With respect to social status it was observed that they were spread across different social groups with 20 percent SC, 12 percent ST and 28 percent OBC. The victim in 62 percent of cases belonged to age group between 31 to 60 years and 40 percent of victims were illiterate. Only 4 percent of victims had above 15 years of schooling. With respect to marriage, it was observed that 92 percent were married and out of those married, 98 percent had arranged marriage and 60 percent were married outside relatives. Having a son as a heir was found more common than that being a daughter for the victim. It was observed that 28 percent victims had both parents and 32 percent had both –brother and sister.

The most common method of suicide was by hanging and it was observed in 52 percent of cases, followed by consumption of poison which was observed in 38 percent of cases. In 54 percent cases the suicide was committed in the farm while in 38 percent cases it was committed in the house.

3.3 Socio-Economic Profile of Victims' Family:

The socio-economic profile of the family of the victim (Table 3.2) revealed that farming was the main economic activity of 100 percent of households in the sample. About 72 percent of the families of the victims were joint in nature and 86 percent lived in the village. It was also observed that the adult females were more than adult males in the sample households. With respect to level of literacy, it was observed that 30 percent were illiterate and 14 percent had only primary level schooling. However, 2 farmers in the sample size of 50 had more than 15 years of schooling.

The land holding pattern indicated that 40 percent of the area was between 0.1 to 2.5 acres or marginal group while 42 percent area was between 2.51 to 5 acres or small category. Marginal and small farmers constituted 76 percent of holdings while in case of large farmers the figure was 6 percent.

Table 3.2: Socio-Economic Profile of victims' family

Particulars			
Existing household size: (Average numbers)		5.2	
Households depending on farming as a main occupation (% to total sample)		100	
Family type (% to total sample)	1.Joint	72	
	2.Nuclear	28	
Location of the households (% to total sample)	1.Within the village	86	
	2.In their own farm	14	
Age group of family members (% to total sample)	1.Adult Males (>15 yrs)	35	
	2.Adult Females (>15 yrs)	44	
	3.Children (<15 yrs)	21	
Years of schooling of family members (% to total sample)	1.Illiterate	30	
	2.Primary (4 years)	14	
	3.Middle (7 years)	26	
	4.Matriculation/secondary (10 years)	12	
	5.Higher secondary (12 years)	11	
	6.Degree/Diploma (15 years)	3	
	7.Above Degree (Above 15 years)	4	
Farm Size	% of area to holdings of sample	1.Marginal (0.1 to 2.5 ac)	40
		3.2.Small (2.51 to 5 ac)	42
		4.Medium (5.1 to 10 ac)	10
		5.Large (10.1 and above)	8
	% of holdings to total sample	1.Marginal (0.1 to 2.5 ac)	40
		2.Small (2.51 to 5 ac)	36
		3.Medium (5.1 to 10 ac)	18
		4.Large (10.1 and above)	6
	Average operational holding size (acres per HH)		4.03

Source : Field Survey

3.4 Characteristics of operational holdings :

The characteristics of operational holdings (Table 3.3) of the victims household indicated that on an average the gross cropped area was 4.46 acres out of which area sown more than once was only 0.43 acres. About 84 percent of gross cropped area was owned and only 7.6 percent was leased in and area sown more than once was 9.6 percent. The cropping intensity was only 110.42 percent, possibly due to lack of irrigation facilities.

Table 3.3: Characteristics of operational holdings (Acres per sample household)

Sr. No.	Land details	Irrigated	Un-irrigated	Total
1	Total owned land	0.52	3.43	3.95
2	Un-cultivated land	0	0.20	0.20
3	Cultivated (Own)	0.52	3.23	3.75
4	Leased-in land	0.02	0.32	0.34
5	Leased-out land	0	0.06	0.06
6	Area sown more than once	0	0.43	0.43
7	Net Operated Area	0.54	3.49	4.03
8	Gross Cropped Area	0.54	3.92	4.46
9	Gross Irrigated Area (%)	12.11	87.89	100
10	Net Irrigated Area	0.54	3.92	4.46
11	Cropping Intensity (%)	-	-	110.42
12	Irrigation Intensity (%)	-	-	13.4

Source: Field Survey

3.5 Sources of Irrigation:

The sources of irrigation of sample households are indicated in Table 3.4 It can be observed that only 12.11 percent of the gross cropped area is irrigated. The main source of irrigation was open well (88.88 percent) while 11.12 percent area was irrigated by canals. Tubewell did not seem to be a source of irrigation in the sample. Perhaps due to consecutive drought for few years, there was no ground water recharge and farmers had to depend upon other sources for irrigation.

Table 3.4: Source-wise distribution of irrigated area

Sr.No.	Land details:	Total Area in acres (Per HH)	Percent to total sample area
A.	Irrigated area		
	Irrigated	0.54	12.11
	UnIrrigated	3.92	87.89
	Total Area	4.46	100.00
B	Sources of irrigation		
	Open well	0.48	88.88
	Tube well	-	-
	Tank	-	-
	Canal	0.06	11.12
	Others		
	Total Irrigated Area	0.54	100

Source : Field Survey

3.6 Leasing of Land :

It can be observed from Table 3.5 that by and large the sample farmers were cultivating their own land which as mentioned earlier was 84 percent of gross

cropped area. Only a negligible portion of gross cropped area of 0.34 acres or 7.6 percent was leased in out of which 94 percent was unirrigated. The rental value for irrigated land was 23 percent higher than for unirrigated. It may be noted that the rent for leased in land varied widely across districts and was observed to be higher in Vidarbha than in Marathwada. While the rent for leased in land in Yavatmal was Rs. 10,000 per acre, it was observed to be only Rs. 3,000 per acre in Beed. This is possibly because Beed is normally a severe drought prone district of Marathwada and for two consecutive years, viz. 2014-15 and 2015-16 the rainfall was barely 50 percent of normal. Yavatmal however falls in assured rainfall region and hence benefits from higher rent. Discussion with household members revealed that due to severe drought there was huge fall in prices of land and not much demand for leasing in land. Absence of water is likely to lead to crop failure and farmers are thus not in a position to lease in land for cultivation.

Table 3.5: Rental value of leased-in and leased-out land

Sr.No	Particulars		Irrigated	Unirrigated
A	Leased - in	Area in acres per HH	0.02	0.32
		Rental value paid per acre in Rs.	8000	6000
B	Leased-out	Area in acres per HH	0	0.06
		Rental value received per acre in Rs.	0	50 percent of output

Source : Field Survey

3.7 Sources of Income and Items of Expenditure:

The sources of income from agriculture, allied and other activities is indicated in Table 3.6 along with consumption pattern for 2015-16. The field survey indicates that sample households on an average had a negative income from agriculture to the tune of Rs. 32,716. However, being mainly small farmers, they had to resort to other sources of income such as allied activities, wages, etc. from which they earned Rs. 30,990 per household on an average. The huge negative income from agriculture clearly indicates crop failure and high cost of cultivation. In 2015-16, Marathwada suffered from severe drought and the region received 60 percent of normal rainfall. Districts such as Beed and Nanded which are included in our sample suffered from around 50 percent deficient rainfall and a similar pattern was observed in 2014-15.

With respect to consumption expenditure, it was observed that 70 percent was for food and 30 percent for non-food items. Due to negative income from agriculture, the expenditure of the household exceeded that of income by Rs. 60,335. This forces them to borrow from informal sources such as moneylenders who charge an interest rate of about 25 percent per annum. Thus a vicious circle is perpetuated and farmers are unable to invest in agriculture. Almost all farmers in the sample responded that their income had reduced coupled with rising expenditure since the last five years.

Table 3.6: Net income and expenditure during 2015-16

Sr. No	Source	Amount in Rs. Per HH	% of HH to total sample who mentioned that the income has reduced / expenditure increased over the last 5 years (% to each respective sources)	
			Reduced	Increased
A	INCOME			
1	Agriculture	-32716	98	-
2	Agriculture wage income	14874	98	2
3	Dairy and animal husbandry	5956	70	20
4	Poultry	360	100	-
5	Fishery		-	-
6	Service (salary and pension)	8600	100	-
7	Self-business		-	-
8	Others	1200	100	-
	Total income (A)	-1726		
B	CONSUMPTION EXPENDITURE			
1	Food	43583	100	-
2	Non-food	18478	100	-
	Total expenditure (B)	62061		
C	Surplus / Deficit (+ / -) A- B	-60335		

Source : Field Survey

It was also observed from NSSO (70th Round, July 2012 – June 2013) that in case of All India, 70 percent of households owned upto 2.5 acres of land and had a consumption expenditure which was greater than household income and only 21 percent of their income was earned from crop husbandry. However across households it was observed that the expenditure was lower than income by about 3 percent which is not a very encouraging figure. The corresponding figure for Maharashtra across all households was 12 percent. However, considering that 2015-16 was a year of severe

drought and three fourths of the farmers in the sample were marginal or small, it resulted in them having a negative income from agriculture which was higher than their income from other sources.

Box 1 : Suicide case revealing expenditure regularly exceeding income:

A 45 year old victim (Navgaon Rajuri village in Beed taluka) with no formal schooling, had just one acre of rainfed land with four dependents comprising of his mother, wife and two daughters. The dryland did not give any yield due to drought conditions in the village and therefore the wife of the deceased worked as farm labor for 4 months on a daily wage rate of Rs. 100, thus earning a total income of Rs. 12000. The total annual expenditure of the family was however Rs. 45,000. The economic condition of the family was worsening year by year due to repeated droughts which forced the deceased to borrow from relatives in order to manage the household expenses. The amount borrowed was Rs. 50,000 from informal sources. The household was in the BPL category but it was revealed that they hardly ever received their entitlement from the ration shop. The household therefore cultivated bajra in their marginal piece of land but often lost the entire crop and could never even recover the cost of cultivation. Besides, education expenses of the victim's school going daughters which would later be followed by expenses for their marriage was a deep cause of concern and stress. With regular droughts and limited wage income, the victim found no ray of hope to come out of the vicious circle. It seemed that the economic and social condition of the family would only worsen with crop failure and increasing needs of the family to maintain two growing up daughters. Though the victim showed no signs of introvert behavior, to the utter shock of his family, he was found hanging himself in his farm.

Source : Field Survey

3.8 Cropping Pattern and Returns to Cultivation:

It is important to observe the cropping pattern of sample households, their cost of cultivation and net returns. The same is indicated in Table 3.7. The cropping pattern reveals that soyabean and cotton were the major crops of the sample households and together constituted 62.78 percent of the gross cropped area of the sample households. Taking together both kharif and rabi foodgrains, it was observed that they constituted 33.63 percent of gross cropped area with cereals constituting 20.40 percent and pulses constituting 13.23 percent area. There were a few farmers in the sample who cultivated horticultural crops such as orange.

Table 3.7 Cropping Pattern of Sample households												
(1) Name of the Crop	(2) No. of HH Who have cultivated	(3) Total Acres	(4) Cultivated area in acres (per HH)	(5) % of cultivated Area to GCA	(6) Total Production (Qtls)	(7) Total Production in Qtls per HH	(8) Yield per acre in qtls	(9) Average price received per qtl. Rs.	(10) Gross returns per acre	(11) <i>Cost of cultivation per acre</i>	(12) Net returns per acre	(13) Net returns per HH (Rs.)
Group I												
Jowar	12	23	0.46	10.31	32.3	2.69	1.4	1017	1428	9115	-7687	-14733
Tur	20	21.3	0.42	9.42	33.5	1.68	1.57	5056	7952	13102	-5150	-5485
Cotton	27	72	1.44	32.29	135.2	5	1.88	4866	9137	9825	-688	-1833
Soyabean	30	68	1.36	30.49	113	3.77	1.66	3245	5392	8949	-3557	-8061
Total	89	184.3	3.68	82.51								
Group II												
Bajara	6	6.9	0.14	3.14	15	2.5	2.17	983	2137	8551	-6414	-7376
Udid	1	0.5	0.01	0.22	0	0	0					
Mung	2	2.5	0.05	1.12	0.3	0.15	0.12	2500	300	3600	-3300	-4125
Other Crop	5	8	0.16	3.59	104.5	20.9	13.06	1580	20639	14750	5889	9422
Total	14	17.9	0.36	8.07								
Group III												
Rabi												
Jowar	6	11	0.22	4.93	11	1.83	1	1033	1033	3272	-2239	-4106
Wheat	4	4.5	0.09	2.02	13	3.25	2.89	2050	5924	10444	-4520	-5087
Gram	3	5.5	0.11	2.47	12	4	2.18	4167	9092	2727	6365	11668
Total	13	21	0.42	9.42								

Source : Field Survey; Note : Based on our sample, a household on an average cultivates 0.46 acres as indicated in column 4. Across all crops the net returns per acre is Rs - 27301 per acre and per household the net returns are Rs -32716.

The net returns to farmers indicate that farming is a totally unremunerative and unviable economic activity. Farmers made losses from all crops except gram and some horticultural crop. Maximum loss was incurred for cereals, kharif jowar and followed by bajra. Taking across all crops the net returns were Rs. -27,301 per acre and Rs. -32,716 per household. Thus households made negative returns from farming.

3.9 Credit Availed:

Farmers borrow credit for their agricultural as well as consumption purposes and resort to both formal and informal sector. In Table 3.8 the amount of credit borrowed, outstanding and other relevant details are indicated.

Table 3.8: Details on credit of sample households

Sr no	Source of credit	No. of borrowing HH as a % to total sample	Purpose of borrowing				Outstanding amount: Rs/HH	Average interest rate	% of borrowing HH who paid the installments as per schedule
			Farming purposes		Non-farming purposes				
			No. of HH as a % to borrowings	Amount borrowed per HH (Rs)	No. of HH as a % to borrowing HHs	Amount borrowed per HH (Rs)			
1	Institutional								
A	Co-op. Society/bank	38	100	40211	0	0	38605	6	0
B	Commercial bank incl. RRBs	20	90	78300	10	40000	74300	5	0
C	Others	28	86	103750	14	37500	90000	5	0
2	Non-institutional								
A	Landlord	6	67	27500	33	500000	118333	25	0
B	Moneylender	6	67	82000	33	300000	154667	25	0
C	Traders and commission agents	0	0	0	0	0	0	-	0
D	Relatives and friends	46	39	239444	61	155357	96304	25	0
E	Others (specify)	4	0	0	100	125000	125000	11.5	0
	Grand Total (Average borrowed)			95200		225074	99601		

Source : Field Survey

It can be observed from Table 3.8 that all farmers in the sample borrowed from cooperative banks while 90 per cent also borrowed from commercial banks. However, the loan from cooperative society was only for the purpose of farming. Out of total institutional credit, it was observed that little less than half or 46.68 per cent

was borrowed from private banks or sources other than cooperative or commercial banks. Overall, it appears that credit from cooperative societies was not enough to meet the finance of farmers and only 18 percent of the amount borrowed from formal sources was from cooperative banks.

Besides borrowing from formal sources, the sample households further borrowed from non-institutional sources to meet their credit requirements for farming. Out of total borrowing from informal sources for agriculture, the most important source seemed to be relatives and friends which constituted 68.62 percent of total informal credit. Moneylenders were the next important source as 23.50 percent of credit requirement for agriculture from informal sources was met from them.

From Table 3.8 we can also observe that out of total credit from formal and informal sources for farming, the sample households on an average borrowed Rs. 95,200 out of which 61.08 percent was from informal sources while 38.92 was from formal sources. The interest rate charged by informal sources is far higher than that of formal sources but apparently farmers in the sample due to heavy indebtedness have been forced to resort to informal sector. It may be noted that at the macro level or for the country as a whole due to various credit policy measures, over the plan periods, there has been an impressive growth in institutional finance for agriculture. The share of non-institutional sources for agricultural credit, as observed in NSSO reports, which was as high 89.8 percent in 1951, declined to 43.8 percent in 1981, and was 36 percent in 2013 (cited in Hoda and Terway, 2015). However, with respect to our sample farmers a reverse picture seems to emerge as 61.08 percent of credit for agriculture is from informal sources while 38.92 percent is from formal sources. It was observed in the previous section that farmers in the sample have negative returns while cultivating most crops and hence they may become defaulters in the formal credit channel and forced to meet their requirements through informal channels.

Besides borrowing for agricultural operations, it was also observed that sample households borrowed huge sums for non-farming purposes. Further, it can be observed that this amount was borrowed mainly from non-institutional sources which constituted 87.5 percent of total borrowing. Out of total borrowing from non-institutional sources, landlords and moneylenders were the most important source and constituted nearly three fourths or 74 percent of informal credit borrowed for non-

agricultural purposes. Also the amount borrowed from informal sources was 82 percent higher than that from formal sources.

Box 2 : Mounting debt caused suicide

It was observed that a victim from Beed taluka who was just 40 years of age, had borrowed Rs 3 lakh from friends and relatives to make his house cement concrete and also for other household consumption which was greater than his income. Besides, he had a crop loan of Rs. 54,000. He had 3.5 acres of land which was entirely rainfed with no source of irrigation. Soyabean was the main crop cultivated on 2 acres while 0.5 acres each was allocated to cotton, tur and jowar. However his crop failed due to drought but he had incurred expenditure of Rs 30,000 to cultivate his land. By caste he was a Nomadic tribe and also worked as a laborer for cutting sugarcane from which he earned Rs 50,000. His annual expenditure, for his family of five which included his wife, one son and two daughters, was Rs 75,600. Another worrisome factor was that he would soon have to get his daughters married, and with mounting debt and crop failure, the psychological stress pushed him into consuming poison which was fatal.

Source : Field Survey

On an average across the entire sample size, the amount outstanding was Rs. 99,601 per household out of which 71 percent was outstanding to informal sources while 29 percent was outstanding to formal sources. From the 70th Round of NSSO, it was observed that the amount outstanding loan across all size groups in Maharashtra was Rs 54700 per agricultural household and in case of small farmers it was Rs. 45,500 per household. Therefore it appears that the sample farmers had a loan outstanding which was about double that of state average. This is expected because the sample is concentrated in drought areas where farmers suffered crop failure.

From Table 3.8 it can be observed that total borrowing of a sample household was Rs. 320,274, out of which 70 percent was for non- farming purposes and 30 percent was for farming. This clearly indicates that though agriculture is the main economic activity for these households, it is unable to generate sufficient income to even meet the basic food expenses of the households. They have to therefore borrow not only for purchase of inputs and investment but also for non-agricultural purposes and the amount borrowed for non-agricultural purposes is

observed to be much higher than that for agricultural purposes. Thus a vicious circle is created and farmers are caught in a debt trap.

3.10 Summary:

The phenomenon of farmers' suicides which has drawn considerable attention by policy framers has assumed epidemic proportions in certain years, especially in the state of Maharashtra. The spiraling of number of suicides which increased from 62 in Maharashtra in 2001 to as high as 3228 in 2015 is clearly a symptom of agrarian distress and the impoverished condition of farmers. Agriculture is still the mainstay of the economy, atleast with respect to employment and underperformance of this sector which is ultimately manifesting itself to farmers committing suicide is therefore a grave issue and major cause of concern.

In order to get field level information on the cause of distress, families of victims were surveyed. Before probing into causes of distress, the socio-economic profile of farmers was observed. The socio-economic profile indicated that 62 percent of those who committed suicide were in the age group between 31 and 60 years and 40 percent were illiterate. About 72 percent of the households were joint in nature and 86 percent lived in the village. The average size of holding of the sample households was 4.46 acres and 40 percent of the holdings were marginal. The cropping intensity was as low as 110.42 percent and only 12.11 percent of gross cropped area was irrigated.

The cropping pattern of the sample households indicated that soyabean and cotton were the dominant crops followed by Kharif jowar. The net returns from all crops except gram and horticulture were negative and on the whole across all crops, the net returns were Rs. -27,301 per acre. This clearly revealed that agriculture which was the main economic activity of the households is unviable. The expenditure of households of sample households was greater than income due to huge losses incurred in cultivation. On an average a sample household faced a deficit income of Rs. -60,335 in the year 2015-16.

With huge negative income from agriculture, farmers were forced to borrow from informal sources at exorbitant rates of interest. Out of total credit borrowed for farming from formal and informal sources it was observed that 61.08 percent was from informal sources. The amount borrowed for non-farming purposes was 2.36 times that borrowed for farming purposes and this amount was borrowed mainly from informal sources.

While the macro level data for the country as a whole indicates that over the decades the share of formal credit is much higher than informal sources, our primary survey showed a reverse picture. Farmers were relying heavily on informal sector at very high rates of interest for both farming and non-farming purposes with no repaying capacity. Negative returns from agriculture and mounting debt burden has culminated in severe distress conditions for the agricultural sector.

Chapter 4

Causes and Effects of Suicides-based on Primary survey

4.1 Introduction:

A large number of studies have been undertaken to analyze the causes of suicides among farmers. The studies vary in style and temper and have been conducted in different parts of the country. Within a state also, the suicides are concentrated in certain regions and explained by several economic and social factors. In some cases even to political factors contribute to distress as some regions in a state are neglected while other regions show better development and per capita incomes. In chapter 1, a detailed review of literature was presented in which an attempt was made to observe the causes of suicides in different regions of the country. The number of suicides among farmers started to get media attention and also among policy makers since late nineties and early 2000s. However, till date, the issue is alive as the number is increasing, atleast in some states, and the issue is normally not an individual case but an outcome of the overall distressful and impoverished condition of farmers.

Given that agriculture is an important sector for the economy, not only in terms of employment but also as a catalyst of growth for the secondary and tertiary sector, it is necessary to study the complex picture of agrarian distress. Therefore both the central as well as state governments have time and again initiated studies related to this issue. This study is one more such attempt and related to the state of Maharashtra.

A primary grass root study for the state of Maharashtra is especially important because the number of suicides is persisting since the last one and half decade or so. Since 2006 when the figure touched a height to 2376 from 609 in 2005, the figure has always been four digits. A new height of 3228 suicides in 2015 was reached from 1981 suicides in 2014 which again served as a cause of panic in the agricultural sector. Further, in the state of Maharashtra, suicides have been always concentrated in Vidarbha region where cotton was a major crop. However, in 2014 and 2015 the districts of Marathwada also began showing signs of distress with rising number of suicides in the region. In 2013, the share of Marathwada region in total number of suicides in the state was 15.97 percent which jumped to 28.98 percent in 2014 and further increased to 35.1 percent in 2015. The corresponding figures in

Vidarbha are 62.11 percent in 2013, which declined to 48.66 percent in 2014 and further declined to 41.76 percent in 2015. Thus the increasing number of suicides in Marathwada brought down the share of Vidarbha, though in absolute terms the number of suicides in Vidarbha increased by 2.45 times in 2015 as compared to 2013.

In view of the above, a field level survey was conducted in selected districts of Marathwada and Vidarbha where households which had a victim were visited and addressed with a questionnaire. By and large, it is well known that crop failure and consequent indebtedness have been the major trigger factors. However, this coupled with social and cultural factors have led to the extreme step. Therefore the questionnaire is an attempt to capture all causes and not only the economic causes in isolation.

4.2 Symptoms observed and cause of suicide:

The act of suicide may not be a single factor but a combination of many factors which is likely to cause change of behavior of the victim. Hence, we tried to observe if the victim displayed any symptoms (Table 4.1) before the final act.

Table 4.1: Symptoms observed by family members before suicide

Sr.No	Symptoms enquired	Percent of HH who answered Yes to total sample
1	Was victim mingling with his/her own family member?	44
2	Was victim mingling with his/her own community?	43
3	Was victim mingling with his/her neighboring households/friends?	42
4	Was victim consuming food regularly?	43
5	Was victim sleeping adequately during nights?	42

Source : Field Survey

From Table 4.1, it can be observed that in a little less than half the sample size, the overall social behavior of the victim did not show major signs that he would put an end to his life. In other words, he did not isolate himself from society and also had undisturbed sleep and regular meals. More than half the cases in the sample however experienced lack of social integration. In a study Mohanty (2005) where sociological paradigm of suicides developed by Durkheim was also used as a model for understanding suicides, it was noted that the greater the social isolation, the lesser

the individual participates as a social being. As a result he finds his life meaningless and void of any purpose. This state of mind dilutes or loosens his ties with others and creates further pressure on the individual. Such symptoms were observed by more than half the victims in the sample.

Table 4.2: Social causes of suicide

Sr.No	Causes	Percent of HH to total sample who answered Yes	
		As per respondent	As per Neighbors / relatives / friends
1	Poverty	98	60
a	APL	36	20
b	BPL	56	38
c	AAY	6	2
2	Property dispute	6	No response
a	Partition of land	2	No response
b	Partition of house	0	No response
c	Partition of income	4	No response
d	Partition of jewelries	0	No response
e	Others (specify)	0	No response
3	Marriage related issues	4	No response
a	Dowry related issues	2	2
b	Extra marital affairs	0	No response
c	Divorce	0	No response
d	Love failure	0	No response
e	Others	2	No response
4	Family problems/Commitments	32	No response
a	Social functions,	6	2
b	Daughter's marriage	16	14
c	Son's marriage	4	No response
d	Frequent quarrel among the family members	6	6
e	Others	0	No response
5	Illness	10	6
6	Drug abuse/Alcoholic addiction	12	8
7	Gambling/betting /chit fund	0	No response
8	Fall in social reputation	4	

Source : Field Survey

Poor economic status was observed in almost all cases. Among the sample households, it was observed that 98 percent were suffering from poverty and 56 percent were below poverty line while a few households were also under AAY (Antyodaya Anna Yojana) scheme. However, many of these households did not receive their entitlements under the Public Distribution Scheme as foodgrains were not easily available in the Fair Price Shops. Since farming turned out to be unviable,

the members of the family resorted to other sources of income such as wage labor. However, despite other sources of income, their annual expenditure on food and non food was always higher than income. This forced them to borrow and with continuous crop failure, the debt burden was mounting.

It is obvious that under such economic distress, the household will face severe constraints for social obligations such as marriage of daughter, etc. In our sample, 16 percent of households responded that the deceased had commitments on the social front in the nature of daughter's marriage, for which they had no resources thereby causing acute stress. The households had to first of all borrow to meet their basic consumption requirements as their expenditure was greater than income from all sources. In addition to borrowing for household expenditure, they also borrowed for marriage of daughter.

Box 3 : Pressure of social obligations triggered suicides

It was observed that the household of the victim had 8 acres of land in Nanded taluka, out of which 2 acres was uncultivated as the quality of soil was very poor. In the 6 acres which were cultivated, 4 acres were allocated to soyabean and 2 acres to hybrid jowar. However, due to acute drought in 2015, both crops entirely failed and the deceased was not able to realize any income. He had however incurred a total cost of Rs. 20,000 for cultivating both crops.

The victim had borrowed Rs. 5 lakh from non-institutional sources out of which Rs. 3 lakh was outstanding. Further, he was unable to repay his crop loan of Rs. 45,000 due to crop failure. The victim was barely 32 years of age and major part of the non-institutional loan was spent on his own marriage. With repeated crop failures, he found it difficult to repay the loans which were overdue since last 4 years. He had the responsibility of his parents and three brothers, besides his wife and two children. He was made to understand, that among his family members, he alone had to shoulder the entire responsibility of the family and was termed as the *karta* of the family. Thus the deceased faced pressure on all fronts—crop failure, huge debt which was increasing, family pressure and finally the responsibility of maintaining a wife and two children. Being young, he was probably in a vulnerable age group and feeling that he could not ensure the survival of his family, he jumped out of a running train and ended his life.

Source : Field Survey

Overall several respondents revealed that social obligations were a trigger factor. In one case, the victim had a daughter who was physically handicapped and

this caused him stress as neither was it possible to make her work in the field, nor was it possible to get her married.

Other than poverty and lack of resources for social commitments, farmers themselves are sometimes irresponsible and indulge in drug addiction and abuse of alcohol. This was observed in 12 percent of the sample households. In one case the victim, 60 years of age, had only 1.25 acres of rainfed land which he cultivated with his two sons and earned a marginal income. He therefore resorted to other sources of income such as wage income, in order to meet the requirements of his family. It was revealed that the wife of the victim was suffering from mental disorder for which he had to incur medical expenses. Besides, the deceased was unable to cope up with the unsound behavior of his wife and therefore resorted to consumption of alcohol which added to his expenditure. His overall expenditure for household, medical treatment and alcohol kept mounting and thus worsening his economic condition. This forced him to borrow from friends and relatives but he had no repayment capacity. All these events pushed him into suicide which he committed by hanging himself.

There were cases (10 percent in our sample) when chronic illness had added to the frustration of the deceased. Property disputes were also observed to be a cause of stress in 6 percent of the sample and in 2 cases there were disputes over partition of income. Two households in the sample (4 percent) noted that the deceased faced a fall in social reputation as there was constant pressure from friends and relatives asking for repayment of loan taken. However, continuous crop failure was leaving them with negative income and the value of their land was also declining as there was no source of water. Thus economic conditions created a feeling of fall in social reputation which contributed to the extreme step.

While social stressors do play an important role in causing suicides among farmers, quite often they are linked to economic reasons which have largely been responsible for agrarian distress. Therefore in Table 4.3, the farming related causes of suicides are probed which enable us to observe the major causes of economic distress. It can be observed from Table 4.3 that 72 percent households suffered failure of crop due to pests and diseases while 50 percent had crop failure due to natural calamities such as drought.

Box 4 : Agricultural income unable to sustain health expenses

Chronic illness was observed in case of an 85 year old widow (Chandu Bazar taluka in Amravati district) who owned 5 acres of unirrigated land. Being aged, she hired labor to cultivate her land on which cotton and tur were cultivated. The net income from cultivation was used by her to meet her expenses. However, failure of monsoons led to crop loss and she was unable to pay wages to the labor that she hired. Though she had four sons, they maintained distant relations from her and were not even aware of the amount of her health and other expenses. It was her grandson who provided some clues about her social and economic condition. Finally it appeared that chronic illness, old age, health expenses and isolation from family made her life meaningless and she ended it by consuming poison in her house.

There was yet another case of a 70 year old deceased farmer (Valgaon taluka in Amravati district) who leased out his 2 acre land, as he suffered from major illness. His wife who was illiterate and his only married daughter were unable to look after the agricultural operations. Besides suffering from major ailments he also had to undergo by pass surgery for which he borrowed from a nationalized bank. His illness was so severe that he was totally dependent upon other family members which created severe psychological stress. He was facing problems in dealing with his tenants to whom he had leased out land. He realized that his expenditure on health was increasing and it could not be managed from his rental income. Being totally dependent on his family for his basic needs and unable to cultivate his own land, he put an end to his life by hanging himself in his house.

Source: Field Survey

Box 5 : Sharing of agricultural income induced stress

The victim was 40 years old, lived in a joint family of 9 members with 3 acres irrigated and 4 acres of rainfed land, in Kajj taluka of Beed district. The family also owned a grocery shop for which they had taken a loan of Rs. 2 lakhs. While family income was Rs. 1.10 lakh, the expenditure was Rs. 1.44 lakhs. Income was short of expenditure and there were frequent quarrels in the family over the sharing of income. The family was unable to use a part of the income to repay the loan of the grocery shop as it had to be shared among so many members. The victim was under stress as he had to repay the loan, but he did not receive any support from the family to set aside some portion of the income for repaying the installments. When he found it difficult to convince the family members on the increasing debt and could also finding the family atmosphere not conducive, he choose to end his life.

Source: Field Survey

Table 4.3: Farming related causes of suicides

Sr.No	Causes	Percent of HH to total sample who answered Yes (2015-16)	
		No of households	Percent
1	Failure of crop/s		
a.	Pests & diseases	36	72
b.	lack of access to irrigation water	22	44
c.	others specify	-	-
2	Due to natural calamities		
a.	Cyclone effect	0	0
b.	Failure of rainfall/drought	25	50
c.	Accidental fire	2	4
d.	others specify	0	0
3	Inability to sell output	2	4
4	Well failures	5	10
5	Quarrel between the victim & others	0	0
6	Expectations of:		
a.	Higher output	13	26
b.	Higher prices	9	18
c.	Loan waiving	16	32
d.	Institutional credit	11	22
e.	Non-institutional credit	9	18
7	Lack of extension services	3	6
8	Delayed payment/ payment in installments for the sold output	0	0
9	Insurance for the cultivated crop	4	8

Source : Field Survey

In the previous chapter (Table 3.7), we had observed the cropping pattern, cost of cultivation and net returns of the households which had a victim. It was clear from Table 3.7 that the major crops cultivated by such households were cotton and soyabean. The share of cotton in the cropping pattern was 32.29 percent while that of soyabean was 30.49 percent and thus these crops together constituted 62.78 percent of gross cropped area.

Among foodgrains, the major crop was jowar with kharif and rabi together forming 15.24 percent of gross cropped area. Among pulses, tur had the highest share and was 9.42 percent of gross cropped area. It was observed that in all crops (except horticultural crops and gram), the sample households suffered losses. The state suffered from two consecutive drought conditions in 2014-15 and 2015-16. In 2015-

16, the deficit in rainfall was 27 percent in the state but the magnitude was greater in Marathwada region where the deficit was 40 percent. Districts such as Beed where suicides almost doubled from 152 in 2014 to 301 in 2015 faced a major brunt as it received only half the normal rainfall in 2014 -15 and 2015-16. A somewhat similar situation was observed in Nanded.

It was observed in Table 3.7 that out of 50 sample households, the number that cultivated soyabean was 30 or 60 percent. The cultivation of soyabean was negligible in 1990s and it constituted only 7.27 percent of area under oilseeds in Maharashtra. However, this crop gained popularity over the years and its share jumped to 75.23 percent of area under oilseeds in TE 2010-11 and occupies 88.16 percent of oilseeds area in 2014-15 (Government of India, 2016b). Soyabean replaced area not only under other oilseeds but also other kharif crops such as jowar, paddy, etc. However, despite farmers having preference for soyabean crop in view of it being short duration and having potential to yield higher returns as compared to other crops, the point to note is that farmers can get positive returns only in years of normal monsoons or in case of protective irrigation. However, 2015-16 was a drought year and it was observed that out of 30 households in the sample cultivating soyabean, there were nine households which suffered from total crop failure and on an average across the 30 households, the yield was 70 percent less than normal. Further, the lower yield was not compensated by higher price of the produce.

A similar situation arose with respect to cotton. It was observed that 54 percent of households cultivated this crop. The yield per acre of sample households was observed to be 1.88 quintals per acre against a normal yield of about 4.02 quintals per acre in a normal year. Thus farmers over the years have switched their cropping pattern from foodgrains to commercial crops in the hope of getting higher returns. However, continuous drought with absence of protective irrigation has resulted in huge crop failure. In our sample of suicide households, it was observed that 27 households cultivated cotton and three households experienced complete crop failure. In fact with respect to every crop cultivated, there have been some households which have experienced total crop loss. Highest losses (negative returns) were observed with respect to jowar . In case of kharif jowar which was cultivated by 12 households, the net returns per household were Rs. -14,733 and there were four households which suffered from total crop failure. In case of rabi jowar, which was cultivated by six

households a total crop failure was observed by 3 or 50 percent households. Farmers reserve some part of their land for subsistence crops such as jowar, but in the event of total crop failure of such crops, their day to day survival becomes difficult, besides having the burden of debt and several social obligations. Tur is another crop which had potential for high returns to farmers but in 2015-16 farmers made losses in this crop also. The only crops where farmers made positive returns was in gram and cultivation of horticultural crops such as orange.

In order to further look into the huge economic losses incurred by farmers we have compared the per quintal yield per acre and price per quintal for major crops cultivated by sample households with that in 2013-14 which was a year with normal monsoons (Table 4.3 A)

Table 4.3 (A): Comparison of Yield (per acre in quintals) and Price (Per quintal) in 2013-14 (Normal Year for Monsoons) in Maharashtra with that of sample farmers in 2015-16 (Drought Year)

Crop	2013-14 (Normal Year)		Sample farmers 2015-16 (Drought Year)		Percentage difference in yield and price of sample farmers with that in 2013-14	
	Yield	Price	Yield	Price	Yield	Price
Kharif Jowar	5.68	1700	1.4	1017	-75	-40.12
Tur	3.67	7800	1.57	5056	-57	-35.12
Cotton	4.02	4600	1.88	4866	-53.24	5.78
Soyabean	5.46	3500	1.66	3245	-69.60	-7.29
Bajra	4.18	1500	2.17	983	-48	-34.46
Moong	2.13	6000	0.12	2500	-94.34	-58.33
Wheat	5.9	2000	2.89	2050	-51.02	2.50
Gram	3.6	3000	2.18	4167	-39.44	38.90

Source : Field survey for sample farmers and for 2013-14 the yield figures are calculated from data obtained from Commissionerate of Agriculture, GoM and price data is obtained from website agmarknet.nic.in.

By and large there are three factors on which the remuneration of a crop depends - its yield, its price and cost of cultivation. It can be observed from Table 4.3 (A) that the difference in yield which were obtained by sample farmers in 2015-16 is far lower or even less than half, for certain crops as compared to 2013-14 when the state had a normal monsoon. Severe drought conditions in 2015-16 brought about

sharp fall in yield of major crops and there were several cases when there was total crop failure or negligible yield. The state in general and regions such as Marathwada and Vidarbha in particular suffer from acute shortage of protective irrigation. Barely 0.4 percent of soyabean crop is irrigated, while in case of cotton it is 3 percent. Pulses are cultivated on low quality land and entirely dependent upon rainfall.

The situation becomes further hopeless because this fall in yield has also been accompanied by fall in prices in case of several crops. Rise in price of food grains is a sensitive issue and government has to make all round efforts to stabilize the prices to keep inflation low. Further, if there is a drought in one state, the yield may not be adverse in other states and hence prices may not show upward trend. Any shortfall in production of pulses or edible oils is compensated by increase in imports as there is a steady demand for these commodities. Therefore farmers are faced in a situation where both the yield level as well as the price is low. In case of moong, it can be observed that the price received is even lower than the Minimum Support Price. Lack of water leads to low quality produce which does not fetch an appropriate price and in some cases the government agencies are not present in the market to lift the produce at the appropriate time.

Finally farmers are constantly faced by increasing cost of cultivation. Low yields obviously translate to higher cost per quintal and the per quintal cost is far higher than the Minimum Support Price (MSP) fixed for 2015-16 as indicated in Table 4.3 (B). In case of all crops indicated below, which more or less comprise the major cropping pattern of the sample farmers, it can be observed that farmers faced cost of production per quintal far higher than Minimum Support Price. In case of certain crops such as kharif jowar, bajra and moong the farmers received prices lower than MSP. It is possible that their produce was rejected on grounds of quality or absence of government agencies or even distress sales due to which the price received by sample farmers was lower than MSP.

Table 4.3 (B) Comparison of Cost of Production Per Quintal of selected crops of Sample farmers and MSP for 2015-16

Crop	Cost of Production of Sample farmers (Rs. per quintal)	MSP (Rs. per quintal)	Percentage by which cost of sample farmers is higher than MSP
Kharif jowar	6511	1570	315
Tur	8345	4625	80.43
Cotton	5226	4100	27.46
Soyabean	5391	2600	107.35
Bajra	3940	1275	209.02
Wheat	3613	1625	122.34

Source : Table 3.7 for sample farmers and GoI (2016b) for MSP

With commercialization of agriculture and shift in cropping pattern from low value coarse cereals to cash crops such as cotton and soyabean, farmers have hope of higher returns. They invest in seeds fertilizers, pesticides and other inputs having expectation of higher returns. In case of cotton especially, since 2006 in Maharashtra, Bt cotton which has high seed cost, gained popularity. Cotton is a major crop in Maharashtra and contributes to about one-third of the area of the country. In the sample of households also where suicides were committed, cotton was observed to be a major crop occupying maximum share in gross cropped area (32.29 percent). However, farmers, who cultivate cotton, are subject to risk, as this crop is highly susceptible to several pests and insects due to which consumption of pesticide was high. However, a key development that took place in the cotton sector in early 2000 was the introduction of Bt technology, and area under Bt cotton began increasing rapidly throughout the country including Maharashtra. The notable feature of this technology is that farmers benefit from pesticide reduction as these seeds are resistant to insects and pests such as bollworms. This eventually protects the yield of farmers. After adoption of Bt, the country did experience increase in yields and the average yield in the country which was 302 kgs per hectare is presently (2015-16) 504 kgs per hectare (Cotton Corporation of India, 2016a). Though the seed cost is relatively high (Rs. 800 for a packet of 450 grams) there is widespread adoption in view of higher yields and several states in India such as Punjab, Gujarat, etc. experienced the same. The story of Maharashtra was however slightly different. While the yield of cotton did go up in the state, the jump was not phenomenal. The yield which was 274 kgs per hectare in 2006-07 is presently (2015-16) about 342 kgs per hectare while the corresponding figure for neighboring state Gujarat is 622 kgs per hectare. Perhaps the

state cannot reap the full potential of this technology due to lack of irrigation facilities. At the same time it is a very input intensive technology with high cost of cultivation. In case of failure of monsoons or improper timing, distribution and quantity of rainfall, the seeds may not germinate. It was revealed by a respondent from a suicide household in Beed district that the deceased had purchased several bags of Bt cotton seeds as he was encouraged by pre monsoon showers. However, it turned out to be a year of severe drought and the household experienced total crop failure. Sample households also revealed that there were sometimes unseasonal rains which caused pest attacks on the crop and also lowered the quality of the crop. In Yavatmal district where cotton is a major crop, some respondents revealed that even though Bt seeds had reduced bollworms, there were other pests and insects which attacked the crop and thus substantially reduced yield levels.

From the above, it is clear that Bt cotton is a technology that has gained popularity and virtually the entire area under cotton in the country as well as in Maharashtra is now under these seeds. However, the cost burden to the farmer is also high especially when there is lack of irrigation and the crop is entirely dependent upon monsoons. Further, while Bt is resistant to some pests such as boll worm, it is often attacked by other pests which again forces the farmer to spend on pesticides. The seeds are costly and during times of shortage due to lack of extension services, the farmers end up buying spurious seeds. In Maharashtra, the yield increase after usage of Bt seeds has been dwarfed by the high cost of cultivation coupled with unsatisfactory prices. The wholesale price index for raw cotton (2004-05=100) which was 225.19 in 2011-12 declined to 206.04 in 2012-13. This was possibly due to intervention policy by the government which brought about a ban on exports of cotton which resulted in increased supplies in the domestic market and thus fall in prices. While the price index increased to 236.53 in 2013-14, there was again a drop to 206.078 in 2014-15 (Government of India, 2016c). The main reason for decline in prices was huge fall in exports of cotton from 116.96 lakh bales in 2013-14 to 57.72 lakh bales in 2014-15 (Cotton Corporation of India, 2016b), i.e. a decline of 51 percent in exports. The decline in exports was mainly due to the policy of China to limit imports and support its domestic economy. As India depends on export demand to sustain prices, the same did not happen in 2014-15 and farmers suffered from huge

decline in prices. Government agencies had to step in to purchase raw cotton at MSP and therefore come to the rescue of growers.

Just as the green revolution brought about self sufficiency in foodgrains, there was also dynamism in the cotton economy due to introduction of hybrid varieties which were high yielding and in the recent past it was the Bt seeds which became popular by virtue of these seeds being resistant to certain pests. The area under cotton which was 7.67 million hectares in 2002-03 increased to 13.08 million hectares in 2014-15. The corresponding figures for Maharashtra were 2.8 million hectares in 2002-03 which increased to 4.2 million hectares in 2014-15 (Government of India, 2016b). Factors such as technology and favorable price in several years motivated the farmers to increase the area under cotton. However, cotton cultivation is still dependent upon monsoons and farmers suffer in drought years due to crop failure. This coupled with fall in prices, even below MSP in 2014-15, left them with negative returns. Such a situation has happened repeatedly and brought about distress in the cotton economy. Discussion with farmers indicates that they live in hope of atleast a good crop and favorable prices, once in a few years which will help them to improve their economic condition. However, the picture that emerges is that drought conditions have been more common than an exception and input prices have shown a rising trend especially labor costs. Farmers are also operating in an open economy framework and any yield risk causing crop loss may not be compensated by rise in price if the world supply is comfortable and international prices are ruling low. Government intervention such as ban on exports also plays its own role in bringing about fall in prices as was experienced in certain years of bumper crop. Thus adverse situations such as high input cost, low yield and low prices can be a trigger factor for suicide.

Since returns from agriculture are often unremunerative, farmers are firstly unable to repay their loan from both institutional and informal sources. Further, they borrow for meeting their consumption requirements as in some cases besides cash crops, even their foodgrain crops are destroyed. Added to this are their social obligations, medical expenses, etc. which adds to their debt burden. There have been instances when loans to farmers have been partly waived off by the government. Several farmers are of the view that government should write off their loans as they find it impossible to repay their loans. In 2006, when there was a severe waive of

suicides in certain states especially Maharashtra, the government had implemented a Prime Minister's Rehabilitation Package. Under this scheme, there was interest waiver and the overdue loans to farmers as on July 1st 2006 were waived off and all farmers had no past interest burden and were immediately eligible for fresh loan from banking system. This scheme was followed by another scheme in 2008-09 budget when a debt waiver and debt relief scheme was announced in the budget (Reserve Bank of India, 2008). Given such concessions in the past, the farmers often have hope and expectations that the government will rescue them from repaying their loans. However, when their expectations do not materialize, and they find all avenues to repay choked, they bring an end to their lives.

In certain cases farmers had availed of loans to dig a well which involves considerable capital expenditure. But with no recharge of groundwater and continuous drought, their investment turned out to be dead with no returns. With no source to repay the loans, the debt trap fuelled into a death trap.

By and large several factors are at play, which have contributed to agrarian crisis. While failure of monsoons or even unseasonal or excess rain does cause crop failure, it creates a huge vicious circle as farmers experience negative income. This makes them defaulters in the institutional credit structure and they are forced to borrow from informal sources, not only for investment but also for consumption purposes. With repeated such cycles, their debt burden mounts up and there is no door which is open for them to salvage the situation. They make investment in agriculture, in the hope of substantial returns atleast in certain years but continuous droughts have only aggravated the situation. Farmers also suffer from poor extension services and often purchase spurious inputs from unauthorized dealers. This leads to crop failure. Diversification to allied activities such as livestock has its own problems due to non availability of fodder. Even if farmers want to sell their livestock, there is no demand and the price offered is negligible. The same situation arises with respect to land. Though farmers are reluctant to sell their land, failure of monsoons for consecutive years, brings down the price of land. Thus even land which is their only asset and source of social status no longer seems attractive and the solution they find is to end their lives.

Repeated failure of crops has made the farmer a defaulter in the formal credit channel and his credit requirements have been largely supplemented by loans from informal sources (Table 3.8).

Table 4.4: Indebtedness related causes of suicides

Sr.No	Causes	Percent of HH to total sample who answered Yes (2015-16)	
		Number	Percent
1	Indebtedness – Institutional & Non-Institutional		
a.	Due to crop loan	31	62
b.	Due to farm equipment loan	7	14
c.	Due to non-agricultural loan	9	18
d.	Due to non-institutional loan	8	16
2	Due to pressure from institutional sources	6	12
3	Due to pressure from non-institutional sources (mainly money lenders)	7	14

Source: Field Survey

It was observed in Table 3.8 in the previous chapter that farmers had choked all avenues of credit. Besides cooperative societies and commercial banks, they have also borrowed from private banks. Crop loan seemed to be a major cause of indebtedness and due to crop failure the farmers were unable to repay it. Non-institutional sources of credit were resorted to, even for the purpose of farming. Added to this was the loan availed for non-agricultural purposes, perhaps to meet their social obligations. The interest rate charged by non-institutional sources was also exorbitant. Members of the household where suicides had been committed revealed that the victim received repeated reminders to repay the loan. In fact, the father of the victim also had the taped message on the phone which revealed regular reminders by the bank informing him about his installment which was overdue. After receiving several such calls, the victim perhaps found no source of repaying the loan and hanged himself to death. The victim's father whose land was in Paithan taluka of Aurangabad district kept emphasizing on failure of monsoons and acute shortage of water for farming. He also added that due to scarcity of water, the value of his land had registered a sharp decline and there was no demand for land in the village.

From the above, it can be observed that several socio-economic factors are at play which finally pushes the farmer to end his life. Therefore after conducting the

survey across 50 households which had an instance of suicide, it was decided to rank the causes. The same is observed in Table 4.5.

Among the social causes of suicides, poverty was ranked first. It was observed that 56 percent of households were below poverty line and also 6 percent of households who belonged to AAY category. However, discussions with households revealed that AAY did not function efficiently. The supply of grain was extremely irregular and also of poor quality. In certain cases, the families did not get rations for three continuous months. In order to maintain some degree of self-sufficiency, households had allocated a small portion of their land to jowar, but they suffered complete crop failure and hence found their day to day survival a great burden.

Social obligations are an important part of rural life and farmers follow traditional customs and rituals for which they require credit. The burden of coping up with social commitments was the second major social cause of suicides. Farmers make huge economic losses in cultivation which adds to their debt burden and finding no source of finance for important obligations like marriage of daughter, etc. are forced to end their lives. With spread of alcohol shops in rural areas and to escape from the pressure of debt and other such factors, some respondents revealed that the victim had succumbed to alcohol and related activities. Other factors were illness, property disputes, etc. Some of the deceased had chronic illness but could not afford medical treatment and unable to cope up with the suffering may have taken the extreme step. Fall in social reputation was also observed in case of two of the deceased farmers. The respondent revealed that the victim was unable to bear the humiliation of not having the resources to pay the debt or meet his social obligations. This created a kind of psychological pressure on the victim which made him feel that his status in society was lowered and this fall in reputation in his village definitely served as a trigger factor.

It is expected that crop failure will rank first as the farming related cause of distress and suicide. Agriculture is becoming a very risky economic activity and crop failures are not occasional but a regular feature due to severe drought. While failure of monsoons play a major role in loss of kharif crop, unseasonal rain also contributes to major crop destruction. In Marathwada there was unseasonal rain and hailstorm in end of February and early March 2014, which damaged standing crops like rabi jowar, wheat, gram and vegetables. From our sample also, certain households

revealed that they had completely lost their rabi crop and even their sweet lime orchards were uprooted. Infact discussions with officials in agriculture department revealed that crops in thousands of hectares of land had been destroyed and the damage was irreparable. This casualty was further aggravated as there was severe drought in the following two years. There were dry spells in september 2014 when some rainfall is needed to ensure proper growth of soyabean crop. However this did not happen and farmers lost the crop. Again 2015-16 was a year of deficit rainfall, and farmers suffered from yields far below normal while in several cases there was total crop failure. Overall, it can be observed that Marathwada, had experienced severe drought in 2012-13 which had completely wiped out the kharif crop. In the following season of 2013-14, there were hailstorms and unseasonal rain which destroyed the rabi crop. Again in 2014-15 and 2015-16 there was deficit in rainfall and many districts had even less than 50 percent of normal rainfall. Allied activities such as livestock also could not add to supplementary income as there was no fodder for cattle. Farmers were unable to feed the cattle and at the same time were unable to sell them or could sell them only at a very low price. Thus year after year, the crisis was aggravated with the region reeling under severe drought conditions and manifesting itself in the form of suicides among farmers with the number increasing rapidly each year. The number of suicides in Marathwada in 2014 was 2.8 times and in 2015 it was 5.5 times that of 2013. The share of total suicides of Marathwada in the state according increased from 15.97 percent in 2013 to 35.1 percent in 2015. Thus suicides in Marathwada began catching up with Vidarbha which was considered to be the main epicenter for suicides and where suicides were mainly concentrated since the issue began gaining attention with government as well as media. In 2001, the share of suicides in Vidarbha in the state was 83.87 percent and the share each year was atleast two third of state total, till 2014 and 2015 when suicide toll in Marathwada showed a rapid rise.

In view of crop failure which is also accompanied by fall in prices, farmers have been shifting and diversifying their cropping pattern. They have shifted their cropping pattern from kharif jowar to cash crops such as cotton soyabean and vegetables in the hope of favorable returns but were unable to realize the same. In Marathwada region, the farmers took to cultivation of sweet lime in a big way which involves capital expenditure. Many horticultural crops require investment in orchards

and have a gestation period of three to five years before the fruiting stage. Thus area under fruit crops began to increase in view of them being considered as high value crops. However, extreme drought conditions caused some of the orchards to dry up and the huge capital expenditure added to the debt of farmers. Farmers had expectations of high output as well as high prices from horticultural crops but instead found their plants wither away. Shortage of water brings about a huge increase in the price of a tanker and further, the tanker dealers find it difficult to send the tanker to the interiors which do not even have fair weather roads. In case the crop is insured, the amount received is not enough to repay his loans and even insurance claims are not received in time.

Table 4.5: Ranking of the social, farming and indebted causes of suicides

Causes	Sr.No	Causes	Ranking as per answer
Social causes	1	Poverty	1
	2	Family problems/Commitments Property dispute	2
	3	Drug abuse/Alcoholic addiction	3
	4	Illness	4
	5	Property Dispute	5
	6	Marriage related issues	6
	7	Fall in social reputation	7
	8	Gambling/betting /chit fund	8
Farming related causes	1	Failure of crop/s	1
	2	Due to natural calamities	2
	3	Expectations of: higher output, higher prices, loan waiving, institutional credit , non-institutional	3
	4	Well failures	4
	5	Insurance for the cultivated crop	5
	6	Lack of extension services	6
	7	Inability to sell output	7
	8	Delayed payment/ payment in installments for the sold output	8
	9	Quarrel between victim and others	9
Indebtedness related causes	1	Indebtedness – Institutional & Non-Institutional	1
	2	Due to pressure from non-institutional sources (mainly money lenders)	2
	3	Due to pressure from institutional sources	3

Source : Field Survey

Another risk involved in cultivating vegetables and fruits is that sometimes there is a bumper harvest. In such an event there is a price crash and farmers do not even find it worthwhile to sell the produce in the regulated market as the market price does not even cover their transport cost. Although the government fixes a Minimum Intervention price for certain horticultural crops, the scheme is not always implemented and government agencies do not enter the market to pick up the produce. Thus farmers diversify their cropping pattern with the expectation of good returns in terms of output and prices, but their expectations more often than not seem to fail, leaving them with marginal or negative returns.

After making losses in farming and debt burden increasing farmers expect a loan waiver scheme from the government so that they are again eligible for credit. While such schemes have been announced due to acute distress, the government cannot always do so as it would greatly add to the fiscal deficit. Therefore when all expectations fail and no source of rescue for the farmer he is pushed into ending his life.

Marathwada is a rain starved region and the water crisis has forced thousands of farmers to make their own arrangements for protective irrigation. Hence, other than farming operations, farmers took loans for an underground bore well in the hope that they would be able to meet their water requirements. However, when the entire exercise failed as underground water was totally drained out, another debt trap was created for the farmer. In Marathwada region, there is severe depletion in ground water levels with no scope for extraction of water. Failure of monsoons on a continuous basis leaves no scope for recharge of groundwater and other sources such as check dams and reservoirs become dysfunctional with no water. Thus well failure is also an important cause of suicide.

Another factor that plagues agriculture is lack of appropriate extension services. Farmers sometimes sow the crop at the wrong time, use spurious seeds which do not germinate or do not get their soil tested. Unless suitable extension services are provided, they are likely to make a loss on their investment. They often select the fertilizer which costs the least and use it in the wrong proportion and even spray an over dose of pesticides. This increases the cost of cultivation and destroys

the crop. About three households in the sample complained about lack of extension services which led to crop loss.

Failure of crops has been a major cause of indebtedness as the farmer becomes a defaulter in the formal channel of credit and resorts to informal channel at exorbitant rates of interest. The households of the deceased revealed that the victim was often preoccupied with tension of repayment of loan. Several sources of credit were tapped and diverse methods such as diversification of cropping pattern, allied activities, digging a well were attempted in the hope of reasonable returns. But with no respite, the burden of debt kept mounting. They had also borrowed from relatives and money lenders and the pressure of being unable to return their loan made them end their lives. Even regular reminders from the bank served as a pressure for the deceased and repeated calls only led them to commit suicide.

4.3 Impact of suicides on family members:

The act of suicide would naturally cause an adverse impact on the lives of the survivors. Another vicious circle is created as the economic impact of the suicide creates a psychological impact and the children often become vulnerable. Hence in Table 4.6 an attempt has been made to observe the hardship faced by the family after the suicide was committed. In 44 percent of cases, it was observed that there was no earning member because it was mainly the victim who knew about the agricultural operations. The other members of the household were not in a position to continue with farming as the deceased was the sole decision maker or the *Karta* of the family. In some cases the spouse was totally illiterate and children were not adults and were therefore not in a position to continue with agricultural operations. .

Table 4.6: Impact on Household after committing suicide

Sr.No	After effect	Percent of HH to total sample who answered Yes
1	Agricultural activities stopped	20
2	No earning member	44
3	Schooling of the children stopped	14
4	Land sold	2
5	House sold	0
6	Other assets sold	2
7	Postponement of son/daughter's marriage	0
8	Family member/s fell seriously ill	10
9	Family member/s under depression	18
10	Insecurity in the family	22
11	Others	0

Source : Field Survey

A visit to several households where suicide had been committed clearly displayed the gloom and helplessness in the household. There was a strong feeling of insecurity and depression within the family and in certain cases the wife of the victim refused to speak as she felt that life is meaningless. Some members revealed that they pleaded to their neighbors who also suffered from agrarian distress not to take this step as the family would be denied of happiness forever and would be left in a state of trauma. Some of the wives of the deceased revealed that times were very difficult when their spouse was alive but now the problems have multiplied. Although most households revealed that they had received compensation as prescribed by policy, some members felt that they would not be able to deal with the amount deposited in the bank at the time of maturity. Many of the wives of the deceased did not have banking habits and their children were too small to deal with such issues.

There were 7 cases when schooling of children was discontinued and at a very early age they had to start working in the farms. However, children in several households which had a victim were sent to charitable schools in distant places. While this is a positive sign and hope for the family, in some cases the other members of the family were living in a distant village, were illiterate and thus found it difficult to communicate with the children once they had left for school. With increase in suicides among farmers in Marathwada, some institutions made attempts to bring about educational rehabilitation of the children by relocating them and providing them opportunity to go to school with suitable facilities. It was unfortunate to learn that in some cases the widow of the deceased stated that to free herself of her responsibilities she would get her daughters married very early and perhaps even before the legal age of marriage. Therefore while there was no response with respect to postponement of son/daughter's marriage among our sample households, an opposite response was received which clearly indicated a helpless situation in certain households.

4.4 Suggestions from families to avert suicides in future :

At the end of the detailed survey regarding socio-economic causes and impact of suicides among farmers, it was felt necessary to hear suggestions from the households as to measures to prevent such actions. The same is indicated in Table 4.7.

It is clear that a major cause for agrarian distress was severe and repeated droughts in the state. The households revealed that the main problem was acute

scarcity of water and if available, they would be able to reap good harvest and further invest in agriculture. It was observed that farmers are availing credit from informal sources and the amount borrowed from informal sector in case of sample households is higher than that from formal sector. The loan amount keeps increasing because the farmers are unable to repay and are charged very high rates of interest. The government besides increasing loan amount to farmers must also invest more in irrigation facilities.

Table 4.7: Suggestions to prevent the suicides in future

Sr. No	Suggestion	Percent of HH to total sample who suggested
1	To take measures to cope up with water scarcity	18
2	To increase credit facilities and public investment in agriculture	14
3	Increase Minimum Support Price	12
4	To create a drought stabilization fund	10
5	To implement schemes for loan waiver	6
6	Reduce price of inputs especially seeds and fertilizers	4

Source : Field Survey

Box 6: Victim suggested that only water can solve their problems

The victim was only 22 years old and of Muslim religion. His family owned 12 acres of land, out of which 4 acres was in the name of the victim. The father who was the respondent stated that the family had diversified into horticultural crops like sweet lime (*mosambi*) on which they invested Rs. 2.5 lakhs by borrowing from a private bank. Besides, the family had incurred an expenditure of Rs. 2.5 lakh on daughter's marriage and also had outstanding crop loan of Rs. 44,000. The family had given 8 acres of land as collateral against the loan taken from private bank. All these expenses were incurred with the hope that the horticultural crop would bear good fruit and would help them to tide over their long outstanding loans. But due to lack of protective irrigation, the entire orchard of sweet lime dried up and even the cotton crop on which the family had planted 10 acres, failed. Although the family had 12 acres of land, the value of land was fast declining as there was no water and nobody even wanted to lease in the land. The victim was receiving repeated reminders on phone about his installment which was due. His father stated that his deceased son had stopped consuming food and was suffering from severe stress about the loan. The fact that 8 acres was given as collateral added to his turmoil and one day he hanged himself in the house. Despite a series of crop losses, the father of the deceased stated that he did not want any support or subsidy from government but the only support he wanted was from nature in the form of rain so the crops could survive and wells could get recharged. This case clearly reveals that Marathwada is reeling under severe drought for several years at a stretch and despite availability of land, the family saw a victim.

Source: Field Survey

Many households felt that the MSP announced by the government does not cover their cost of production and must be increased. Other suggestions indicated that the price of inputs such as seeds and fertilizers must be reduced and loans of farmers should be written off so that the debt burden does not exist.

4.5 Summary:

The field survey after addressing an extensive questionnaire to 50 households which experienced a suicide victim clearly brought about the causes and impact of suicides. While a little less than half the victims concealed their psychological stress, more than half showed signs of stress and restless behavior.

Among the social causes, poor economic status was observed to be most important as 98 percent of households surveyed were poor. The BPL families and those under AAY scheme mentioned that they did not receive their entitlements for months at a stretch and the food crops cultivated by them failed. Added to the economic distress was the need to fulfill their social commitments such as daughter's marriage for which they had to resort to mainly informal sources of finance with no repaying capacity. In some cases, farmers were irresponsible and indulged in alcohol as they were unable to cope up with their social and economic responsibilities. There were also 5 cases where chronic illness and medical expenses added to the debt burden and served as a major trigger factor.

Crop failure is a major economic reason for leading to suicides. There were several cases in the sample when the household lost the entire crop with negative returns to the family. The farmers suffered on all three fronts – low yield or no yield, low prices for the produce and rising cost of cultivation. In several cases farmers could not even cover their cost of cultivation. Cotton and soyabean are major crops in Vidarbha and Marathwada and accordingly even the suicide households had adopted this cropping pattern. However, with no protective irrigation and huge deficit in rainfall, there was crop loss coupled with huge cost of cultivation. Poor monsoons also led to depleting water tables and those households which invested in a well did not find water but only the debt burden rising.

All the above factors have drained the repaying capacity of farmers which made them defaulter in both the formal as well as informal credit channels. In the informal channel the interest rate is normally 25 percent per annum which squeezes the farmer and in the event of being unable to repay only keeps increasing.

Suicide in the family causes huge impact which is not only economic but also psychological. In 44 percent of cases there was no earning member as other members were illiterate or not yet adults and in 20 percent cases the agricultural activities had stopped. Some of the wives of the deceased revealed that times were difficult when the spouse was alive but now problems have increased manifold. There were cases when schooling was discontinued and children had to start working on the farms. In some cases there were attempts to bring educational rehabilitation for the children but they were separated from their families and communication was difficult. Many of the wives of the deceased did not have banking habits and the children were too small to deal with such issues.

Suggestions made by households which experienced a victim felt that water scarcity should be dealt with on a war footing. Public investment in agriculture must be stepped up, the minimum support price must at least cover cost of production and credit on easier terms must be made available. If these issues are taken care of, farming may not prove to be unviable.

Chapter 5

Conclusions and Policy Implications

5.1 Introduction:

Indian agriculture is currently passing through a period of severe crisis and the overall scenario in this sector is that of stagnation, underperformance and lack of dynamism. The contribution of agriculture to gross domestic product (GDP) is presently 14 percent (2015-16) while workforce engaged in this sector is 54.6 percent (2011 census). The average size of holding is fast declining and is presently 1.16 hectares with 84.8 percent of holdings being marginal and small. The Eleventh Plan target growth of 4 percent per annum for the agricultural sector could not be achieved as the average growth rate turned out to be 3.67 percent per annum while that of the economy as a whole was 7.9 per cent. Again the Twelfth Plan (2012-17) for agriculture, which is now in its last year has again not shown any encouraging picture. The growth in 2013-14 as against 2012-13 was 4.2 per cent while it was -0.2 percent in 2014-15 as against in 2013-14. It improved to a miniscule 1.1 percent in 2015-16 as against 2014-15. The overall growth of the economy during each year of twelfth Plan was however around 7 percent.

The data from the 70th Round of National Sample Survey Organization reveal that during the period July 2012 to June 2013, at the All India level, the average monthly income per agricultural household was Rs 6426/- out of which only 47.9 percent was from cultivation and hence farmers cannot solely depend upon farming to meet their consumption requirements. Infact even after earning income from other sources, in case of 70 percent of households, the monthly per household consumption expenditure was higher than that of income.

The Situation Assessment Surveys of the National Sample Survey Organization (2005) had also observed the worsening situation of farming households and noted that about 40 percent farmers' households in the country did not like farming because it is unprofitable, risky, lacks social status and given an option would like to choose another profession. The crisis in the agricultural sector thus had certain features such as deceleration in growth rates in this sector, declining share of agriculture in GDP, falling public investment, low or negative returns,

marginalization of land holdings and low opportunities for rural non farm employment leading to disguised employment in this sector, etc. All these features in the agricultural sector have impoverished the farmers and caused distress. One of the tragic manifestations of the crisis is the large number of suicides committed by farmers in several states of India.

The number of farmers' suicide which was 10720 in 1995, has been increasing over the years and peaked in 2004 at 18241. The wave of suicides is prominent in states such as Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh and even Punjab. The spate of suicides among farming community has continued till date and the problem has been so alarming that it has attracted nationwide attention and been the cause of serious debates in the state as well as Union Legislatures. These debates have raised a series of questions about the distressful conditions of farmers and the state of the agricultural economy.

5.2 Objectives and Methodology :

Given the seriousness of the issue on agrarian distress ultimately leading to suicides among farmers, the Ministry of Agriculture, Cooperation and Farmers Welfare sponsored a study on farmer suicides in Maharashtra so that a grassroot level understanding on causes of suicides could be observed. The objectives of the study are :

1. To analyse the incidence and spread of suicides among farmers in the state of Maharashtra;
2. To study the socio-economic profile, cropping pattern and profitability of victim farm households;
3. To study the causes leading to farmers' suicides including production and market risks, sociological, psychological and other family related factors responsible for farmer suicides;
4. To recommend suitable policies to eliminate the occurrence of incidence of farmers' suicides.

Primary data has been collected from 50 agricultural households which had an incidence of suicide. After selecting districts which were hotspots for suicides, a structured questionnaire was addressed to them. The questionnaire firstly attempted

to capture the agricultural status of the household and then try and probe into the causes. Hence primary data has been collected on family size, level of education, social group, cropping pattern, size of holding, source of irrigation, cost of cultivation, net returns, etc. In order to observe the extent of agrarian distress, the loan borrowed from institutional as well as non institutional sources is observed and also the extent of indebtedness. Questions were also addressed to observe the socio-economic causes of suicides.

The data from official unpublished records of the government reveal that suicides are concentrated in Vidarbha and Marathwada. While share of suicides have always dominated in Vidarbha, the share of Marathwada has been increasing gradually in the recent years. Therefore districts selected for primary survey are from the regions of Marathwada (Beed, Nanded and Aurangabad) and Vidarbha (Yavatmal and Amravati).

5.3 Major Findings :

1. The highest incidence of suicides is in Amravati division. In fact in 2001 when the state witnessed a relatively low incidence of suicides (62) among farming community, as much as 79 percent were observed in Amravati division (49). However, over the years the number of suicides in the division kept increasing and was as high as 1179 in 2015 (36.52 percent), i.e an increase by 24 times.
2. Aurangabad division which had negligible suicides in early 2000 showed a rapid rise to 1130 in 2015 in and caught up with Amravati division with a share of 35.01 in 2015. Thus both these divisions together accounted for 71.53 percent of suicides in Maharashtra.
3. Another way of observing the incidence of suicide among farmers according to divisions of the state was by calculating the number of suicides per lakh hectare of NSA and GCA. While the number of suicides in Maharashtra in 2015-16 was 19.38 per lakh hectare of NSA and 14.44 per lakh hectare of GCA, the corresponding figures for Amravati division was 37.68 and 32.66 and that for Aurangabad was 27.96 and 18.07. Suicides were thus concentrated in these two regions.
4. The government of Maharashtra provided compensation to deceased families where indebtedness was the main cause of suicide and about 65.74 percent of

families in 2015-16 were given compensation of Rs 1 lakh, out of which Rs 30,000/- was paid in cash and Rs 70,000/- was kept in the bank as fixed deposit.

5. The socio-economic profile of the household of the victim revealed that farming was the main economic activity of 100 percent of households in the sample. About 72 percent of the families of the victims were joint in nature and 86 percent lived in the village. With respect to level of literacy, it was observed that 30 percent were illiterate and 14 percent had only primary level schooling. However, 2 farmers in the sample size of 50 had more than 15 years of schooling. The land holding pattern indicated that 40 percent of the area was between 0.1 to 2.5 acres or marginal group while 42 percent area was between 2.51 to 5 acres or small category. Marginal and small farmers constituted 76 percent of holdings while in case of large farmers the figure was 6 percent. The characteristics of operational holdings of the victims' household indicated that on an average the gross cropped area was 4.46 acres out of which area sown more than once was only 0.43 acres. The cropping intensity was only 110.42 percent, possibly due to lack of irrigation facilities. Only 12.11 percent of the area was irrigated while 87.89 percent was unirrigated. The cropping pattern of the sample households revealed that soyabean and cotton together constituted 62.78 percent of the gross cropped area of sample households while the share of foodgrains was 33.63 percent and few farmers in the sample cultivated horticultural crops.
6. The field survey indicates that sample households on an average had a negative income from agriculture to the tune of Rs 32716/-. However, they earned income from various sources such as allied activities, wages, etc which amounted to Rs 30990/- per household on an average. The huge negative income from agriculture clearly indicates crop failure and high cost of cultivation. In 2015-16, Marathwada suffered from severe drought and the region received 60 percent of normal rainfall. Districts such as Beed and Nanded which are included in our sample suffered from around 50 percent deficient rainfall and a similar pattern was observed in 2014-15. The net returns to farmers indicate that farming is totally unremunerative and unviable economic activity. Farmers made losses from all crops except gram and some

horticultural crop. Maximum loss was incurred for cereals –kharif jowar and followed by bajra. Taking across all crops the net returns were Rs -27301/- per acre and Rs – 32716 per household. Thus households made negative returns from farming.

7. With respect to credit, it was observed that an average amount from formal and informal sources together of Rs 95200/- was borrowed for farming purposes while Rs 225074/- was borrowed for non-farming purposes. The average amount outstanding per household was Rs 99601.
8. The social related causes showed that poverty ranked first, followed by family problems. Many households did not receive their entitlements through PDS. Due to crop failure, their expenditure was higher than income and they had to resort to borrowing, leading to indebtedness as they had no repaying capacity.
9. Crop failure ranked first as the farming related cause of distress and suicide. It was observed that out of 50 sample households, the number that cultivated soyabean was 30 or 60 percent. The cultivation of soyabean was negligible in 1990s and it constituted only 7.27 percent of area under oilseeds in Maharashtra. However, this crop gained popularity over the years and its share jumped to 75.23 percent of area under oilseeds in TE 2010-11 and occupies 88.16 percent of oilseeds area in 2014-15. Soyabean replaced area not only under other oilseeds but also other kharif crops such as jowar, paddy, etc. However, 2015-16 was a drought year and it was observed that out of 30 households in the sample cultivating soyabean, there were nine households which suffered from total crop failure and on an average across the 30 households, the yield was 70 percent less than normal. Further, the lower yield was not compensated by higher price of the produce.
10. A similar situation arose with respect to cotton and other crops. It was observed that 54 percent of households cultivated this crop. The yield per acre of sample households was observed to be 1.88 quintals per acre against a normal yield of about 4.02 quintals per acre in a normal year. Thus farmers over the years have switched their cropping pattern from foodgrains to commercial crops in the hope of getting higher returns. However, continuous drought with absence of protective irrigation has resulted in huge crop failure.

In our sample of suicide households, it was observed that 27 households cultivated cotton and three households experienced complete crop failure. In fact with respect to every crop cultivated, there have been some households which have experienced total crop loss. Highest losses were observed with respect to jowar. In case of kharif jowar which was cultivated by 12 households, the net returns per household was Rs – 14733/- and there were four households which suffered from total crop failure. In case of rabi jowar, which was cultivated by six households a total crop failure was observed by 3 or 50 percent households. Farmers reserve some part of their land for subsistence crops such as jowar, but in the event of total crop failure of such crops, their day to day survival becomes difficult, besides having the burden of debt and several social obligations. Tur is another crop which had potential for high returns to farmers but in 2015-16 farmers made losses in this crop also. The only crops where farmers made positive returns was in gram and cultivation of horticultural crops such as orange. Further, farmers are also operating in an open economy framework and any yield risk causing crop loss may not be compensated by rise in price if the world supply is comfortable and international prices are ruling low. Government intervention such as ban on exports also plays its own role in bringing about fall in prices as was experienced in certain years of bumper crop. Thus adverse situations such as high input cost, low yield and low prices can be a trigger factor for suicide.

11. The act of suicide gave rise to another vicious circle as the economic impact of the suicide gave rise to a psychological impact. In 44 percent cases of the sample, there was no earning member while in 20 percent of cases the agricultural activities had stopped. There was a strong feeling of insecurity and depression within the family members who felt that their problems had now multiplied. There were 7 cases when schooling of children was discontinued while in certain cases there was intervention to bring about educational rehabilitation by charitable institutions.

5.4 Policy Suggestions:

The following policy suggestions emerge from our study :

1. The number of suicides in Maharashtra is concentrated in Vidarbha and Marathwada which together have always accounted for more than 70 percent of suicides in the state. The cropping pattern in both these regions reveal that 35 percent area is under cotton while 40 percent is under soyabean and hence together constitute 75 percent of area under kharif crops. A similar picture was observed with respect to our sample farmers. Both crops are commercial crops and farmers have switched over to these crops with the hope of getting higher returns. However, they are rainfed crops as only 0.4 percent of soyabean and 3 percent area under cotton are irrigated. Failure of monsoons thus brings about a drastic fall in yield. There was decline in yield in soyabean from 1349 kgs per hectare in 2013-14 to 655 kgs per hectare in 2014-15 due to failure of monsoons in 2014-15. A similar situation arose in 2015-16. In case of cotton also the yield declined from 358 kgs per hectare in 2013-14 to 285 kgs per hectare in 2014-15 (Government of India, 2015). The adoption of Bt cotton is very sensitive to lack of irrigation and in case of inadequate rainfall has made cotton a high risk and high cost of cultivation crop. This clearly emphasizes the need for protective irrigation. Marathwada is a water stressed region and due to continuous drought, ground water is not being recharged. The government officials emphasized that Maharashtra is facing three types of drought – meteorological drought due to poor monsoons, ground water depletion which signals a hydrological drought and the end result is a fall in yield which causes agricultural drought (<https://ruralindiaonline.org>). Thus top priority has to therefore be given for watershed strategies and completion of irrigation projects, so that water is available in case of dry spells after sowing. Water saving technologies such as drip irrigation must also be promoted and cultivation of water guzzling crops like sugarcane may be discouraged.
2. Besides low rainfall, even unseasonal rainfall, erratic rainfall, hailstorms and extreme heat have destroyed crops through pest attacks. Hence there is need to install automated weather stations so that farmers are alerted on natural

calamities and can take precautionary measures. In view of the huge losses in crops such as soyabean and cotton, (48 percent of soyabean crop was infested by pests in 2008-09) the Government of Maharashtra launched the Crop Pest Surveillance Project (CROPSAP) from 2009-10 season. The main objective of the project was to develop a scientific approach to pest surveillance and monitoring and also to guide the farmers on Integrated Pest Management and Integrated Nutrient Management (darpg.gov.in). Under this scheme, there is dissemination of pest management advisories to farmers through short message services (SMS) for several crops such as soyabean, cotton, tur, etc. However, it appears that such programmes have had only limited success and the pace of implementation is slow. Farmers must be encouraged to register for advisory services so as to prevent crop loss by taking corrective steps at the appropriate time.

3. Farmers also lack extension services with respect to availability of new varieties of seeds which give higher yield. Their soil is also not tested and hence the appropriate fertilizer and the correct dose is not applied. Farmers must therefore maintain their soil health cards so that proper nutrient management is maintained. Schemes of the government must therefore be strongly propagated so that they can reach all beneficiaries.
4. In the absence of institutional finance due to default the farmers normally borrow from informal sources at exorbitant rates of interest which they are unable to repay. Hence the government must ensure that institutional finance and crop insurance do not put the farmers into a debt trap.
5. Maharashtra is a high cost state and in certain cases the MSP does not cover cost of production. Further, in the event of price falling below support level, there are cases when state agencies do not immediately appear to mop up the produce. Hence these issues must be addressed so that farmers can cope up with high cost of production as well as bumper crop in some cases.
6. In order to earn supplementary income, farmers often diversify to allied activities such as dairy, poultry, etc. However, in drought years there is scarcity of fodder and with inadequate camps to supply water and fodder they are forced to sell the animals at rock bottom prices. Hence all round efforts must be made to ensure that such a situation does not arise and there are enough fodder camps so that cattle do not perish.

7. Rural non farm employment must be promoted and other employment guarantee schemes implemented by government must be in place so that farmers can benefit from them.
8. Besides interventions by the government, it is also important for social organizations to play a role in rehabilitating the survivors of the families by ensuring education to children of victims, mass marriages, counseling, etc. There were few cases in the sample when the victim after suicide attempts such as consuming poison or burning himself, did not immediately die and was rushed to hospital. The victim while struggling for life owned up that he regretted his act and wanted to live though it was too late. Hence the households having distress must be educated on the value of their contribution towards the socioeconomic development of their family and society at large.
9. Primary health care and support system to vulnerable farmers must be strengthened so that illness does not serve as a trigger factor to an already indebted farmer.

It is now a decade since the PM's rehabilitation package for farmers in suicide prone districts was implemented. The gram panchayats in the village had given due publicity to the programme and farmers had availed of relief measures such as interest waiver, irrigation facilities, horticulture development, animal husbandry, etc. However, despite remedial measures, the capacity of the farmers to cope up with drought is not mitigated and agrarian distress continues to be a prominent issue among policy makers. The economic, social and environmental constraints which are the cause of this distress must therefore be addressed in a more comprehensive manner so as to ensure that farmers become self-reliant. While promoting irrigation facilities to water stressed Maharashtra is the top priority, equally important are strengthening all other input supplies, maintaining efficiency in marketing and creating a sound infrastructure with respect to weather forecasting, electricity, rural roads, etc. The real answer thus lies in increasing productivity of crops and their proper marketing accompanied by rural non-farm employment so as to reduce the burden of the workforce in the agricultural sector.

Executive Summary

Background :

Indian agriculture is currently passing through a period of severe crisis and the overall scenario in this sector is that of stagnation, underperformance and lack of dynamism. The Eleventh Plan target growth of 4 percent per annum for the agricultural sector could not be achieved as the average growth rate turned out to be 3.67 percent per annum while that of the economy as a whole was 7.9 per cent. Again the Twelfth Plan (2012-17) for agriculture, which is now in its last year has again not shown any encouraging picture. The growth in 2013-14 as against 2012-13 was 4.2 per cent while it was -0.2 percent in 2014-15 as against in 2013-14. It improved to a miniscule 1.1 percent in 2015-16 as against 2014-15. The overall growth of the economy during each year of twelfth Plan was however around 7 percent.

The 70th Round of NSSO data reveals that even after earning income from other sources, in case of 70 percent of households, the monthly per household consumption expenditure was higher than that of income. One of the tragic manifestations of the crisis is the large number of suicides committed by farmers in several states of India.

Objectives and Methodology :

The issue on agrarian distress ultimately leading to suicides among farmers, was serious and hence discussed repeatedly among policy makers. Therefore, the Ministry of Agriculture, Cooperation and Farmers Welfare sponsored a study on farmer suicides in Maharashtra so that a grassroot level understanding on causes of suicides could be observed. The objectives of the study are :

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- To recommend suitable policies to eliminate the occurrence of incidence of farmers' suicides.

Primary data has been collected from 50 agricultural households which had an incidence of suicide. After selecting districts which were hotspots for suicides, a structured questionnaire was addressed to them. The questionnaire firstly attempted to capture the agricultural status of the household and then try and probe into the causes. Hence primary data has been collected on family size, level of education, social group, cropping pattern, size of holding, source of irrigation, cost of cultivation, net returns, etc. In order to observe the extent of agrarian distress, the loan borrowed from institutional as well as non institutional sources is observed and also the extent of indebtedness. Questions were also addressed to observe the socio-economic causes of suicides.

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Findings:

- The highest incidence of suicides in 2015-16 was observed in Aurangabad division which constituted 37.43 percent of suicides in Maharashtra. The corresponding figure for Amravati division was 34.45 percent and thus 71.88 percent of suicides in the state were from these two divisions.
- Another way of observing the incidence of suicide among farmers according to divisions of the state was by calculating the number of suicides per lakh hectare of NSA and GCA. While the number of suicides in Maharashtra in 2015-16 was 19.38 per lakh hectare of NSA and 14.44 per lakh hectare of GCA, the corresponding figures for Amravati division was 37.68 and 32.66 and that for Aurangabad was 27.96 and 18.07. Suicides were thus concentrated in these two regions.

- The government of Maharashtra provided compensation to deceased families where indebtedness was the main cause of suicide and about 65.74 percent of families in 2015-16 were given compensation of Rs 1 lakh, out of which Rs 30,000/- was paid in cash and Rs 70,000/- was kept in the bank as fixed deposit.
- The socio-economic profile of the household of the victim revealed that farming was the main economic activity of 100 percent of households in the sample. The cropping intensity was only 110.42 percent, possibly due to lack of irrigation facilities. Only 12.11 percent of the area was irrigated while 87.89 percent was unirrigated.
- The cropping pattern of the sample households revealed that soyabean and cotton together constituted 62.78 percent of the gross cropped area of sample households while the share of foodgrains was 33.63 percent and few farmers in the sample cultivated horticultural crops.
- The field survey indicates that sample households on an average had a **negative income** from agriculture to the tune of Rs 32716/-. However, they earned income from various sources such as allied activities, wages, etc which amounted to Rs 30990/- per household on an average.
- With respect to consumption expenditure, it was observed that 70 percent was for food and 30 percent for non-food items. Due to negative income from agriculture, the expenditure of the household exceeded that of income by Rs 60335/-. This forces them to borrow from informal sources such as moneylenders who charge interest of about 25 percent per annum.
- With respect to credit, it was observed that an average amount from formal and informal sources together of Rs 95200/- was borrowed for farming purposes while Rs 225074/- was borrowed for non-farming purposes. The average amount outstanding per household was Rs 99601.
- The social related causes showed that poverty ranked first, followed by family problems. Many households did not receive their entitlements through PDS.
- Crop failure ranked first as the farming related cause of distress and suicide. In fact with respect to every crop cultivated, there have been some households which have experienced total crop loss. Adverse

situations such as high input cost, low yield and low prices were a trigger factor for suicide.

- In 44 percent cases of the sample, there was no earning member while in 20 percent of cases the agricultural activities had stopped. There was a strong feeling of insecurity and depression within the family members who felt that their problems had now multiplied. There were 7 cases when schooling of children was discontinued while in certain cases there was intervention to bring about educational rehabilitation by charitable institutions.

Policy Suggestions:

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- Besides low rainfall, even unseasonal rainfall, erratic rainfall, hailstorms and extreme heat have destroyed crops through pest attacks. Hence there is need to install automated weather stations so that

farmers are alerted on natural calamities and can take precautionary measures.

- Extension services with respect to availability of new varieties of seeds which give higher yield must be provided to farmers and they must also be encouraged to test their soil.
- State agencies must be active in their purchase operations in case prices fall below MSP.
- Fodder must be made available during drought years so that farmers can earn supplementary income from allied activities.
- Rural non farm employment must be promoted.
- Social organizations must play a role in rehabilitating the survivors of the family by ensuring education to children of deceased, mass marriages, counseling, etc.

It is now a decade since the PM's rehabilitation package for farmers in suicide prone districts was implemented. The gram panchayats in the village had given due publicity to the programme and farmers had availed of relief measures such as interest waiver, irrigation facilities, horticulture development, animal husbandry, etc. However, despite remedial measures, the capacity of the farmers to cope up with drought is not mitigated and agrarian distress continues to be a prominent issue among policy makers. The economic, social and environmental constraints which are the cause of this distress must therefore be addressed in a more comprehensive manner so as to ensure that farmers become self-reliant. While promoting irrigation facilities to water stressed Maharashtra is the top priority, equally important are strengthening all other input supplies, maintaining efficiency in marketing and creating a sound infrastructure with respect to weather forecasting, electricity, rural roads, etc. The real answer thus lies in increasing productivity of crops and their proper marketing accompanied by rural non-farm employment so as to reduce the burden of the workforce in the agricultural sector.

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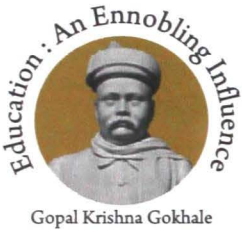
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Annexure I

Comments on the report received from Institute for Social and Economic Change, Bangalore, and Action Taken by Authors

1. Table 2.2 on month-wise number of suicides in Maharashtra from July 2015 to June 2016, and Table 2.3 showing district wise details of compensation, has been suitably indicated. All other tables are put in Annexure at the end of chapter 2.
2. Corrections have been made in Table 3.1 and Table 3.2.
3. Table 4.3 is presented for 2015-16 as the samples are from households where a suicide was committed in 2015-16.
4. Table 4.3 (A) and Table 4.3 (B) along with discussions are retained in chapter 4 as these tables relate to causes of suicides which are discussed in chapter 4.
5. All tables are removed from chapter 5 and only broad conclusions and policy suggestions are presented.



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