National Human Rights Commission of India

Research Study on

"Agrarian Crisis and Farmers' Suicides – An Empirical Study of Endemic States – Issues and Concerns"

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Executive Summary

Significant agrarian changes occurred in the last seven decades of development in the country, which have brought some externalities along with them. The ecological, economic and social costs the country is bearing as a result of indiscriminate use of chemical inputs in soils, financial exclusion, individualization and marginalization of farmers alienated from society as well as institutions, are the mark of these externalities. While these issues are common to all third world countries, why the farmers in this country are bogged down and committing the extreme step of suicides, a phenomenon which is not seen elsewhere is perplexing to the development policy makers. However, given the vast nature of agriculture sector in the country, a holistic perspective of agrarian distress will be provided if only, all the systems influencing this sector will be understood in total. The study is an attempt in this direction.

Four States were selected for the study i.e., Maharashtra, Telangana, Karnataka and Madhya Pradesh based on maximum number of suicides occurred in these states during 2014-15 (As per NCRB Data). Two districts within each State with maximum number of suicides and with variation in cropping pattern with respect to irrigated and rainfed areas, were selected. Around 138 villages were covered for a sample of 200 households with farmer suicides and 200 control households. Primary data from sample households was collected during 2017-18.

All the four selected states i.e, Maharashtra, Telangana, Karnataka and MP are the States with agriculture sector contributing 20-29 percent of Total State Domestic Product i.e, more than the national average of 14.5 percent and the states with good growth rate in agriculture sector with around 4 percent on an average. The similarities with respect to agriculture distress in these states were cropping pattern dominated by cash crops like cotton, sugarcane and soybean, high incidence of indebtedness and high private investment under tube wells. Maximum sown area of the FS households was registered under cotton with 66.2, 55.3 and 56.5 percent of Gross Sown Area (GSA) in case of Maharashtra, Telangana and Karnataka respectively. However, the dissimilarities of distress were more

compared to similarities so that it is difficult to draw a one to one correspondence between the agrarian distress and corresponding farmer's suicides at state level. Though indebtedness is the root cause for the suicides in all these states, each state has its own characteristic phenomena which could be deciphered as proxies to distress. MP is the State with less area under micro irrigation (5.64 percent of potential) , low nutrition security (69 percent of anemic children), low financial inclusion of small and marginal farmers (35 percent) , more number of habitations yet to be covered with rural roads (10,290), low coverage of SHGs (21.78 percent). Karnataka is the State with maximum per household rural and agriculture credit (with 1.32 and 2.73 lakhs respectively) , least performer among four States in terms of number of families completed 100 days of work under MGNREGS (2.73 percent out of total demanded families) .Maharashtra is the State with low financial inclusion of small and marginal farmers (35 percent), low coverage of SHG (26.34 percent) and Telangana is the State with less number of farmers insured (3 percent out of total insured), scored highest in increased application of fertilisers (92 %) and pesticides (98%) , higher percent of men consuming alcohol (61.2 percent) higher percent of women experiencing spousal violence (47.6 percent). Actions at State level on these, matters a lot in determining the performance of agriculture as a whole.

Out of the 67mha of irrigation potential created so far in the country, the share of public investment through surface irrigation projects is only 25 mha and the rest is private investment for groundwater development from informal sources of lending at exorbitant rate of interest. State investment on irrigation, particularly the ground water is the fundamental fulcrum on which reducing the indebtedness of a farmer is depending on. Micro realities emerged through logit regression model revealed the fact that the probability of committing suicide by farmers will enhance by 2.81 times and 7.2 times if the size of leased-in land and the indebtedness goes up by one unit respectively. Efforts to augment the production base of the small and marginal farmers by leasing-in land is resulting in a ladder and snake game where ladder turns into snake many a times. Policy support in favor of legalizing the tenancy, while protecting the interest of the owner farmers should be accorded on a priority basis.

State support to distress households at present is adhoc in the form of relief either by way of debt waiver scheme or by way of compensation to the deceased families in case of crop failure or drought or sudden price fall. However, these are only the triggers to commit suicide by a farmer. When the vulnerability of a farmer is built over a period of 3 to 4 years with multiple distresses (on average 3.3), from multiple borrowing sources (on an average 3.62) and for multiple purposes of lending(on average 4) what triggers the final act of committing suicide is irrelevant. Encouraging multiple livelihoods that are livestock and non-farm based, innovations in extension systems including livestock extension systems to reach the last mile producer, institutions as the social drivers of development, have gained paramount importance. A one unit support from Panchayat, increase in livestock size, extension services and membership in SHGs respectively will reduce the probability of committing suicide by a farmer to 0.005, 0.249, 0.1882 and 0.982 times. As these are the areas where State support is to be extended, all the stakeholders working in the development sector such as agriculture, rural development, Panchayat system, education, health and social development should undertake the responsibility and work in symphony with each other. At the same time, the agriculture sector the backbone on which the entire rural economy depends upon should undertake the primary responsibility by orchestrating its activities around the panchayat system. The recommendations given by the National Farmers Commission (2006) holds valid even after more than a decade of its formation which should be implemented on a priority basis. Plugging the holes is equally important while building a system. Lending for religious and social expenditure accounts to third highest expenditure ensuing agricultural and consumption lending among the sample households. Religious institutions should undertake the responsibility of reducing this expenditure of rural households by way of massive campaigns.

In the long run, all these efforts will be concretized if only the number of households depending on agriculture as main occupation in rural areas will come down. For this to transpire, Policy framework is needed on labor absorption capacity of agriculture sector.

Chapter 1: Introduction and Methodology

1.1. Introduction

Agriculture sector is one of the commanding heights of the Indian economy with majority of people in the country depending on the sector. The sector employs 48 per cent of country's workforce and is the single largest private sector occupation. However, the share of agriculture in Gross Domestic Product which was 57.7 per cent in 1950-51 has come down to 14.5 per cent in 2015-16. The share of the agricultural sector's capital formation in GDP declined from 2.2 per cent in the late 1999s to 1.9 per cent in 2007-08. While, India's foreign trade is deeply associated with the agriculture sector, it accounts for about 14.7 per cent of the total export earnings. Some of the supply side bottlenecks of the farming such as fragile asset base ,imperfect markets for inputs and outputs , less access to credit , unskilled labor force, less information on HYV seeds, lack of apolitical collectivization and negative externalities arising from land and management (NCEUS, 2008), continue to dog the sector even after seven decades only with changing intensity. The intensity and spread of farmer's suicides in the country is a testimony to this fact. In view of this the agrarian interest has taken a forefront in the national agenda today.

The performance of the sector has been characterized by significant fluctuations in the last seven decades with bright spots, phases of stagnation and spate of distresses. The response of policy is in tune with these, laid- back during bright spots and swift during the periods of stagnation and distress (Deshpande etal, 2004). Significant agrarian changes occurred in the last seven decades of development in the agriculture sector which have brought some externalities along with them. The ecological, economic and social costs the country is bearing as a result of indiscriminate use of chemical inputs in soils, financial exclusion of farmers and individualization marginalization of farmers alienated from society, as well as institutions, are the mark of these externalities. While these issues are common to all third world countries, why the farmers in this country are bogged down and committing the extreme step of suicides, a phenomenon which is not seen elsewhere is perplexing to the development policy makers. The development policy has been changing over a period tuning into the existing agrarian structure mostly and often as a reaction to the exigency that emerged out of a crisis in the context of the absence of the rainfall or market downfall. The Debt Waiver Scheme is an example of such exigency being taken up by majority of the States now. In this context, it is pertinent to look into the changes in agrarian policy that

have been happening over a period that have an impact on socio-economic conditions of the farmers.

1.2. Phases of Agrarian Change and the Context of Agrarian Distress

The agrarian structure of the Indian economy was primarily emerged out of a deep rooted history of refractory land tenure system (Deshpande etal, 2004).Therefore, the Post-independence period or pre-green revolution period from 1949-50 to 1964-65 was marked with an intensive implementation of land reforms in the country because of the large number of intermediaries between the government and the cultivators, insecurity of tenure in the absence of ownership and rent rights, small and fragmented holdings and uneven distribution of land which were identified as detrimental to agriculture production. The second phase i.e., during the Green revolution period from 1965-66 to 1979-80was marked with a change in technology. The Seed-Water-Fertilizer based technology adopted during this period was input intensive and output enhancing. This led to an increased dependency of the farmers on factor market. While, the primary sources of output growth of agriculture were the increase in the area under cultivation in the first phase, the same during the second phase was growth in yields. As food security was the major concern during this period, the policy focus was on cereal crops. However, bypassing the majority of small and marginal farmers who got benefitted during land reforms period, the new generation of farmers emerged during this period leveraging the institutional support systems such as institutional procurement that was associated with the introduction of green revolution technology. Therefore, in practice, the new technology was biased in favor of those who have better command over resources (Rao, 1975).The shift in cropping pattern and the entry of a new generation of farmer's necessitated up-to-date knowledge based practices, comprehensive extension systems and services which were established during this period through a network of public extension systems.

The third phase i.e., the period of wider dissemination of technology or maturing stages of green revolution from 1980-81 to 1990-91 was marked with increased recognition of the role of a) oilseed and pulse crops in rainfed areas, b) small and marginal farmers in improving the production of the country and c) soil and water conservation measures in rain fed areas. The performance of Agriculture sector during the mid to late 1980swas impressive and contributed significantly to the national growth and increase in agriculture exports. While the exemplary performance of agriculture sector during the second and third

phase has helped in overcoming food insecurity at the macro level, the negative externalities that were brought along with it were a) neglecting coarse cereals under the buoyancy of rice-wheat based technology)ignoring the governance of groundwater management associated with increase in area underground water and c) increased vulnerability of small and marginal farmers with a market led commercialization of agriculture. While the public sector spending in agriculture on infrastructure development started showing a turndown in real term, investment by farmers was experiencing an upward trend. However, the increased application of chemical inputs adversely affected marginal productivity of the soil and eroded the net profit from farming during this phase. In the 1980s as per the estimates of NRSA, the degraded land increased by 7 mha from 11.31 percent to 18 percent of the cultivable area (Chand 2006).The spread of lagged green revolution to the semi-arid region, to non-food crops and to downwardly mobile medium, small and marginal farmers whose investment on land has been increasing, coincides with many technological and institutional changes that brought the farming community into a vortex of growing vulnerability during this period.

The fourth phase during Post reform period from 1991-92 to 2004 was marked with a distinct slowdown in agricultural growth particularly from mid 1990s which has an impact on the livelihood of the farming community. Two important phases of Indian economy during this period were the implementation of economic reforms and India's signing of GATT agreement. The liberalization of agricultural trade resulted in an exposure of commercial agriculture to the volatility of world commodity markets. This situation was further aggravated during thelate1990s to the first half of 2000 when the country dismantled the quantitative restrictions and brought down the tariff rates. It was during this period which started reporting large number of farmer suicides across the country. Some of the structural and proximate factors that contributed to decline of agriculture were reduced role of the state investment in irrigation, slow research and institution building which has a negative externality on private investment. The fifth phase is the Period of economic acceleration i.e., from 2004 onwards(Chand, 2006), is marked with a rise in public investment in agriculture on agriculture development programs, with a renewed focus on rice, wheat and pulses under National Mission for Food security and Mission for Horticulture development programs. However, the desirable goal of stable agriculture growth has become more distant, because the instruments meant to stabilize were inadequate to mitigate the risk of farming community. The cumulative effect of all these agrarian transformations inflicted

compounding impact on the vulnerability of farmers resulting in a large number of suicides continuing across the country during this phase.

1.3. Proximate Causes and Consequences of Farmers Suicides

Agrarian distress and the farmer's suicides is not a phenomenon that is suddenly erupted. However, it was officially recognised in 2005 with a need for interventions by the State to provide relief to the farmers (GoI 2005a, 2007).Most of the researchers in the country have highlighted the situations leading to the unfortunate incidents**.** Given the diversity of Indian agriculture and the conditions under which the farmers are operating, it would be difficult to identify a single or major contributing factor to farm suicides. However, many researchers have pointed out indebtedness as a major factor. Such studies also identified that multiple risk factors feed into each other and reinforce each other(Deshpande and Shah, 2010).It is evident that farmers across the states have shifted from traditional rainfed crops to non-food cash crops like cotton, oilseeds and chillies whose prices are governed by the global commodity markets. Falling international primary commodity prices of many crops impacted Indian markets even when the actual volume of imports did not increase. This apart, there has been growing pressure on the farmers in meeting basic social needs like expenditure on health and education. The rising social aspirations are also compelling him/her for an increased spending on items such as marriages or other social functions.

Increased number of suicides has been occurring in the high and medium growth states which was articulated by the scholars as demonstration/imitation effect where the high aspirations or thrust for upward mobility in the absence of public policy support, as a major causation for suicides in the backward areas of medium growth states (Rao 2004).By the late 1990s, many states such as north and south Karnataka, divided states like Andhra Pradesh, Telangana, Madhya Pradesh, Maharashtra and Punjab reported farmer's suicides. These are the states which have readily adopted the high yielding technology in the first instance and the state with a rapid pace of commercialization. However, the dissimilarities of distress were more compared to similarities. Though indebtedness is the root cause for the suicides in all these states, each state has its own characteristic phenomena. Lack of irrigation facilities and price volatility of cotton was found responsible in case of Maharashtra. In Karnataka incidence of suicides was found more concentrated in northern Karnataka which is characterized by dry land farming mostly. In Punjab the increase in the cost of

cultivation of crops and an increase in non-agriculture consumption expenditure were found to be the causes of distress. Mono-cropping whose fortunes are highly sensitive to fluctuations in international market prices was the primary reason found responsible for the distress in Kerala, particularly in Wayanad region. While the context of crisis seems to be 'survival' in some cases it is 'sustainability' in some other cases.

Apart from the socioeconomic perspective many studies focused on the psychological perspectives of suicides which interprets such incidents as the distance of an individual from society and is considered an important reason for suicides. 'Durkheim' a famous psychologist on suicides was quoted in many studies. He categorized suicides as 'egoistic, altruistic, anomic and epidemiological 'based on social response theory to distress (Durkheim, 1952). The 'egoistic' person is more prone to suicide as the tolerance level of insult is low. The 'altruistic' person is prone to suicide with inflated ambitions and unmatched capabilities. The 'anomic' suicides are common for those who withdraw from the group to which they belong. Farmers suicides seems to belong to all these three cases where it is a case of 'egoistic 'when they are harassed by the debtors or lenders, a case of 'altruistic' when agriculture as a livelihood is not in a position to meet the increased social expenditure, a case of 'anomic' when a series of adverse negative incidents snowballs into a distress situation. Therefore, it is difficult to draw a one to one correspondence between the agrarian distress and corresponding farmer's suicides.

The impact of a suicide on the family 'after' is more distraught compared to the state of distress of the family 'before'. It is a systems failure which is affecting multitude of people in multitude ways. The States of Telangana, Punjab and Maharashtra are the State with highest number of widows in the country. These women were already caught in the vortex of agrarian crisis and at the same time should come to a painful reality of being the single head of household taking the onus of family responsibility. Compared to what their husbands might have faced, these women need to fight many more fights with patriarchal hierarchies, with internalized taboos and with social norms to eke out a dignified living (Padhi R, 2009).It is therefore pertinent to understand the support of State to these families in helping them to recover socially, psychologically and financially.

1.4. Need for the Present Study

Many studies in the country have drawn out the contributing factors of farmers suicides with suggestive policy prescriptions. Some studies pertained to the requests of the state governments such as Andhra Pradesh, Karnataka and Maharashtra focusing on alleviating the distress in the farming communities. Some other studies comprised of Citizen Reports prepared to identify the policy lapses of the respective state governments. The third group of studies is academic in nature limited to a state and one or two districts within the state, mainly focusing on cause and effect of particular variables in detail (Deshpande etal, 2010).However, given the vast nature of agriculture sector in the country, a holistic perspective of agrarian distress will be provided if only, all the systems influencing this sector will be understood in Toto. As agriculture is the primary source of livelihood for majority of rural households the other aspects of rural development such as rural roads, wage employment programmes, the role of local institutions have an implication on agriculture development (Virmani A 2008). Therefore, the implementation of these programmes in the respective states need to be studied to understand their effect on mitigating the agrarian distress. In this context, the study was taken up.

1.5. Aim of the Study

To explore the factors (agrarian, Social, Economic and Psychological) that influences the farmers most, in committing suicides and suggests suitable measures to mitigate their distress.

1.5.1. Objectives of the Study

The main objectives of the study are to

1. Assess the total investment in agriculture in post reforms period
2. Understand the sector and category wise private investment in agriculture.
3. Identify and isolate the contributory factors that trigger distress and suicide amongst the households in a village.
4. Assess the institutional support systems and mechanisms available for agricultural households.
5. Know the process and extent of relief measures available to distress households
6. Assess the role of local PRIs in reaching out to distress households

1.5.2. Hypothesis of the Study

1. Public investment in agriculture has increased during the post reforms period
2. Private investment in agriculture is mostly towards the development of irrigation facilities.
3. Institutional credit is being diverted for unproductive purposes
4. Indebtedness is the primary cause of farmer's suicides

1.6. Methodology of the Study

1.6.1. Selection of the States

As the state of agrarian distress has been prevalent among majority of the states in the last two decades, the selection of the states was based on maximum number of suicides in a state taken from National Crime Records Bureau (NCRB) Data of 2014-15 which was the latest as on October 2017 when this study was taken up. The main source of data for analyzing the trend of farmer suicides in India has been the *Accidental Deaths & Suicides in India* (ADSI), an annual publication of the National Crime Records Bureau (NCRB) of the Ministry of Home Affairs, Government of India. The NCRB has been publishing the ADSI, which contains data on suicides in the country, disaggregated by states and major cities, since 1967. Among all States in India, four states namely Maharashtra, Telangana, Karnataka and Madhya Pradesh have the largest number of farmer's suicides. These states were selected for detailed study. The list of states with farmer's suicides during 2014-15 is given in Annexure I

1.6.2. Selection of the Districts and Sample Households:

Eight districts were selected from four States at the rate of two districts from each State on the basis of the highest number of farmer's suicides and the variation in cropping pattern as per rain fed and irrigated cropping systems .From each district 25 households in which a farmer has committed suicide were selected. These households were selected from the list of suicides happened between 2014 and 2017. The data and information regarding farm suicides in the districts were collected from the Department of Agriculture in case of Telangana and Karnataka, Department of Revenue and Land Administration in case of Maharashtra and Department of Home in case of Madhya Pradesh. These 25 households

were from different villages in a district. Therefore, the number of villages selected was different in all the selected districts. The table below provides information on the selected districts and villages in each state. Control households were selected from the same villages with similar parameters concerning infrastructure, land holding size and cropping pattern. In short, 25 control households were selected from each district forming a sample size of 50 Farm Suicide (FS) households and 50 Control Group (CG) households in each state. The selection of CG households was based on information obtained from the village Sarpanch, village revenue officers and elders of the village. The data was collected during October, 2017 to April 2018 The total sample size constitutes as per following.

Table 1.1. : Sample Size of Selected States

State	Telangana		Karnataka		Maharashtra		Madhya Pradesh		Total
District	Siddipet	Nalgonda	Haveri	Mandya	Beed	Yavatmal	Rewa	Alirajpur	8
Villages	21	21	13	13	17	7	23	23	138
Suicide HHs	25	25	25	25	25	25	25	25	200
Control HHs	25	25	25	25	25	25	25	25	200
Total HHs	50	50	50	50	50	50	50	50	200

1.6.3. Sources and the Process of Data Collection and Method of Analysis

Data was collected from both Primary and Secondary sources. The main sources of secondary data were as follows: Census of India, 1991, 2001 and 2011, National Crime Records Bureau, Economic Survey Reports, National Sample Survey, and Bureau of Economic and Statistical organization of respective states, Ministry of Agriculture, Rural Development, Water Resources, National Family Health Survey and Newspaper reports on farmers' suicides.

Primary data for the study was collected using a structured questionnaire that was pilot tested and canvassed among sample households. The data collected from the respondents includes general information about suicide farmers, their resource position, land holding, cropping pattern, debt condition, asset position, sources of credit, the purpose of credit, addictions if any, reasons for suicide and any other information the family wishes to share.

The entire suicide households were post stratified based on their operational holdings into the following categories.

- Marginal farmers are those who have landholding of less than one hectare.
- Small farmers are defined as above one hector but below two hectares.
- Semi-medium farmers are above two hectares but below 4hectares
- Medium farmers are above 4 hectares but below 8 hectares.
- Large farmers are 8 hectares and above.

1.6.4. Tools and Techniques

The collected data was tabulated and consequently simple percentage and average was calculated to get the result. To measure the inequalities in the distribution of landed property among different households, Gini's coefficient ratio was also calculated.

$$C = 1-[\sum (P_t-P_{t-1}) (Q_t+Q_{t-1})]$$

Where, C = Gini's coefficient of concentration

P_t and Q_t are Cumulative proportions of number of operational holdings and are operated up to the J^{th} size class of holdings, and $\sum$ denotes summation over the size classes

The logistic regression model was used to examine the influence of different factors, namely, size of the landholding (SL), Family size (SF), Total indebtedness (TI), Total expenditure (TE), per hector expenditure (PHE), Value of livestock in rupees (LSV).The influence of various socio-economic factors on the probability of the incidence of suicide was investigated through LOGIT Model. The dependent variable (probability of incidence of suicide) was expected to lie between 0 and 1.00. In the present study suicide farmers and non-suicide farmers made the dependent variable discreet. Thus, the multivariate Logit model was useful for the analysis. The logit model assumes that the probability of an individual, i, being committed suicide has the form as:

$$P_i = P(Y_i = 1/X_i) = e^{Xi\beta}/(1 + e^{Xi\beta}) \qquad (1)$$

Where Xi is the set of explanatory variables that include individual characteristics and β is the set of unknown parameters. Similarly, the probability of an individual not committing suicide as:

$$1 - P_i = P(Y_i = 0/X_i) = \frac{1}{(1+e^{Xi\beta})} \qquad (2)$$

Taking the ratio of the two expressions we get

$$\frac{P(Y_i=1)}{P(Y_i=0)} = e^{Xi\beta} \qquad (3)$$

Taking the natural log of both sides we get the equation as:

$$Ln\left[\frac{P_i}{(1-P_i)}\right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \ldots\ldots\ldots + \beta_n X_n \qquad (4)$$

The logit model guarantees probabilities in the range of (0, 1).

The specific Logit model to predict the odds of a suicides farmer is specified as follows:

$$Ln\left[\frac{P_i}{(1-P_i)}\right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + u_i \qquad (5)$$

Where, ln = Natural logarithm; Pi=Probability that the ith farmer will be a farmer who committed suicide; 1-Pi=Probability that the ith farmer will not commit suicide

X_1: Leased in Land
X_2: Total Indebtedness
X_3: Education
X_4: Income
X_5: Panchayat Support
X_6:Cattle Size
X_7 :Extension Services
X_8 :Output Price fluctuation
X_9::Membership in SHGs
$b_1$to b_6: are the coefficients of the six independent variables.
U: is error term

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CHAPTER 2: Farmers' Suicides in India: Trends in India and Across Selected States

It is a fact that world over farmers as an occupational group, face high risk and uncertainty in their income flow (Malmberg and Hawton1999). The role of farmers in deciding the prices of factor market and output market is very minimal. However, no country except India has witnessed a massive surge in farmers ending their lives voluntarily for various reasons. It is observed by some that suicides are not crisis or form of crisis but are only symptoms and expressions of the deeper structural problems of Indian Agriculture and the agrarian systems itself (Vasavi, 2009). As they are nothing but warning signals of desperation to the State (Sridhar 2006) it is pertinent to understand the process of recording the suicides in the country and the occurrence of suicides across the states. This chapter examines the magnitude, trends and pattern of farmer's suicide-deaths in India as well as the selected states.

Definition of a farmer refer to a person who actively engaged in growing primary agricultural commodities and involved in other livelihood activity of growing crops, for instance cultivators, tenants, agricultural labourers, fisher folk, livestock rearers, people dependent on poultry, horticulture, vermiculture, agro-forestry, sericulture, beekeepers, etc.In addition, the term also includes tribal families and persons engaged in shifting cultivation and in the collection, use and sale of minor and non-timber forest produce (NAC,2007, MoA).Whereas, NCRB recognize Farmers/Cultivators' include persons whose profession is farming and who either cultivates his/her own land or who cultivate lease land with or without the assistance of agricultural labourers. The term agricultural labourers refers to those who engaged primarily in farming sector (agriculture or horticulture) and their primary source of income should be drawn from agricultural labour activities.

2.1. The status of Data reporting as per NCRB

In India, since 1967, the National Crime Records Bureau (NCRB), Ministry of Home Affairs, publishes annually disaggregated level (states and major cities) data on the Accidental Deaths & Suicides in India (ADSI). Copies of the ADSI have been digitized and made available on the NCRB's website. Apart from the number of suicidal data, the bureau also provides the causes of suicides. From 1995 onwards the NCRB started publishing disaggregated data on death and suicidal data by profession. Up to 2013 the category of self-employed of ADSI of NCRB pertains to farming/agriculture, professional activity and business

activity. Further, the category under the service was split into public and private sector undertaking, whereas, until 2013 the self-employed (agriculture/farming) category has remained constant. In 2014, the categorization of professions by ADSI was a little different from the previous year's format, where, ADSI has subdivided the category of "self-employed in agriculture" into agricultural laborers and farmers. The sub-category of farmers has been further sub-divided into those owning land and those leasing in land. But if we compare the figures reported under the category of self employed in 2014 with the figures reported under the category of "self-employed (farming/agriculture)" in previous years' reports, a big discrepancy can be observed. *As NAC, MoA has recognized agriculture labour also as a farmer, we have combined both the cultivators and agriculture labourer's data and presented in the Table below*. During the 13 year period between 1995 and 2015, as many as 2, 16,500 farmers have committed suicide in India. (See Table 2.1 below). As per the NCRB, a total of 12,602 persons involved in farming sector (consisting of 8,007 farmers/cultivators and 4,595 agricultural labourers) have committed suicides during 2015, accounting for 9.4% of total suicides victims (1, 33,623) in the country.

2.2. Magnitudes and Trends in Farm/Farmers' Suicides in India and Selected States

As per the NCRB, during 2015, majority of suicides committed by farmers/cultivators were reported in Maharashtra (3,030) followed by Telangana (1,358) and Karnataka (1,197) accounting for 37.8%, 17.0% and 14.9% respectively of total suicides of 8,007.Further, Chhattisgarh (854 suicides), Madhya Pradesh (581 suicides) and Andhra Pradesh (516 suicides) accounted for 10.7%, 7.3% and 6.4% respectively. All six states together reported nearly 95% of the total farmer/cultivators suicides (7,536 out of 8,007 suicides) in the country.

The below Table 2.1 gives the Number of Farmers' Suicides, non-Farmers' Suicides and all-Suicides in India from 1997to 2015. It is evident from the Table that the absolute number of farmers' suicides declined from 13622 in 1997 to 12602 in 2015. In the year 1997 the farmers' suicides constituted about 14.2 percent, the trend was at its peak during 2000 to 2004 ranging from 15.1 to 16.3 percent. The agriculture sector witnessed revival and registered impressive annual growth rate of 4.27 percent whereas the non-farm sector growth accelerated to 9.21 per cent, in the period during 2004-05 to 2011-12. Based on acceleration in growth in agriculture as well as nonfarm sectors, this period is termed as the "period of economic acceleration". Annual growth in the overall rural economy during this period was 7.45 per cent (Chand, 2017). The trend in farmer's suicide has slightly reduced

from 16 percent to 12.9 percent from 2005 to 2008 in the country. Except in 2011 and 2012 which have seen one more peak, the trend in the later years is still rather flat with no obvious interior peak.

Table 2.1. : Distribution of Number of Farmers' Suicides and non–farmers Suicides in India (1997-2015)

Year	Farmers' Suicides		Non-farmers suicides		All Suicides
	Number	As a percent of all suicides	Number	As a percent of all suicides	Number
1997	13622	14.2	82207	85.8	9582
1998	16015	15.3	88698	84.7	104713
1999	16082	14.5	94505	85.5	110587
2000	16603	15.3	91990	84.7	108593
2001	16415	15.1	92091	84.9	108506
2002	17971	16.3	92446	83.7	110417
2003	17164	15.5	93687	84.5	110851
2004	18241	16.0	95456	84.0	113697
2005	17131	15.0	96783	85.0	113914
2006	17060	14.4	101052	85.6	118112
2007	16632	13.5	106005	86.4	122637
2008	16196	12.9	108821	87.0	125017
2009	17368	13.6	109783	86.3	127151
2010	15977	5.94	132214	94.06	269198
2011	14027	10.35	118971	89.65	135585
2012	13754	11.42	103983	88.58	120488
2013	11772	8.73	120086	91.27	134799
2014	12360	9.39	116225	90.61	131666
2015	12602	9.43	118049	90.57	133623

Source: Various Volumes of ADSI; NCRB, GOI.

2.3. Suicides Rate among farmers in India from 1997 to 2015

The suicides rate among farmers- defined as number of farm/farmers' suicides per 100,000 farmers can be calculated based on census data available in 2011. The 2011 Census provides data on two categories of cultivators: Cultivators among 'main workers' and those among 'marginal workers.' For the first group – a cultivator among main workers – farming is the main activity. The second group includes those who practice cultivation only on an occasional basis. However, both groups are considered as farmers in Census data. In order to identify farmers' suicide rate, no. of farmers' suicide per 100000 cultivators

(main plus marginal workers) is considered. The general suicides rate in the country is calculated based on the number of total suicides per 100,000 populations. Based on this, farm/farmers suicides rate and non-farmers suicide rate is calculated.

Table 2.2: Distribution of Farmers' Suicides Rate and All-Suicides Rate in India, 1997-2015

Year	Farmers' Suicides		Non-farmers suicides		All Suicide	
	Farmers suicides	Suicides rate	non-farmers	Suicides rate	All suicides	Suicides rate
1997	13622	10.7	82207	9.1	95829	11.3
1998	16015	12.6	88698	9.9	104713	12.4
1999	16082	12.7	94505	10.5	110587	13.1
2000	16603	13.1	91990	10.2	108593	12.8
2001	16415	12.9	92091	10.2	108506	10.5
2002	17971	14.2	92446	10.3	110417	10.7
2003	17164	13.5	93687	10.4	110851	10.8
2004	18241	14.4	95456	10.6	113697	11.1
2005	17131	13.5	96783	10.8	113914	11.1
2006	17060	13.5	101052	11.2	118112	11.5
2007	16632	13.1	106005	11.8	122637	11.9
2008	16196	12.8	108821	12.1	125017	12.2
2009	17368	13.8	109783	12.9	127151	12.8
2010	15977	12.1	132214	12.85	148191	13.1
2011	14027	11.8	118971	10.90	135585	11.2
2012	13754	11.6	103983	9.53	120488	10.0
2013	11772	9.9	120086	11.00	134799	11.1
2014	12360	10.4	116225	10.65	131666	10.9
2015	12602	10.6	118049	10.82	133623	11.0

Source: Various Volumes of ADSI; NCRB, GOI.

The above Table presents the number of total suicides, suicides rates for farmers, non-farmers and total population of India from 1997-2015. It is evident from the Table 2.2 that there was an increase in the farmers suicides rate from 10.7 in 1997 to 12.6 in 1998,while in the case of non-farmers suicides, the rate remained the constant at 9.9 and in the case of all suicides the rate remained constant at 11.3. During 1999, the farmers suicides rate was at 12.7 percent and non-farmers suicides rate remained as same at 10.2 percent respectively, while all suicides rate increased to 13.1 percent. In 2000, suicides rate among farmers increased to 13.1, while the case of non-farmers remained as same at 10.2and the rate of all suicides declined to 12.1. The rate of farmers suicides slightly

declined to 12.9,while corresponding suicides among non-farmers and all suicides remained as same at 10.2 and 10.5 respectively in 2001.By 2002,the farmers suicides rates increased to 14.2,while in the case of non-farmers suicides rates and all suicides rates remained as same around at 10.3 and10.7 respectively. During the period 2003, the farmers suicides rates declined to 13.5 and the case of non-farmers suicides rates and all suicides rates remained as same around at 10.4 and10.8 respectively. By 2004, the farmers' suicides rate increased to 14.4 and non-farmers suicides rate remained as same 10.6, while in the case of all suicides rate increased to 11.1. But during 2005, suicides rate among non-farmers and all suicides remained as same at 10.8 and 11.1, while in the case of farmers suicides rates declined to 13.5. In the year 2006, suicides rate among farmers remained as same around at 13.5, while in the case of non-farmers suicides rates increased to 11.2 and among all suicides the suicides rate remained around 11.5. By 2007,farmers suicides rate remained as same at 13.1 while in the case of non-farmers suicides rate and all suicides rates were 11.8 and 11.9 respectively. By 2008, suicides rates among farmers declined to 12.8, while in the case of non-farmers suicides rate and all suicides rates increased to 12.1 and 12.2 respectively. The trend continued in case of both farmers' suicides and non-farmer's suicide in 2015. It is noteworthy that the farmer's suicides rate is always higher that of non-farmers suicides and all suicides rate from 1997 to 2013 and it remained almost same with that of other two, during 2014 and 2015.

2.4. Regional Patterns in Farm Suicides in India

There is a high degree of variation concerning the number of farmers' suicides across different states in India. There are some states where the number of farmer's suicides is significantly higher in absolute number as well as intensity of suicides i.e., the suicide rate. There are some other states which account comparatively lower number of farmer's suicides. In most of the north-eastern states and union territories the number of farmer's suicides is inconsequential. AP, MP, Maharashtra and Karnataka reached their peaks in farm suicides in 2004. These are the states which are amongst the most promising agricultural regions of the country. The pace of commercialization was faster in these states compared to the other states. Surprisingly, the newly formed State of Telangana stood along with other major suicide happening states such as MP, Maharashtra and Karnataka in 2015. These states also have a faster pace of industrialization and agricultural growth where the Agriculture GDP has been contributing to 20-29 percent of total GDP. Though not in the top list of states with farmers suicides, the other states which were behind in

absolute number were West Bengal, Kerala, Rajasthan and Tamilnadu. Surprisingly, all these four states have remarkably performed in the context of drastic reduction in farm suicides with Rajasthan from 267 in 2013 to 3 in 2015 and Tamilnadu from 419 in 2012 to 2 in 2015 and West Bengal from 662 in 2011 to 0 in 2015 and Kerala from 882 in 2013 to 3 in 2015. Even the other states like Assam, Gujarat, Haryana, Jharkhand, Bihar and Odisha have shown remarkable performance in the reduction of farmer's suicides from 2012 to 2015. AP is also a state with highest suicide rate percentage from 2004 to 2014 with around 30 percent and has reduced after that. But this can be explained as the state was bifurcated in 2014 and naturally the absolute number has come down. Chhattisgarh is one state which has been showing a reverse trend where an increase in absolute number was observed during 2014&15 compared to the previous three years. The suicide rate of this state was almost on par with the other four states during 2001 to 2010 ranging around 30 percent. However it came down to almost zero for three years in the later period. However, this has been rising again in the state since 2014.The suicide rate was highest for the states Maharashtra, Kerala and Karnataka with 34.1 %, 31.3% and 23.8% in 2015. Though the absolute number of suicides has come down in Kerala, its suicide rate is very alarming keeping in view of the number of cultivators as a percentage of total population of the state. Punjab is one of the progressive states in terms of achievement in agriculture sector among Indian States. The farmers of Punjab have shouldered the responsibility of pulling the country out of food insecurity. Even in this State, incidence of farmer's suicides exhibits an increasing trend.

Chapter 3: Macro and Meso Dimensions of Agrarian Distress

An attempt is made in this chapter to understand the structural changes in agriculture at all India level. It is based on secondary data obtained from directorate of economics and statistics, population census, NSSO reports, Govt of India. The macro economic variables like land utilization pattern, size of ownership landholdings, cropping pattern, occupational distribution and gross capital formation in agriculture at all India level and selected states is analyzed with data points taken from different points of time to understand the implications of these on micro level manifestations of agrarian distress.

3.1. Capital Formation in Agriculture

As per National Accounting Statistics, Total “Gross Capital Formation" equals to net fixed capital investment, plus the increase in the value of inventories held, plus (net) lending to foreign countries, during an accounting period (a year or a quarter). Capital is said to be "formed" when savings are utilized for investment purposes, often in production. Private Capital formation includes investment in household sector and corporate sector – both organized (such as Plantation sector) and unorganized sector (such as cooperatives, small and cottage industries).The Public sector capital formation constitutes Agriculture (which includes both crop and livestock sector), forestry and fishery. Though the Public Gross Capital Formation seems to have increased in absolute number, its percentage share has come down from 43.2% in 1980-81 to 14.6% in 2014-15 (Table 3.1). As more than 90 percent of the Public investment is on medium and major irrigation works, any decline in the public capital formation basically refers to decline in the share of investment in irrigation that too mainly in major and medium irrigation schemes (Gulati A, 2001).

The corresponding investment in Private Sector capital formation which accounts to 56.8% of TGCF during 1980-81 has increased to 85.4% during 2014-15. Most of the studies in the literature have considered that public sector capital formation, amount of institutional credit supplied to agriculture, and terms of trade for agriculture and technology are the main determinants of private sector capital formation. It is also argued that private investment respond differently to increase or decrease in public investments. For example, a 1 per cent increase in public investment leads to 0.17 per cent increase in private investment which could be due to several reasons like inducement effect, enabling conditions or improved profitability. While, a 1 per cent fall in public investment also results in increase in private investment by 0.2 per cent (Chand etal 2004). This means, an increase in public investment definitely induces increase in

private investment, while a decline forces farmers to cope with its adverse impact, again by increasing private investments. The neglect of public investment in irrigation is one of the reasons for spurt in growing dependence on groundwater through tube wells. Farmer based private investment which is sourced at very high interest rate from non-institutional source by small farmers is one of the driver for distress. Investment on agriculture implements, machinery and transport equipment constitutes the most important item of fixed capital formation followed by investment on wells and other irrigation works which accounts for 20 to 27 percent in Private Capital Formation (Gulati A 2001).

Table 3.1: Gross Capital Formation in Agriculture at All India Level

Year	Total GCFA (Rs.Crs)	Public GCFA (Rs.Crs)	Private GCFA (Rs.Crs)	Share Of Public (%)	Share Of Private (%)
1980-81	4342	1876	2466	43.2	56.8
1990-91	15839	3586	12253	22.6	77.4
1995-96	17392	5952	11440	34.2	65.8
1999-00	50151	8670	41481	17.3	82.7
2000-01	46432	8176	38256	17.6	82.4
2001-02	60366	10353	50013	17.2	82.8
2002-03	61883	9564	52319	15.5	84.5
2003-04	61827	12218	49609	19.8	80.2
2004-05	70786	13610	57176	19.2	80.8
2005-06	89943	20739	69204	23.1	76.9
2006-07	101102	25606	75496	25.3	74.7
2007-08	123317	27638	95679	22.4	77.6
2008-09	160347	26692	133655	16.6	83.4
2009-10	184526	33201	151325	18.0	82.0
2010-11	197364	31968	165396	16.2	83.8
2011-12	274431	35715	238716	13.0	87.0
2012-13	274725	39773	234952	14.5	85.5
2013-14	322723	39042	283681	12.1	87.9
2014-15	314639	45997	268642	14.6	85.4

Source: CSO, National Accounts Statistics, Various Years

3.2. Impact on Agriculture Growth and Employment

As majority of rural population live on agriculture as a major source of livelihood, any improvement in this sector will have a multiplier effect on the society. Gross Domestic Product in Agriculture (GDPA) is influenced by cumulative investment through public and private capital formation and Terms of trade in Agriculture. Many studies also highlight on significance of public investment in inducing private investment and

augmenting growth in agriculture. In the absence of sufficient share of public investment in agriculture the sectoral distribution of GDP has also seen a declining share in Agriculture without a concomitant shift in labour force as seen in the Table below. Accordingly, in 2004-05 while the share of agriculture in GDP was 20.2%, the workforce employed was around 56.5%. This structural discrepancy has an impact on relative labour productivity as is evident from the Table below that the worker productivity of non-farm sector is almost five times to that of agriculture.

Table 3.2: Movement of Indian Economy: trends in GDP/GVA across Sectors

Period	**1960-61/ 1968-69**	**1968-69/ 1975-76**	**1975-76/1988-89**	**1988-89/1995-96**	**1995-96 /2004-05**	**2004-05/ 2016-17**
Agriculture						
A	1636	1955	2547	3473	4358	5771*
B	35.66	33.03	28.94	24.19	18.92	12.72*
C	0.7	2.19	2.74	2.69	2.23	3.88*
Agriculture & Allied activities						
A	2004	2401	3047	4116	5174	7126
B	43.68	40.57	34.62	28.66	22.47	11.63
C	1.04	2.24	2.47	2.76	2.28	3.43
Industry						
A	725	1000	1676	2958	4773	10021
B	15.80	16.90	19.04	20.60	20.73	20.30
C	5.05	3.92	5.53	5.9	4.87	7.51
Services						
A	1859	2517	4078	7286	13083	32454
B	40.52	42.53	46.34	50.74	56.81	68.07
C	5.03	3.37	5.4	6.15	7.86	8.69

Source: DFI Committee Estimates; Estimates for the period 2004-05 to 2016-17 are based on GVA *up to 2015-16 only.

A: Average GDP @2004-05 prices (Rs Billion), B: Percentage Share, C: Growth Rate

Tertiary sector with its impressive growth rate and increase in the share of GDP over a period of time is emerging as a powerful growth engine. While the growth rate of this sector has increased from 5.03 percent in 1960-61/1968-69 to 8.69 in 2004-05 /2016-17. The industrial sector is trailing behind with an impressive growth rate of 5.05 to 7.51 percent during this period. Whereas, an analysis of trend in agriculture sector from 1960-61 reflects the fact that Agriculture GDP has increased in absolute number during this period from 1636billion to 5771 billion. However, its share among the three sectors has come down from 35.66 percent to 12.72 percent. A drastic decline in share of agriculture by almost 6 points was observed from 1989 onwards in all the ensuing two

time periods. This is because of an impressive growth rate of service sector during all the periods with an increase in share from 40.52 percent to 68.07 percent while the share of industry remained stagnant and the agriculture sector has come down. It can be seen from above Table 3.2 that the Share of Agriculture in Total GDP over the years which constitutes 48.5 percent to total GDP in 1959-60 has declined to 14.1 percent in 2014-15. This is coincided with a stagnant share of industry almost from 1989 onwards and the increase in the share from service sector towards GDP. It is a fact that growth in agriculture contributes to the growth in industry with an increase in purchase of inputs from the industry. A very high share of service sector and a reasonably good share of industrial sector in GDP without a concomitant growth in agriculture sector are indicating a shrink in agriculture economy at large.

3.3. Contribution of Agriculture and Allied activities in GSDP of Selected States

Compared to the All India Average the share of agriculture to total GDP was more than national average in case of MP which is hovering around 35%. For the other three states the GDPA was ranging from 10 to 17 percent and is showing a declining trend in its contribution to TGDPA (Table: 3.3).

Table 3.3: Gross State Value Added (GSVA) from Agriculture and Allied Sector at Constant (2011-12) Prices

States	2011-12	2012-13	2013-14	2014-15	2015-16
All India (Lakhs)	190808753	193965746	203569912	204786347	207075812
Share in %					
MP	6.16	6.97	6.64	7.42	7.44
Maharashtra	9.35	9.04	9.71	8.69	8.45
Karnataka	4.90	4.68	4.78	4.92	4.52
Telangana	3.44	3.73	3.59	3.27	3.07

Source- 2018, Central statistics Office

3.4. Status of Peasantry

The States with largest number of agriculture households are in UP, Maharashtra followed by Bihar, Rajasthan followed by MP. Kerala ranked last in terms of number of agriculture households (14, 04300 HHs) and in terms of percentage of rural households (only 27.3%). Whereas, the percentage of agriculture households out of total rural households was highest in case of Rajasthan followed by UP, MP, Chhattisgarh and Gujarat. The share of agriculture households was highest in all the

selected states with more than 50 percent and with MP ranking highest among them with 70.8 percent (Table: 3.4).

Table 3.4: State wise Agriculture and Rural Households Scenario

State	Estimated no. of agricultural HH (00)	Estimated no. of rural HH (00)	Agricultural HH as percentage of rural HH (%)
Karnataka	42421	77430	54.8
Madhya Pradesh	59950	84666	70.8
Maharashtra	70970	125182	56.7
Telangana	25389	49309	51.5
All India	902011	1561442	57.8

Source- The estimate of rural households as per results of the Land and Livestock Survey of NSS 70th round.

3.5. Size of Agriculture Holdings

The increasing demographic pressure on land has resulted in undue stress on land resources and reduced the size of holdings to uneconomic levels. The high burden of labour force in the sector as witnessed in the Table above has been depending on the contracting cultivable area for all the land size groups more so for small land holdings. Between 1960-61 to 2013 the number of holdings has increased from 50.77 million to137.75 million. Whereas, the per capita area operated has come down from 2.63 ha to 1.16 ha. This has led to a sharp decline in average holding size of all the categories with an increase in the number of small and marginal holdings.

Table3.5: Size of Agriculture Holdings

	1960-61	1970-71	1981-82	1991-92	2003	2013
	17th	26th	37th	48th	59th	70th
No of Operational Holdings (millions)	50.77	57.07	71.04	93.45	101.27	137.75
% Increase	-	12.4	24.5	31.5	8.4	36.02
Area Operated (MHa)	133.48	125.68	118.57	125.10	107.65	159.59
Average Area Operated (ha)	2.63	2.20	1.67	1.34	1.06	1.16

Source: various NSSO reports

Accordingly, the proportion of marginal and small farmers together has increased from 61.7 percent in 1960-61 to 88.47 in 2012-13 out of the total holdings. Whereas, the percentage of area operated by them has increased from 19.2 to 51.1 percent indicating a downward mobility ofland size. Nevertheless the downward mobility was seen in all the land size categories. Among the selected states, the average land holding size of MP and Karnataka is higher than the All India average land holding size of 1.08 ha. Whereas, the average land holding size of marginal and small holdings of all the four selected states is almost equal to or more than the All India average land holding size of these two categories. (Table 3.6).

Table 3.6: Size Distribution and Average Size of Holdings in Selected States

State/India	Category of Holdings					
	Marginal (< 1 Ha)	Small (1 to 2 Ha)	Semi-Medium (2 to 4 Ha)	Medium (4 to 10 Ha)	Large (10& above)	Total
MP	0.49	1.41	2.70	5.67	14.83	1.57
Maharashtra	0.46	1.39	2.58	5.49	16.00	1.18
Telangana	0.44	1.40	2.60	5.48	14.22	1.00
Karnataka	0.43	1.39	2.66	5.65	15.35	1.35
India	0.38	1.41	2.70	5.72	17.10	1.08

Source: Agriculture Census 2015-16

Table 3.7: Percentage distribution of operational holdings and operated area

Category of Holdings	Percentage distribution of operational holdings and operated area											
	1960-61(17th)		1970-71(26th)		1981-82(37th)		1991-92(48th)		2002-03(59th)		2012-13(70th)	
	Nos	Area	Nos.	Area	Nos.	Area	Nos.	Area	Nos.	Area	Nos.	Area
Marginal (<0.1 ha)	39.1	6.9	45.8	9.2	56	11.5	62.8	15.6	69.7	22.6	73.17	27.71
Small (1 to 2 ha)	22.6	12.3	22.4	14.8	19.3	16.6	17.8	18.7	16.3	20.9	15.3	23.44
Semi-medium (2 to-10 ha)	19.8	20.7	17.7	22.6	14.2	23.6	12	24.1	9	22.5	8.1	23.5
Medium(4 to10 ha)	14	31.2	11.1	30.5	8.6	30.1	6.1	26.4	4.2	22.5	3.04	19.33
Large (>10.00 ha)	4.5	29	3.1	23	1.9	18.2	1.3	15.2	0.8	11.8	0.37	6.02
All sizes	100	100	100	100	100	100	100	100	100	100	100	100

Source: NSS Report No.407, (48th round) 1995, P.20; & NSS report No.492 (2002- 03) &NSSO Report No.571 (2013).

It could be seen from Table 3.7 that the marginal holdings constitute 39.1% of total holdings but control only 6.9% of the total operated area in 1960-61. Small holdings constitute 22.6% of total holdings but control only 12.3% of total operated area. Marginal and small holdings together constitute nearly 62% of total holdings but control only about 19 percent of the total operated area in 1960-61. On the other hand, medium and large holdings together constitute about less than 20% of total holdings but control more than 60 percent of the total operated area during the same period. This indicates that the distribution of land was skewed in 1960-61. By 2002-03 there was a tremendous increase in the number of marginal holdings. Their percentage share in total holdings increased to about 70% but area operated under their control increased to only less than 23% of total operated area. On the other hand the number of medium and large holdings declined to about 5 percent of total holdings in 2002-03 from 18.5 percent of holdings in 1960-61. Medium and large holdings control more than 34% of total area from 1960-61 and it remained at 34.3 percent in 2002-03.Compared to 2002-03 to 2012-13, a decrease in the share of holdings was observed in all the categories except in case of marginal holdings. By 2013, the share in the number of marginal holdings has increased marginally to 73.17 percent and control 27.71 percent of the total operated area while small holding constitutes 15.30% of total holdings and area operated by them was 23.44. On other hand, the share of medium holdings have registered 3.04 percent of total holding but area under their control was more than 19.33 percent of the operated area while large holdings have been steadily declined to 0.36 percent of total holding but control 6.02 percent in 2012-13. This clearly indicates that although number of medium and large holdings declined, the area under their control has not declined proportionately. On the other hand, number of marginal holdings increased from 39percent to 77percent but the operated area under their control was less than 28percent of total operated area in 2012-13 which implies an inequality in land holding pattern.

3.6. Occupational distribution

Lack of employment diversification has resulted in a concentration of work force in the agriculture sector. Increase in the work force on non-expanding cultivable land has led to an increased number of holdings and decreased size of holdings as evident from the Tables: 3.6 and 3.7.

Table 3.8: The percentage Distribution of general population of Main - Workers according To Their Occupation

States	Farming sector	Non-farm sector
Madhya Pradesh	65.4	34.61
Maharashtra	51.52	48.48
Karnataka	47.69	52.31
Telangana	-	-
India	50.21	49.78

Source: Census 2011.

The percentage distribution of general population of Main-Workers according to their Occupation is presented in Table 3.8. Farm sector includes both Cultivators and Agricultural labor, which together accounted for 50.21 percent out of the total main workers at All India level. The percentage of workers depending on Agriculture is highest in MP followed by Maharashtra with 65.4 and 51.52 percent respectively.

3.7. A Disparity in Productivity of Workers between Farm and Non-Farm Sectors

Estimates of income of different workers in farm, non-farm workers and rural and urban workers are presented in the Table 3.9below.

Table 3.9: Disparity in per worker Income between different Worker Categories

Year	CULT / AGL	NFW / CULT	NFW / AGL	NFW / FW	URBAN / NFW	URBAN/ RURAL
1970-71	1.36	2.06	2.79	2.25	1.67	3.18
1980-81	1.36	2.58	3.50	2.82	1.35	2.94
1993-94	2.43	2.10	5.12	2.74	1.51	3.01
1999-00	2.47	2.27	5.60	3.04	1.72	3.51
2004-05	2.40	3.30	7.92	4.16	1.45	3.23
2011-12	2.27	2.23	5.06	2.76	1.64	2.78

Source: Ramesh Chand, 2012
Note: CULT: Cultivator, AGL: Agricultural labour, NFW: Non-farm worker, FW: Farm worker

The disparities were assessed in terms of income per worker among cultivators, agriculture labourers, non-farm workers, all rural workers and urban unorganized sector workers. An increase in disparity of 1.04 percentage points was observed from the Table 3.9 between cultivators*-a-vis* Agriculture labour from 1970-71 to 2004-05. Interestingly

this disparity has come down by 0.13 percentage points by 2011-12 probably with an impact of MGNREGS programme that was introduced in the country with an Act during 2005. Similar was the case of disparity between Non-Farm Worker and Farm Worker which was increased by 1.91 percent during 1970-71 to 2004-05 has come down by 1.4 percent by 2011-12. Interestingly the ratio of urban income to rural income which was 3.18 percent in 1970-71 has come down to 2.78 percent during 2004-05. Similar was the case of urban to non-farm worker which was 1.67 percent in 1970-71 has come down to 1.64 percent during 2011-12 which could be attributed to significant increase in wage rate and wage earnings of rural households with the employment guarantee programme.

3.8. Land Utilization Pattern in India

Land is the vital natural resource for any developmental activity. Land use is the surface utilization of all developed and vacant land on specific point at given time and space (Mandal, 1982).The judicious use of land without disrupting the ecological necessities is imperative with an increase in population and demand for food for human and livestock. Both the quantity and quality of land is in serious threat due to extensive and intensive use of land for agriculture and non-agriculture purposes (Ramaswamy etal, 2002).Any change or changes in the land use pattern has significant economic and ecological implications.

The pattern of land use in a state at a particular point of time is guided by physical, economic and social factors. Land utilization pattern has important implications for sustainable agriculture practices because of agriculture– livestock interface. Knowledge of change in land use, factors for change and implications of changes is therefore important to understand the context of any deprivation for some sections of the society.

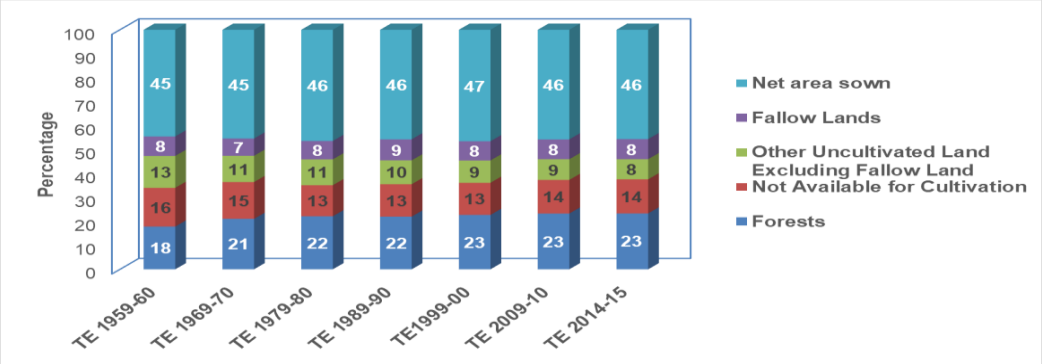

Figure 3.1: Land Utilization Pattern in India

Source: Directorate of Economics and Statistics, Department of Agriculture and Cooperation

The Figure 3.1 presents the land utilization pattern of India during 1959-60 to 2014-15. The data on land use characteristics reveals that significant changes in the land utilization have taken place over a period of time. The geographical area of India is 328.73lakh hectares. Out of which the reporting area for land utilization which was 294 mha during TE 2014-15has increased marginally to 307.7 mha during TE 2014-15. It is very much evident from the table that forest area has significantly increased from 18 percent in TE 1959-60 to 22 percent during TE 2014-15. This should have some significance on livelihoods of those who are depending on forest resources besides the ecological foot prints created. The land not available for cultivation has decreased from 47.7 mha in 1959-60 to 43.7 mha in 2014-15 which could be attributed to investment on watershed programmes and other soil and moisture conservation works over a period of time. Similarly, the area under other uncultivable waste excluding fallow land has declined constantly from 13percent in TE 1959-60 to 8 percent in TE 2014-15. Area under fallow land has remained the same with 8 percent from TE 1959-60 to TE 2014-15 with a spike in between during 1989-90.The net sown area as a percentage of land reported area which was 45 percent during TE 2014-15 has marginally increased to 47 percent by TE 1999-2000 and has come down to 46 percent by TE 2014-15.

3.9. Area under Irrigation

Irrigation is an important component in increasing in the productivity of crops. The Gross Irrigated Area as a percentage of Gross Cropped Area which was only 18 percent in 1959-60 has increased to 47.9 percent in 2014-15 (Figure: 3.2). The ultimate irrigation potential in the country using both the surface and ground water sources is of the order of 140 mha comprising of 75.83 mha from surface water sources and 64.17 mha from ground water sources. (Twelfth plan Working Group report on Minor Irrigation) .The total area under irrigation at present is 67.5 mha out of total 142 mha of net sown area. While major and medium irrigation projects have contributed more in the initial time periods, the share of minor irrigation projects also contributed to this in the later periods which were 18 percent of the potential area of 42.24 mha under surface irrigation created so far in the country (DFI Report). The Figure below with the Gross Irrigated Area as a percentage of Gross Cropped Area has shown an increasing trend from 1959-60 to 2014-15 though the rate of increase has come down during the TE 2014-15

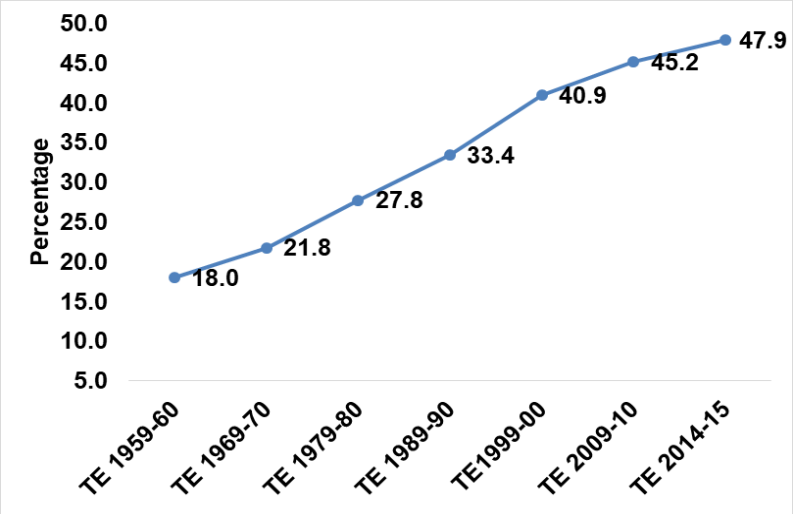

Figure 3.2. : Gross Irrigated Area as a Percentage of Gross Cropped Area in different periods

Source: DES, Department of Agriculture and Cooperation

A closer look at the Table (3.10) below reveals the fact that the Gross Irrigated Area (GIA) as percentage of Gross Sown Area at all India level is 35 percent and two out of the four selected States i.e, MP and Telangana with 44 and 47 percent have crossed this threshold level . However, in these two states major share of Gross Irrigated Area was occupied by area under Groundwater with 68 and 83 percent respectively. While the data regarding increase in area under tube wells is not available for Telangana, the increase in area under tube wells at all India level was 112 % (Table 3.11). Among the four selected States the increase in percentage was maximum in case of MP with 505 percent followed by Karnataka with 307 percent and Maharashtra with 68.5 percent

Table 3.10: Status of Irrigation through different sources in Selected States (Area in 000 hectares) - 2014-15

State /India	Ground Water (Wells & tube wells	Surface Irrigation		Other Sources	Gross Irrigated Area	GSA area	Gross Irrigated Area as a % of GSA
		Tanks	Medium & Major Irrigation				
MP	6853	279	1847	1321	10300	23130	44.53
Maharashtra	2164	#NA	1080	#NA	4282	21870	19.57
Telangana	2116	113	243	57	2529	5315	47.58
Karnataka	2066	170	1422	528	4186	11750	35.62
India	42960	1723	16182	7519	68384	194400	35.17

Source: India stat and Agriculture glance 2015-16

Table 3.11: State-wise Increase in Area under Wells/Tube wells (Area in 1000 hectares)

State	1960	1970	1980	1990	2000	2014
MP	-	-	1057	2146	3857	6403
Maharashtra	-	-	1284	1672	2146	2164
Telangana	-	-	-	-	-	1413
Karnataka	-	-	462	713	1018	1881
India	-	-	20168	24695	34639	42860

Source: India stat

The increased irrigation efficiency with surface irrigation projects cannot be sustainable in the long run unless this is organically linked with micro irrigation projects. It is an established fact that micro irrigation improves the productivity of the crops mainly because of crop spacing, judicious use of water and other inputs etc. It is the underlying theme of Prime Ministers Krishi Sanchayee Yojana (PMKSY) in “More Crop Per drop’. An increase in productivity of 42.34 percent and 52.76 percent of vegetables was observed with micro irrigation (Global-Agri Systems Report). However, large gap still exists between potential and actual area under micro irrigation in the selected states as well as at All India Level as seen from the Table 3.12 except for the combined AP State.

Table 3.12: Status of Potential and Actual area under Micro Irrigation in India as on 31 March, 2015 (mha)

State	Net Area under Tube Wells and other Wells	Area under Drip irrigation	Area Under Sprinkler Irrigation	Total	% of Potential
MP	6.2	0.17	0.19	0.35	5.64
Maharashtra	2.2	0.90	0.37	1.27	57.72
Telangana*	1.7	0.83	0.33	1.16	68.23*
Karnataka	1.7	0.43	042	0.85	50
All India	42.4	3.37	4.36	7.73	18.23

Source: Column 2: IRRIGATION - Statistical Year Book India 2017
Note: *Telangana – Actual potential created was for Combined state
Column 3, 4&5:http://midh.gov.in(aAt Glance/MI-AT-A-Glance.pdf and Palanisami (2011)

(Source: India stat and Agriculture glance 2015-16)

3.10. Changes in the Cropping Pattern

Cropping pattern has been defined as the proportion of area under different crops at a particular period of time. A change in the cropping pattern means a change in the proportion of area under different crops. The cropping pattern depends on soil, climate, rainfall and irrigation facilities, prevailing market prices, government policy, farm size and export potential of the crop. For the better understanding, the total crops which have been cultivated in India are divided into three groups such as (i) Food grains (ii) Food crops (iii) Non-food crops.

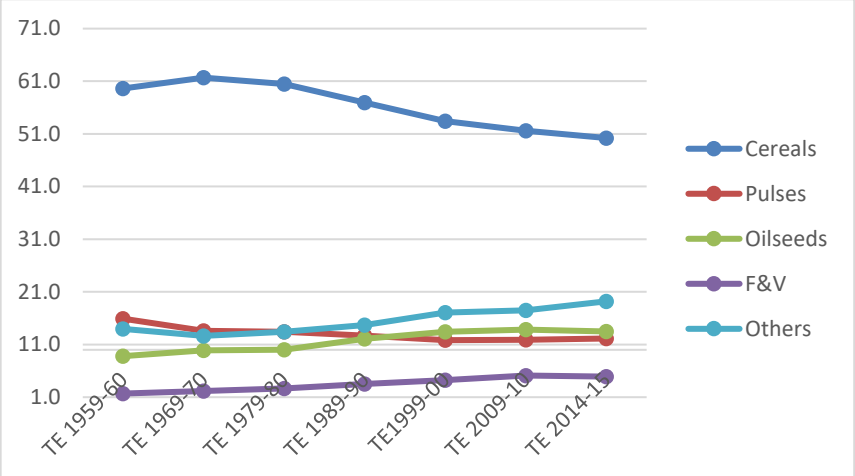

Figure3.3: Changing cropping pattern in India during 1959-60 to 2014-15
Source: Directorate of Economics and Statistics, Department of Agriculture and Cooperation

It is seen from above figure 3.3 that the area under cereals which constitutes around 61 percent in 1969-70 has declined to 57 percent in 1989-90 and further it has marginally declined to 50.2 percent in 2014-2015. Area under pulses which constitutes only 13.6 percent in 1969-70 has further declined to 12.6 percent in 1989-90.National Food Security Mission (NFSM) was launched during 2007 in order to increase the wheat production by 10 MT, Rice production by 8 MT and pulse Production by 2 MT. A partial increase in area under pulses was observed between the years 2009-10 to 2014 -15. The area other crops like cotton has registered 12.6 percent in TE 1969-70 and it has slightly increased to 14.7percent in 1989-90, further it has increased to 19.2 percent in 2014-15. The introduction of Oilseeds Technology Mission during 1987 witnessed a steep increase in area under oilseeds during the period 1979-80 to 1989-90. With the introduction of National Horticulture Mission, the Country ranks second in production of fruits and vegetables. The area under fruits and vegetables which was about 2.2 percent in 1969-70 has increased to 4.9 percent by 2014-2015.

3.11. State wise Cropping Pattern Changes with respect to Gross Cropped Area (GCA)

A close look at the state wise cropping pattern reveals the fact that the area under 'other crops' and non-food crops has increased in Karnataka, Maharashtra and Telangana. In Telangana the area under nonfood crops has increased from 29 percent of total crops in 2000-01 to 46 percent in 2015-16. Cotton crop is the major crop in the other crops and non-food crops category. The farmers in these states have been growing this crop mainly in rainfed areas .It is an established fact that Bt cotton is unsustainable mainly in rainfed areas and has not reduced the need for toxic chemical pesticides (Kesavan and Swaminathan,2018) and there is a direct relation between farmers suicides and Bt cotton adoption (Andrew Paul Gutierrez,2015).The area under pulses has increased in MP from 22.4 percent of Gross Cropped Area to 23.1 percent during 2004-05 to 2014-15. However, despite the implementation of National Food Security Mission (NFSM) which promotes the pulses production the area under pulses has decreased in the states Maharashtra and Karnataka between 2004-05 to 2014-15. In case of MP, the primary source of agriculture growth in the state was from food grains (62 percent of Gross Cropped Area) followed by fruits and vegetables, oilseeds and livestock. Among the Food grains, wheat and soya bean account for 25.4 and 23.7 percent of Gross Cropped Area (GCA).

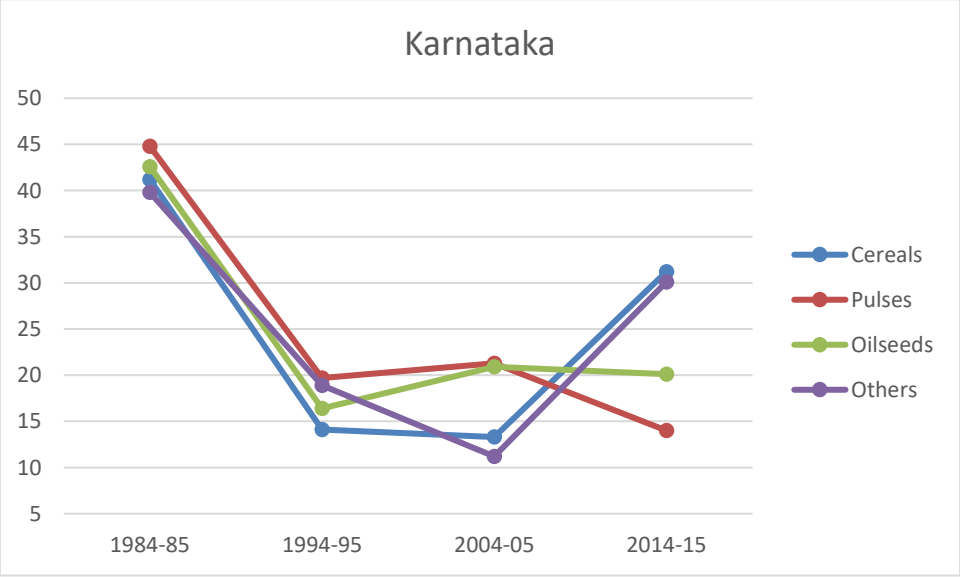

Figure 3.3 a: Change in Cropping Pattern with respect to GCA in Karnataka

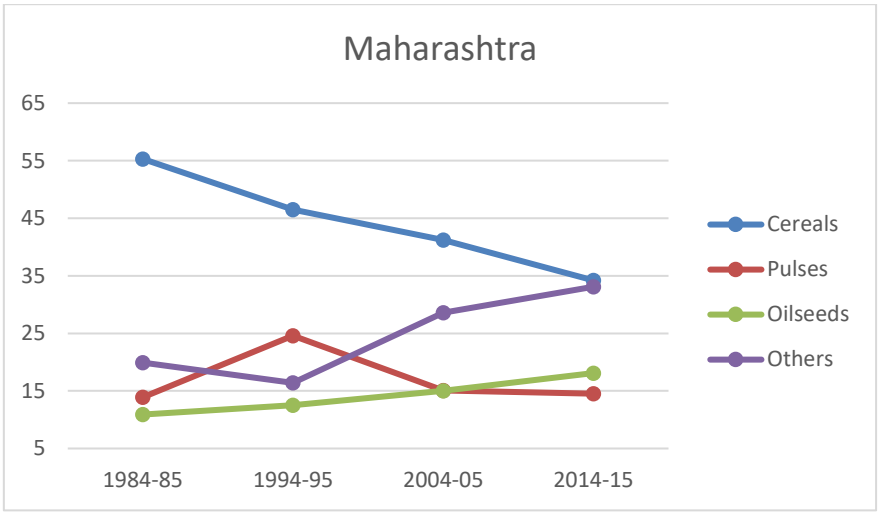

Figure 3.3 b: Change in Cropping Pattern with respect to GCA in Maharashtra

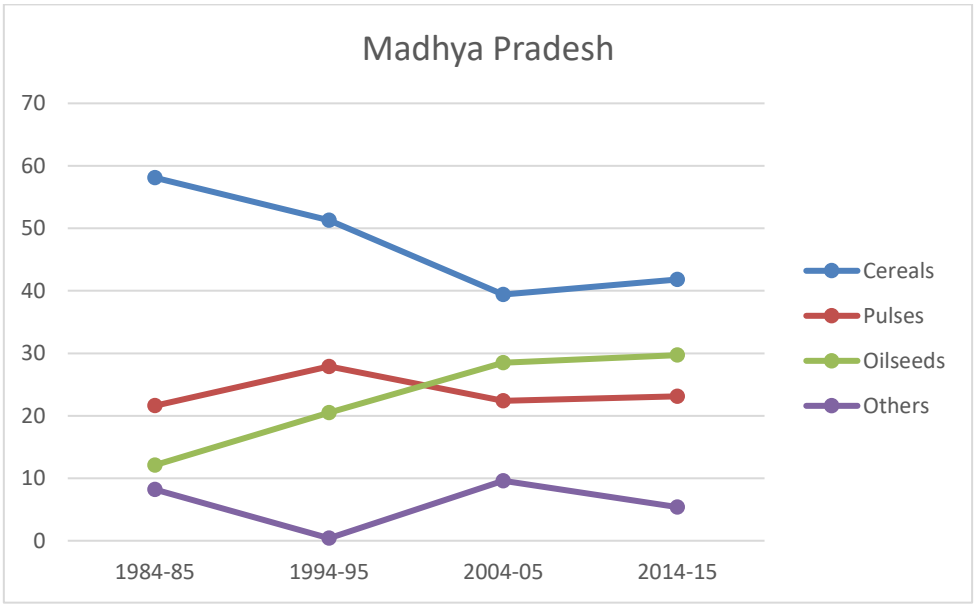

Figure 3.3 c : Change in Cropping Pattern with respect to GCA in MP

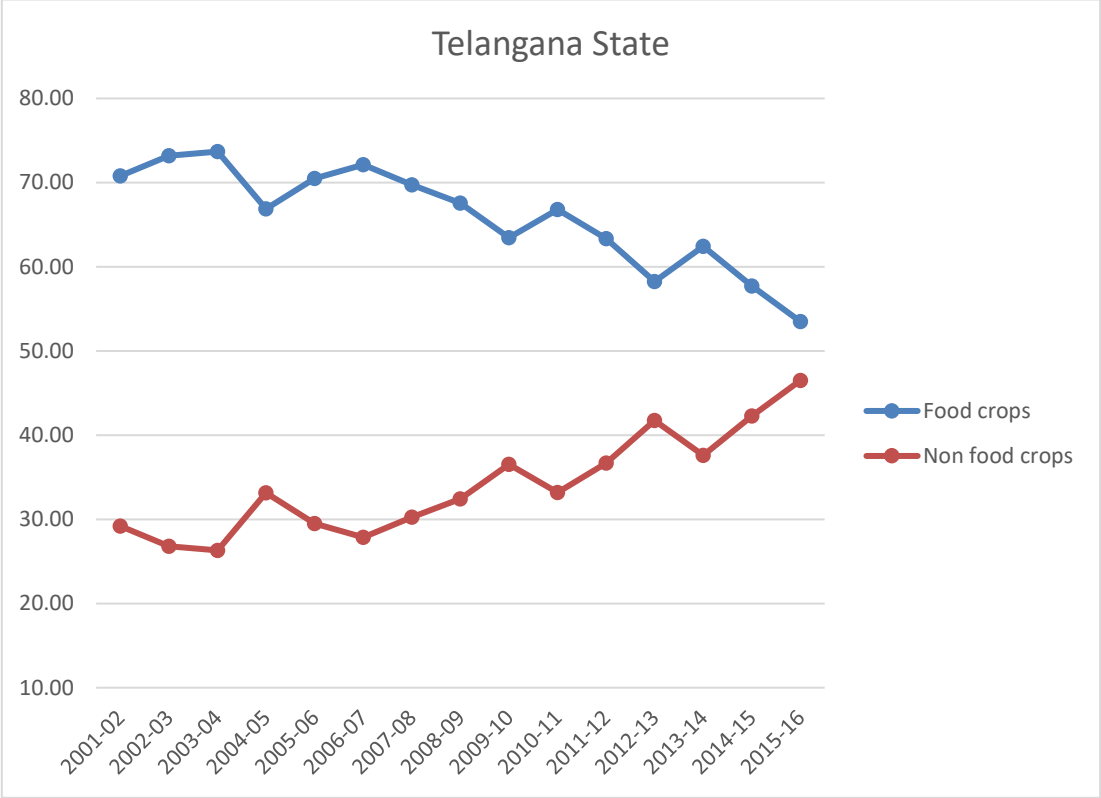

Figure 3.3 d: Change in Cropping Pattern with respect to Total Cropped area in Telangana

3.12. Drivers of Agricultural Development

The following are the main drivers of agriculture development discussed in this section

3.12.1 Credit Policy and Credit Flow

3.12.2 Agriculture Marketing

3.12.3 Agriculture Insurance

3.12.4 Rural Development

3.12.1. Credit Policy and Credit Flow

Agriculture Credit supports the agriculture production through meeting short term credit needs for purchasing inputs and long term needs for purchasing agriculture machinery and any other fixed assets. The institutional credit system has been passed through many phases in the country in order to support the rural households. The three

major formal institutions providing credit in the country are Commercial Banks, Cooperatives and Regional Rural Banks (RRBs). The Co-operative Credit Societies Act which was passed in 1904 to provide cheap and cost-effective financial services to farmers was found to be saddled with the problem of frozen assets, because of heavy over dues in repayment. Later, with multi agency approach suggested by All India Rural Credit Review Committee followed by the Nationalization of banks (1969) Commercial banks entered into the field of agriculture to complement the efforts of cooperatives. The establishment of 'Regional Rural Bank '(1975) as per the recommendation of Narasimhan Committee and the establishment of NABARD (1982) with a special Act of Parliament has given a fillip to agriculture credit.

As per priority sector norms commercial banks and RRBs are mandated to direct 40 percent of their credit to various priority sectors such as Agriculture and Allied, Micro and Small enterprises, education, housing, export credit, and loans and borrowers belonging to the weaker sections and others. Within the priority sector again 18 percent is fixed for agriculture and allied activities. As per the recent norms of RBI (2015-16) a target of 8 percent within 18 percent is fixed for lending to small and marginal farmers. A close look at lending pattern of various sources of rural credit reveals the following facts.

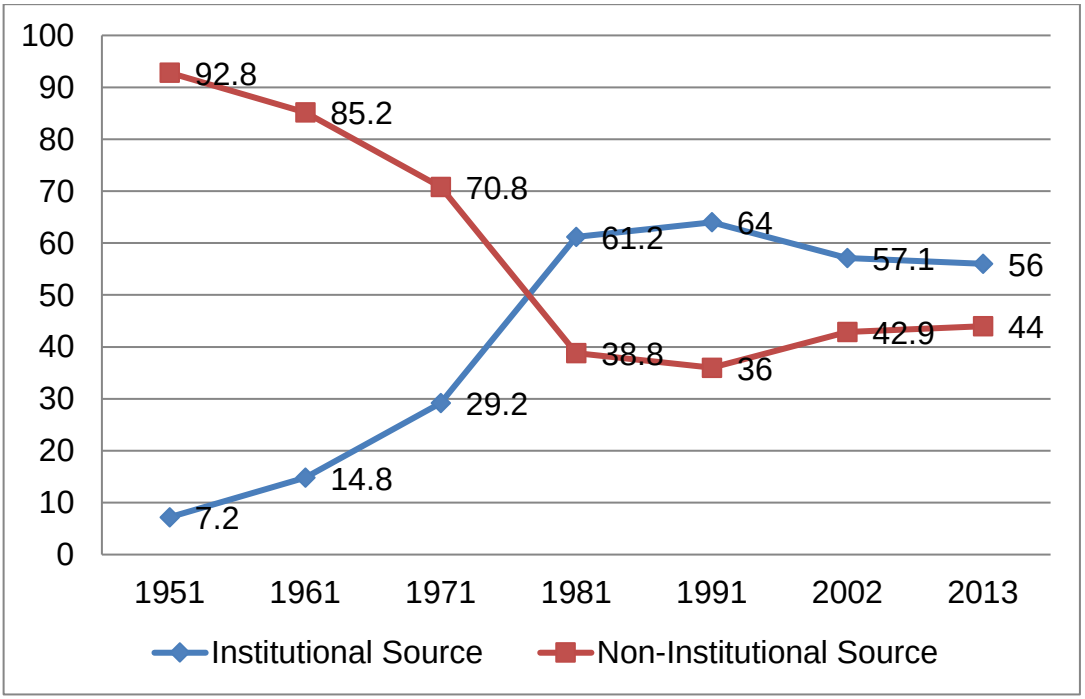

Figure 3.4 : Share of Outstanding Debt of Rural Household from Institutional and Non Institutional Sources

Source: All India debt and investment survey, NSSO, 2013

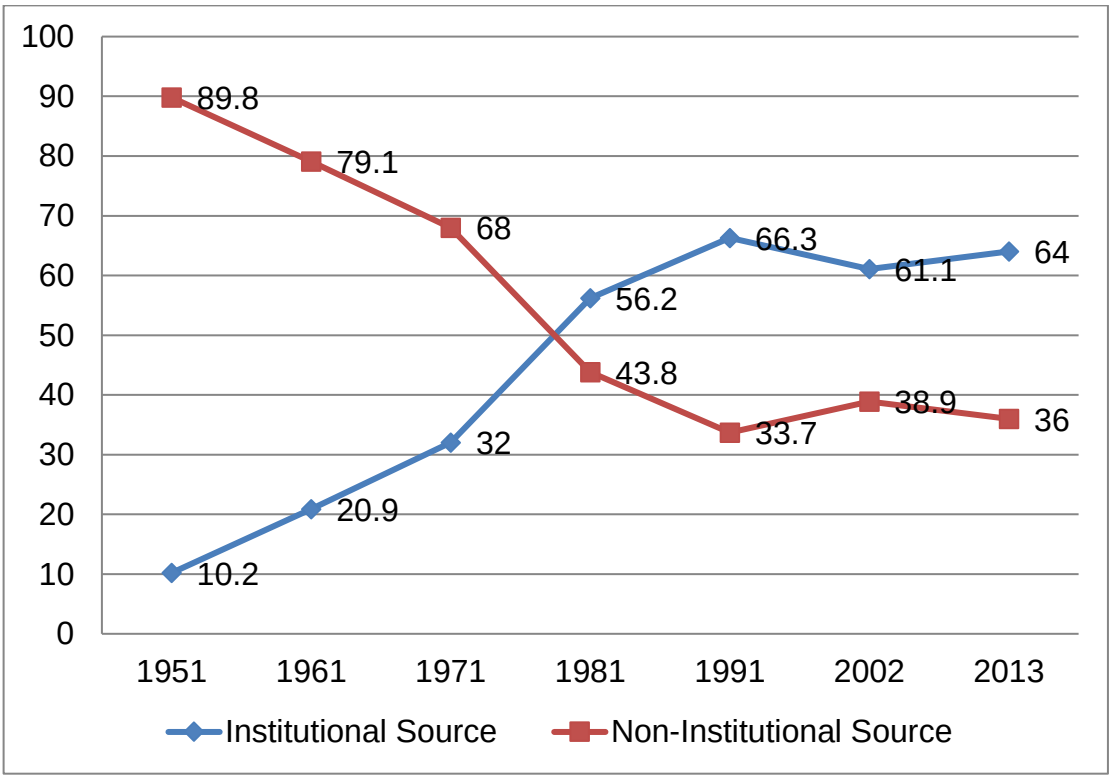

Figure 3.5: Share of Outstanding Debt of Cultivator Household from Institutional and Non-Institutional Source

Source: All India debt and investment survey, NSSO, 2013

A rapid decline in percentage of non-institutional lending of rural credit was observed from 92.8 percent in 1951 to 38.8 percent in 1981 due to the increased rural presence of commercial banks (Figure:3.4). It remained almost stagnant with a steady decline from 38.8 percent in 1981 to 36 percent in 1991 and again started increasing after 1991. Whereas, thenon-institutional Agriculture credit has come down rapidly from 89.8 percent in 1951 to 33.7 percent in 1991 (Figure: 3.5).

The presence of NABARD that was established during 1982 seems to have made an impact on agriculture credit so that unlike rural credit the non-institutional lending of agriculture credit has come down rapidly during 1980s. Post reforms period again witnessed an increased share of non-institutional lending. An increase in the commercialization of agriculture and increased investment on groundwater contribute to the continued resilience of non-institutional sources of agriculture and thereby the increase in credit needs of the farmers as per the Report of the Task Force on Rural Credit (2010). Therefore, interventions such as Kisan Credit Scheme, Self Help Groups Bank linkage which were initiated during 1990s on non-institutional sourcehave not

come down during this period. Among the different sources of non-institutional credit, money lenders remained as the major source of credit.

Table 3.13. : Break-up of Institutional and Non-Institutional Rural Credit

Sources of credit	**1951**	**1961**	**1971**	**1981**	**1991**	**2002**	**2013**
Institutional	**7.2**	**14.8**	**29.2**	**61.2**	**64**	**57.1**	**56**
Government	3.3	5.3	6.7	4	5.7	2.3	1.2
Cooperative societies/banks, etc.	3.1	9.1	20.1	28.6	18.6	27.3	24.8
Commercial banks	0.8	0.4	2.2	28	29	24.5	25.1
Insurance, Provident Fund	-	-	0.2	0.6	1.4	0.6	0.3
Other Agencies*	-	-	-	-	9.3	2.4	4.6
Non-Institutional	**92.8**	**85.2**	**70.8**	**38.8**	**36**	**42.9**	**44**
Moneylenders	69.7	60.8	36.9	16.9	15.7	29.6	33.2
Relatives, friends	14.2	6.9	13.8	9	6.7	7.1	8.5
Traders & commission agents	5.5	7.7	8.7	3.4	7.1	2.6	0.1
Landlords	1.5	0.9	8.6	4	4	1	0.7
Others	1.9	8.9	2.8	4.9	2.5	2.6	1.4
Total	100	100	100	100	100	100	100

Source: All India Debt & Investment Surveys, Various Issues, NSSO

Table 3.14. : Break-up of Institutional and Non-Institutional Agricultural Credit

Sources of credit	**1951**	**1961**	**1971**	**1981**	**1991**	**2002**	**2013**
Institutional	**10.2**	**20.9**	**32**	**56.2**	**66.3**	**61.1**	**64**
Government	-	6.2		4	5.7	1.7	1.3
Cooperative societies/banks, etc.	6.2	12.5		27.6	23.6	30.2	28.9
Commercial banks	4	2.2		23.8	35.2	26.3	30.7
Insurance, Provident Fund	-	-		0.8	0.7	0.5	0.1
Other Agencies*	-	-		-	1.1	2.4	3
Non-Institutional	**89.8**	**79.1**	**68**	**43.8**	**33.7**	**28.9**	**36**
Moneylenders	39.8	25.3		17.2	17.5	26.8	29.6
Relatives, friends, etc.	-	-		11.5	4.6	6.2	4.3
Traders & commission agents	-	-		5.8	2.2	2.6	
Landlords	21.4	15		3.6	3.7	0.9	0.4
Others	28.6	38.8		5.7	5.7	2.4	1.7
Total	100	100	100	100	100	100	100

Source: All India Debt & Investment Surveys, Various Issues, NSSO

3.12.1. A. Performance of Institutional Credit Agencies

A number of factors have helped in expanding agricultural credit in the country. The spread of banking to unbanked areas received attention after nationalization and with the introduction of lead bank scheme concept there is an increase in the share of Commercial bank lending compared to Cooperative and RRB over a period of time.

Co-operative banks were entrusted with the main responsibility of extending credit service to the rural population of the country, particularly to small and marginal farmers. The share of co-operatives, which once dominated the rural credit market in the institutional segment with a 74 per cent share in 1975-76, has been declining consistently. As on March 31 2013, the short-term co-operative credit segment comprised 92,432 primary agricultural credit co-operative societies (PACS), 370 district central co-operative banks (DCCBs) and 32 state cooperative banks. Even though their share in total agricultural credit flow has diminished, they still provide credit to approximately 3 crore farmers, compared to 2.55 core farmers who receive credit from commercial banks and 82 lakh farmers who receive credit from regional rural banks. In the year 1975-76, co-operative banks accounted for the largest share of 75 per cent, followed by commercial banks at 25 per cent and RRBs at 0.13 per cent. In 1990-91, the shares of cooperative institutions and commercial banks were almost equal at 48 per cent and 49 per cent, respectively. Thereafter, there has been a turnaround in the position of these two institutions. There is a gradual decline in the share of co-operatives and an increase in the share of commercial banks. By 2012-13, the share of co-operative banks had fallen to around 17 per cent while that of commercial banks had increased to 73 percent. The most important of these has been increased banking facilities in rural areas through branches of commercial banks, bringing down the number of families served by each branch. The share of RRBs increased to 9.79 per cent in 2012-13 as compared to 3.4 per cent in 1990-91. Their total exposure in the loan portfolio to small and marginal farmers is 66 per cent as compared to 55 per cent for commercial banks. As they have the largest outreach at the grass root level, they also have the potential to become the most effective agency to promote financial inclusion (NirupamMehrotra, 2011).

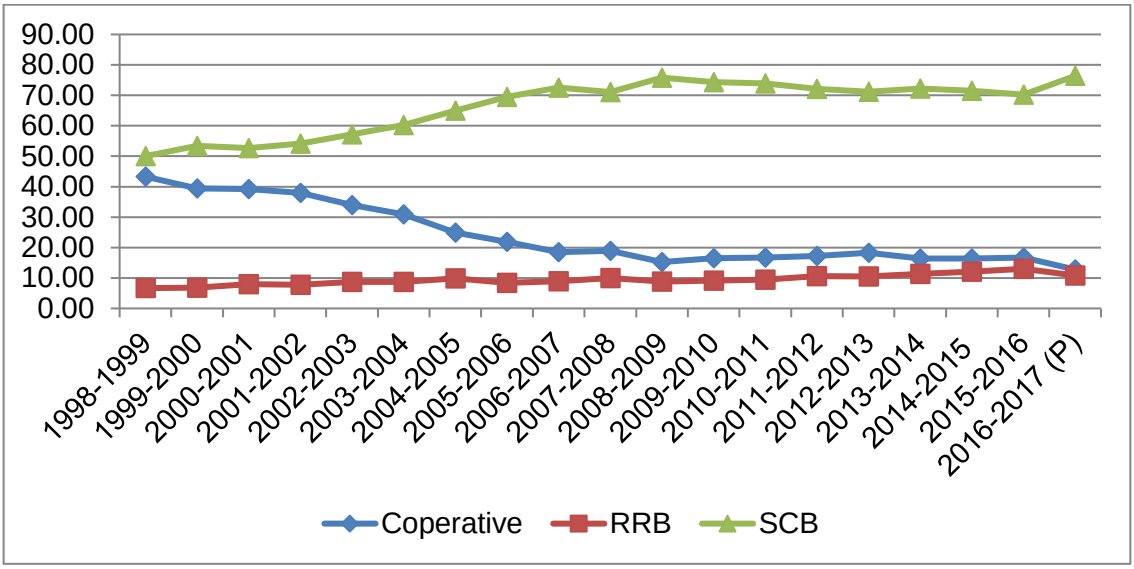

Figure 3.6: Agency wise Credit flow in India- 1998-99 to 2016-17 (In Percentage of Credit share of Total Credit Share

Source- fertilizer Association of India (15215), and Reserve Bank of India (ON1532)

The reach of banks has been increased further by the programmes of financial inclusion, in which banking correspondents are used to provide farmers with access to banking. Priority sector lending by commercial banks, initiatives like special agricultural credit plans and doubling of agricultural credit, introduction of the Kisan Card Scheme, linkage with self-help groups and micro-finance have all helped the process. Interest Subvention Scheme was introduced in 2006-07 for short term credit up to Rs.3 lakh to encourage financial discipline and institutional flow to Agriculture. In 2013-14 an additional subvention of three per cent was available for prompt payment, making a total subvention of five per cent and reducing the effective rate of interest for short-term credit to four per cent. Direct lending to farmers by institutional agencies (co-operative banks, commercial banks and regional rural banks) takes the form of either short-term or long-term credit. Long term agriculture credit has also expanded at a reasonably brisk pace without any credit subvention. There is a better case for subsidies on long term credit, which at present is not subsidized. Long-term credit leads to private capital formation in agriculture, enhancing productive capacity in agriculture. To the extent that long term credit contributes to private capital formation, it increases the productive capacities of farms on a long-term basis. The institutional credit has increased over time, but it has not been adequate enough to make a really significant dent in the non-institutional lending to the farmers. The institutional credit also comes at a cost, other than the rate of interest such as amount, ease of availability, timeliness and purpose.

Table 3.15. : State wise Number of Accounts and Agriculture Credit disbursed to small and Marginal Farmers in India (2016-17)

States	No of A/Cs	Amount (Lakhs)	No of SF & MF HHs	Percentage of Accounts
Madhya Pradesh	3988465	2325089.73	11329203	35.21
Maharashtra	5628594	3538908.06	16080495	35.00
Telangana	46,13,547	2944415.51	47,06,450	98.06
Karnataka	4696164	3780919.69	9191140	51.09
India	**77154815**	**53435143.47**	**36600838**	**47.43**

Source: India stat, 2018
(Lok Sabha Unstarred Question No. 2510, dated on 09.03.2018)

The percentage of accounts of small and marginal farmers in terms of total number of small and marginal households in the country was 47.43 percent. Except Telangana State all the other three selected states reveal a low percentage of accounts under small and marginal farmers compared to the number of households. Surprisingly in Telangana the percentage of number of Bank Accounts compared to the total number of households under small and marginal farmers is very high with 98 percent may be because of multiple accounts these households were having in different banks (Radhika ,2016). The average agriculture credit per household was highest in case of Karnataka with Rs.2.73 Lakhs followed by Madhya Pradesh, Telangana and Maharashtra with Rs.1.50, 1.47 and Rs.1.36 Lakhs respectively during 2017-18.

Table3.16: Per Household Rural and Agriculture Credit in Selected States

State	Rural HHs (No ['00]	Agriculture HHs (No) ['00]	Total Rural Lending (Rs. Crores)	Total Agriculture Lending (Crores)	Average Rural Credit (Per HH) (Rs) Per Rs Lakh	Av Agrl Credit (Per HH) Rs lakhs
Madhya Pradesh	84666	59950	62382.22	89918.92	0.74	1.50
Karnataka	77430	42421	102437	116007	1.32	2.73
Telangana	49309	25389	24023	37413	0.49	1.47
Maharashtra	125182	70970	97763.8	96778.1	0.78	1.36

Source:Land and Livestock survey of NSS 70th round, NABARD state focus report 2018-19, SLBC Maharashtra

3.12.1. B. Kisan Credit Cards

The Kisan Credit Cards Scheme, introduced in August 1998, is an innovative credit delivery mechanism to meet the credit needs of the farmer. Apart from providing short-term and term loans, a certain component of KCC also covers consumption needs. An important feature of the scheme at the outset was that once the documentation to establish the bona fide and assets of beneficiaries is done, they could approach financial institution for simple and hassle free sanction of credit from the second year onwards. Further progress was made in later years and now the passbook has been replaced by a plastic card, and the Kisan Credit Card is an ATM enabled debit card. Under the earlier system, disbursal of short-term credit to agriculture was mostly through demand loans and cash credit, which permitted withdrawals mainly through debit vouchers, saving accounts and through bankers' cheques. However, the traditional system of loan disbursement through passbooks were replaced by ATM-enabled debit cards with facility for withdrawal/disbursement of loan. The main objective is to develop a cashless eco system by enabling the farming community to avail of banking facilities. Its use has spread over the vast institutional credit framework involving commercial banks, RRBs and co-operatives. The number of KCCs issued till 2018 were 23.58 Crores. This number exceeds the number of agricultural households given by Situation of Agricultural Households in India, NSSO (9.02 crore), implying that many households have multiple cards. However, if we look at the issue of these cards in terms of operational holdings in India, it was only 16.14 percent at all India level and much less in selected states. (Table 3.9 A)

Table 3.17 : Issue of Kisan Credit Cards (No)

State	Operational Holding	KCC	In %
Madhya Pradesh	10003000	1642945	16.45
Telangana	5948000	1796333	30.21
Karnataka	8677000	893415	10.29
Maharashtra	14707000	2203906	14.98
India	145727000	23528133	16.14

Source: Agriculture Census 2015-16 and Press Information Bureau August 2018

Though the number of KCC accounts cannot be considered as coverage of farmers under KCC scheme, as many farmers might have got reissued/ renewed the KCC several times, the above table gives the direction towards the journey to be travelled further in this area.

3.12.2. Agriculture Marketing

When the information is incomplete and the markets are imperfect, then the invisible hands work "– This sentence holds good for Agriculture Marketing in India which is largely governed by public sector. The basic tenets of agriculture marketing are price policy and agriculture marketing infrastructure and governance. The context of agriculture price policy as a tool to influence the agriculture economy has been changing substantially over the years. During early 60s, the objective of agriculture price policy was to maintain the food grain prices at low level. During mid-60s to early 80s it was to promote food self-sufficiency and from early 80s to 90s it was to promote demand driven production pattern. Since90s as trade is also an important determinant of growth, the objective of agriculture price policy was to maintain the balance between price support to the farmers and trade distortions keeping in view of global price trends. Accordingly, the Minimum Support Price (MSP) as an important institutional intervention under agriculture price policy has been subjected to a lot of debate due to the inequity in its design confining to few regions, crops and group of farmers.

3.11.2. A. Implementation of MSP

Various committees were instituted in the country in the last seven decades, to study and recommend the policy for better implementation of MSP mechanism. In the recent past, the demand to ensure MSP for every crop has become intense and widespread after the bumper harvest of most of the crops during 2016-17. Accordingly, the central budget 2018 has come out with one and half times increase in MSPs of all 23 rabi and kharif crops (where MSPs are announced) including a minimum profit of 50% over the A2+FL cost.

While, at present a few rabi crops (wheat, barley , gram and lentil) and few kharif crops (bajra, arhar and urad) have already MSPs of that level, the present move is to include all the 23 crops in this bracket including all major cereals, pulses and oilseeds and cotton and jute. The MSP was introduced in the country to meet the twin goals of providing incentive to producers to direct the reallocation of resources towards the desired crops and insulate the consumers against the sharp rise in prices (Kahlon, 1983).These twin goals complemented each other for a long time and entails

procurement of the two major food grain crops in the country i.e., paddy and wheat, by official agencies. Initially it has covered eight crops namely wheat, rice, cotton, sugar cane, potato, onion, gram, sunflower, safflower,soyabean and canola though effective for only four crops i.e.,paddy, wheat, cotton (to some extent) and sugarcane (due to the obligation of sugar mills).The implementation of support prices of other crops has evolved over time and undergone policy and institutional changes. For these crops, the policy of selective intervention on need basis to protect the farmer against extreme price volatility through market intervention schemes is being followed and market forces generally allowed a free play. Therefore, the process of implementation of MSP or its effectiveness is to be examined under the purpose of support against the income loss to the producers due to price collapse by mopping the available marketable surplus in the food surplus regions.

As per the 70th Round NSSO survey (July 2012-June, 2013), the total number of agriculture households in the country were 90.2 MHH[3]. Out of these, the estimated number of households reported cultivation of paddy and wheat were 53.3 MHH and 35.2 MHH, respectively. Out of this, the total number of agricultural households who were able to sell paddy and wheat to the procurement agencies works out to 5.21 millioni.e, around 5.8% of the agricultural households between July 2012 to June 2013. The sale of these crops at mandi for every 100 farmers was only 17 and 44 respectively for paddy and wheat. Despite this, an increase in marketed surplus was observed for both the crops. Table 3.16 presented the marketed surplus ratio of paddy and wheat where an increase was observed for both the crops between2010-11 to 2014-15.

Table 3.28. : Marketed Surplus Ratio of Paddy and Wheat

Year	Paddy	Wheat
2010-11	80.65	73.20
2011-12	77.20	70.00
2012-13	81.51	77.49
2013-14	82.00	73.11
2014-15	84.35	73.78

Source : Ministry of Agriculture, 2016

Despite the increase in marketed surplus, the farm harvest prices did not move away from MSP in food grain surplus states of UP, Punjab and AP and even in deficit states like Tamil Nadu, Karnataka, West Bengal, Bihar and Assam (PC, 2007).

Procurement by government agencies in surplus states, higher demand compared to supply in deficit states were the reasons for the stability of FHP around MSP (Shayequa, Alia, 2012). Implementation of MSP and procurement mechanism is a clear positive gain for producers of both paddy and wheat as, a strong base has been created for grain production, for meeting grain demand (Acharya 1999)and for producing the marketable surplus (Sidhu and Singh,2003).In addition to the technology that played a role in increase in production of paddy and wheat ,the sufficiently large marketable surplus of these crops also owes to the establishment of well-tuned procurement machinery with a well spread network of marketing infrastructure for the procurement of these two crops(PC 2000).If we look at the geographical variation of procurement**,** the procurement benefits a few selected states like Punjab, Haryana, Andhra Pradesh which are historically been the surplus states and lately from Madhya Pradesh and Chhattisgarh.(Annexure III) This has also worked as negative externality to discourage coarse cereals and pulses in these states (Deshpande and Naik, 2002). However, due to the implementation of decentralized procurement system extended to non-traditional surplus states like Chhattisgarh, Orissa and Tamil Nadu the share of rice procurement from the traditional states such as AP, Punjab Haryana and UP fell slightly.

The awareness about MSP is observed in the context of presence of government agencies in the neighborhood. As per NSS-SAS70th Round, the awareness is more in Punjab and Haryana compared to Gujarat , Maharashtra, Jharkhand or West Bengal which could be deciphered that the states where the procurement is more both in absolute and relative terms, the awareness is more i.e., awareness is highly correlated with intensity of procurement. The Table 3.17 shows that out of 100 households the awareness about MSP was more for sugarcane, wheat, paddy and the cotton i.e., the crops for which procurement system is in place when compared to the other crops which are notified under MSP system. However, except sugarcane, the awareness about procurement agency was less. We could see from the Table3.17 that only 30 percent of the farmers are aware of the policy and from among these only 19 percent are aware of the procurement agencies. Whereas, the sale at mandi (Table 3.17) was more by large farmers compared to small and medium farmers for both the crops, though the difference was more for paddy compared to wheat. Local private traders were the major source of absorption of marketed surplus of both the crops. This is likely because of higher transportation costs for small farmers as well as interlocking of factor and product markets. Government procurement benefitted the small farmers more followed by medium and large farmers. If we look at the size wise procurement of paddy and wheat 11.17 percent small farmers benefitted from government procurement compared to

large farmers with 3.76 percent, in case of Paddy. The same in case of wheat was 11.01 percent for small farmers compared to 1.67 percent of large farmers.

Table 3.39. : Number per 1000 of agricultural households having awareness about MSP for selected crops during January, 2013 – June, 2013

Crop	Number per 1000 of households reporting sale of crops			Of the households sold to procurement agency		Estd. No. of households reporting sale of crop (00)
	Aware of MSP	Aware of procure ment agency	Sold to procure-ment agency household	% of sale at MSP to total sale	Avg. sale rate received at MSP (Rs)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Paddy	315	187	100	14	13.15	54578
Jowar	213	207	192	36	13.83	4565
Maize	118	61	29	4	11.45	19581
Wheat	392	345	162	35	13.99	12991
Barley	110	105	16	1	40.75	1432
Gram	126	97	39	5	29.96	33190
Arhar (tur)	142	131	47	1	47	3517
Moong	91	37	19	2	58	6893
Masur	181	155	20	0	36	7352
Sugarcane	454	407	366	33	3.25	20558
Potato	121	90	6	2	8.83	24679
Onion	153	98	6	1	17.5	5955
Groundnut	89	82	13	1	37.62	6770
Rapeseed/ mustard	155	128	29	14	30.84	36155
Coconut	215	110	17	0	9.34	11084
Cotton	226	177	84	3	34.15	10753

Source: NSSO 70th round, situation assessment survey of agriculture, 2013

At all India level, the gap between Farm Harvest Price (FHP) and Minimum support Prices (MSP) for paddy and wheat is narrowing down in recent years, allowing MSP as market leading price and instrumental in raising market prices. There is a general assumption that, support prices generally offset farmer's decision indirectly regarding land allocation to crops. In reality, the areas to be sown however depend upon the actual prices farmer realized for the previous crop and their expectations for the coming season. Deshpande and Naik (2002) observed that MSP does not bear any consistent and significant relationship with either wholesale priceor farm harvest price. Cropping pattern is largely influenced by market price and MSP plays a role only when MSP is either equal or above the market price (Chand, 2003).

Table 3.20. : Land size Variations in Procurement

Paddy	**Local Private**	**Mandi**	**Government**	**Input Dealers**	**Processors**
0-2 ha	55.44	20.19	11.17	8.72	1.62
2-5 ha	41.89	28.92	5.54	19.44	2.44
5-10 ha	29.58	34.77	6.52	27.46	0.51
>10 ha	14.15	50.43	3.76	15.38	0.65
Wheat	**Local Private**	**Mandi**	**Government**	**Input Dealers**	**Processors**
0-2 ha	41.40	38.71	11.01	8.1	0.14
2-5 ha	25.23	49.97	5.02	19.42	0.24
5-10 ha	16.68	45.68	7.36	29.8	0.3
>10 ha	6.07	40.45	1.67	51.77	0.08

Source: NSS Situation Assessment Survey of Agricultural Households (2012)

Besides paddy and wheat, the Government of India declares Minimum Support Price (MSP) for various agricultural crops every year. The understanding is that if the market prices of such crops drop below MSP, government agencies like NAFED or FCI will intervene in the market under Price Support Scheme (PSS) or Price stabilization Fund (PSF) or Market Intervention Scheme either through state Government or on their own. They will procure such crops at MSP thus pushing the market prices upward. It is presumed that once government agencies start procuring, the market prices will strengthen around MSP. The maximum procurement quantity by these agencies is also limited to a certain percentage of the total production of a State for that crop only in

which procurement is done. However, in practice this proportion is negligible as we could see in case of oilseeds and pulses. For example, for Kharif 2017, the targets for oilseeds (soybean and groundnut) and pulses (uradandmoong) given by the Government of India to various procurement agencies (FCI/NAFED) for pan-India is less than 12 LT, which is only a very small percentage of total production of these crops which was about 30 MT.

3.12.2. B. Functioning of Agriculture Markets

The implementation of Agricultural Produce Marketing (Regulation) Act (APMRA) in various states during 1960s and 1970s was the major driving force behind the achievements of the Green Revolution (Chand, 2012). Implementation of the model Agriculture Acti.e., the State Agricultural Produce Marketing (Development and Regulation) Act, 2003 and Integration of agri-markets across the country through the e-platform (e-NAM) will be the driving force for the ever green revolution, to happen in the country. The provisions of the Act, 2003 broadly cover establishment of Private Markets/ yards, promoting direct Purchase Centers, setting up of Consumer/Farmers Markets, promotion of Public Private Partnership for the development of agricultural markets, construction of Specialized Markets for commodities like Onions, Fruits, Vegetables, and Flowers etc. It is hoped that the model legislation will enable nationwide integration of agricultural markets, facilitate emergence of competitive agricultural markets in private and cooperative sectors, create environment conducive to investments in marketing related infrastructure and modernization of existing markets. In order to facilitate State/UT Governments to frame rules in inconsonance with the Model Act, the Ministry of Agriculture framed Model APMC Rules and circulated to all States in 2007. Only the State of Andhra Pradesh, Rajasthan, Maharashtra, Orissa, Himachal Pradesh, Karnataka, Mizoram (only Single point levy of market fee), Madhya Pradesh (only for special license for more than one market) and Haryana (only for contract farming) have notified such amended Rules so far which also varies in their contents and coverage in respective states.

Integration of agri-markets across the country through e-platform (e-NAM) in the recent past is seen as an important measure for overcoming the challenges in agricultural marketing. It is expected that e-NAM will leverage the physical infrastructure of mandis through an online trading portal, enabling buyers situated even outside the state to participate in trading at the local level. So far, 417 mandis in 13 states, 45.4 lakh farmers (BL, Hindu 2018) have joined the e-NAM platform. It is proposed to integrate 585 regulated wholesale markets or APMCs under one electronic platform by

2018.The online agri-market is expected to give choice to farmers to sell their produce both in physical mandis or online platform. Since agri-market reforms are integral to NAM, reforms of State APMC Act, as a pre-condition, has been made for integration with NAM. However, as mentioned above, the implementation of the provisions of the Model Act by different states is uneven. Currently, only 13 States have enacted the necessary amendments. At present there are six States with the most mandis under e-NAM are Uttar Pradesh(66), Madhya Pradesh(58),Haryana (54) Maharashtra(54), Telangana (44) and Gujarat(40).If we look at the functioning of e- NAM in these states, the multiple buyer-transparent-price-discovery chain, as expected from e-NAM, is not happening at present. The e-NAM atNizamabad of Telangana Statewith e-auction and complete online transactions, eliminating the commission agents in the transactions has won the best e-NAM mandiaward from the central government. As buyers are to physically inspect the quality of turmeric and because of lack of grading and assaying facilities in the mandi, traders from outside the APMC are not being able to buy farmers' produce from the mandi. Issues are also being faced with the Online Payment System through Payment Gateway which is taking 48 hrs.to send the money to traders[5] in the market (Rajalakshmi, 2017).

3.12.3 Crop Insurance

Major sources of risk in agriculture are drought, floods and cyclones. Drought effects more than 2/3rd of the cropped acreage annually. Agriculture therefore has become highly risky economic activity on account of its critical dependence on weather conditions which underscores the need for crop insurance. Designing and implementing appropriate insurance program for agriculture which is prone to systemic and covariate risk (where a single risk affects large number of people across large geographical regions) is always a challenge.

In India, traditionally, successive governments have dealt with agricultural distress by relying on the practice of announcing relief packages (ex: The Agricultural Debt Waiver and Debt Relief Scheme in different states, State and National Disaster Response Fund, fund for calamities including drought and flood etc.) from time to time. Further, a number of crop insurance schemes have been introduced in the last three decades and modified as and when required to address operational issues. Many efforts have been placed in the country, to smoothen the risk of the farmers in the form of crop insurance scheme. The National Agriculture Insurance Scheme –NAIS (1999) was introduced during Rabi 1999-00, on the basis of area approach i.e., defined areas (unit of insurance) for each notified crop for widespread calamities. The unit area of insurance

may be a Gram Panchayat/ Mandal/ Hobli/ Circle/ Phirka/ Block/ Taluka etc. as decided by the state government. All farmers including sharecroppers and tenant farmers, growing the notified crops in the notified areas, are eligible for coverage. The scheme is compulsory, for farmers availing crop production loans and voluntary for others.

Agriculture in India is highly vulnerable to weather based parameters such as rainfall, temperature, sunshine, etc. by virtue of their low capacity to deal with adverse weather incidences. This is all the more true for rainfed areas which accounted for 70 percent of gross sown area in the country. It is well established (National Commission on Water) that rainfall variations, account for more than 50 percent of variability in crop yields. Therefore the government, on realizing the need for encouraging pilots, of this promising risk management tool, has supported the weather index insurance program from 2007 onwards by providing financial support in the form of front ended premium subsidy. The programme on this was launched during 2007 with the technical assistance from Indian Agriculture Research Institute (IARI) to enable product structuring using Crop Growth Simulation Modelling platform. The underlying principle for 'weather index' insurance is the quantitative relationship between weather parameters and crop yields.

Till 2015, National Agriculture Insurance Scheme (NAIS) and Modified National Agriculture Insurance Scheme (MNAIS) were operating separately in India. To overcome some of the limitations of NAIS, MNAIS, the new and improved features of Pradhan Mantri Fasal Bima Yojana (PMFBY) was introduced during 2016.Under this, overall area insured has increased from 53.7 million ha in 2015-16 to 57.2 million ha in 2016-17. During the same period the number of farmers insured has increased from 47.5 million to 57.2 million. During 2017-18 the percentage of area insured under all insurance schemes together was highest in MP among the selected states with 53.7 percent followed by Maharashtra and Karnataka with 31.69 percent and 24.19 percent respectively. The performance of Crop Insurance scheme seems to be lowest in Telangana among the selected states with only 15.65 percent of crop area insured during this period.

Table 3.21:State-wise Crop Area Insured under all Insurance Schemes (Area in Lakh Ha)

States	% of Area Insured	% of Area Insured	% of Area Insured
MP	45.37	50.85	53.70
Maharashtra	20.72	35.36	31.69
Telangana	-	0.00	15.65
Karnataka	11.49	14.03	24.19
All India	19.80	24.54	28.63

Source: Agricultural Statistics at a Glance, Department of Agriculture, Cooperation & Farmers Welfare

A close look at the data regarding the implementation of PMFBY and RWBCIS in the selected states revealed the fact that the number of farmers covered under PMFBY was more than RWBCIS (Table 3.21). However, the percentage of farmers benefitted under RWBCIS at All India level as well as in the selected states was higher compared to PMFBY. This is a pointer towards restructuring the Crop Insurance Scheme with Weather based parameters.

Table 3.22: State-wise coverage under Pradhan Mantri Fasal Bima Yojana (PMFBY) and Restructured Weather Based Crop Insurance Scheme (RWBCIS) - Cumulative up to Rabi 2016-17

State	No. of Farmers covered		No. of Farmers Benefitted		% of farmers benefitted	
	PMFBY	RWBCIS	PMFBY	RWBCIS	PMFBY	RWBCIS
MP	6667721	513595	960521.00	341692	14.40	66.52
Maharashtra	11793372	207843	2781403.00	123167	23.58	59.25
Telangana	887013	88772	134278.00	83578	15.13	62.24
Karnataka	2611964	132026	718326.00	148290	27.50	112.31
All India	55071091	2050999	11489523	1686986.00	20.86	82.25

Source: Agricultural Statistics at a Glance, Department of Agriculture, Cooperation & Farmers Welfare

3.12.4. Rural Development

Rural development connotes the overall development of rural areas to improve the quality of life of rural people. It encompasses the development of agriculture and allied activities, village and cottage industries, socio-economic infrastructure, community services and facilities and, above all, human resources in rural areas. As a phenomenon, rural development is the end-result of interactions between various physical, technological, economic, social, cultural and institutional factors. As a strategy, it is designed to improve the economic and social well-being of a specific group of people – the rural poor. As a discipline, it is multi-disciplinary in nature, representing an intersection of agriculture, social, behavioral, engineering and management sciences. (Katar Singh 1999). The planning process under rural development began with an emphasis on agricultural production and consequently expanded to promote productive employment opportunities for rural masses, especially the poor, by integrating production, infrastructure, human resource and institutional development measures (Planning Commission,2005).Therefore, any improvement in rural development will have an impact on agriculture development and vice versa. There are many programmes of rural development which have a direct impact on investment and income on agriculture and a proper implementation of these should have a cushioning effect on Agrarian distress. Some of these are discussed below.

3.12.4. A. Mahatma Gandhi National Employment Guarantee Programme (MGNREGS)

The MGNREGS programme of the country is the largest public works programme in the world. This programme was introduced with an Act in 2005 to provide 100 days of employment to all the rural households who are willing to do unskilled manual labour at the statutory minimum wage notified for the programme. This program was initiated with an expectation of creation of employment that would rise poor out of poverty, reduction in distress migration, changing power relations in rural areas, empowerment of PRIs and augmentation of rural water and land resources (Dreze, 2004) that would not only improve agricultural productivity but also have accelerator and multiplier effect on rural regeneration and rural livelihoods (Shah, 2009). This programme is not only an important stride towards right to work but creating durable socio economic infrastructure in rural areas. With the creation of ‘durable assets’ as a central tenet of investment decisions in the scheme, there are about 260 permissible works identified under MGNREGS by MoRD out of which 189 are NRM and Agriculture

related works and 75 are directly related to agriculture. The NRM related works are those pertaining to soil conservation and water harvesting works, improvement in bunding and desilting, plantation in common lands etc. The non NRM works and agriculture related works pertains to land development, horticulture in private lands of SC, STs, marginal and small farmers. The implementation of the programme has brought out many positive outcomes such as reduction in the male – female wage differentials and increase in wages (Banerjee and Saha, 2010). Improved irrigation facilities, soil conservation, increase in area cultivated and crop diversification because of the programme has resulted in distress migration in many cases (Rao et al, 2011, Babu et al 2011,) and return migration of small and marginal farmers (Paliwal,2011).

Table 3.23: MGNREGA Employment Generated during the year (percentage)

	2014-15		2017-18		% change from 2014-15 to 2017-18			
State/Districts	% of families completed 100 days of total families	% of families completed 100 days of total demanded families	% of families completed 100 days of total families	% of families completed 100 days of total demanded families	% Change in Household Registration	% Change in Employment Demand	% change in 100 days completion to total families	% change in families getting 100 days to demand
MP Total	1.88	5.11	2.02	3.35	-22.46	29.43	7.55	-34.36
Rewa	0.99	4.11	0.17	0.32	-23.45	73.90	-82.64	-92.23
Alirajpur	1.98	4.5	0.69	1.20	2.11	35.15	-65.02	-73.33
Karnataka	0.75	2.73	0.54	1.40	-0.29	42.20	-27.44	-48.78
Haveri	0.64	2.04	0.26	0.56	8.83	59.24	-59.84	-72.68
Mandya	0.24	0.55	0.13	0.39	13.15	-14.05	-45.65	-29.61
Maharashtra	2.17	12.91	2.26	10.75	15.32	46.30	4.09	-16.75
Beed	4.86	21.32	1.42	7.48	18.20	12.03	-70.74	-64.90
Yavatmal	2.13	13.85	1.71	7.26	17.12	79.37	-19.73	-47.60
Telangana	2.6	5.56	3.83	6.79	-14.12	3.48	47.14	22.14
Nalgonda	2.19	3.83	2.59	4.39	-57.57	-56.28	18.21	14.61
Siddipet			5.81	10.64	NA	NA	-	-

Table 3.24: Agriculture and allied sector based work % Under MGNREGA

District/State/India		Agriculture based work % Under MGNREGA				Share of % India to State to Dist.		Average expenditure on per Agri & agri allied works	
		2014-15		2017-18					
	Unit work Expenditure (In lakhs)	Total NRM+Agri and Only Agri Related Works and expenditure	% of agri works of Total works and Expenditure	Total NRM+Agri and Only Agri Related Works and expenditure	% of Total works and Expenditure	India to State/State to Dist- 2014-15	India to State/State to Dist- 2017-18	AvgAgri expenditure per work (In Lakhs) 2014-15	AvgAgri expenditure per work (In Lakhs) 2017-18
INDIA	**No. of Work**	**1676845**	**44.05**	**4204306**	**70.26**			**1.09**	**0.45**
	Expenditure	**1820518.66**	**56.46**	**1888232.26**	**63.87**				
Karnataka	**No. of Work**	129647	30.56	285727	88.56	7.73	6.80	0.64	0.25
	Expenditure	82883.11	53.57	71669.15	61.08	4.55	3.80		
Haveri	**No. of Work**	2068	16.42	10869	88.52	1.60	3.80	0.77	0.14
	Expenditure	1590.05	32.51	1531.02	54.95	1.92	2.14		
Mandya	**No. of Work**	4081	10.06	16957	93.69	3.15	5.93	0.48	0.20
	Expenditure	1976.49	31.50	3412.02	81.59	2.38	4.76		
MP	**No. of Work**	142681.09	54.84	342993	73.74	8.51	8.16	1.39	0.37
	Expenditure	197870	50.63	127111.71	62.47	10.87	6.73		
Alirajpur	**No. of Work**	5035	78.96	5705	84.63	3.53	1.66	0.58	0.35
	Expenditure	2932.12	77.74	1985	64.04	1.48	1.56		

Rewa	**No. of Work**	6098	51.80	6206	45.49	4.27	1.81	0.27	0.38
	Expenditure	1669.47	39.00	2331.99	47.30	0.84	1.83		
Maha	**No. of Work**	57085	35.40	163238	71.99	3.40	3.88	1.35	0.38
	Expenditure	77331.75	62.43	62492.66	78.51	4.25	3.31		
Yavatmal	**No. of Work**	1346	19.79	3558	90.95	2.36	2.18	2.49	0.64
	Expenditure	3356.65	52.95	2261.02	94.43	4.34	3.62		
Beed	**No. of Work**	1091	56.18	6953	36.73	1.91	4.26	5.47	0.47
	Expenditure	5966.61	63.37	3272.58	66.23	7.72	5.24		
Telangna	**No. of Work**	51660	24.69	196116	45.28	3.08	4.66	1.75	0.12
	Expenditure	90394.73	67.89	23144.31	57.78	4.97	1.23		
Nalgonda	**No. of Work**	4446	15.93	26083	56.87	8.61	13.30	3.03	0.07
	Expenditure	13466	64.78	1825.23	64.18	14.90	7.89		
Siddipet	**No. of Work**	0		7337	59.24				
	Expenditure	0		937.6	78.05				

Source- http://www.nrega.nic.in/netnrega/mgnrega_new/Nrega_home.aspx

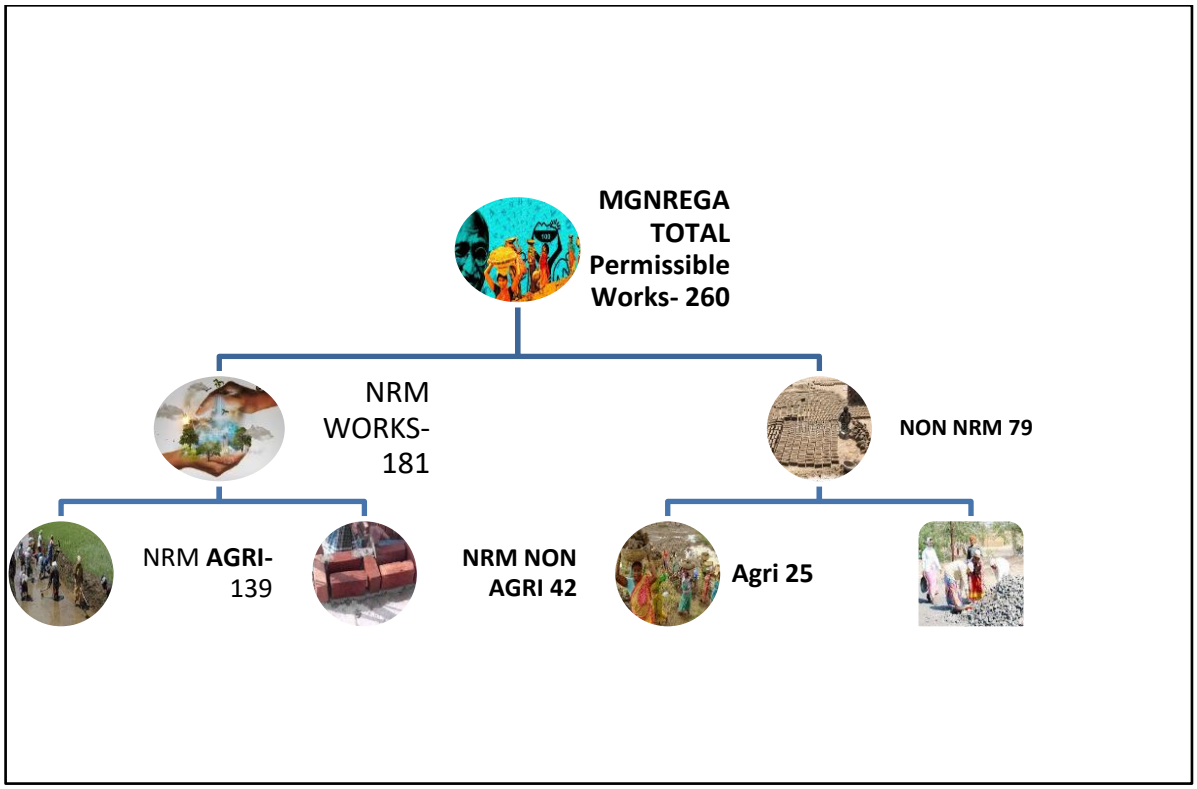

Figure 3.7 : Number of MGNREGA works related Agriculture

A close look at the implementation of the programme district wise in the selected states during 2014-15, provide the following observations

Providing 100 days of employment to the job card holders as per the demand made by them is a statutory requirement of the programme. It could be deciphered from the above table 3.22 that the percentage of those who demanded the works compared to those who got the job cards was less which may be due to lack of awareness. Among the four states, the Percentage of families who got 100 days job out of the total demanded families seems to be better in Maharashtra with 12.91 percent during 2014-15 (Table 3.22). In both the selected districts of Maharashtra i.e,Yavatmal and Beedthe percentage of households completed 100 days of employment was 13.85 and 21.32 which was better compared to the Maharashtra state average. The employment generated in MP was very low with 5.11 percent and it was further less with only 4.11 and 4.50 percent in Rewa and Alirajpur Dist. of MP. Karnataka has fared lowest among the four states with only 2.73 percent of the families completed 100 days out of the demanded families with Mandya faring least among these. Mandya one of the irrigated belts of Karnataka which faired lowest in providing 100 days of employment under MGNREGS with only 0.55 percent during 2014-15.

A comparative statement of employment provided (Table 3.22) during the two time periods i.e., 2014-15 and 2017-18 revealed the fact that in some of the selected sample districts like Mandya in Karnataka, and Nalgonda of Telangana there has been an alarming decline in percentage of employment demanded under the programme by -14.5 in Mandya and -56.25 in Nalgonda from 2014-15 to 2017-18. Compared to the year 2014-15 except (Telangana &Nalgonda district) all the selected districts of MP, Maharashtra and Karnataka have shown an alarming decline in percentage in terms of number of households completed 100 days of employment from 2014-15 to 2016-17. It was -34.36, -48.78 and -16.75 percent in Madhya Pradesh, Karnataka and Maharashtra respectively. The decline was highest in Rewaand Alirajpur of Madhya Pradesh with -92.23 percent and -73.33 percent respectively. Followed by these were Haveri of Karnataka and Beed of Maharashtra with -72.68 and -64.90 percent respectively. Yavatmal of Maharashtra and Mandya of Karnataka have trailed behind with -47.60 and -29.61 percent respectively.

All the 206 permissible works under MGNREGS which have direct and indirect implications for Agriculture were fit into six themes under which works will be sanctioned. These themes are Drought Proofing, Land Development, Micro Irrigation works, Renovation of Traditional water Bodies, Water Conservation and Water Harvesting, and Works on Individual Lands. The number of agriculture works under these themes as a percentage of total works under MGNREGS increased from 44 percent in 2014-15 to 70.26 in 2017-18 at All India level (Table 3.23). The expenditure for these works at the same time increased from 56 percent to 64 percent during this period. However, the average expenditure per work on per Agri&Agri allied works has come down from 1.09 lakhs to 0.45 lakhs .Similarly in some of the selected sample districts like Mandya and Haveri of Karnataka and the Yavatmal of Karnataka the agriculture works as a percentage of total works which was less than 20 percent during 2014-15 has increased to more than 80 percent in 2017-18. However, in all these selected districts the average per work expenditure has come down. One reason for this could be the Panchayats may be taking up the works that need immediate attention rather than the works that require long term sustainability.

3.12.4. B. Rural Infrastructure

3.12.4. B .i .Pradhan Mantri Gram SadakYojana (PMGSY)

Rural connectivity is a key component of rural development in India. Pradhan Mantri Gram Sadak Yojana (PMGSY) aims at providing connectivity by means of properly laid all-weather surfaced roads (with necessary culverts and cross drainage

structures) to all unconnected habitations. The Scheme was launched during 2000.Till the launching of the programme the road connectivity was only 60% in the country (MoRD, 2015). As per the targets of the programme all habitations with a population of 1000 persons are to be covered by the end of 2003 and all unconnected habitations with a population of 500 or more persons in the rural areas will be covered by the end of 10th Plan period (2007) at an estimated cost of Rs. 60,000 crore. Further, in respect of the hill States (North East, Sikkim, Himachal Pradesh, Jammu and Kashmir and Uttaranchal) and the desert areas, the objective is to connect habitations with a population of 250 persons and above. It is a 100 per cent Centrally Sponsored Scheme.

The PMGSY data shows that around 10,276 habitations are left uncovered in MP, 4043 in Karnataka, 5070 in Maharashtra and 1410 in Telangana. The total numbers of habitations officially recognized by PMGSY with habitations of more than 500 households in MP were 52,309. If we look at the number of habitations in MP as recognized by Ministry of Water Resources under National Rural Drinking Water Programme (NRDWP) the number of habitations are 1, 27,448. NRDWP considers all the habitations with less than 250 households also. If this data is considered, then the number of rural roads yet to be connected in all the selected States is bigger than the estimates of PMGSY.

Table 3.25: The status of rural road connectivity

		No. of Habitations			Total Balance under PMGSY with Percentage as on 27 Aug 2018				
Sr. No.	**State Name**	**Total Habitations as on 2000 (PMGSY)**	**Total Habitations (NRDWP)**	**Data Gap NRDWS and PMGSY (3)-(4)**	**Total 499 to 250**	**% total Balance(499-250)**	**Less Than 250**	**% of Total Balance(>250)**	**Total Balance**
1	**Madhya Pradesh**	52,309	127448	75,139	4,680	46	5,595	54	10,276
1	Alirajpur	548	4,717	4,169	0	0	25	100	25
1	Rewa	2,415	8,651	6,236	210	32	443	68	653
2	**Karnataka**	56,682	59,774	3,092	502	12	3,541	88	4,043
1	Mandya	1,947	1,961	14	1	25	2	50	4
1	Haveri	675	718	43	6	100	0	0	6
3	**Maharashtra**	67,932	99,533	31,601	1,238	24	*3,844*	76	5,070
1	Beed	1,358	3,446	2,088	17	59	12	41	29
1	Yavatmal	1,856	2,273	417	5	16	27	84	32
4	**Telangana**	24,253	24,359	106	11	1	1,399	99	1,410
1	Siddipet	NA	775	NA	6	19	26	81	32
1	Nalgonda	3,107	1,696	NA	0	0	2	100	2

Source- PMGSY Website and NRDWP

3.12.4. B .ii: Rural Warehousing Infrastructure

The total production of food grains in the country has been hovering around 270-280 MMT, at present. The total warehousing capacity created so far is around 158.52 MMT as presented in the Table below.

Table 3.26: Warehousing Capacity created with various agencies

	Name of the Organization	**Storage Capacity in Million Metric Tonnes**
1	Food Corporation of India	36.25
2	Central Warehousing Corporation(CWC)	10.14
3	State Warehousing Corporation (SWC)	39.07
5	Cooperative Sector	15.07
6	Private Sector	57.75
	Total	158.52

Source: Annual Report of Warehousing Development and Regulation Authority (2017-18)

While the state agencies own 63.8 percent of the total infrastructure created, the remaining is in the hands of cooperative sector and private sector. Private sector entered into the warehousing industry after the introduction of Rural Godown Scheme in 2001-02 by NABARD and National Cooperative Development corporation (NCDC).Region wise imbalances were found in the creation of storage structures mainly because of factors such as proximity to the major mandis in the state, differences in the quantities of food grain and pulses produced within the state and publicity and awareness created about the scheme. While the other crops mainly storable include oilseeds, pulses and cotton apart from food grains, the main commodity being stored now is the food grains due to procurement systems that are in place for these grains. The storage capacity created so far is 158. 52 MMT for the production of food grains of around 280 MMT leaving a deficit storage capacity of 120 MMT. It is estimated that 20-30 percent of food grains are wasted every year due to inadequate storage capacity, lack of scientific storage facilities and regional imbalance in storage and inefficient logistic management in the country. As per estimation of Central Institute of Post-Harvest Engineering and Technology (CIPHET) the annual value of harvest and post-harvest losses of major agricultural produces at national level is of the order of US$ 26.35 accounting for Rs.1,84,450 Crores as per of 2017-18 at 2014 wholesale prices. The construction cost of a godown as

per the norms of NABARD ranges around Rs.4000-Rs.6000.To create a warehousing system in a saturation mode for storing the entire the food grains in the country may cost around Rs. 48,000 crores.

3.12.4. C. Nutritional Security

While the number of poor living in the country has decreased to 21.2 percent in 2011 from 38.9 percent in 2004, there has been a spurt in the number of undernourished persons across all farming classes. Poor nutrition levels are an indicator of low income levels and low labour days which could be seen in all the four selected states.

Table 3.27: State and district Wise Status of Nutritional Security

National Rural Health Survey-4 (Rural 2015-16) In Percentage					
S.no	**State**	**Anemic Children Age 0-5**	**Anaemic Women Age 15-49**	**Anaemic Men Age 15-49**	**Anaemic Pregnant Women**
1	Madhya Pradesh	69	53.8	27.4	56.4
2	Maharashtra	54	47.8	19.7	49.9
3	Karnataka	63.3	44.8	18.2	45.4
4	Telangana	67.5	58.1	19.8	55.1

Source: NFHS -4

Tables 3.26 and 3.27 revealed that the percentage of anemic women was also highest in all the four states which will be reflected through inter-generational transfer of nutrition security. In all the four selected states the percentage of anemic children of age between 0-5 was alarmingly high with more than 50 percent. Alirajpur of MP and Yavatmal of Maharashtra are highest with 75.7 and 73.7 respectively (Table 3.27). Among the four selected states MP is the state with alarming levels of anemic children of age between 0-5, anemic women and men with productive age group and anemic pregnant women.

Table 3.28: State and district Wise Status of Nutritional Security

S.no	State	District.	Anemia Among <5 years of children (%)	Anemia among women (%)	Women with body Mass Index <18.5kg/m2
1	MP	Alirajpur	75.4	64.7	37.5
2		Rewa	54.9	40.4	24.1
3	Karnataka	Haveri	60.4	53.1	21.7
4		Mandya	54.7	45.5	20.1
5	Maharashtra	Yavatmal	73.7	48.9	30.3
6		Beed	58.6	33.6	21.7
7	Talangana	Nalgonda	70.8	54.7	27.8
8		Medak	68.2	57.9	31.8

Source: NFHS -4

* Percentage not shown; based on fewer than 25 unweighted cases,*NFHS -4

3.12.4. D. Women Empowerment

An awareness of ill effects of alcoholism on health if taken as an indicator of empowerment, it was lowest for both men and women of Telangana compared to other selected states with highest rates of alcoholism among men with a percentage of 47.6 percent. The same could be explained with highest rate of women experiencing spousal violence.

Table3.29: Women Empowerment (Percentage)

State	Women Participating in HH Decision	Women Consuming Alcohol	Men Consuming Alcohol	Women having Bank Account	Women BMI below Normal	Men BMI below Normal	Women experience Spousal Violence
Madhya Pradesh	80.8	2.1	30.3	31.4	31.8	31.1	35.4
Maharashtra	89.4	0.2	20.5	38.7	30.7	23.7	35.5
Karnataka	78	1	29.3	52.1	24.3	18.4	20.4
Telangana	47.6	14.3	61.2	58.7	29	24	47.6

Source: NFSH-4

3.12.4. E. Community Based Institutions and Governance Systems

Having appropriate institutions for appropriate levels of governance has a logic that is simple but powerful. Local Community based Institutions are key to leverage the collective strength of unorganized sector in rural areas in order to improve their financial , livelihood and natural resources. Important Community based institutions normally found in rural areas are SHGs, Panchayat, and Farmer Groups in the form of FPOs (Cooperatives/Producer companies) or farmers clubs. User Groups around management of natural resources such as watershed structures, tank management groups for the restoration and maintenance of tanks, are often formed in RD Projects.

If Panchayats are institutions of representation, women's self-help groups are institutions of participation' (Jairam Ramesh, 2018).SHGs are small economical homogenous affinity groups of rural poor, voluntarily formed to save and mutually contribute a common fund to be lent to its members as per group decision" (NABARD, 2018). The Collateral of Loan in any SHG is ''trust and mutual cooperation' .Though Initiated in 1992 as a momentum; the institution of SHG has limited to thrift and credit for a long time till the introduction of Swarna Jayanti Gram Swarojgar Yojana (SGSY) to promote self-employment in rural areas through formation and skilling of SHGs. The programme has evolved into National Rural Livelihoods Mission (NRLM) in 2011 – as world's largest poverty alleviation programme. The programme was renamed as Deendayal Antyodaya Yojana (DAY – NRLM) in 2015 which covers 100 million families through 8.5 million SHGs with savings deposit of approx. INR 161 billion. SHGs have played an important role in enabling financial inclusion in rural areas by financially empowered women within the family and in local community. The NPA of SHG loan is 6.5%, which is much less than the overall NPA of Indian Banks i.e. 10.2 %. (Source: NABARD Microfinance Report 2016-17 and RBI Financial Stability Report – December 2017).

While 50 Lakh SHGs were formed so far in the country, the potential scope for coverage of SHGs in the country is 114.13 Lakhs. The coverage of members so far through SHGs was 30.82 percent at All India level. Among the selected states, MP is the state with lowest number of SHG formation. As seen in the Table 3.29that MP and Maharashtra are the States with lowest coverage of women members through SHG with 21.78 and 26.34 percent respectively. Among the selected districts, Rewa of MP and Beed and Yavatmal of Maharashtra have lowest coverage with 27.76, 21.94 and 27.94 percent respectively (Table: 3.29).

Table 3.30: Status of SHGs in India

Dist./State/ India	No. of SHGs	No. of Members	Avg Member/ SHG	Total Rural HHs*	Optimum no. of SHG could be formed	Scope to increase no. of SHG
Karnataka	260130	3276925 (40.71)	12.60	8048664	638922	378792
Mandya	11432	185842 (52.87)	16.26	351462	21620	10188
Haveri	15620 (16	149864 (58.18)	9.59	257562	26845	11225
Madhya Pradesh	222820	2459745 (21.78)	11.04	11288946	1022628	799808
Alirajpur	5,488	59,171 (46.76)	10.78	126529	11735	6247
Rewa	10772	125141 (27.69)	11.62	451926	38901	28129
Maharashtra	336864	3646878 (26.34)	10.83	13841960	1278589	941725
Beed	9413	101083 (21.94)	10.74	460613	42893	33480
Yavatmal	16176	162483 (27.81)	10.04	584064	58147	41971
Telangana	426270	4446090 (78.77)	10.43	5643739	541095	114825
Siddipet	17111	189079 (91.59)	11.05	206437	18682	1571
Nalgonda	28850	294398 (94.30)	10.20	312185	30593	1743
India	*5085220*	*55413612 (30.82)*	*10.90*	*179787454*	*16498812*	*11413591.82*

Source: NRLM and SECC 2011 (Note: Figures in parenthesis indicate percentage coverage to total rural households)

Chapter 4: Profile of the Selected Villages

The villages were selected based on the number of suicides occurred in these villages from the data obtained from Revenue department in Telangana, Land and Revenue Department in Maharashtra , Agriculture department in Karnataka and Police department in MP. An understanding on demographic pattern and infrastructural facilities will give some insights into access to services and scope for depending on multiple livelihoods other than agriculture.

4.1. Average Population of the Village

It is found from the Table below that except MP and Karnataka, majority of the villages in Maharashtra (15 out of 24) and Telangana (35 out of 42) were with the population in the range of 1000 – 3000. In Karnataka majority of the selected villages (30 percent) were having a population of more than 5000. Whereas, in MP majority (52 percent) of the selected village were with a population of less than 1000 households.

Table 4.1. : Average Population in the Villages where Suicides Occurred

Population	Maharashtra		Karnataka		Madhya Pradesh		Telangana	
	Yavatmal	Beed	Haveri	Mandya	Alirajpur	Rewa	Nalgonda	Siddipet
<1000			2 15.4%		13 56.5%	4 17.4%	1 4.8%	1 4.8%
1000-2000	2 28.6%	6 35.3%	1 7.7%	3 23.1%	3 13.0%	5 21.7%	9 42.9%	10 47.6%
2000-3000	3 42.9%	4 23.5%	1 7.7%		5 21.7%	6 26.1%	6 28.6%	10 47.6%
3000-4000	1 14.3%		1 7.7%	2 15.4%	1 4.3%	1 4.3%	2 9.5%	
4000-5000		4 23.5%		6 46.2%		3 13.0%	3 14.3%	
>5000	1 14.3%	3 17.6%	8 61.5%	2 15.4%	1 4.3%	4 17.4%		
Total*	7 100	17 100	13 100	13 100	23 100	23 100	21 100	21 100

Note: *Total Sample Villages

4.2. Access to the facilities and Infrastructure as an Indicator of Remoteness

Majority of selected villages in Telangana and Karnataka are within 10 km distance from district and block headquarters. Whereas, in Maharashtra the selected villages with more than 11 km away from district head quarter were 79 percent, block headquarter were 54 percent and nearest hospital were 62 percent of the total selected villages. In MP they were more than 11 km away from district, block and nearest hospital by 82, 82 and 80 percent respectively.

Table 4.2: Remoteness of the Villages where suicides Occurred (Km)

Districts	District HQ			Block HQ			Nearest Hospital			Total
	≤10	11-20	>20	≤10	11-20	>20	≤10	11-20	>20	
Yavatmal	1	3	3	1	3	3	3	3	1	7
%	14.3	42.9	42.9	14.3	42.9	42.9	42.9	42.9	14.3	100
Beed	4	5	8	5	4	8	6	5	6	17
%	23.5	29.4	47.1	29.4	23.5	47.1	35.3	29.4	35.3	100
Haveri	6	7		7	6		7	6		13
%	46.2	53.8		53.8	46.2		53.8	46.2		100
Mandya	9	4		9	4		9	4		13
%	69.2	30.8		69.2	30.8		69.2	30.8		100
Alirajpur	4	4	15	4	4	15	4	4	15	23
%	17.4	17.4	65.2	17.4	17.4	65.2	17.4	17.4	65.2	100
Rewa	4	5	14	4	5	14	5	5	13	23
%	17.4	21.7	60.9	17.4	21.7	60.9	21.7	21.7	56.5	100
Nalgonda	13	6	2	8	9	4	12	7	2	21
%	61.9	28.6	9.5	38.1	42.9	19.0	57.1	33.3	9.5	100
Siddipet	4	10	7		3	18	3	15	3	21
%	19.0	47.6	33.3		14.3	85.7	14.3	71.4	14.3	100

Source: primary source

Table 3.3 below is about distance of the selected villages from market yard and nearest MCPC. The selected villages of Karnataka were found to be nearer to the market yard and MCPC compared to the other States. Among the selected villages in Maharashtra, the villages with more than 11 km away from market yard and MCPC were 85 and 75 percent respectively. The same in case of MP were 82 and 80 percent respectively. Even in Telangana similar situation was found with 71 percent and 73 percent of the selected villages away from market yard and MCPC respectively.

Table 4.3. : Remoteness of the Villages where suicides Occurred (Km)

Districts	Market Yard			Nearest MCPC			
	≤10	11-20	>20	≤10	11-20	>20	Total
Yavatmal	1	3	3	1	4	2	7
%	14.3	42.9	42.9	14.3	57.1	28.6	100
Beed	5	5	7	5	5	7	17
%	29.4	29.4	41.2	29.4	29.4	41.2	100
Haveri	7	6		7	6		13
%	53.8	46.2		53.8	46.2		100
Mandya	9	4		9	4		13
%	69.2	30.8		69.2	30.8		100
Alirajpur	4	4	15	4	4	15	23
%	17.4	17.4	65.2	17.4	17.4	65.2	100
Rewa	4	5	14	5	4	14	23
%	17.4	21.7	60.9	21.7	17.4	60.9	100
Nalgonda	11	8	2	11	9	1	21
%	52.4	38.1	9.5	52.4	42.9	4.8	100
Siddipet	1	15	5		15	6	21
%	4.8	71.4	23.8		71.4	28.6	100

Source: primary source
Note: MCPC, monopoly cotton procurement Centre

4.3. Infrastructure and other Facilities in the Selected Villages

Infrastructure and access to other facilities reveal the development pattern of the village. Majority of the villages except in some villages of Rewa district, were found with pucca roads. However all these villages were not connected with bus facilities found in the Table 3.4 below with majority among them found in Alirajpur and Rewa districts of MP. Some of the villages in these districts of MP were found to have no electricity connection also.

The relevance of having a Post Office in the village is important even in the present days of wireless communication, where MGNREGS payments are made through post office savings accounts. Many of the selected villages in MP and Maharashtra were found to have no post office accounting for 61 and 50 percent respectively. The status of having post office in Telangana and Karnataka was relatively better with 28 and 19 percent respectively. The presence of Primary Health Centers was also very poor in the selected villages. Around 71, 65, 57 and 29 percent of selected villages doesn't have a PHC in Telangana, MP, Karnataka and Maharashtra respectively. Siddipet in Telangana, Alirajpur and Rewa in MP and Haveri district in Karnataka were the districts with significant absence of PHCs.

Table 4.4: Infrastructure Facilities in Selected Villages

Districts	Pucca Road		Bus		Electricity		Post Office		Police Station	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Yavatmal (7)	6	1	6	1	7		3	4		7
%	85.7	14.3	85.7	14.3	100		42.9	57.1		100
Beed(17)	16	1	14	3	17		9	8	3	14
%	94.1	5.9	82.4	17.6	100		52.9	47.1	17.6	82
Haveri(3)	13		11	2	9	4	9	4	2	11
%	100		84.6	15.4	69.2	30	69.2	30.8	15.4	84
Mandya(3)	13		13		13		12	1	5	8
%	100		100		100		92	7.7	38.5	61
Alirajpur(23)	21	2	16	7	17	6	3	20	1	22
%	91	8.7	69.6	30.4	73.9	26	13.	87.0	4.3	95
Rewa(23)	19	4	20	3	22	1	15	8	2	21
%	82.6	17.4	87.0	13.0	95.7	4.3	65.2	34.8	8.7	91
Nalgonda(21)	21		18	3	21		17	4	3	18
%	100		85.7	14.3	100		81.0	19.0	14.3	85
Siddipet(21)	20	1	21		21		13	8		21
%	95.2	4.8	100		100		61.9	38.1		100

Source: primary source

Table 4.5: Infrastructure Facilities in Selected Villages (Contd)

District	Fire Station		PHC		Sub Centre		Private RMP		Unregistered Pvt. doctor	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Yavatmal (7)	2	5	5	2	5	2	6	1	5	2
%	28.6	71.4	71.4	28.6	71.4	28.6	85.7	14.3	71.4	28.6
Beed (17)	4	13	12	5	9	8	9	8	9	8
%	23.5	76.5	70.6	29.4	52.9	47.1	52.9	47.1	52.9	47.1
Haveri(13)	1	12	1	12	1	12	9	4	1	12
%	7.7	92.3	7.7	92.3	7.7	92.3	69.2	30.8	7.7	92.3
Mandya (13)	8	5	10	3	11	2	11	2	6	7
%	61.5	38.5	76.9	23.1	84.6	15.4	84.6	15.4	46.2	53.8
Alirajpur (23)		23	4	19	2	21	4	19	2	21
%		100	17.4	82.6	8.7	91.3	17.4	82.6	8.7	91.3
Rewa (23)	2	21	12	11	6	17	2	21	2	21
%	8.7	91.3	52.2	47.8	26.1	73.9	8.7	91.3	8.7	91.3
Nalgonda(21)	1	20	12	9	6	15	19	2	17	4
%	4.8	95.2	57.1	42.9	28.6	71.4	90.5	9.5	81.0	19.0
Siddipet(21)	1	20		21	3	18	20	1	21	
%	4.8	95.2		100	14.3	85.7	95.2	4.8	100	

Source: primary source

4.5 Key patterns emerged from village wise data

- Majority of selected villages in Maharashtra and Telangana (52.5 and 83 percent respectively) were with households ranging from 1000-3000. Whereas majority (61 percent) of villages in Karnataka were with households ranging from 4000- 5000. Whereas majority (52 percent) of selected villages in MP were with less than 1000 households.
- Majority of selected villages in Telangana and Karnataka were within 10 km distance from district and block headquarters. Whereas, majority of the selected villages in Maharashtra and MP were more than 11 km away from district and block headquarter and nearest hospital.
- The selected villages of Karnataka were found to be nearer to the market yard and MCPC compared to the other three States.
- All the selected villages though connected with a road (90 percent), were not connected with a bus facility with majority among them found in Alirajpur and Rewa districts of MP. Some of the villages in these districts of MP were found to have no electricity connection also. The percentage of selected villages in MP and Maharashtra with no post office accounts for 61 and 50 percent respectively. Around 71, 65, 57 and 29 percent of selected villages doesn't have a PHC in Telangana, MP, Karnataka and Maharashtra respectively. Siddipet in Telangana, Alirajpur and Rewa in MP and Haveri district in Karnataka were the districts with significant absence of PHCs.

Chapter 5: Agrarian Distress and Farm Suicides: A Micro level Analysis

The discussion in the previous chapters revealed the status of agriculture and the context of agrarian distress in the country and in the selected states. A detailed study of the agrarian situation and the dynamics of agricultural production of the distress households will help to understand the paradox of agricultural growth and distress among the farming community. This chapter will provide an insight into it.

5.1. Profile of the Respondents in the Selected States

Agrarian distress led vulnerability among the male farmers seems to be more compared to the female farmers as revealed in Table 5.1 where 95.5 percent of the farmers who have committed suicide were male farmers. In general, the total number of members in a family household was more in Telangana followed by Karnataka. Gender composition of the family members of farm suicide (FS) households revealed that the number of female members was more in Telangana and Karnataka. Whereas, in Maharashtra, the ratio of male to female members in suicide families was almost equal. The spouses of the deceased farmers reported that male members particularly the children were migrated to the cities in search of jobs after the death of the head of the household. Therefore, more number of female dependent members were observed in FS households. Similar is the case of all selected districts in the selected states.

Table 5.1: Gender Wise Suicides in Farm Suicide (FS) Households in Selected States

Sex	**Maharashtra**	**Telangana**	**Karnataka**	**MP**	**Total**
No of Farmer Households	50	50	50	50	200
No of Male Farmers in FS	47	48	47	49	191
No of Female farmers in FS	3	2	3	1	9
Gender wise Family Composition in FS Households					
Male	70	58	66	76	270
	50.4%	34.5%	42.9%	53.1%	44.7%
Female	69	110	88	67	334
	49.6%	65.5%	57.1%	46.9%	55.3%
Total	139	168	154	143	604
	100%	100%	100%	100%	100%

Source: Field Survey

Caste is the factor that is still dominating the socio-economic setting of the rural households. Majority of the FS households in Maharashtra, Karnataka and Telangana states belongs to 'Other Backward Caste' (Table 5.2). Whereas, in Madhya Pradesh, majority of the FS households in Alirajpur district belongs to scheduled tribes. In Rewa of MP forward caste community belonging to Brahmins, Dwivedi and Tripathi's are in farming occupying 16 percent of FS households.In Maharashtra, in Beed district, 32 percent of the total sampled FS households belong to OBC (other backward castes) and 42 percent belongs to forward Maratha community. In case of Yavatmal district, 60 percent of FS households belong to OBC followed by other categories. Out of this OBC category in Maharashtra, most of the suicides were from Vimuktha Jati Non-Tribes (VJNT) groups. This community in other States such as Telangana and AP belongs to ST category. The ancestors of these farmers were the beneficiaries of the land distribution programme under Land Reforms during 1960s. However, they were not into cultivation for two generations,dependingon cutting wood and sugarcane for their livelihood for a long time. The present generation of farmers who are cultivating the lands are the first generation farmers entered into cultivation of cotton witnessing the lucrative income from the crop being earned by some of the households in their neighborhood.

Table 5.2: Caste details of Suicides Families in the Selected States

Caste	Maharashtra	Telangana	Karnataka	MP	Total
SC	1	5	1	1	8
	(2%)	(10%)	(2%)	(2%)	(4%)
ST	5	1	1	28	35
	(10%)	(2%)	(2%)	(56%)	(17.5%)
OBC	23	37	46	13	119
	(46%)	(74%)	(92%)	(26%)	(59.5%)
Others	21	7	2	8	38
	(42%)	(14%)	(4%)	(16%)	(19%)
Total	50	50	50	50	200
	(100%)	(100%)	(100%)	(100%)	(100%)

Source: Primary survey * Fig in parenthesis indicate percentage to total

In Telangana, only around 14 percent of FS households belongs to Reddy/kapu i.e, the traditional forward farming community. Around 68 percent of the sample households of FS households in Nalgonda district belong to OBC caste category followed by SC and ST. In Siddipet district 80percent of FS households belong to OBC caste category, followed by SC and other castes. District wise caste details are presented in Annex III**.** The backward caste groups in Telangana State mainly hails from Shepherd, Washer man, Fruit vendors, Barber and Weaver etc. Similarly in Haveri district in Karnataka, 96 percent of the total sampled HHs of the FS households belongs to OBC category and remaining 4 percent belongs to ST. Whereas, in the case of Mandya district 88 percent belongs to OBC followed by other

Categories. In total 92 percent of the FS households belongs to OBC category in the State pertaining to the dominant caste of farmers i.e., Vokkaligas and Lingayats and the remaining 8 percent belongs to SC, ST and others. In contrast to the three states i.e., Karnataka, Maharashtra and Telangana, in Madhya Pradesh, 56 percent of the total sampled suicide families belongs to scheduled tribes followed by other backward caste

More number of dependent members in a family indicates the state of vulnerability of the head of the household. The number of dependent female members in the age group of less than 18 years was more in FS households. Family members in productive age group in FS households of Maharashtra accounted for 65percent of the total members (Table 5.3). In Telangana, the productive age group in these households accounts for 47 percent. Among the two districts of Telangana the number of dependent members was more in FS households of Siddipet district compared to Nalgonda district. In Karnataka, productive age group (between 21 to 60 years) members were more in FS households (70% to the total sampled households) compared to Telangana. This was seen in Mandya district compared to Haveri where the number of independent members was more than the dependent members. In the case of Maharashtra, the number of independent members was more in FS households in both beed and Yavatmal districts. In MP productive age group member's account for nearly 59 percent of the total sampled farmers' families.

Table 5.3: Age details of FS households in the Selected States

Age	**Maharashtra**	**Telangana**	**Karnataka**	**MP**	**Total**
Below 21	42	80	34	52	208
	(30.2%)	(47.6%)	(22.1%)	(36.4%)	(34.4%)
21-30	35	40	43	31	149
	(25.2%)	(23.8%)	(27.9%)	(21.7%)	(24.7%)
31-40	28	23	32	24	107
	(20.1%)	(13.7%)	(20.8%)	(16.8%)	(17.7%)
41-50	17	11	19	12	59
	(12.2%)	(6.5%)	(12.3%)	(8.4%)	(9.8%)
51-60	9	6	14	16	45
	(6.5%)	(3.6%)	(9.1%)	(11.2%)	(7.5%)
60+	8	8	12	8	36
	(5.8%)	(4.8%)	(7.8%)	(5.6%)	(6.0%)
Total	139	168	154	143	604
	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Primary survey

Majority of the members were married in FS households. However, as predictably, we can see from the Table 5.4 that, more number of widows were observed in these households in all the selected states.

Table 5.4: Marital Status of the Sample FS Households

Marital Status	Maharashtra	Telangana	Karnataka	MP	Total
Never Married	13	31	24	6	74
	(9.4%)	(18.5%)	(15.6%)	(4.2%)	(12.3%)
Currently married	47	22	58	67	194
	(33.8%)	(13.1%)	(37.7%)	(46.9%)	(32.1%)
Widow/Widowed	42	46	42	29	159
	(30.2%)	(27.4%)	(27.3%)	(20.3%)	(26.3%)
NA (<18)	37	69	30	41	177
	(26.6%)	(41.1%)	(19.5%)	(28.7%)	(29.3%)
Total	139	168	154	143	604
	(100.0%)	(100.0%)	(100.0%)	(100.0%)	(100.0%)

Source: Primary survey

The education levels among these households were in general lower with 50 percent of the head of the FS household belonging to illiterate category. In Maharashtra and Madhya Pradesh the number of illiterate members in FS households to the total sampled households was 56 and 76 percent of the total households respectively. Compared to these states, the percentage of illiterates was less in case of Telangana and Karnataka (Table: 5.5).

Table 5.5: Education details of FS households in the Selected States

Education	Maharashtra	Telangana	Karnataka	MP	Total
Illiterate	78	58	59	109	304
	56%	34%	38%	76%	50%
Below Primary	15	5	31	5	56
	11%	3%	20%	4%	9%
Primary	11	27	19	3	60
	7.9%	16%	12%	2%	9.9%
Secondary	16	14	19	11	60
	11.5%	8.3%	12.3%	8%	9.9%
Higher Secondary	5	24	13	3	45
	3.6%	14.3%	8%	2%	7.5%
Technical	1	12	4	0	17
	.7%	7.1%	2%	.0%	2.8%
Graduation and Above	2	19	3	3	27
	1.4%	11.3%	2%	2%	4.5%
Non formal	0	1	0	0	1
	.0%	.6%	.0%	.0%	.2%
Not available	11	8	6	9	34
	7.9%	4.8%	4%	6%	5.6%
Total	139	168	154	143	604
	100%	100%	100%	100%	100%

Source: Primary survey

5.2. Experience in Farming

Majority of the farmers belonging to OBC caste were found to have shifted from their traditional livelihoods in their villages to farming. Access to technology and technical knowledge is a must for these newly turned artisans into farmers. The majority (35 to 40 percent) of the FS households from Maharashtra, Telangana and Karnataka were having farming experience of 11 to 20 years. The farmers with less years of experience were more in MP followed by Maharashtra.(Table 5.6) This was seen more in case of Alirajpur of MP and Yavatmal of Maharashtra with around 42 percent of the farmers were having 0 to 5 years of experience in farming. In Yavatmal district, Vimukta Jati Non tribes (VJNT) are the farmers who have recently entered into farming. These are the first generation farmers. Besides Koti and Vatan system has been prevailing in some of the villages of VJNT tribes. In one of such village all the lands belong to a Trust called “Rushicare”. Out of 500 families in this village around 100 families were operating these trust lands. That is, they only have the cultivation rights and without ownership rights their access to credit has been almost nil. Around five suicides were observed among these 100 households.

Table 5.6: Farming Experience of FS households in the Selected States

No. of years	State				Total
	Maharashtra	Telangana	Karnataka	MP	
0-5	13	7	3	21	44
	26.0%	14.0%	6.0%	42.0%	22.0%
06-10	6	14	13	7	40
	12.0%	28.0%	26.0%	14.0%	20.0%
11-20	17	23	18	12	70
	34.0%	46.0%	36.0%	24.0%	35.0%
21-40	11	6	14	9	40
	22.0%	12.0%	28.0%	18.0%	20.0%
41-60	3	0	2	1	6
	6.0%	.0%	4.0%	2.0%	3.0%
Total	50	50	50	50	200
	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Primary survey

5.3. Livelihood Status of the FS Households

Major dependency on earnings was from agricultural labour by the FS households in all the selected states. That is, after the demise of the head of the household the women were depending more on agriculture labour works. The crop cultivation was the primary vocation for only 36 percent of the sample households. The others relied upon agricultural labour activity, allied agri activities like dairy, poultry and household industry after the demise of the head of the household. The fact that marginal and small holdings belong to the majority of FS households and most of them depend on agricultural wage work for their livelihood made them

vulnerable to other shocks related to expenditure in health, education etc.This coupled with social issues and family problems made them more vulnerable compared to those who own and operate medium and large size farms. In Alirajpur district of MP,58.5 per cent of the FS households were depending on agricultural labour. Similarly in Rewa, 45.9 per cent of FS households were working only as agricultural labourers. Similarly the other districts of the selected states also revealed the same findings.(Annexed)

Table 5.7: Type of Livelihoods adopted by FS households

Major Occupation	Maharashtra	Telangana	Karnataka	MP	Total
Cultivation	38	66	3	31	138
	40.4%	66.0%	3.1%	34.4%	36.2%
Allied Agriculture Activities	0	0	17	4	21
	.0%	.0%	17.5%	4.4%	5.5%
Only Agriculture Labour	51	9	49	48	157
	54.3%	9.0%	50.5%	53.3%	41.2%
Other Labour	-				
	-				
Agriculture and other labour	1	1	2	6	10
	1.1%	1.0%	2.1%	6.7%	2.6%
Household Industry	1	1	13	1	16
	1.1%	1.0%	13.4%	1.1%	4.2%
Service (Govt.)	0	1	0	0	1
	.0%	1.0%	.0%	.0%	.3%
Service (Pvt.)	0	0	10	0	10
	.0%	.0%	10.3%	.0%	2.6%
Others	3	22	3	0	28
	3.2%	22.0%	3.1%	.0%	7.3%
Total	94	100	97	90	381
	100	100	100	100	100

Source : Primary Survey

5.4. Landholding Size of the FS Households

The selected FS households were post stratified into different land size category and observed that majority of the FS households were under the category of marginal category (43%) with an average holding size 1.5 acres followed by small (39%) and semi-medium category(16.5%) with an average size of holding 3.7 and 7.8 acres respectively. District wise land holding size of FS households also reveal the same pattern i.e, marginal land owners being the majority of sample size except in case of Siddipet of Nalgonda, Yavatmal of

Maharashtra, Haveri of Karnataka where majority of sample FS households belongs to small farmer category.

Table 5.8: Distribution of FS households According to the Size of Landholdings

Type of Farmer	Maharashtra	Telangana	Karnataka	MP	Total
Marginal	7	24	22	33	86
	14.0%	48.0%	44.0%	66.0%	43.0%
Small	27	21	21	9	78
	54.0%	42.0%	42.0%	18.0%	39.0%
Semi-Medium	16	4	7	6	33
	32.0%	8.0%	14.0%	12.0%	16.5%
Medium	0	1	0	0	1
	.0%	2.0%	.0%	.0%	.5%
Large	0	0	0	2	2
	.0%	.0%	.0%	4.0%	1.0%
Total	50	50	50	50	200
	100%	100%	100%	100%	100%

Source: Primary Survey

5.5. The Status of Land Ownership and Leasing In

Laws related to tenancy or land leasing are very restrictive in the country which proved to be anti-development (Haque Committee Report on Land Leasing). There were many restrictive clauses related to tenancy in selected states. For ex in Telangana, Karnataka and MP allows leasing out by only certain category of people like member of armed forces, widows, and physical and mentally disabled etc. In Maharashtra tenancy of tenants belonging to SC/ST cannot be prohibited and tenant has a right to purchase the land leased by him within one year. These restrictions are hindering the formal land leasing and the informal tenancy is not being recognized by any institutions of banking for credit support.

The status of leased-in farming was more in Telangana and Karnataka compared to MP and Maharashtra. In Telangana, 31 and 20 out of 50 each FS and Control Group (CG) households were leased-in, while the same in Karnataka was 17 and 21 in case of FS and CG households. Majority of them belongs to marginal and small farmer's category which clearly shows that they were augmenting their land base by leasing-inland (Table5.9).Two marginal farmers from MP and one small farmer in Maharashtra found to be leased-in land. Similar phenomena were observed in case of CG households also, except for medium households who have not reported any leasing- inland. Landless leased in farmers were found in Telangana where 46 out of 50 FS households have own land. The remaining four farmers were landless leased in farmers. In this State, 15 out of 21 farmers (72 %) in the marginal farmer's category have leased in their land. The average size of leased in land of marginal

farmers was very high with 6.33 acres which is almost equal to that of medium farmers category with 6 acres in this state. This phenomena of vertical tenancy was more in Nalgonda district compared to Siddipet district and more so among marginal and small farmers.

Table 5.9: Distribution of FS and CG households Suicides According to the size of Landholdings and Leased-In Land from the selected sample

Farmer Status			Maharashtra		Telangana		Karnataka		MP		Total	
			Type		Type		Type		Type		Type	
			FS	CG	FS	CG	FS	CG	FS	CG	FS	CG
Marginal	Own Land	Avg	1.7	1.7	1.7	1.5	1.3	2.2	1.6	1.6	1.5	1.8
		N	7	9	19	12	22	17	33	22	81	60
	Leased in	Avg	-	-	6.3	4.8	2.1	8.6	1.5	-	4.4	7.6
		N	-	-	18	4	13	11	2	-	33	15
Small	Own Land	Avg	3.7	4.1	3.9	4.1	3.4	3.8	4.3	4.0	3.7	4.0
		N	27	30	21	26	21	24	9	17	78	97
	Leased in	Avg	7.0	-	4.5	5.8	5.7	6.3	-	-	4.9	6.0
		N	1		9	9	3	8	-	-	13	17
Semi-Medium	Own Land	Avg	7.7	7.8	7.0	7.3	8.4	8.0	7.8	6.8	7.8	7.4
		N	16	10	4	11	7	8	6	9	33	38
	Leased in	Avg	-	-	3.3	6.3	1.0	2.8	-	-	2.8	5.5
		N	-	-	3	7	1	2	-	-	4	9
Medium	Own Land	Avg	-	-	12.0	12.0	-	12.0	-	17.5	12.0	14.8
		N	-	-	1	1	-	1	-	2	1	4
	Leased in	Avg	-	-	6.0	-	-	-	-	-	6.0	-
		N	-	-	1	-	-	-	-	-	1	-
Large	Own Land	Avg	-	-	-	-	-	-	25.0	-	25.0	-
		N	-	-	-	-	-	-	2	-	2	-
Total	Own Land	Avg	4.7	4.4	3.4	4.3	3.2	4.1	3.7	4.0	3.8	4.2
		N	50	49	45	50	50	50	50	50	195	199
	Leased in	Avg	7.0	-	5.5	5.8	2.7	7.2	1.5	-	4.4	6.5
		N	1	-	31	20	17	21	2	-	51	41

Source: Primary survey

Avg: Average land holding; N: No. of households

The landless leased-in category was more in Nalgonda district compared to Siddipet district. As the area under irrigation was more in Nalgonda it is a common phenomenon that land leasing was more in this district compared to Siddipet district. Surprisingly, in Haveri, in case of FSHHs leased-in land was more than the owned land compared to CGHHs. Therefore, factor endowment in terms of land size seems to be better in the CG group. Whereas, to augment their income, the FS households were augmenting their land base by leasing-in

land .This has created significant problems to the lessee to bear the risk as well as distress, as informal tenants were not eligible to access the formal credit based on the land and government -sponsored schemes (ex: crop insurance). Therefore they have to rely on informal money lenders for the credit with the higher interest rate to meet the cost of cultivation expenses. It is therefore noted that higher tenancy operation by FS households was one among the factors for suicide in these states.

5.6. Livestock Position of Selected Households

Livestock is a valuable asset that is to be seen as a cushion against distress in the rural households. The number of HHs with livestock was less in FSHHs compared to CGHHs in all the states. Surprisingly, the size of poultry was also less in both CG and FS households. Backyard poultry as a livelihood not only provides nutrition security to the households but also acts as an ATM in case of emergency for petty needs. This livelihood is almost insignificant in the sample households.

Table 5.10: Distribution of FS and CG households According to the Size of Livestock (Average size of livestock)

		Maharashtra			Telangana			Karnataka			MP			Total		
Livestock		Type			Type			Type			Type			Type		
		FS	CG	Total	FS	CG	Total	FS	CG	Total	FS	CG	Total	FS	CG	Total
Bullocks	Avg	2	2	2	2	2	2	2	4	3	2	2	2	2	3	2
	N	13	21	34	16	16	32	11	29	40	14	13	27	54	79	133
Cow	Avg	1	2	2	2	2	2	2	4	3	2	3	2	2	3	2
	N	14	31	45	28	26	54	24	43	67	25	39	64	91	139	230
Buffalo	Avg	2	1	2	4	4	4	2	6	6	2	2	2	3	5	4
	N	7	2	9	29	34	63	8	40	48	10	8	18	54	84	138
Sheep	Avg	4	3	3	7	9	8	2	7	6	3	3	3	4	5	4
	N	3	19	22	5	8	13	2	23	25	20	36	56	30	86	116
Poultry	Avg		5	5	8	8	8		10	10	5	4	4	8	8	8
	N		3	3	24	26	50		24	24	4	15	19	28	68	96

Source: Primary survey
Avg: Average No. of livestock; N: No. of households

Among the major ruminants sizeable number of bullocks were observed in case of both of CG and FS households. In the context of changing rural scenario with agri mechanization through tractor drawn implements, maintenance of bullocks was a costly affair as observed by the sample respondents. So they were selling away these livestock to meet the investment or household needs. The size of milch yielding animals was highest FS households of Telangana followed by Karnataka and MP. Whereas the size of small ruminants was highest in FS

households of MP followed by Karnataka and Telangana. The size of livestock was less in Maharashtra compared to other selected states.

5.6. A. Sale of Livestock during distress

The selected households were observed to have been selling away their livestock in case of emergencies. The findings revealed that (Table 5.10 B), both the FS and CG households in Maharashtra and Madhya Pradesh sold their bullocks, cows and buffaloes for their health, education and other expenditure. Whereas, in Karnataka and Telangana state, investment in agriculture was the major purpose they claimed the reason for the selling the milch animals in the last five years. They also sold out the animals during the years of drought to meet the consumption expenses. Health and marriage expenditure needs were also covered by some of the sample FS family households with the sale of milch and draft animals. Majority of the FS households claimed that they were unable to maintain the livestock hence they sold out them.

Table 5.10.A: Reasons for the Sale of Livestock in the past five years (no of farmers reported)

Reasons	Maharashtra	Telangana	Karnataka	MP	Total
FS Households					
Meeting Consumption Expenses	-	15	2	27 (36.98)	44 (21.46)
Investment in Agriculture	6	40 (54.05)	5	16 (21.91)	67 (32.68)
Maintenance of Livestock is difficult	17 (51.5)	10 (13.5)	5 (20)	22 (30.13)	54 (26.34)
Health , Education and other Expenditure	10 (30.30)	9	13 (52)	8	40 (19.51)
Total	33	74	25	73	205
CG Households					
Meeting Consumption Expenses		1	3	-	4
Investment in Agriculture	8	30 (69.76)	13 (99.23)	23 (43.39)	74 (49)
Maintenance of Livestock is difficult	6	2	3	13 (24.52)	24 (15.89)
Health , Education and other Expenditure	22 (28.94)	5	5	17 (32.07)	49 (32.45)
Total	36	38	24	53	151

Source: Primary Survey

Among the selected states the total number of livestock was less in Maharashtra and 51.5 percent of the FS households observed that they sold out the livestock because of the lack of proper veterinary care for the animals. Meeting the family health care and education needs were the other reasons observed by majority (30.30 percent) of FS households in this state, for selling their livestock. Whereas, in Telangana the majority (54.05 percent) of FS households were selling the livestock for investment in agriculture mainly to meet the expenses for drilling the bore wells, as claimed by them in FGDs. The situation was observed in both FS and CG households in this state. The FS households of Karnataka were selling away their livestock both to meet the expenses in agriculture (22 percent) and their inability to maintain the livestock due to lack of proper health care (30.13 percent). In total, both FS households (32.68 percent) and CG households (49 percent) observed that investment in agriculture was the major reason for selling the livestock followed by lack of proper health care and inability in maintenance of livestock. Among these two, 26 percent of FS households and 15.8 percent of CG households observed that they could not maintain the livestock due to lack of health care and inability in feeding the livestock.

5.7. Asset structure of the Sample Households

As assessment on movable and immovable assets of the HHs gives an understanding on the economic stability of the sampled HHs. The main assets that the households generally were having in rural areas are agricultural implements, the household items and a house. As far as general assets are concerned, there is not much difference in this asset structure between CG and FS households. The households having pucca houses were less in both the categories but CG households were in a better off condition with more number of pucca houses compared to FS households. The pattern is reverse only in case of Telangana where the FS households were having more number of pucca houses than CG households. In the field study in Telangana it was observed that construction of pucca house with borrowing from money lenders was one of the factor that pushed them into a vortex of distress that they couldn't climb up. In case of Karnataka, Mandya is a relatively better off district regarding irrigation. Therefore, in the case of Mandya, the majority (>95%) of the victim HHs were living in pucca houses (Annexure)

Further, in the case of agricultural implements, CG households in all the districts have owned all types of implements compared to FS households. Farm implements play a vital role in enhancing agricultural productivity and improving income. Control Group households were making use of the implements and improve their livelihood, whereas, less access to agricultural implements was a constraining factor in FS households in all the selected districts of sampled states.

Table 5.11.A: Other Asset structure

Assets	State								Total	
	Maharashtra		Telangana		Karnataka		MP			
	FS	CG	FS	CG	FS	CG	FS	CG	FS	CG
Smokeless Chullah	37	38	44	47	26	15	42	47	149	147
	74%	76%	88%	94%	52%	30%	84%	94%	74%	73%
Gas	35	38	48	47	48	50	30	33	161	168
	70%	76%	96%	94%	96%	100%	60%	66%	80.5%	84%
Electric Fan	39	47	47	48	48	50	30	33	164	178
	78%	94%	94%	96%	96%	100%	60%	66%	82%	89%
Mobile	41	47	48	47	47	50	30	33	166	177
	82%	94%	96%	94%	94%	100%	60%	66%	83%	88%
TV	35	42	46	45	47	50	17	30	145	167
	70%	84%	92%	90%	94%	100%	34%	60%	72%	83%
Bicycle	28	30	34	34	37	49	26	33	125	146
	56%	60%	68%	68%	74%	98%	52%	66%	62%	73%
House										
a. Kucha	49	50	36	38	30	26	45	41	180	155
	98%	100%	72%	76%		52%	90%	82%	90%	77%
b. Pucca	1	0	14	12	20	24	5	9	20	45
	2%	0%	28%	24%	0%	48%	10%	18%	10%	22%

Source: Primary survey

Table 5 .11.B: Agriculture Implements (No.)

Agri. inputs	State								Total	
	Maharashtra		Telangana		Karnataka		MP			
	FS	CG	FS	CG	FS	CG	FS	CG	FS	CG
Plough	3	7	22	22	1	27	0	1	26	57
	6%	14%	44%	44%	2%	54%	0%	2%	13%	28.5%
Bullock Cart	10	18	5	9	5	32	1	3	21	62
	20%	36%	10%	18%	10%	64%	2%	6%	10.5%	31%
Two wheeler	11	17	13	30	11	40	9	14	44	101
	22%	34%	26%	60%	22%	80%	18%	28%	22%	50%
Tractor	1	3	3	3	1	12	2	4	7	22
	2%	6%	6%	6%	2%	24%	4%	8%	3.5%	11%
Other (specify)	1	1	0	2	1	3	1	0	3	6
	2%	2%	0%	4%	2%	6%	2%	0%	1.5%	3%

Source: Primary survey

5.8. Cropping Pattern of the Selected Sample Households

The area under major crops grown by the sample households of both FS and control group was presented in Tables below 5.12A and B. Maximum sown area of the FS households was registered under cotton with 66.2, 55.3 and 56.5 percent of Gross Sown Area (GSA) in case of Maharashtra, Telangana and Karnataka respectively. Followed by Cotton, area under paddy and maize as a percent of GSA occupies second and third position in Telangana and area under sugarcane and paddy occupies second and third position in Karnataka in case of FS households.

In Telangana state, the findings reveal that the three major crops in both districts were paddy, maize and cotton. However, cotton which is BT was being grown entirely under rainfed conditions in Nalgonda. Paddy was the primary crop in both the selected districts in Telangana under irrigated conditions. The farmers in the selected districts usually sow MTU 1010 or RNR variety which is a late sown variety in case of a delay in rainfall. In Karnataka, in Haveri district, majority of the farmers of FS households reported that cotton is their primary crop followed by maize. The secondary data on cropping pattern of this district presents that farmers have been slowly shifting to maize from cotton crop over the years .Whereas, in Mandya district farmers are growing mainly sugarcane and paddy. In both the districts commercial crops have a significant presence in the cropping pattern as the need for increased cash flow is pushing them to grow these type of crops, as reported by them in the focus group discussions in the villages. Maize, Wheat and Millets occupy35.5, 28.5 and 23.5 percent of GSA in case of FS households of MP.

Though Cotton is a major crop in CG households in Maharashtra, pulses and millets occupy major share with 26 and 15 percent of GSA. Similar is the case of CG households in Telangana where Maize occupies major share with 36.7 percent apart from Cotton. The CG households in Karnataka are with a diversified cropping pattern where cotton and maize are occupying major share with 27 percent of GSA each, followed by paddy, sugarcane and millets. The share of millets in case of CG households in Karnataka was 12 percent of GSA. Similar case was observed in CG households of MP where millets occupy 21 percent of GSA. Pulses also occupy a major share among the CG households in MP with 19 percent of GSA. Soyabean occupies major area under pulses in MP.

Table 5.12. A: Pattern of Crops Cultivated by FS (Area in Acres)

Crop	Maharashtra		Telangana		Karnataka		MP		Total	
	Irrigated	Rainfed	Irrigated	Rainfed	Irrigated	Rainfed	Irrigated	Rainfed	Irrigated	Rainfed
Cotton	30.8	166.5	23.4	126.1	-	148.56	-	-	54.2	441.1
Maize	-	-	27.5	28	-	-	-	76.8	27.5	104.8
Paddy	-	-	27.3	31.5	47.6	-	15.15	-	90	31.5
Sugarcane	7.7	-	-	-	6	42.88	-	-	13.7	42.88
Millets	-	57.2	-	2.64	4.5	5.75	7.9	43.2	12.4	108.75
Pulses	6	30	-	3.47	-	7.5	2.5	9.3	8.5	50.27
Wheat	-	-	-	-	-	-	18.4	43.4	18.4	43.4
GSA	298		269.99		262.71		216.65		1047.4	

Source: Primary Survey

Table 5.12 B: Pattern of Crops Cultivated by CG households (Area in Acres)

Crop	Maharashtra		Telangana		Karnataka		MP		Total	
	Irrigated	Rainfed	Irrigated	Rainfed	Irrigated	Rainfed	Irrigated	Rainfed	Irrigated	Rainfed
Cotton	6.3	168	38.5	80.5	-	80.5	-	-	44.8	329
Maize	-	-	31.5	74.2	-	80	-	72	31.5	226.2
Paddy	-	-	33.6	20.8	43.5	-	3.8	15.9	80.9	36.7
Sugarcane	-	3.5	-	-	27.3	10.3	-	-	27.3	13.8
Millets	4.5	42.8	-	3.7	23.4	12.3	-	54	27.9	104.3
Pulses	9.2	70.5	-	4.5	-	16.7	4.5	44.8	13.7	132
Wheat	-	-	-	-	-	-	16.8	44.8	16.8	44.8
GSA	304.8		287.3		294		256.6		1314.2	

Source : Primary Survey

Wheat is grown during Rabi season and soybean is grown during the kharif season. The cropping pattern of the sample HHs in Alirajpur district of MP which is predominantly a tribal dominating district and practices indigenous methods of cultivation reveals that, CG households in the sample have more diversified cropping pattern than FS households. Soyabean and Urad dal are the principal crops of the sample households of this district. While Soyabean is for the market, the Urad dal and maize are largely produced for household consumption. However, in the case of Rewa district which practices commercial cultivation with improved facilities for irrigation (both canal and ground water), control households have a more diversified pattern, growing wheat and paddy as a major crops.

5.9. Knowledge Support Systems

When people lack perfect information in taking decisions then the decisions they take are expected to be imperfect causing welfare loss (Stiglitz, - Globalization and discontent).Sixty percent of farmer households did not have access to any information on modern technology and among those who have accessed information, progressive farmers and the input dealers were the main source of information (NSSO 2005). Despite the number of agricultural extension approaches that are operating in the country either complementary or supplementary to each other, the majority of farmers in India do not have access to any source of information" (Glendenning, et al 2010). Using the data from the National Sample Survey Organization (NSSO, 2005), Adhiguru et al, (2009) reported that small farmers have less access to public extension compared to large farmers. According to him the public sector extension worker was a source of information for only 5.7 % of farmer households interviewed and the KrishiVigyan Kendra (KVK) accounted as an extension source for only 0.7percent, Private and NGO extension services were accessed by only 0.6 percent of the sample farmers. IFPRI studies revealed that a significant percentage (75 percent) of extension system comes from the private sector (Babu et al, 2012) mostly through agro input dealers who are about 2.82 lakhs operating in rural areas covering all parts of the country. With 90 percent of the expenditure of public extension is going to salaries, the ability of the public extension system in reaching the farmers has become very weak (Sulaiman and van den Ban 2003).

Present extension agencies continue to focus their activities mainly on disseminating technologies through research –extension – farmer linkage irrespective of changing nature of agriculture which includes technical, organizational, marketing and entrepreneurial aspects. Addressing many of these complex issues requires solutions which are beyond the decision making capacities of individual farmers. Collective decisions on resource use and marketing would necessitate forming new forms of collaboration and strategies with a focus on value addition and supply chain along with the production led strategy. Lack of adequate resources

has constrained the Departments of Agriculture (DoA) in continued education of their field staff on ways of dealing with new and evolving challenges. Compared with the DoA, the other line departments, such as animal husbandry, fisheries, horticulture, sericulture do not have adequate field personnel. For instance, the state Departments of Animal Husbandry (SDAH) - the major stakeholders for the livestock development in India is mostly concerned with animal health concerns rather than on improving the yield of the animals with nutrition production related advice to farmers. Moreover, their spending on livestock extension activities is only around 1 to 3 percent of their total budget (Chander et al 2010).

5.10. Access to Support Systems for Agricultural Inputs

The gradual diminution of the status of the dominant castes of the village oligarchs who controlled the agrarian economy earlier has been occupied by majority of other backward classes and SC and ST community in the selected FS households as seen in the Tables below. The significant implication of this is the need for access to information through public extension system by these communities as they all are first generation farmers who entered into cultivation. Extension mainly focuses on the delivery of information inputs to farmers. The Information can be of many types, ranging from providing information regarding the supply of State subsidized seed to the farmers, to gauging of future prices for farm produce to new technology transfer/research products, to information on improved crop cultivars and knowledge about how to use particular inputs, like the timing and intensity of fertilizer use etc. (Byerlee 1998).Demand for information delivery systems supporting farming should be increased if, as agricultural analysts argue, farming is becoming more information-intensive (Byerlee 1998). Attaching high value to information depends on the extent of the value the information is provided to them.

The input use (seeds, fertilizer and pesticides) information of sample households in the study districts is given in Table 5.13. In the input use pattern we have tried to understand about a) who has recommended the use of particular input, b) the source of input, and c) what are the mechanism of arranging /procurement of that particular input. The data revealed that, among the sample households from all the districts, majority of the sample HHs doesn't get sufficient information regarding inputs from the extension officers; instead friends/progressive farmers/relatives provide more information or suggestion to the HHs. Further, friends/relatives constitute best source of information as acknowledged by both FS and CG households. However, some of the CG households have taken the recommendation from extension officer, which could have impacted the nature of input use and consequent on the yield levels and cost of cultivation of their crops.

5.10. A. Access to knowledge regarding Quality Seed

The desirable seed replacement rates, without which it is not possible to achieve higher productivity are 25% for self-pollinated crops, 35% for cross pollinated crops and 100% for hybrids. The present Seed Replacement Ratio ranges from 40 percent to the crops like paddy and wheat which are in public domain to 15 % which are in private domain.

As revealed in the Table 5.13 A and B, the main source of information about the seed such as variety that is suitable, the supply of subsidized seed to the farmers, the source of availability of the seed for the crops such as paddy, wheat, maize or cotton was by the peer group i.e, either by friends or relatives. Followed by the peer group, input dealer was the next primary source of information. Though to some extent it could be fathomable that those crops like cotton or maize whose seed production is entirely in private domain, the role of public extension system in facilitating the knowledge regarding the seed to the farmers is minimal. More than 50 percent of the FS households in Maharashtra and 69 percent of FS households in Telangana reported the cultivation of cotton. However, the role of public extension system in providing information about proper quality cotton seed was only 3.4 percent in case of Telangana and 15 percent in Karnataka. Even, the case of CG households of Telangana was not better with only 4.9 percent access to public extension system for cotton crop. The information about maize seed by the public extension in Karnataka to CG group was better with 28 percent. However, it is surprising that even though the seed production of some of the crops like paddy which is mostly in public domain where agriculture universities, state seed corporations are largely in the business of providing subsidized seed to the farmers, the knowledge about the seed of these crops was also offered mainly by peer group. On the other hand public extension was the major source of information about wheat seed in MP with 77.3 percent to the FS households. Information about Maize seed by the public extension system in MP was to the extent of 41 percent in FS households and 85 percent to the CG households.

5.10. B. Access to Information regarding Soil Fertility and Balanced application of fertilizers

Soil health is the basis for sustainable productivity of crops. Balanced application of fertilizers play an important role in improving the productivity of crops. The current consumption of NPK is 6.7 : 2.4 :1 against the norm of 4:2:1. There were many instances across the country where cotton farmers applying excess of urea (nitrogen) fertilizer resulting in excess vegetative growth losing out reproductive growth. Soil health card system was introduced in the country during 2015.The report on “Impact study of Soil Health Card Scheme” (Amarender Reddy A, 2017) stated that out of 1454 labs exist in India, only 700 are equipped with micro-nutrient

testing facilities. Only around 44 percent of the sample farmers in his study, received information about their soils and 66 percent could not decipher any information about the card. The study observed that element of trust was missing in the information provided by the department as sample was not collected in the presence of farmers.

In case of sample households, the information about proper application of fertilizers by the public extension system was to the extent of 2 percent in Telangana and 21 percent in case of Karnataka respectively in FS households. The information about application of fertilizers through public extension system was better for FS households cultivating Maize, Wheat and Soyabean with 19.2, 66.7 and 30 percent respectively. MP is performing better in reaching the farmers through public extension system. However, even in this State, information to CG households was better compared to FS households.

5.10. C. Access to Information regarding Pesticide Application

Knowledge about right type, amount and time of application of pesticides play a key role in keeping pests and diseases at bay, while controlling the cost of cultivation. The knowledge about application of pesticides given by the public extension system was almost nil to FS households in Maharashtra and Telangana. The imbalanced application of pesticides as per the advice given by the input dealers with limited technical knowledge is leading to pests developing resilience on one hand and increased cost of cultivation on the other hand resulting in negative receipts by the farmers. In MP, Maize, Wheat and Soyabean farmers belonging to FS households have received information about pesticides from public extension system with 13.7, 66.7 and 30 percent respectively. This is because of better access to extension systems in MP compared to other states. Even here the source of public extension information of FS households was less compared to CG households.

5.11 Source of Purchase of Inputs

Significant share of FS households have been purchasing the inputs from sources other than the authorized and formal sources (Table 5.14 A and B). This has contributed to some extent in difference in yield levels and higher cost of cultivation compared to that of CG households. In some cases farmers were not aware of the availability of inputs through different schemes, for ex: Telangana government is extensively promoting seed replacement with HYV by providing certified seed at the subsidized rate through the department of agriculture. Unfortunately farmers were not aware of the scheme as witnessed in Table5.14 that majority of them were purchasing from input seed dealer which is also leading to interlocking of factor and credit markets as reported by the farmers in FGD in the villages.

Table 5.13 A : No of farmers reporting the Source of Information for Inputs of Major Crops among FS House holds

Source	Maharashtra			Telangana			Karnataka			Madhya Pradesh		
	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide
Cotton												
Extension Officer	0	0	0	1	1	1	3	4	0	0	0	0
Friends/Relatives	24	24	24	25	26	26	12	15	14	0	0	0
Input Dealers	17	19	19	4	5	5	4		5	0	0	0
Others	8	6	6	18	16	16	0			0		
Total	49	49	49	48	48	48	19	19	19	0	0	0
Paddy												
Extension Officer	-	-	-	1	1	1	4	3	2	10	9	10
Friends/Relatives	-	-	-	14	12	12	7	9	9	4	5	4
Input Dealers	-	-	-	0	2	2	5	4	5	1	1	1
Others	-	-	-	17	17	17						
Total	-	0	0	32	32	32	16	16	16	15	15	15
Maize												
Extension Officer	-	-	-	0	0	0	0	4	0	10	10	10
Friends/Relatives	-	-	-	11	11	10	16	17	17	6	6	6
Input Dealers	-	-	-	0	0	0	9	4	8	3	3	3
Others	-	-	-	13	13	14			0	5	5	5
Total		0	0	24	24	24	25	25	25	24	24	24
Pulses												
Extension Officer	0	0	0	-	-	-	1	2	2	5	5	5

Friends/Relatives	7	7	7	-	-	-	0	0	0	3	3	3
Input Dealers	13	13	13	-	-	-	0	0	0	1	1	1
Others	2	2	2	2	2	2	2	1	1	2	2	2
Total	22	22	22	2	2	2	3	3	3	11	11	11

Table 5.13 B: No of farmers reporting the Source of Information for Inputs of Major Crops among CG House holds

Source	**Maharashtra**			**Telangana**			**Karnataka**			**Madhya Pradesh**		
	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide
Cotton												
Extension Officer	0	1	0	2	2	2	4	4	4	0	0	0
Friends/Relatives	25	26	26	30	25	30	16	16	15	0	0	0
Input Dealers	15	14	15	2	2	2	2	2	3	0	0	0
Others	9	8	8	16	21	16	2	2	2	0	0	0
Total	49	49	49	50	50	50	24	24	24	0	0	0
Paddy												
Extension Officer	-	-	-	2	3	3	0	0	0	10	11	11
Friends/Relatives	-	-	-	19	18	17	0	0	0	5	4	4
Input Dealers	-	-	-	1	1	1	15	15	15	0	0	0
Others	-	-	-	22	22	23			0			0
Total	-	0	0	44	44	44	15	15	15	15	15	15
Maize												
Extension Officer	-	-	-	0	0	0	7	7	6	18	18	18
Friends/Relatives	-	-	-	12	12	12	17	17	18	1	1	1

Input Dealers	-	-	-	0	0	0	0	0	0	1	1	1
Others	-	-	-	11	11	11	1	1	1	1	1	1
Total	-	0	0	23	23	23	25	25	25	21	21	21
Pulses												
Extension Officer	0	0	0	-	-	-		1		1	1	
Friends/Relatives	11	11	11	-	-	-	-	-	-	0		
Input Dealers	10	10	10	-	-	-	-	-	-	0	0	0
Others	1	1	1	4	4	4	10	10	10	-	-	-
Total	22	22	22	4	4	4	10	10	10	1	1	1

Table 5.14 A: No of farmers reporting the Source of Purchase of Inputs of Major Crops among FS House holds

Source	**Maharashtra**			**Telangana**			**Karnataka**			**Madhya Pradesh**		
	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide
Cotton												
Govt Store	0	0	2	5	1	1	0	2	0	-	-	-
Local Pvt. store	38	40	38	26	30	30	19	17	18	-	-	-
Others	11	9	9	17	17	17	0	0	1	-	-	-
Total	49	49	49	48	48	48	19	19	19	-	-	-
Paddy	-	-	-	-	-	-	-	-	-	-	-	-
Govt Store	-	-	-	-	-	-	-	-	-	-	-	-
Local Pvt. store	-	-	-	-	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-									
Maize												
Govt Store	-	-	-	-	-	-	-	-	-	6	6	6
Local Pvt. store	-	-	-	-	-	-	-	-	-	13	13	13
Others	-	-	-	-	-	-	-	-	2	5	5	5
Total	-	-	-				25	25	25	24	24	24

Pulses												
Govt Store	20	0	0	-	-	-	0	0	0	4	4	4
Local Pvt. store	2	20	20	-	-	-	2	2	2	4	4	4
Others	22	2	2	-	-	-	1	1	1	3	3	3
Total	-	22	22	-	-	-	3	3	3	11	11	11

Table 5.14 B: No of farmers reporting the Source of Purchase of Inputs of Major Crops among CG House holds

Source	**Maharashtra**			**Telangana**			**Karnataka**			**Madhya Pradesh**		
	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide
Cotton												
Govt Store	0	0	0	3	0	0	5	5	4	-	-	-
Local Pvt. store	38	38	38	31	34	34	18	18	19	-	-	-
Others	11	11	11	16	16	16	1	1	1	-	-	-
Total	49	49	49	50	50	50	24	24	24	-	-	-
Paddy												
Govt Store	-	-	-	4	0	0	0	0	0	3	3	3
Local Pvt. store	-	-	-	18	21	20	15	15	15	12	12	12
Others	-	-	-	22	23	24		0	0		0	0
Total	-	-	-	44	44	44	15	15	15	15	15	15
Maize												
Govt Store	-	-	-	1	0	0	7	7	6	12	12	12
Local Pvt. store	-	-	-	10	11	10	17	17	18	8	8	8
Others	-	-	-	12	12	13	1	1	1	1	1	1
Total	-	-	-	23	23	23	25	25	25	21	21	21
Pulses												
Govt Store	0	0	0	-	-	-	-	-	-	1	1	1
Local Pvt. store	20	20	20	-	-	-	-	-	-	0	0	0
Others	2	2	2	4	4	4	10	10	10	0	0	0
Total	22	22	22	4	4	4	10	10	10	1	1	1

As the inputs are available through credit the farmers are forced to buy available low grade inputs from these shops, and this is the common practice prevailing in all the selected districts to purchase inputs. In the absence of sufficient safety nets this is pushing them to the levels of accepting the existing level of yields as well as income.

Overall, a closer look at the mechanism of purchase or arrangement for the use of these inputs revealed the following facts.

a) Both FS households and CH households were depending more on informal sources for getting information about seed fertilizer and pesticides for their crops. While the primary source of information was peer group i.e., friends/relatives, input dealers have also been substituting the role of extension agency to a large extent.

b) Though the seed of paddy or wheat is being produced and supplied by the state agencies on subsidy basis, knowledge about this seed is not reaching to the farmers except in case of MP for the wheat crop. The role of extension either as knowledge provider or seed supplier seems to be relatively better in MP compared to other states

c) Control households appear to have better access to knowledge of resources from formal extension agencies compared to suicide family households.

5.12 Mode of Payment for the Purchase of Inputs

The mode of payment adopted by sample households indicates that the purchase of seed for most of the crops as mentioned in the Tables 5.15 A and B was by Cash in case of FS HHs and by credit in case of CG HHs. A similar pattern was observed in all the crops for the inputs (i.e., seed, fertilizer and pesticides) except sugar cane and millets in case of suicide HHs. Control Group households have managed more to purchase the inputs on credit from input dealers compared to that of FS households as these families (FS HHs) seem to have lost their credit rating with the input dealers. Focus Group discussions with the villagers revealed the fact that other expenditure on health and social norms compounded with the loss of crop so that these households were unable to repay the earlier debts they had with input dealers. To get the inputs on cash they had to source the credit from money lenders whose rate of interest was more than that of input dealers.

Table 5.15 A : Mode of Payment for the Purchase of Inputs among FS House holds

Source	Maharashtra			Telangana			Karnataka			Madhya Pradesh		
	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide
Cotton												
Cash	21	22	22	21	21	21	11	10	15	1	1	1
Credit	20	21	21	9	9	8	9	10	5	4	4	4
Others	0	0	0	2	2	3	4	4	3	0	0	0
Total	41	43	43	32	32	32	24	24	23	5	5	5
Paddy												
Cash	-	-	-	12	12	12	1	1	1	11	11	11
Credit	-	-	-	3	3	3	6	5	6	4	4	4
Others	-	-	-	0	0	0	9	10	9	0	0	0
Total	-	-	-	15	15	15	16	16	16	15	15	15
Maize												
Cash	-	-	-	3	3	3	10	11	10	13	13	14
Credit	-	-	-	8	8	7	11	10	11	6	6	5
Others	-	-	-	0	0	1	4	4	4	0	0	0
Total	-	-	-	11	11	11	25	25	25	19	19	19
Pulses												
Cash	9	10	10	-	-	-	0	0	0	6	6	6
Credit	10	10	10	-	-	-	2	2	2	3	3	3
Others	1			-	-	-	0			0		
Total	20	20	20	-	-	-	2	2	2	9	9	9
Sugarcane												
Cash	1	1	1	-	-	-	2	2	2	-	-	-
Credit	0	0	0	-	-	-	10	10	10	-	-	-
Others	0	0	0	-	-	-	5	5	5	-	-	-
Total	1	1	1	-	-	-	17	17	17	-	-	-

Source : Primary Survey

Table 5.15 B: Mode of Payment for the Purchase of Inputs among CG House holds

Source	Maharashtra			Telangana			Karnataka			Madhya Pradesh		
	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide	Seed	Fertilizer	Pesticide
Cotton												
Cash	17	17	17	18	18	17	2	2	2	2	2	2
Credit	23	23	23	16	16	16	20	20	20	4	4	4
Others	1	1	1	0	0	1	1	1	1	0	0	0
Total	41	41	41	34	34	34	23	23	23	6	6	6
Paddy												
Cash	-	-	-	5	4	5	0	0	0	11	11	11
Credit	-	-	-	16	16	14	15	15	15	5	5	5
Others	-	-	-	1	2	3	0	0	0	0	0	0
Total	-	-	-	22	22	22	15	15	15	16	16	16
Maize												
Cash	-	-	-	2	2	2	3	3	1	9	9	9
Credit	-	-	-	10	10	10	20	20	22	9	9	9
Others	-	-	-	0	0	0	1	1	1	2	2	2
Total	-	-	-	12	12	12	24	24	24	20	20	20
Pulses												
Cash	9	9	9	-	-	-	-	-	-	0	0	0
Credit	12	12	12	-	-	-	-	-	-	1	1	1
Others	0	0	0	-	-	-	-	-	-	1	1	1
Total	21	21	21	-	-	-	-	-	-	2	2	2
Sugarcane												
Cash	1	1	1	-	-	-	0	0	0	-	-	-
Credit	0	0	0	-	-	-	25	25	25	-	-	-
Others				-	-	-	-	-	-	-	-	-
Total	1	1	1	-	-	-	25	25	25	-	-	-

Source: Primary Survey

5.13: Irrigation Status of the Selected Households

Source wise area under major crops in selected states is given in Table 5.16 A and B. Cotton is the major crop in Maharashtra, Telangana and Karnataka growing under rainfed conditions with 55.8 percent, 46.7 percent and 56.5 percent respectively. None of the sample FS households were cultivating under surface irrigation, except in case of Telangana where around 6.7 percent of the FS households are cultivating paddy under canals.

Table 5.16 A: Source of Irrigation FS Households (Area in Acres)

Crop	Maharashtra			Telangana			Karnataka			MP		
	Tube well	Canal	Others	Tube well	Canal	Others	Tube well	Canal	Others	Tube well	Canal	Others
Cotton	30.8	-	166.5 (55.8)	23.4 (8.6)	-	126.1 (46.7)	-	-	148.56 (56.5)	-	-	-
Maize	-	-		27.5	-	28	-	-	-	-	-	76.8 (35.45)
Paddy	-	-	-	10.5	16.7	31.5	47.6	-	-	15.5	-	-
Sugarcane	7.7	-	-	-	-	-	42.8	-	6	-	-	-
Millets	-	-	57.2 (19.18)	-	-	2.64	4.5	-	5.75	7.9	-	43.2 (19.9)
Pulses	6	-	30 (10)	-	-	3.47	-	-	7.5	2.5		9.3
Wheat	-	-	-	-	-	-	-	-	-	43.4	-	18.4
Total Area	44.5 (14.9)	-	253.7 (85)	164.1 (60.8)	16.7 (6.18)	89.01 (29.6)	94.9 (36.12)	-	167.8 (63.8)	44.3 (20.4)	-	172.7 (79.7)
GSA	298.2			269.8			262.7			216.6		

Source: Primary Survey

Among the FS households in Maharashtra 85 percent of the Gross Sown Area was under rainfed systems and 14.5 percent of GSA was under tube wells. Similarly in case of MP, 80 percent of GSA was under rainfed system and 20.4 percent was under tube well irrigation. The case of control households was almost similar to this in these two states where more than 90 percent of GSA was under rainfed systems. However, 37 percent of GSA in CG households of Maharashtra was under millets and pulses. The same in FS households was 29 percent. The area under rainfed systems in MP was also diversified with millets and pulses.

Table 5.16. B: Source of Irrigation CG Households (Area in Acres)

Crop	Maharashtra			Telangana			Karnataka			MP		
	Tube well	Canals	Others	Tube Wells	Canals	Others	Tube Wells	Canals	Others	Tube Wells	Canals	Others
Cotton	6.3	-	168 (55.11)	38.5 (13.4)	-	80.5 (28.01)	-	-	80.5 (27.3)	-	-	-
Maize	-	-	-	31.5	-	74.2 (25.82)	-	-	80 (27.2)	-	-	72
Paddy	-	-	-	10	23.6 (8.2)	20.8 (7.23)	43.5 (14.7)	-	-	3.8	-	15.9 (6.1)
Sugarcane	-	-	3.5	-		-	27.3 (9.28)	-	10.3	-	-	-
Millets	4.5	-	42.88 (14.04)	-	-	3.7	23.4 (7.95)	-	12.3 (4.1)	-	-	54 (21)
Pulses	9.2	-	70.5 (23.12)	-	-	4.5	-	-	16.7 (5.6)	4.5	-	44.8 (17.4)
Wheat	-	-	-	-	-	-	-		-	16.8	-	44.8 (17.4)
Total Area	20 (6.5)	-	285.35 (93.6)	80 (27.8)	23.6 (8.21)	183.7 (63.9)	94.2 (32)		199.3 (77.6)	25.1 (9.7)		231.5 (90.2)
GSA	304.8			287.3			294			256.6		

Source: Primary Survey

Tube well irrigation was well developed by FS households of Telangana and Karnataka compared to Maharashtra and MP. In Telangana, among the FS households 29.6 percent of GSA was under rainfed system and 60.8 percent of GSA was under tube wells. Whereas the CG households of Telangana have not invested much on Tube wells as seen from the Table above that their GSA under Tube Wells was only 27.8 percent. Excess investment on Tube wells seems to be factor of distress in the FS households in this State. Though the area under Tube wells in CG households as a percent of GSA was less in Karnataka with 32 percent compared to FS households with 37 percent , the difference in this state was not much glaring, compared to Telangana.

5.14. Source of Marketing

Local traders are the primary source (around 60 percent) for the purchase of cotton in both suicide and control households. In case of paddy the share of government procurement was more for FS households with 46 percent compared to 37 percent of CG households as the latter got better price outside the government centers. 60 percent of the CG households sold at open market whereas the same by the FS households was 53 percent. Private traders in market yards were the major source of cotton purchases in Maharashtra and Karnataka. In Telangana, procurement by the private traders in market yards was the main source of marketing of the cotton crop. However, the price realised by the sample farmer's i.e., Rs.2500 was less than that of MSP which was Rs.3860 during 2016-17. In Telangana, majority of both FS and CGl households have sold the paddy to the private traders in market yards. Further prevailing minimum support price, procurement through an agency (ex: CCI, FCI etc.) and market interventions schemes are not adequately supporting. For ex: in Telangana state, paddy is being procured by SHG women and PACS in the villages, cotton is being procured by Cotton Corporation of India but the procurement points of CCI were less compared to paddy procurement centers. Whereas, in Karnataka and MP most of the paddy crop was procured by state agencies of the respective states. While private traders in the APMC yard was the major source of procurement of maize in FS and CG HHs of Telangana and FS HHs of Karnataka, local traders were the major source for CG HHs of Karnataka and both FS and CG HHs of MP. The price realised by the maize farmers was Rs.1365 when the MSP was Rs.1600/. Local traders were the main source for the procurement of Soyabean in case of FS and CGHHs in Telangana and MP. None of the sample households of both FS and CG asserted that they were not aware about the moisture content, grading and cleaning specifications of the crops to fetch a better price.

Table 5.17. Source of Marketing the Crops (No of Farmers)

Source		State								Total	
		Maharashtra		Telangana		Karnataka		MP			
		Type		Type		Type		Type		Type	
		FS	CG	FS	CG	FS	CG	FS	CG	FS	CG
Cotton	Not known	42	32	0	0	3	20	-	-	45	52
	Govt. centres	0	-	1	-	3	-	-	-	4	-
	Open market	7	17	62	57	11	4	-	-	80	78
	Others	0	-	2	-	2	-	-	-	4	
	Total	49	49	65	57	19	24			133	130
Paddy	Not known	-	-	0	0		-	-	-	-	-
	Govt. centres	-	-	-	0	14	13	15	15	29	28
	Open market	-	-	32	43	2	2	0	0	34	45
	Others	-		-	1	-	0		0		1
	Total			32	44	16	15	15	15	63	74
Maize	Not known	-	-	0	0	5	20	24	21	29	41
	Govt. centres	-	-	0	-	-	-	0	-	0	-
	Open market	-	-	24	23	18	5	0	0	42	28
	Others	-	-	0		2	-	0	-	2	-
	Total	-	-	24	23	25	25	24	21	73	69
Sugarcane											
	Govt. Centres/Mill	-	0	-	-	17	25	-	-	17	25
	Open market	0	0	-	-	-	-		-	2	3
	Total	1	2		-	17	25			18	27
Millets	Not known	22	16	0	-	3	1	12	12	37	29
	Govt. centres	0	0	0	-	1	12	0	0	1	12
	Open market	4	11	1	-	0	10	0	0	5	21
	Total	26	27	1		4	23	12	12	43	62
Pulses	Not known	22	21	0	0	1	0	11	1	34	22

	Govt. centres	0	0	0	0	1	10	0	0	1	10
	Open market	0	1	2	4	1	0	0	0	3	5
	Total	22	22	2	4	3	10	11	1	38	37
Wheat	GovtCenters	-	-	-	-	-	-	22	26	22	26
	Total	-	-	-	-	-	-	22	26	22	26
Soyabean	Not known	4	4	-	-	-	-	4	4	8	8
	Open market	2	3	-	-	-	-	0	1	2	4
	Total	6	7	-	-	-	-	4	5	10	12
Others	Not known	1		0	1	6	-	2	1	9	2
	Open market	0		7	3	1	-	0	0	8	3
	Total	1		7	4	7	-	2	1	17	5

Source: Primary survey

5.15: Change in Technology and Agronomic practices in the Last five Years

There has been a change in the technology and agronomic practices in the crop cultivation of selected family households. Majority of both suicide and control family HHs were using desi ploughs (67% and 60 % respectively with suicide and control HHs) five years ago. Because of the implementation of RKVY which has encouraged tractor drawn implements on custom hiring basis there has been a shift in agronomical practices where the farmers who used to prepare the land with bullock drawn desi plough shifted to tractor drawn land tiller(64 and 67% respectively with FS and CG) (Table 5.18 A and B). Though this has reduced the farmer's time in land preparation of his own land, this has an implication on his/her time availability in participating in agriculture labour operations in others fields or for MGNREGA works. The implication of high cost machinery on the shift in labour availability to agriculture operations and MGNREGS are yet to be studied. Similarly, there was an increase in input use in the last five years in an effort to increase the yield. The farmers are increasingly purchasing the seed from local store rather than sourcing from their neighbors. This has increased to an extent of 94 and 92 percent in case of Maharashtra and Telangana. The inputs like pesticides (from about 10% to nearly 60 to 65%), and fertilizers (from around 10 to 20% to nearly 75%) have increased in the last five years which has an implication on increased cost of cultivation of crops.

Table 5.18.A: FS Households reporting the Change in Adoption of Technology (No of Farmers)

Technology	Maharashtra		Telangana		Karnataka		MP	
	A	B	A	B	A	B	A	B
Land Preparation								
Desi Plough	43	21	44	1	8	12	39	38
	86%	42%	88%	2%	16%	24%	78%	76%
Tractor Drawn Cultivator	7	29	6	49	42	38	11	12
	14%	58%	12%	98%	84%	76%	22%	24%
Seed Source								
Shop	10	47	8	46	24	38	0	32
	20%	94%	16%	92%	48%	76%	0%	64%
Neighbour Farmer	40	3	42	4	26	22	50	28
	80%	6%	84%	8%	52%	44%	100%	56%
Fertilizer Application								
More	6	42	3	49	27	48	0	22
	12%	84%	6%	98%	54%	96%	.0%	56%
Less	44	8	47	1	23	22	50	28
	88%	16%	94%	2%	46%	44%	100%	56%
Pesticide Application								
More	2	48	3	49	16	35	0	22
	4%	96%	6%	98%	32%	70%	.0%	44%
Less	48	47	47	1	34	15	50	28
	96%	94%	94%	2%	68%	30%	100%	56%
Organic Manure Application								
More	2	0	41	3	18	11	25	25
	4%	.0%	82%	6%	36%	22%	50%	50%
Less	48	50	9	47	32	39	25	25
	96%	100%	18%	94%	64%	78%	50%	50%
Agricultural Implements								
Own	0	0	18	31	0	6	0	0
	.0%	.0%	36%	62%	.0%	12%	.0%	.0%
Hiring	50	50	32	19	50	44	50	50
	100%	100%	64%	38%	100%	88%	100%	100%

A : Adoption of Technology Five years Ago
B: Present Status of Adoption of Technology

The increased improper application of fertilizers with more of nitrogenous fertilizers has increased the incidence of pests and diseases which resulted in the increased utilization of pesticides resulting in decreased income by the farmers, as reported by the farmers in focus group discussions in the villages. The application of organic manures has decreasedto an extent of 20 percent from 45 percent at an overall level. With an increase in investment on groundwater, the area under irrigation and availability of irrigation sources has increased from around 10 to 12 % to nearly 30% for the FS households in the last five years. There was an increase in mechanization but this is from custom hiring centers mostly. Not much difference

was observed in the context of change in adoption of technology between FS and CG households in the last five years.

Table 5.18.B: CG Households reporting the Change in Adoption of Technology (No of Farmers)

Technology	Maharashtra		Telangana		Karnataka		MP	
	A	B	A	B	A	B	A	B
Land Preparation								
Desi Plough	35	22	45	2	3	7	37	35
	70%	44%	90%	4%	6%	14%	74%	70%
Tractor Drawn Cultivator	15	28	5	48	47	43	13	15
	30%	56%	10%	96%	94%	86%	26%	30%
Seed Source								
Shop	6	43	11	49	12	35	1	23
	12%	86%	22%	98%	24%	70%	2%	46%
Neighbour Farmer	44	7	39	1	38	15	49	27
	88%	14%	78%	2%	76%	30%	98%	54%
Fertilizer Application								
More	4	41	3	49	10	35	1	22
	8%	82%	6%	98%	20%	70%	2%	44%
Less	46	9	47	1	40	15	49	28
	92%	18%	94%	2%	80%	30%	98%	56%
Pesticide Application								
More	1	9	2	48	16	48	0	22
	2%	18%	4%	96%	32%	96%	.0%	44%
Less	49	41	48	2	34	2	50	28
	98%	82%	96%	4%	68%	4%	100%	56%
Organic Manure Application								
More	0	0	44	3	27	12	18	17
	.0%	.0%	88%	6%	54%	24%	36%	34%
Less	50	50	6	47	23	38	32	33
	100%	100%	12%	94%	46%	76%	64%	66%
Agricultural Implements								
Own	0	0	28	22	0	25	1	0
	.0%	.0%	56%	44%	.0%	50%	2%	.0%
Hiring	50	50	22	28	50	25	49	50
	100%	100%	44%	56%	100%	50%	98%	100%

A : Adoption of Technology Five years Ago
B: Present Status of Adoption of Technology

5.16 Indebtedness of the Sample Households

An important factor in determining the nature and pattern of input use, cost of cultivation and levels of farm incomes is the availability and access to formal sources of credit. All most all the sampled suicide and control family HHs in all the districts of sampled states

are having a higher amount of debt. The large number of sampled HHs has accumulated the debt over the years. Sources of credit are from both institutional and non-institutional sources. The cost of credit largely depends on the source from which credit is availed. Access to formal sources of credit ensures supply of credit at reasonable costs with legitimate terms and conditions of use. However, more amount of outstanding loan is with non-institutional sources by suicide family HHs; this may be because of inaccessibility of institutional credit by the HHs. This makes credit costlier and terms and conditions of credit more onerous for the farm suicide households. As a result of which their returns from cultivation and net incomes were lesser that of control households.

Since ages, it is a general practice of farmers has been borrowing loans from different sources in anticipation of the income they can derive from the agriculture activity. There are many institutions to lend loan at a lower rate of interest for the people who are having a stable income. But, the crux of the matter is, these institutions are very much reluctant to lend loan to the farming community due to the uncertainty of their income and lower repayment capacity which drives the farmers to end up with non-institutional credit with private money lenders with the exorbitant rate of interest. State wise findings of the status of credit of sample households is presented in Tables 5.19 A, B, C and D.

Table 5.19: State Wise - Comparing Suicides and Non- Suicides households by Average outstanding debt among the different size of landholdings (Rs.in lakhs)

A) Maharashtra

SNo	**Size Class**	**Number of Farmers**		**Average Size of Debt (In lakhs)**		**Share of Total Debt (%)**	
		FS	CG	FS	CG	FS	CG
1	**Marginal**						
	Institutional	5	5	0.62	0.53	16.36	33.54
	Non Institutional	6	3	3.17	1.05	83.64	66.46
2	**Small**						
	Institutional	25	22	0.85	0.80	38.29	56.34
	Non Institutional	24	13	1.37	0.62	61.71	43.66
3	**Semi Medium**						
	Institutional	16	8	1.74	1.44	76.65	74.61
	Non Institutional	7	5	0.53	0.49	23.35	25.39
4	**Medium**						
	Institutional	-	-	-	-		
	Non Institutional	-	-	-	-		
5	**Total**						
	Institutional	46	35	1.13	0.91	42.97	58.33
	Non Institutional	37	21	1.50	0.65	57.03	41.67

In Maharashtra, the number of farmers in CG households who have availed loans from both institutional and non-institutional loans were less compared to FS households. Similar pattern was observed in case of average size of debt of each household at the aggregate level. The share of Institutional debt of CG households was more with 58 percent compared to FS households whose share of institutional debt was 42 percent out of their total outstanding debt.

B) Telangana

SNo	Size Class	Number of Farmers		Average Size of Debt (In lakhs)		Share of Total Debt (%)	
		FS	CG	FS	CG	FS	CG
1	**Marginal**						
	Institutional	21	7	0.61	0.25	18.26	21.74
	Non Institutional	23	8	2.73	0.90	81.74	78.26
2	**Small**						
	Institutional	14	18	0.61	0.88	16.53	38.60
	Non Institutional	20	22	3.08	1.40	83.47	61.40
3	**Semi Medium**						
	Institutional	4	3	1.08	0.67	20.65	21.27
	Non Institutional	4	6	4.15	2.48	79.35	78.73
4	**Medium**						
	Institutional	1	-	4.74	-	50.80	-
	Non Institutional	1	-	4.59	-	49.20	-
5	**Total**						
	Institutional	40	28	0.76	0.70	20.05	32.26
	Non Institutional	48	36	3.03	1.47	79.95	67.74

In Telangana, the number of farmers in CG households who have availed loans from both institutional and non-institutional loans were less compared to FS households, at the aggregate level. However, the number of CG households of small farmers who have taken loans from both institutional and non-institutional sources was more compared to that of FS households. Significantly, though the number of small farmers in CG households were more in availing non institutional and institutional debt, their outstanding debt was less compared to that of FS households. The share of Institutional debt of CG households was more with 32 percent compared to FS households whose share of institutional debt was 20 percent out of their total outstanding debt.

C) Karnataka

SNo	Size Class	Number of Farmers		Average Size of Debt (In lakhs)		Share of Total Debt (%)	
		FS	CG	FS	CG	FS	CG
1	**Marginal**						
	Institutional	22	14	1.30	0.73	24.53	25.80
	Non Institutional	22	14	4.00	2.10	75.47	74.20
2	**Small**						
	Institutional	21	24	2.00	2.42	34.97	66.30
	Non Institutional	21	21	3.72	1.23	65.03	33.70
3	**Semi Medium**						
	Institutional	7	8	7.71	1.47	52.92	53.07
	Non Institutional	7	8	6.86	1.30	47.08	46.93
4	**Medium**						
	Institutional		1		3.00		85.71
	Non Institutional		1		0.50		14.29
5	**Total**						
	Institutional	50	47	2.76	1.76	39.20	53.99
	Non Institutional	50	44	4.28	1.50	60.80	46.01

In Karnataka, the number of farmers in CG households who have availed loans from both institutional and non-institutional loans were less compared to FS households, at the aggregate level. However, the number of CG households of small and semi medium farmers who have taken loans from institutional sources was more compared to that of FS households. The average size of institutional debt of small farmer households among FS households was also more. The share of Institutional debt of CG households was more with 53 percent compared to FS households whose share of institutional debt was 39 percent out of their total outstanding debt.

D) **Madhya Pradesh**

SNo	Size Class	Number of Farmers		Average Size of Debt (In lakhs)		Share of Total Debt (%)	
		FS	CG	FS	CG	FS	CG
1	**Marginal**						
	Institutional	7	2	0.49	0.30	44.14	81.08
	Non Institutional	6	7	0.62	0.07	55.86	18.92
2	**Small**						
	Institutional	2		0.65	0.00	63.11	
	Non Institutional	3	4	0.38	0.06	36.89	100.00
3	**Semi Medium**						
	Institutional	2	1	0.25	0.35	80.65	87.50
	Non Institutional	3	1	0.06	0.05	19.35	12.50
4	**Total**						
	Institutional	11	3	0.50	0.32	54.35	84.21
	Non Institutional	12	12	0.42	0.06	45.65	15.79

In Madhya Pradesh, the number of farmers in CG households who have availed loans from institutional source were less compared to FS households. Whereas, equal number of households in CG and FS group have availed loans from non-institutional sources. However, the average size of non-institutional debt of CG households was less with 0.06 lakhs compared to that FS households with 0.42 lakhs per household. The share of Institutional debt of CG households was more with 84 percent compared to FS households whose share of institutional debt was 54 percent out of their total outstanding debt.

Table 5.20. : Extent of Indebtedness from Institutional and Non Institutional sources (Rs. Lakhs)

	Total		Marginal		Small	
	In	Non- In	In	Non- In	In	Non- In
Maharashtra	1.04	1.19	0.57	2.46	0.83	1.10
Telangana	0.73	2.36	0.52	2.26	0.76	2.20
Karnataka	2.28	2.98	1.45	3.26	2.22	2.47
MP	0.79	0.24	0.99	0.32	0.65	0.20
Total	1.41	2.13	0.98	2.40	1.30	1.86

Source: Primary survey
In; Institutional - Non- In; Non Institutional

It is an established fact that the lending from informal sources has been the crippling factor hindering the pace of agriculture development in the country. While the total debt of the sample households from non-institutional sources amounts to Rs.2.13 Lakhs for all the categories together, the same from institutional sources amounts to Rs.1.41 Lakhs. (Table 5.20).While the rate of interest of institutional lending ranges from 8 to 12 percent, the same from money lender and traders ranges from 24 to 36 percent. The institutional and non-institutional debt of suicide HHs was 30.83 and 142.37 percent higher than control HHs respectively. The institutional and non-institutional debt of suicide HHs was 122.22 and 141.28 percent higher than control HHs of marginal farmers. Whereas, in case of small farmers the institutional debt of control HHs was higher by 21.18 percent and non-institutional debt was higher for suicide HHs with 137.03 percent compared to control HHs. Among the four sample states the institutional lending was more by the sample HHs of (FS and CG HHs together) Karnataka with 2.28 lakhs per household followed by Maharashtra, MP and Telangana with 1.04, 0.79 and 0.73 lakhs respectively. Whereas, the Non Institutional lending was more in case of Karnataka with 2.98 laks followed by Telangana, Maharashtra and MP with 2.36 lakhs, 1.19 lakhs and 0.24 lakhs respectively. Credit absorption in MP was very low which could be deciphered with the fact that both non institutional lending as well as rate of interest from non-institutional lending (24 percent) are very low in this State. The non-institutional lending of suicide HHs was highest in Karnataka with 4.28 Lakhs followed by Telangana with 3.03 Lakhs, Maharashtra with 1.50 Lakhs and MP with 0.42 Lakhs.

5.16 A: Sources on Credit and the Purposes for which it is being utilized

In Maharashtra, among the institutional sources of credit, the share of RRB was highest for both FS and CG households Table 5.21**.** Compared to FS households, the share on institutional credit to CG households was more by both Cooperative Banks and RRBs. Among the non-institutional sources, the share of relatives or friends was same to both the households whereas the share of money lender was more for FS households. The total number of sources from which the FS households were borrowing comes to 3.14 and the same in case of CG households accounts for 1.8 sources. Out of the total money that is borrowed, majority of them were borrowing for Agriculture purposes (32.5 percent) followed by consumption and social and religious purposes with 25.3 and 19.1 percent of the total FS households in the state. On an average, the total number of purposes which the FS households were borrowing is 3.88 and the same for CG households was 2.12 purposes (Table 5.21). That is, though the agriculture is the major purpose for which the FS households were borrowing, there were many other purposes for which they were indulging to borrow from both institutional and non-institutional sources.

***Table 5.21: Multiple* Sources of Institutional Credit (Number of farmers)**

	State								Total	
Source	**Maharashtra**		**Telangana**		**Karnataka**		**MP**			
	FS	**CG**	**FS**	**CG**	**FS**	**CG**	**FS**	**CG**	**FS**	**CG**
Commercial Bank	8	3	22	14	41	19	0	0	71	36
	5.1%	3.3%	9.5%	8.7%	14.5%	12.8%	.0%	.0%	9.8%	8.5%
Rural Bank	38	31	18	18	27	18	11	4	94	71
	24.2%	34.4%	7.8%	11.2%	9.5%	12.1%	21%	15%	13%	16.7%
Cooperative Bank	26	20	13	7	23	13	7	1	69	41
	16.6%	22.2%	5.6%	4.3%	8.1%	8.7%	13%	3.8%	9.5%	9.6%
SHG	14	5	20	17	48	42	22	19	104	83
	8.9%	5.6%	8.6%	10.6%	17.0%	28.2%	42%	73%	14%	19.5%
Money Lender	31	10	70	37	67	45	2	0	170	92
	19.7%	11.1%	30%	23.0%	23.7%	30.2%	3.8%	.0%	23%	21.6%
Trader	8	4	32	23	36	5	4	2	80	34
	5.1%	4.4%	13%	14.3%	12.7%	3.4%	7.7%	7.7%	11%	8.0%
Landlord/Employer	4	0	6	0	8	2	2	0	20	2
	2.5%	.0%	2.6%	.0%	2.8%	1.3%	3.8%	.0%	2.8%	.5%
Relations/Friends	28	15	51	45	33	5	4	0	116	65
	17.8%	16.7%	22%	28.0%	11.7%	3.4%	7.7%	.0%	16%	15.3%
Others		2		0		0		0		2
		2.2%		.0%		.0%		.0%		.5%
Total	157	90	232	161	283	149	52	26	724	426
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Av No of Sources by each hh	3.14	1.8	4.62	3.22	5.66	2.98	1.04	0.52	3.62	2.13

Source: Primary Survey

In Telangana, RRB and SHGs are playing a major role in providing institutional credit to CG households accounting for 11.2 percent and 10.6 percent respectively. Whereas, Commercial banks were lending more to FS households accounting for 9.5 percent of the total number of FS households. Among the non-institutional sources, relatives and friends were the major source for CG households 28 percent probably because of their debt repaying capacity. Whereas in case of FS households, money lender is the major source of non-institutional credit accounting for 30 percent of the total FS households (Table 5.21). The average number of purposes for which the FS households were borrowing was 5.52. (Table 5.21) While majority of FS households (37.7 percent) were borrowing for agriculture purpose, digging the bore wells was also a reason for which majority (9.1 percent) were borrowing. Social and religious expenditure and house construction were the other major purposes for which majority of them were borrowing 15.9 and 10.9 percent respectively. The number of CG households who were borrowing for these purposes were relatively less accounting for 6.9 and 6.4 percent respectively. Loans are also being availed to take land on lease. This was seen in Telangana where the terms of tenancy are varying depending on the irrigation status ranging from Rs.4500 per acre to Rs.7, 500 per acre. Out of the total amount around 70 percent has to be paid in advance and the remaining 30 percent is to be paid after harvesting.

In Karnataka, SHGs are the major source of institutional credit for FS households followed by Commercial Banks with 17 and 14.5 percent respectively. (Table 4.21) The institutional lending through SHGs to CG households was more than FS households accounting for 28.2 percent. Followed by SHG lending, the borrowings from RRBs was more accounting for 12.1 percent in case of CG households. Among the non-institutional sources, money lenders were playing a major role for both FS and CG households accounting for 23.7 and 30.2 percent respectively. The number of purposes for which the loans were being borrowed was highest in case of FS households of Karnataka with respect to other selected states averaging to 6.42 purposes by each FS household. (Table 4.22) The same in case of CG households was less accounting for 3.42. While majority (50.3 percent) of CG households were borrowing for agriculture purpose, FS households were borrowing mainly for consumption purpose, social and religious purposes other than agriculture purpose. In Haveri district majority of the FS HHs borrowed loan for the purpose of leasing the land (32%) followed by consumption (20%), marriage (10%) and digging the bore wells (10%) etc. Whereas, the CGHHs borrowed loan for the purposes of lease (46%), consumption (37%), and digging the bore wells (13%) etc. With respect to Mandya district, FSHHs borrowed mainly for the purposes of consumption (25%), agriculture (14%) and lease (13%) etc. Control HHs in Mandya borrowed loan for agriculture (60%) and house construction (20%).

Table 5.22. : Multiple Borrowing Purposes of Indebtedness (Number of farmers)

Purpose	State								Total	
	Maharashtra		Telangana		Karnataka		MP			
	FS	CG	FS	CG	FS	CG	FS	CG	FS	CG
Agriculture	63	40	104	66	87	86	21	14	275	206
	32.5%	37.7%	37.7%	38.2%	27.1%	50.3%	32.8%	35.0%	32.2%	42%
Consumption	49	28	25	15	64	25	17	12	155	80
	25.3%	26.4%	9.1%	8.7%	19.9%	14.6%	26.6%	30.0%	18.1%	16.3%
Education	6	1	15	15	13	1	0	0	34	17
	3.1%	0.9%	5.4%	8.7%	4%	0.6%	.0%	.0%	4.0%	3.5%
Livestock	13	6	9	19	3	1	0	0	25	26
	6.7%	5.7%	3.3%	11.0%	0.9%	0.6%	.0%	.0%	2.9%	5.3%
Non-Farm	1	2	2	2	0	11	0	0	3	15
	0.5%	1.9%	0.7%	1.2%	.0%	6.4%	.0%	.0%	0.4%	3.1%
House Construction	3	3	30	11	24	16	1	0	58	30
	1.5%	2.8%	10.9%	6.4%	7.5%	9.4%	1.6%	.0%	6.8%	6.1%
Marriage	8	3	9	7	31	0	7	0	55	10
	4.1%	2.8%	3.3%	4.0%	9.7%	.0%	10.9%	.0%	6.4%	2.0%
Health	9	5	8	5	21	0	4	0	42	10
	4.6%	4.7%	2.9%	2.9%	6.5%	.0%	6.3%	.0%	4.9%	2.0%
Digging Bore wells	4	1	25	16	28	9	0	0	57	26
	2.1%	0.9%	9.1%	9.2%	8.7%	5.3%	.0%	.0%	6.7%	5.3%
Others Agriculture	0	0	2	1	1	0	2	0	5	1
	.0%	.0%	0.7%	0.6%	0.3%	.0%	3.1%	.0%	0.6%	0.2%
Social and religious purpose	37	16	44	12	38	22	12	14	131	64
	19.1%	15.1%	15.9%	6.9%	11.8%	12.9%	18.8%	35.0%	15.3%	13.1%
Repayment of old debt	1	0	1	2	11	0	0	0	13	2
	0.5%	.0%	0.4%	1.2%	3.4%	.0%	.0%	.0%	1.5%	0.4%
Others	0	1	2	2	0	0	0	0	2	3
	.0%	0.9%	0.7%	1.2%	.0%	.0%	.0%	.0%	0.2%	0.6%
Total	**194**	**106**	**276**	**173**	**321**	**171**	**64**	**40**	**855**	**490**

Source: Primary survey

In Madhya Pradesh, SHGs are playing a dominant role in providing institutional credit followed by RRBs accounting for 42 and 21 percent in FS households. The access to SHG

credit to CG households was higher compared to FS households accounting for 73 percent (Table 5.22). Among the non-institutional sources, traders and relatives are playing equal and more role compared to money lenders in this state .The number of sources and the purposes for which the money is being borrowed was also less in this state compared to the other three selected states. Among the FS households though majority of the households were availing loan for agriculture purpose, health, social and religious purposes were also the major source for which it is being borrowed.

5.16. B Collateral Submitted for Loans and Mode of Repayment

Majority of the farmers in both FS and CGHHs (56.2 and 22.1 percent) reported that no collateral was submitted for the loans taken from non-institutional sources. This may be compensated with a high rate of interest ranging from 36 to 48 percent depending on the purpose for which loan was obtained and time and mode of repayment. For those who submitted land as the main collateral (27.2 and 34.3 percent of FS and CGHHs reported this) it could be deciphered that these loans were from banks. Some CGHHs mainly from Telangana reported that livestock and crop was submitted as collateral.

Table 5.23. Collateral submitted for the loan taken (No of Farmers)

	State								Total	
Collateral	**Maharashtra**		**Telangana**		**Karnataka**		**MP**			
	FS	**CG**	**FS**	**CG**	**FS**	**CG**	**FS**	**CG**	**FS**	**CG**
None	71	21	102	25	196	24	38	24	407	94
	45%	23%	44%	15%	69%	16%	73%	92%	56%	22%
Land	82	60	32	38	69	46	14	2	197	146
	52%	66%	13%	23%	24%	31%	27%	8%	27%	34%
Livestock	0	1	18	25	0	51	0	0	18	77
	.0%	1%	7%	15%	.0%	34%	.0%	.0%	2.5%	18%
Crop	0	6	46	51	1	24	0	0	47	81
	.0%	6.7%	19.8%	31.7%	.4%	16%	.0%	.0%	6.5%	19%
House	1	1	26	18	9	4	0	0	36	23
	.6%	1.1%	11%	11.2%	3.2%	2.7%	.0%	.0%	5.0%	5.4%
Non-farm Assets	1	1	1	0	0	0	0	0	2	1
	.6%	1.1%	.4%	.0%	.0%	.0%	.0%	.0%	.3%	.2%
Durable Goods	1	0	5	2	6	0	0	0	12	2
	.6%	.0%	2%	1%	2%	.0%	.0%	.0%	1.7%	.5%
Labour	0	0	2	1	0	0	0	0	2	1
	.0%	.0%	.9%	.6%	.0%	.0%	.0%	.0%	.3%	.2%
Other	1	0	0	1	2	0	0	0	3	1
	.6%	.0%	.0%	.6%	.7%	.0%	.0%	.0%	.4%	.2%
Total	157	90	232	161	283	149	52	26	724	426
	100 %	100%	100%	100%	100%	100%	100 %	100 %	100%	100%

Source: Primary survey

Majority of them (40.5 and 23.8 percent of FS and CG HHs) couldn't answer whether their mode of repayment of the loan was regular or not.(Table 4.24) This is because of the multiple sources of their borrowing for multiple purposes. While 36.8 percent of CGHHs reported regular payment of institutional borrowing, ironically, the same HHs who reported regular payment of non-institutional lending was 74.4 percent.

Table 5.24. Mode of Repayment of Loan (No of Farmers)

Mode of Repayment		State								Total	
		Maharashtra		Telangana		Karnataka		MP			
		FS	CG	FS	CG	FS	CG	FS	CG	FS	CG
Institutional	Not known	11	12	15	0	79	19	32	24	137	55
		12.8%	20.3%	20.5%	.0%	56.8%	20.7%	80%	100%	40.5%	23.8%
	Regular	1	2	57	56	0	27	0	0	58	85
		1.2%	3.4%	78.1%	100.0%	.0%	29.3%	.0%	.0%	17.2%	36.8%
	Irregular	74	45	1	0	60	46	8	0	143	91
		86.0%	76.3%	1.4%	.0%	43.2%	50.0%	20.0%	.0%	42.3%	39.4%
	Total	86	59	73	56	139	92	40	24	338	231
		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Non-Institutional	Not known	7	2	21	0	88	5	8	0	124	7
		9.9%	6.5%	13.2%	.0%	61.1%	8.8%	66.7%	.0%	32.1%	3.6%
	Regular	0	0	126	105	0	40	0	0	126	145
		.0%	.0%	79.2%	100.0%	.0%	70.2%	.0%	.0%	32.6%	74.4%
	Irregular	64	29	12	0	56	12	4	2	136	43
		90%	93%	7.5%	.0%	38%	21%	33%	100%	35.2%	22.1%
	Total	71	31	159	105	144	57	12	2	386	195
		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Primary survey

5.17. Net Income of the Sample Households

The net income of sample households from various sources is given in Table 5.25. In all the selected states, the average net income from cultivation was lower for FS HHs compared to CG households. The low level of income from cultivation was mainly due to high cost of cultivation that these households have incurred on account of their substantial dependence on informal sources of inputs and informal sources of credit with higher costs, as reported by them. The increased cost of cultivation has been resulting in reduced net income from cultivation contributing to their vulnerability. In the case of any eventuality in the form of external financial stocks such as sudden health expenditure or social expenditure it is these households that get affected first. This along with other social and family issues made them take the extreme step of ending life.

In Maharashtra, the average income from household in case of CG households was higher than FS households by around Rs. 10,000. Most of this was derived by them from allied agriculture activities such as livestock. The average net income from allied agriculture activity per household of CG households was Rs.38, 176. Whereas, the same for FS households was Rs.31, 900/. The FS households seemed to have derived their livelihood mostly from other labour works of MGREGS.

In case of Telangana, the average income per household of CG households from crop cultivation was higher by Rs. 77811 than that of FS households. The other major source of income for CG households other than crop cultivation was income from allied agriculture activities and MGNREGS works. As the income figures were taken after the demise of the head of household, the women of FS households were relying more on livestock. Hence the income from livestock of these (FS) households in the state was more than CG households.

Unfortunately, in Karnataka, in the case of the majority of FS HHs in Haveri district no person is left to continue the cultivation after the demise of the head of household. The average Income of CG households was higher by Rs. 73,626/ than FS households. This is because of higher income from crop cultivation and allied agriculture activities for CG households compared to FS households. Some of the households in CG households have diversified into non-farm activities such as Trade service and household industry. The major source of income for FS households other than crop cultivation are labour from agriculture and MGNREGS works. The difference in income between FS households and CG households was not much in MP compared to the other selected states.

Table 5.25. : Average Net Income from the Family in the Last Year – 2016-17 (Rs)

		Maharashtra			Telangana			Karnataka			MP			Total		
		Type			Type			Type			Type			Type		
		FS	CG	Total	FS	CG	Total	FS	CG	Total	FS	CG	Total	FS	CG	Total
Cultivation	Avg	22838	27867	25090	54189	132000	94740	37632	76522	65154	14500	21313	17906	32232	69784	52590
	N	37	30	67	37	40	77	19	46	65	32	32	64	125	148	273
Allied Agricultural Activities	Avg	31900	38176	36346	34414	64478	52853	10000	29074	28393		10000	10000	33278	48462	44073
	N	7	17	24	29	46	75	1	27	28		1	1	37	91	128
Agricultural Labour	Avg	9079	9290	9174	19656	36077	27017	15585	11886	13671	6667	5280	6125	12487	14929	13601
	N	38	31	69	32	26	58	41	44	85	39	25	64	150	126	276
Other Labour	Avg	50000	10000	30000	23682	22000	23156	9375	6667	8636	4857	5167	5053	17895	12000	15500
	N	1	1	2	22	10	32	8	3	11	7	12	19	38	26	64
Household Industry	Avg	10000	50000	23333	-	-	-	5000	16714	15250	1000	300000	10667	5400	21889	16000
	N	2	1	3	-	-	-	1	7	8	2	1	3	5	9	14
Trade or Business	Avg	-	-	-	-	-	-	10000	11818	11667	5000	76667	58750	7500	25714	23438
	N	-			-	-	-	1	11	12	1	3	4	2	14	16
Service (Government)	Avg		50000	50000		-	-	50000	13333	18571				50000	18571	22500
	N		1	1				1	6	7				1	7	8
Service (Private)	Avg		70000	70000	43333	27000	33125	13333	16000	15000	10000		10000	25714	25909	25833
	N		1	1	3	5	8	3	5	8	1		1	7	11	18
Others	Avg				100000	18800	17333	8000		8000	22750	12866	17115	18278	16118	16865
	N				2	10	12	1		1	6	7	13	9	17	26
Total	Avg	31096	40970	36083	87060	196000	141000	30375	104000	67063	17924	26674	22299	42276	92951	67679
	N	49	50	99	50	50	100	48	48	96	46	46	92	193	194	387

Source: Primary survey

Table 5.26. : Average yearly net income from cultivation and all sources of income (Rs)

States /country	% higher of CG than FG		Cultivation (Rs)		Income from All sources (Rs)	
	Cultivation	Total	NSSO	NIRD&PR	NSSO	NIRD&PR
Maharashtra	22.02	31.75	46272	25090	88632	36083
Telangana State	143.59	125.13	42240	94740	75732	141000
Karnataka	103.34	242.38	59160	65154	105984	67063
Madhya Pradesh	46.98	48.81	48192	17906	74520	22299
All India average	116.50	119.86	36972	52590	77112	67679

Source: Primary survey
Note: NSSO Income data: July 2012-June 2013, NIRD&PR: during 2016-17

5.18. Crop Insurance

Crop insurance plays a crucial role in risk management strategies. Information about coverage of agricultural production with any kind of insurance protects primary producers from unexpected shocks from crop loss due to natural calamities or other eventualities. The study results revealed that almost all the sampled farmers in all the states except few farmers in Madhya Pradesh, reported that they were not covered under the crop insurance. This information reported by the farmers may not be taken in to as the crop insurance premium is normally will be deducted from the loan that is disbursed to the farmers. The farmers may not be aware that they were covered under crop insurance.

In MP, among the sample households, 24 per cent of the farm suicide households and 34 per cent of the control households were covered by crop insurance during the period of the study. The pattern with respect to coverage by crop insurance among sample households remains the same in both the districts. In Alirajpur only 4 per cent of the farm suicide households are covered by crop insurance against 16 per cent of the control households. The situation is relatively better in Rewa district with 40 per cent of the farm suicide households and 52 per cent of the control households covered with crop insurance (Table 5.27). Though a smaller share has been covered by crop insurance only one household in the sample reported to have received compensation through crop insurance. These points to the dismal state of coverage as well as the execution of the crop insurance scheme in case of an eventuality. However, crop insurance has operated for a long time as crop credit insurance throughout the country. Unfortunately, in the study states insurance did not provide a sufficient safety net cover to the sampled farmers. Therefore, it is necessary for the crop insurance

schemes to be rationalized, and some of the present insurance programmes should be suitably dovetailed to overcome the distress situation faced by farmers. Furthermore, the majority of the HHs doesn't become aware of the insurance and its benefit. It is high time for the government to create insurance types and benefits awareness among the farmers through capacity building.

Table 5.27. : Crop Insurance (No of Farmers)

Crop insurance	State								Total	
	Maharashtra		Telangana		Karnataka		MP			
	FS	CG	FS	CG	FS	CG	FS	CG	FS	CG
Covered with Insurance										
Yes	0	0	4	9	1	2	11	17	16	28
	.0%	.0%	8%	18%	2%	4%	22%	34%	8%	14%
No	50	50	46	41	49	48	39	33	184	172
	100 %	100%	92%	82%	98%	96%	78%	66%	92%	86%
Received Insurance in the last three Years										
Yes	0	0	2	3	0	2	0	1	2	6
	.0%	.0%	4%	6%	.0%	4.0%	.0%	2.0%	1%	3%
No	50	50	48	47	50	48	50	49	198	194
	100 %	100%	96%	94%	100%	96%	100%	98%	99%	97%
Reasons for not Receiving the Insurance										
Don't Know	50	50	18	30	45	48	50	49	163	177
	100 %	100%	37%	63%	90%	100%	100%	100%	82%	91%
Wrong crop was insured	0	0	20	1	5	0	0	0	25	1
	.0%	.0%	41%	2%	10%	.0%	.0%	.0%	12%	.5%
Village not covered in the disaster	0	0	10	16	0	0	0	0	10	16
	.0%	.0%	20%	34%	.0%	.0%	.0%	.0%	5%	8%

Source: Primary survey

5.19: Shocks /Distressed faced by the Sample Households in the last three Years

Farmers in the selected HHs of the selected districts and States reported multiple shocks they have confronted in the last three years i.e., 2015-16, 2016-17 and 2017-18. (Table 5.28).The average number of distresses /shocks faced by each household in the last three years was around 3.3 in case of suicide households and 1.7 in case of the control households.

The average number of distresses faced by the suicide households of Telangana and MP were more with four in number, the same in Maharashtra was 3 and Karnataka was 2.7. Though the intensity of distress couldn't be traced with the number of distresses, it is an equally distressing factor to know that each household has been facing 3- 4 distresses on an average in a span of three years. The sudden demise of the head of the household has been the major distress factor pulling down the family members of the suicide HHs in the last three years. The lady who is left behind has been the loan champion in taking the family forward, looking after the agriculture while coping with her own personal sorrows. Drought or sudden dry spell during peak season leading to crop failure was the major distress factor revealed by 53 percent of the suicide HHs and 47 percent of control HHs. The samples HHs of all the four States have reported this as the major distress factor that is to be dealt-with in farming. Followed by drought, untimely rains /cyclones/flood were reported by all but mostly by both suicide and control HHs of Telangana. Further, cyclones or untimely rains washing away the standing crop or harvested crop has been recognized as one of the major cause of distress by the respondents. Epidemics in case of livestock and sudden health problems of the family members leading to increased spending on their health or loss of productive employment and thereby the income were the other causes of distress in the families. It is to be noticed however that the occurrence of distress in control HHs was almost same as that of suicide HHs as we can see in Telangana that the percent of control HHs faced drought, pest attack, input price fluctuations and livestock epidemic was more than that of suicide HHs.It is therefore pertinent to understand what makes these households withstand the shocks in agriculture and the hard realities of life? Compared to those who became vulnerable and ended up losing the life.

Table 5.28. : Distress Occurred in the family in the last three years (No of Farmers)

Description	Telangana		MP		Karnataka		Maharashtra		TOTAL	
	FS	CG	FS	CG	FS	CG	FS	CG	FS	CG
Drought	45 (22.2)	20 (28.2)	47 (21.4)	50 (37.0)	21 (19.4)	16 (31.4)	27 (18.2)	30 (36.6)	140 (21.1)	116 (33.8)
Cyclone/Foods/ Hailstorm	37 (18.2)	25 (35.2)	21 (9.5)	12 (8.9)		3 (5.9)	5 (3.4)	6 (7.3)	63 (9.5)	46 (13.4)
Pest attack	17 (8.4)	10 (14.1)	44 (20.0)	49 (36.3)	10 (9.3)	12 (23.5)	22 (14.9)	15 (18.3)	93 (14.0)	86 (25.1)
Bad seed quality	14 (6.9)	8 (11.3)	10 (4.5)	4 (3.0)	19 (17.6)	11 (21.6)	15 (10.1)	7 (8.5)	58 (8.7)	30 (8.7)
Input price fluctuations	3 (1.5)	0	9 (4.1)	3 (2.2)		0	3 (2.0)	1 (1.2)	15 (2.3)	4 (1.2)
Output price fluctuations	35 (17.2)	8 (11.3)	12 (5.5)		6 (5.6)	5 (9.8)	17 (11.5)	7 (8.5)	70 (10.5)	20 (5.8)
Livestock epidemic	2 (1.0)		10 (4.5)	6 (4.4)	2 (1.9)		8 (5.4)	10 (12.2)	22 (3.3)	16 (4.7)
Human epidemic (like cholera)									0	0
Fire accident			2 (0.9)	2 (1.5)			1 (0.7)		3 (0.5)	2 (0.6)
Robbery/ Violence								2 (2.4)	0	2 (0.6)
Death of family members	50 (24.6)		50 (22.7)	2 (1.5)	50 (46.3)	2 (3.9)	50 (33.8)	4 (4.9)	200 (30.1)	8 (2.3)
Sudden health problem /accidents	16 (7.9)	4 (5.6)	15 (6.8)	7 (5.2)	11 (10.2)	2 (3.9)		0		13 (3.8)
Average number of Distress per HH	4.1	1.4	4.4	2.7	2.2	1.0	3.0	1.6	3.3	1.7

Source: Primary survey

5.20 Coping Strategies Adopted by the Sample Households

The sample households of both suicide and control households reported multiple coping strategies to withstand shocks in personal life as well as against farming. The major coping strategy is obviously increasing in formal and informal borrowing. Reduced consumption of quality foods with proteins such as egg, milk and meat was also reported by many. It is alarming that reduced consumption was reported by majority of both suicide HHs and control HHs (23 and 17.7 percent) of MP where high levels of nutritional insecurity is already reported as per NFHS -3.This is particularly reported by the HHs of Alirajpur district of MP who belongs to tribal community mostly. Surprisingly, bonded labour was reported by them as one of the coping mechanism. In Telangana bonded may not be by means of traditional systems where the person lives with the creditor family till he /she could repay the loan but it is mostly attached labour with an agreement for payment of wages but in a very exploitative way. The traditional way of bonded labour was observed in Rewa district where creditors have been taking the children of the debtor families mostly by paying 4 to 5 bags of wheat or rice to the family. Unfortunately, support from village panchayats or peer to peer counselling seems to be very less with only 1.3 percent and 1.6 percent of the total coping strategies adopted by the suicide households..

Table 5.29. : Coping Strategies Adopted by the sample households

Coping strategy	Telangana		MP		Karnataka		Maharashtra		TOTAL	
	FS	CG	FS	CG	FS	CG	FS	CG	FS	CG
Mortgage	2 (0.5)	0	0	0	5 (2.2)	2 (1.1)	4 (1.1)	5 (1.4)	11 (0.9)	7 (0.6)
Sell Assets	28 (6.4)	20 (4.0)	5 (3.0)	1 (0.7)	30 (13.3)	12 (6.3)	29 (8.0)	18 (5.1)	92 (7.7)	51 (4.3)
Use Savings	30 (6.8)	28 (5.6)	23 (13.8)	18 (13.2)	17 (7.6)	20 (10.6)	19 (5.2)	22 (6.2)	89 (7.5)	88 (7.5)
Withdraw Children from School	8 (1.8)	5 (1.0)	0	0	0	0	7 (1.9)	0	15 (1.3)	5 (0.4)
Migration	0	3 (0.6)	0	0	0	0	9 (2.5)	1 (0.3)	9 (0.8)	4 (0.3)
Bonded Labour	43 (9.8)	60 (12.1)	9 (5.4)	10 (7.4)	0	0	12 (3.3)	2 (0.6)	64 (5.4)	72 (6.1)
Formal Borrowing	102 (23.3)	101 (20.3)	38 (22.8)	28 (20.6)	28 (12.4)	44 (23.3)	81 (22.3)	97 (27.4)	249 (20.9)	270 (23.0)
Informal Borrowing	88 (20.1)	94 (18.9)	31 (18.6)	23 (16.9)	90 (40.0)	35 (18.5)	112 (30.9)	122 (34.5)	321 (26.9)	274 (23.3)
Reduce Consumption	69 (15.8)	61 (12.3)	39 (23.4)	29 (21.3)	19 (8.4)	15 (7.9)	28 (7.7)	14 (4.0)	155 (13.0)	119 (10.1)

Help from village panchayat	4 (0.9)	0	9 (5.4)	6 (4.4)	0	0	2 (0.6)	18 (5.1)	15 (1.3)	24 (2.0)
More wage employment	2 (0.5)	7 (1.4)	0	0	0	0	32 (8.8)	26 (7.3)	34 (2.8)	33 (2.8)
Depend upon NTFP	0	6 (1.2)	0	0	0	0	18 (5.0)	10 (2.8)	18 (1.5)	16 (1.4)
Change crop choices	29 (6.6)	32 (6.4)	10 (6.0)	11 (8.1)	23 (10.2)	27 (14.3)	2 (0.6)	4 (1.1)	64 (5.4)	74 (6.3)
Improve technology	4 (0.9)	9 (1.8)	0	0	8 (3.6)	11 (5.8)	0	0	12 (1.0)	20 (1.7)
Work as self-employee	0	4 (0.8)	1 (0.6)	0	1 (0.4)	4 (2.1)	0	3 (0.8)	2 (0.2)	11 (0.9)
Help from Aasara	0	3 (0.6)	0	0	0	0	0	0	0	3 (0.3)
Accessed health risk fund	24 (5.5)	36 (7.2)	0	0	0	0	0	0	24 (2.0)	36 (3.1)
Peer to Peer counselling	5 (1.1)	22 (4.4)	2 (1.2)	10 (7.4)	4 (1.8)	19 (10.1)	8 (2.2)	12 (3.4)	19 (1.6)	63 (5.4)
Others	0	6 (1.2)	0	0	0	0	0	0	0	6 (0.5)
Total	438	497	167	136	225	189	363	354	1193	1176

Source: Primary survey

5.21. Support from Local Institutions

Local institutions can play a major role in identifying distress households and provide support systems to these households as they have 'ear on ground"' compared to the other institutions. The roles of two major local institutions are discussed below.

5.21. A Support from Panchayat System

The role of panchayat in mitigating the distress of the households in a village was found to be minimal**.** It seems to have played some role only at the time of demise of the farmer compared to the other times of distress when it is needed. Around 34 suicides HHs (17 percent) reported that local panchayat supported their families after the suicide. Among them majority were from Telangana. Support for children education was provided by some panchayats (10 percent) majorly from Karnataka. Moral support to the loanees in case of harassment by the creditor was provided by some panchayats but more to control HHs than suicide HHs. Similarly some panchayats in Karnataka and Telangana have supported in developing the agriculture land of the sample HHs through MGNREGS. Control HHsreceived more support than suicide HHs regarding this. The support received by Panchayat to both suicide and control HHs of MP

was almost nil except allotting the development of agriculture lands under MGNREGS to some HHs.

Table 5.30. : Support from Panchayat System

Purpose	Maharashtra		Karnataka		Telangana		MP		Total	
	FG	CG	FG	CG	FG	CG	FG	CG	FG	CG
To the suicide families at the time of farmer suicide	3	-	8	-	23	-	-	-	34	-
Moral support in case of creditor harassment	1	2	2	4	1	3	-	-	4	9
Any livelihood support	-	-	-	-	-	-	-	-	-	-
Support to develop the agriculture land through MGNREGS	2	5	4	4	8	9	2	3	16	21
Support for Children Education	-	-	8	-	12	-	-	-	20	-
Offer of support In case of health problems/mental problems of any family member	-	-	-	-	-	-	-	-	-	-

Source: Primary survey

5.21. B Support from SHG Institution

The SHG-Bank Linkage Programme is an important strategy for delivering financial services to the poor in a sustainable manner. Under this programme, SHGs come together

and gain financing access through banks by pooling in their resources. The pilot project was started by NABARD in 1992 as a partnership model between SHGs, banks and NGOs. Later on, RBI approved guidelines to banks to enable SHGs to open accounts. This was coupled with a commitment by NABARD to provide refinance and promotional support to banks for the SHG-Bank Linkage Programme.

Compared to local panchayat system the support of SHG to the FS households was more with 32.5 percent. The support systems provided by SHGs of Karnataka was more with 44 percent followed by Telangana with 36 percent. Good number of SHGs have also provided moral support to the sample HHs (96 percent of CGl HHs and 85 percent of FSHHs) in case of creditor harassment. Control Group households were found to have received more (56 percent) support from SHGs for health related problems compared to FSHHs with 18 percent. Similarly livelihood support was provided more to the CGHHs with 36 percent compared to FSHHs with 18 percent. The SHGs of Karnataka and Telangana were found to be more active in providing moral support the sample HHs compared to Maharashtra. MP fared least in this case.

Table 5.31. Support from SHG Institution

Purpose	Maharashtra		Karnataka		Telangana		MP		Total	
	FG	CG	FG	CG	FG	CG	FG	CG	FG	CG
To the suicide families at the time of farmer suicide	15	-	22	-	18	-	10	-	65	-
Moral support in case of creditor harassment	8	12	16	18	14	22	6	6	44	48
Any livelihood support	2	3	4	6	3	9	-	-	9	18
Offer of support in case of health problems	1	5	2	8	3	13	-	2	9	28
Offer of support in case of any social problems	1	3	2	7	4	11	-	1	8	22

Source: Primary survey

5.22. Information about Deceased Member

The discussion so far revealed the fact that though the land holding pattern is similar between CG and FS households there were certain significant parameters that distinguished these two in terms of resilience against odds. Some of the features of resilience found in CG households were

a) More access to public extension systems and other support systems in the form of subsidized seed and agronomical practices.
b) More income from cultivation and allied agriculture activities
c) More support from local institutions especially the SHGs
d) Less expenditure on social and other expenditure
e) Less number of loans taken from various sources
f) Less number of purposes for which loan are taken

Even then, it is perturbing to note why some members of rural society are committing themselves to the extremity of suicide. In this context, a closer look at the deceased member of the suicide household revealed the following parameters.

a) The majority (191 out of 200) of the deceased members who took their life in case of distress were male members. In some selected districts few female farmers suicides also committed suicide due to intense poverty and were unable to cross the visible and invisible hurdles in life, also took their life, their number id less compared to their male counterpart. Unfortunately, the majority of the deceased members (87 %) were the head of the household before.
b) Majority of them belongs to the productive age group
c) Around 78 percent of them were either illiterates or having primary level of education
d) Though 85 percent of them were married, around 13.5 percent of them are yet to get married. However, these people were pulled down by family responsibilities on one hand and their inability to improve the economic status of their households.
e) Pesticide consumption was the major way out opted by majority of them (54 percent) followed by hanging (38 percent) themselves.

Table 5.32. : Information about the deceased member (No of Farmers)

Item		State				Total
		Maharashtra	Telangana	Karnataka	MP	
Sex	Male	47	48	47	49	191
		94%	96%	94%	98%	95%
	Female	3	2	3	1	9
		6%	4%	6%	2%	5%
Status in the family	Head of the Household	44	46	37	47	174
		88%	92%	74%	94%	87%
	Family Member	6	4	13	3	26
		12%	8%	26%	6%	13%
Age	20 - 30	11	9	8	9	37
		22%	18%	16%	18%	18%
	31 - 40	15	21	13	15	64
		30%	42%	26%	30%	32%
	41 - 50	4	14	8	13	39
		8%	28%	16%	26%	19%
	51 - 60	11	4	12	4	31
		22%	8%	24%	8%	15%
	Above 60	9	2	9	9	29
		18%	4%	18%	18%	14%
Education Status	Illiterate	31	25	19	43	118
		62%	50%	38%	86%	59%
	Literate but below primary	6	15	17	0	38
		12%	30%	34%	.0%	19%
	Primary	6	2	8	0	16
		12%	4%	16%	.0%	8%
	Secondary	6	2	4	1	13
		12%	4%	8%	2%	6%
	Higher secondary	1	4	2	4	11
		2%	8%	4%	8%	6%
	Graduation and above	0	1	0	2	3
		.0%	2%	.0%	4%	2%
	Others	0	1	0	0	1
		.0%	2%	.0%	.0%	.5%
Marriage Status	Never Married	10	1	14	2	27
		20%	2%	28%	4%	13%
	Married	40	49	34	47	170
		80%	98%	68%	94%	85%
	Widow/Widower	0	0	1	0	1
		.0%	.0%	2%	.0%	.5%
	Divorced/Separate	0	0	1	1	2
		.0%	.0%	2%	2%	1%
Method of Suicide	Pesticide Consumption	27	34	26	21	108
		54%	68%	52%	42%	54%
	Hanging	18	9	22	27	76
		36%	18%	44%	54%	38%
	Others	5	7	2	2	16
		10%	14%	4%	4%	8%

Source: Primary survey

5.23. Temporal Pattern of suicides

There is a pattern that emerges from the analysis of the timing (in terms of month in which farmer households have committed suicide) of suicide in the study States. The details of the months with larger occurrence of suicides of farmer households in the States studied are given in Table 5.33. It can be observed that the highest number of suicides in each of the States studied had occurred immediately after the harvesting season specific to the study areas. March-April is harvesting season of Major Rabi crop and major sale happens during the month of May. Most of the Pulses-Soybean-Cotton harvests take place during these months. A lower return than that expected from the produce which is not sufficient to meet their financial requirements might have triggered the suicides. This period is also the end of the financial year during which credit agencies might have demanded repayment of the credit advanced. The period from November to December is the peak time of sale of harvest from kharif season. The broad conclusion that can be drawn from the monthly distribution of suicides in study districts is that large number of the suicides has happened in months following harvest and sale of rabi (February –June) and kharif (November- December) crops.

Table 5.33. : Month wise suicide cases registered among sample districts

States	**Month with highest number of suicides**
Telangana	November and April, May (after kharif and rabi harvest)
Karnataka	May to August (after rabi harvest)
Maharashtra	May and December (after rabi and kharif harvest)
Madhya Pradesh	February (after rabi harvest)

	State								**Total**
Sex	**Maharashtra**		**Telangana**		**Karnataka**		**MP**		
	Beed	**Yavatmal**	**Nalgonda**	**Siddipet**	**Haveri**	**Mandya**	**Aliraj pur**	**Rewa**	
January	2	2		1	2	2	1		10
	8%	8%		4%	8%	8%	4%		5%
February	1		3	3	2	2	6	3	20
	4%		12%	12%	8%	8%	24%	12%	10%
March			3	2	4	3	2		14
			12%	8%	16%	12%	8%		7%
April	1	2	3	4	1	1			12
	4%	8%	12%	16%	4%	4%			6%
May	8	4	1		4	1	3	3	24
	32%	16%	4%		16%	4%	12%	12%	12%
June	2		3	3		4	2	1	15
	8%		12%	12%		16%	8%	4%	8%
July	2		1	3		3	5	2	16
	8%		4%	12%		12%	20%	8%	7.5%
August	1	1	2		4	1	1	3	13

	4%	4%	8%		16%	4%	4%	12%	7%
September	1			1	3	1	2	1	9
	4%			4%	12%	4%	8%	4%	4.5%
October		1	1	1	1		1	2	7
		4%	4%	4%	4%		4%	8%	3.5%
November	2	2	4	2	1	1	1	2	15
	8%	8%	16%	8%	4%	4%	4%	8%	7.5%
December		4	1	2	3	2	1	3	16
		16%	4%	8%	12%	8%	4%	12%	8%
Not known	5	9	3	3		4		5	29
	20%	36%	12%	12%		16%		20%	15%
Total	25	25	25	25	25	25	25	25	200
	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Primary survey

Table 5.34. : Change in Self Esteem of FS Household before the Incident, as perceived by the household (No of Farmers)

Reasons		State								Total	
		Maharashtra		Telangana		Karnataka		MP			
Change in the social position before the incident	Yes	17	34%	11	22%	15	30%	4	4 %	47	23.5 %
	No	33	66%	39	78%	35	70%	46	46 %	153	76.5 %
Deterioration in Economic Status before the Incident	Yes	9	18%	29	**58%**	19	38%	15	15 %	72	36%
	No	41	82%	21	42%	31	62%	35	35 %	128	64%
Family members of marriageable age	Yes	21	42%	17	34%	26	**52%**	4	4 %	68	34%
	No	29	58%	33	66%	24	48%	46	46 %	132	66%
Harassment for the repayment of loan before the incident	Yes	11	22%	43	**86%**	37	**74%**	2	2 %	93	46.5 %
	No	39	78%	7	14%	13	26%	38	38 %	97	48.5 %
Problems with Spouse	Yes	12	24%	38	**76%**	9	18%	**20**	20 %	79	39.5 %
	No	38	76%	12	24%	41	82%	35	35%	126	63%
Problems with other family members	Yes	10	20%	42	**84%**	12	24%	1	1%	65	32.5 %
	No	40	80%	8	16%	38	76%	49	49%	135	67.5 %
Disputes with neighbours and others in the village	Yes	12	24%	1	2%	10	20%	4	4%	27	13.5 %
	No	38	76%	49	98%	40	80%	46	46%	173	86.5 %
Any precedence of suicide in this village before the incident	Yes	9	18%	17	34%	9	18%	0	0%	35	17.5 %
	No	41	82%	33	66%	41	82%	50	50%	165	82.5 %

Death in the family before the incident	Yes	12	24%	3	6%	6	12%	0	0%	21	10.5 %
	No	38	76%	47	94%	44	88%	50	50%	179	89.5 %
Any precedence of suicide in the family before the incident	Yes	15	30%	1	2%	8	16%	0	0%	24	12%
	No	35	70%	49	98%	42	84%	50	50%	176	88%
Incidence of Chronic illness by the victim	Yes	4	8%	1	2%	8	16%	**28**	28%	41	20.5 %
	No	46	92%	49	98%	42	84%	32	32%	169	84.5 %
Does the victim received any major medical assistance before the incident	Yes	14	28%	1	2%	10	20%	0	0%	25	12.5 %
	No	36	72%	49	98%	40	80%	50	50%	175	87.5 %
Change in the deceased's behaviour before the incident	Yes	6	12%	13	26%	9	18%	7	7%	35	17.5 %
	No	44	88%	37	74%	41	82%	43	43%	165	82.5 %
Does the deceased has any alcohol addiction	Yes	34	**68%**	13	26%	38	**76%**	40	40%	125	62.5 %
	No	16	32%	37	74%	12	24%	10	10%	75	37.5 %

Source: Primary survey

5.24 Socio Economic Status of suicide Household due to distress

Table 4.34 presents the reasons for suicides as described by family members of the victims. As seen from the table that when multiple causes snowballed into a crisis what factor that triggered the ultimate event is not relevant. Overall, the majority of the suicide victims of Telangana and Karnataka had been found to have suffered from depression due to harassment for the repayment of loans which led them to perceive that their social status has degraded in the village. Family members of marriageable age are one of the critical social reasons for distress. In the study region, on an average 32 % of the sampled HHs mentioned that their families had marriageable age group people and this brought them under the stressed situation as marriage is a social norm which if failed will be considered as a failure on the part of the head of the household. Major reasons identified for change in socio economic status of the deceased household were addiction to alcohol (62.5 percent), harassment for the repayment of the loan (46.5 percent), deterioration of economic status before the incident (36 percent) , problem with spouse (36 percent) followed by chronic illness (20.5 percent). This also helps to draw inferences about the role of the traditional and religious institutions whose presence could provide some solace to the people at the time of distress. Unfortunately, these institutions were utterly absent in Alirajpur district of MP which made these people isolated and alienated from the rest of the world. (Please see the case Study)

The other important factor that leads the farmer to commit suicide was the prevalence of chronic illness in MP with respect to Alirajpur district which is reflecting the status of malnutrition in this district and State. Overall, the absence of timely supporting through the institutions and increased economic problems drive the farmers to take a step to commit suicide.

5.25. Compensation from the State to the Suicide Households

The different States have been following different methods of providing relief to the suicide households by way of compensation. While the State governments of Maharashtra, Telangana and Karnataka recognized the farmer's suicides officially and came out with a policy for relief and rehabilitation of the victim households, the government of Madhya Pradesh is yet to recognize the suicides in the rural areas as farmer's suicides. The data regarding the farmer's suicides are available only with the Home department in this State, as of now. The compensation being followed by other states is examined below.

5.25.1. Government of Maharashtra

Vidarbha region is the epicentre of major farmer suicide crisis, followed by Marathwada region in Maharashtra. Given the seriousness of the problem and the level of distress which led several farmers to take the extreme step, the land and Revenue department of Maharshtra has taken the responsibility of providing compensation to the victim families to an extent of Rs. One Lakh from Social Security and Welfare Fund which is a regular budgetary head. A district level Committee was formed by involving representatives of agriculturists, NGOs, the superintendent of Police, The Chief Executive officer of the ZillaParishad, and agricultural officers. All cases relating to farmer's suicides are to be considered at the district level committee and the compensation disbursement was made strictly by the committee from the available funds at its disposal. The state government further submitted that initially assistance was made based on the following criteria's 1) The deceased person should be an agriculturist, or any member in the family holds an agriculture land 2) Farmer should have been indebted to a financial institution that had disbursed a loan to him, 3) Undergone pressure for the recovery or repayment of the loan at the behest of the creditor. Out of One lakh compensation package, Rs. 30,000was paid in cash and Rs. 70,000 was deposited in the bank as a Fixed Deposit. All the suicide HHswere found to have received compensation.

5.25.2. Government of Telangana

A GO (G.O.Ms.No.173 on 22. 09.2015) was released by Revenue department forthe Relief of households of families with suicides for the enhancement of ex-gratia to Rs.5.00 lakhs from Rs. One lakh earlier and a onetime loan settlement ceiling limit from Rs. 50,000

to Rs. One Lakh to mitigate the distress and debt of deceased family members of farmers who have committed suicide due to the failure of agriculture followed by the following rehabilitation package a) Admission of Children in Social Welfare schools and Hostels. b) Allotment of houses under I.A.Y Scheme, c) Economic support under Government schemes and d) Pensions.

In practice, in order to prove the farmer suicides as farmer's suicides the victim family needs to provide 13 documents that are presented below as per GO No. 421

1. First Information Report (FIR)
2. Panchanama report
3. Post Mortem Report (PMR)
4. Forensic Science Lab Report (FSL report)
5. Final report (These five documents need to be obtained from police station)
6. Private loan documents as proof
7. Bank loan documents
8. Land Pass Book
9. Dependents certificate
10. Ration card
11. Three years agriculture pahani
12. Mandal level verification committee report (MLVC). (Three Member Committee consists of Mandal Revenue Officer (MRO), Police Sub Inspector (SI) and Agriculture Officer (AO).
13. Division Level Verification Committee Report (Three Member Committee consists of Revenue Divisional Officer (RDO), Deputy Superintend of Police (DSP) and Assistant Director of Agriculture (ADA).

After the proof of above, an amount of one lakh will be released to repay the outstanding debt. Followed by this the ex gratia amount of Rs. 5 Lakhs is placed under the joint Account of Mandal Revenue Officer and the Wife of the victim. These five lakhs is being released with a proof of any expenditure incurred on inputs (such as Fertilizers and Pesticides) by the victim prior to his demise. This has become a matter of difficulty to the family to produce the proof of expenditure on inputs and therefore subjected to harassment by the Revenue Office, in some cases. Out of 50 suicide sample HHs studied , compensation was received by 44 HHs of which the full amount of compensation was received only 17 HHs with the reason that they could not provide enough evidence of expenditure incurred on agriculture inputs.

5.25.3. Government of Karnataka

The compensation amount at present being paid by the government of Karnataka to the victim families is Rs.5 lakhs. In order to prove the farmer suicides as farmer's suicides he/she should produce five documents as below.

1. First Information Report (FIR)
2. Panchanama report
3. Private loan documents as proof
4. Bank loan documents
5. Land Pass Book

As part from the above the other rehabilitation package to the family is

- The widow pension for the wives of farmers who committed suicide to Rs. 2,000.
- Educational expenses of the victim farmer's children will be taking care till their post-graduation.
- Rs.2, 00,000 rupees from Panchayati.
- 0ne cow will be provided by State Government

Out of 50 sample suicide households, the compensation was received by 35 households so far.

Table 5.35. : Help Received From State Government

Help received		State			
		Maharashtra	Telangana	Karnataka	MP
Has the family received any compensation from the government	Yes	50	44	35	0
		100%	88.0%	70.0%	.0%
	No	0	6	15	50
		0	12%	30%	100%
Compensation Received (Rs. In lakhs)	< 1 Lakh	50	1	0	0
		100%	2.2%	0%	0
	1 – 2 Lakhs	0	10	0	0
		0%	22.22%	0%	0
	2 – 3 Lakhs	0	6	0	0
		.0%	13.33%	.0%	0
	3 – 4 Lakhs	0	1	0	0
		.0%	2.2%	.0%	0
	5 Lakhs	0	17	35	0
		.0%	37.77%	100%	0
	5 – 6 Lakhs	0	10	0%	0
		.0%	22.2%	0	0
	> 6 Lakhs	0	0	0	0
		.0%	0	.0%	0
Compensation is Used	Agriculture				

Sources: Primary survey

5.26. Logistic Regression

The variables influencing suicides in the selected study states of India are presented in Table 5.36. The results of coefficients in a logistic regression model represent the logit of the probability of the outcome that changes with a unit increase in the predictor. In the context of present study the odds tells us how likely it is that a suicide happens in relation to independent variables and similarly, how likely it is that suicide doesn't happen. The result reveals that the variables like the total Indebtedness, panchayat support, number of cattle's, extension services and membership in SHGs are statistically significant and have an impact on farmers' suicides in the selected states. Except indebtedness other variables are negatively significant where the negative value shows a negative relationship (inverse) between dependent and independent variables.

Table 5.36. : Logistic Regression coefficients of the variables influencing suicides in India[1]

Variables	India		
	Coefficient	**Odds Ratio**	**Significance level**
C	-0.583	0.558	0.253
Leased in Land	1.036	2.818	0.346
Total Indebtedness	1.986	7.283	0.001***
Education	0.586	1.796	0.427
Income	-5.82107	0.0030	0.6218
Panchayat support	-7.65005	0.0005	0.0378**
Cattles	-1.398	0.249	0.012**
Extension services	-1.670185	0.1882	0.0401**
Output price fluctuation	-0.131	0.878	0.183
Membership in SHGs	-.018	0.982	0.073**
Nagelkerke R Square	0.657		

Note: Statistically significant at 1% (***) and 5% (**).

From the above table it is inferred that, if size of leased in land goes up by one unit (1 ha) then the log of odd ratio i.e., the probability in favor of committing suicide will increase by 2.81 times. This is because of additional expenditure they are incurring for leasing in land and for cost of cultivation in the absence of formal credit support systems and in the event of subsequent crop failure. If total indebtedness goes up by a unit, the probability of committing suicides will increase by 7.2 times. In the study area, large number of sampled HHs have

[1]Selected study states of India

accumulated the debt over the years and that to more amount of their outstanding loan is with non-institutional sources. Panchayat support is negatively significant, which explains that if the farmer gets one unit increase in support the chances of suicide will decrease or avoided by 0.005 times. At present some panchayats in some of the selected villages in Telangana and Karnataka are providing support in the form of land development under MGNREGS to the CG as well as FS households. Similarly with an increase in cattle size the log of odd ratio in committing suicides will go down by 0.249 times. Extension Services and Membership in SHGs are also negatively significant, as one unit increase will decrease the chance of committing suicide by 0.1882 and 0.982 times respectively. Finally, Nagelkerke R Square clearly shows that the model is significant and provides a good fit for the data. Approximately 65% of the variation in the dependent variable can be explained by the independent variables in the model.

Chapter 6: Some Case Studies: Key Messages

6.1. Musings of an Intern

Mr. Suraj Kalidindi

(SurajKalidindi of class 11, Hyderabad, worked in this project as an intern during winter 2017. As a part of this project, he visited some of the villages in Siddhipet district, Telangana State. His reflections are presented below.)

Over the winter break, I had the opportunity to tag along with some of the investigators from The NIRD (National institute of rural development), and visit some villages in the Siddipet district, located North-East of Hyderabad. The project, funded by the National human rights commission, was an investigation to achieve a greater understanding of the leading causes behind the farmer suicides and the impact on the families of the deceased.

"The Agrarian Crisis in India", as the government coins it, refers to the rapid decline in performance of the agricultural sector in India. In the 2007, this sector contributed to 18% of the county's national GDP. And in 2011, this number decreased by 4%. As Agricultural technology advances exponentially, and the profitability of farming falls, the sector is becoming more susceptible to disaster. One such form of disaster is the large number of suicide incidents.

Farmer suicide, however tragic it may be, has always been a problem. Massive debts from loans and failed crop are enough for a farmer to commit suicide. And unless a long-term action plan is taken, it is unlikely that the numbers will change within a couple of years. What can be looked into is what happens after suicide. After a farmer commits suicide, the government provides 6-lakh rupee compensation to the family. In Telangana, the money is sent to a joint account where the wife or other family members can collect it. But before the money can be claimed, the Bank often requests a bill of any sort (related to agriculture). Yet the farmers are unaware of this, and so the money never reaches the hands of the family. In other states like Karnataka, the situation is worse. After the death, the money is directly given to the family, with minimal consideration. This often prompts living farmers to end their own life so that their family might benefit off the compensation. The idea of compensation is ineffective for so many reasons. How can money, whatever the amount maybe, compensate for a person's life? And what good does it do to clear debt after a life has been lost?

Some of the families I visited had such traumatic stories, that I had trouble fathoming such situations. One such gruesome story happened in Nangnoor village. A man added pesticide to his dinner one night with the intention of taking his family with him. Out of four people who ingested the poison, two people died. Stories like these are depressing, but they

often provide clear perspective on matters we know little of. This was especially true in my case. I live a sheltered life, and have never experienced the grim side of reality. And although there is little I can do, spreading awareness is said to be the beginning of change. And this is the purpose of my article

6.2. No Connectivity

Mr. Govind Kumar
Research Associate

One don't need a "Time Machine", to see how people lived 100 years ago, all they have to do is visit villages in Alirajpur district, in India. Although the world is moving forward with new technologies being invented every minute, there are villages like Sondwa, in Alirajpur district, which are still lacking of basic amenities.

Out of 1180 cases of farmers suicides registered in MP during 2015 and 2016 , a total of 94 cases were registered in Alirajpur district. This data is collected from Alirajpur Collectorate, with the help of Superintend of Police, of Alirajpur District.

I visited five households which had suicide cases and, five households which lived adjacent to those households with suicide cases. The size of the land ranges from 1.5 to 2 acres of all the households with suicide cases. Therefore we have selected control household accordingly.

Table 6.1: Status of deceased Person at the time of committing suicide in Sondwa Block, Alirajpur MP

S.no	Ref Case	Sex	Age	Education	Marital Status	Suicide type	Year of Death
1	Case 1	Male	40	Illiterate	Married	Hang	2016
2	Case 2	Male	37	Illiterate	Married	NA[2]	2016
3	Case 3	Male	50	Illiterate	Married	Poison	2015
4	Case 4	Male	40	illiterate	Married	poison	2015
5	Case 5	Male	65	Illiterate	Married	Hang	2015

Three things are common in all cases that are sex, education status and marital status. These all farmers were male, married and illiterate.

[2] Husband Killed his wife and later committed suicide

The Journey started with "No Network"

The place we were heading for was, Sondwa Village which was 23km away from the main Alirajpur Headquarters. As we began our journey to the land where time stood still, the first sign of primitiveness was picked up by our cell phones. We lost mobile network. Now, this scenario can be considered quite common in remote areas, but what we didn't expect to see was, not only was this place technologically backward, but also infrastructural. There was no temple, well, school, anganwadi center, water tank or any community hall, or even a small shop to purchase basic necessities.

With the help of my team mate Sher Singh, who was familiar with the place and people, we located the households with suicide cases. We observed the state of their home, utensils they use, fields, cattle, etc. They were quite dilapidated, old, unclean, unhygienic, and quite frankly inhumane living conditions.

Usually when I visit villages, I get bombarded with questions from the villagers about the objective of our visit, how they are going to benefit from answering our questionnaires and further activities we will be undertaking in that village. But, not only were the villagers in Sondwa Village, indifferent to our purpose of visit, but also, they answered our questions without questioning our motive. This attitude showed us how despaired their lives were, without any tiny glimpse of hope.

We interviewed a lady who lost her husband. He died by committing suicide. It was heart wrenching to even look at her. She was in a bad condition, maybe because of negligence, and also she was suffering from a mental condition. I was quite baffled by her condition that, I couldn't come up with an appropriate question to ask her. Finally, with the help of my colleague, Mr. Jagadish who was well versed in dealing with situations like these, we managed to ask her few questions about her husband and why he chose to commit suicide.

While, Mayna (not her original name) was telling her story, I was also observing the villagers and their reactions to her narrative. I could not find a single person that showed compassion or even a tiny bit of sympathy towards her, they were not even acknowledging her while she was speaking, instead they were watching us. Her husband died when she was 29 years old, leaving her with four children to tend to. She told us that her husband had a drinking problem, which led to his demise, and that, she was notat home when her husband committed suicide. What I didn't understand was that, how could drinking alcohol lead to a person's death, I felt there was more to the story than that. But then, it was time for us to fill the questionnaires. So I had to leave that matter to another day.

We were using a questionnaire to get basic and important information from the suicidal and non-suicidal families with equivalent status. It was a 12 page questionnaire and had questions about the family, agriculture, physical assets, dependency status and also loan status of the family. This questionnaire by itself was a good source, to understand the adversities faced by suicidal families. The questionnaire gave us an overall understanding on what leads to suicide. We can understand that suicide was not only because of failure of crop or repayment of loan, but it takes into account the complete scenario of a farmer's life as co-dependent on multiple stakeholders in the family, society, village and so on. The farmers' response was peculiar though. They were not thinking much when we ask a question, they were replying as though their answers were rehearsed.

Table 6.2: below gives a picture of basic amenities of life these households were deprived of

Assets Names	**Case 1**		**Case 2**		**Case 3**		**Case 4**		**Case 5**	
	S	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**	**S**	**NS**
Smokeless Chulha	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Gas	N	N	N	N	N	N	N	N	N	Y
Electric Fan	N	N	N	N	N	N	N	Y	N	Y
Mobile	N	N	N	N	N	N	N	N	N	Y
TV	N	N	N	N	N	N	N	N	Y	Y
Bicycle	N	N	N	N	N	N	N	N	Y	N
House (Kachha)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
House (Pakka)	N	N	N	N	N	N	N	N	Y	N

Note: Y-Yes, N-No

There are very few livestock, being reared per household and thus income through livestock is not enough. Reason may be anything, but here lack of water is main reason. Another reason may be the lack of skill for the rearing of different livestock in such difficult atmosphere with limited water resources.

Table 6.3: Status of their livestock.

Livestock names	Case 1 (No. of Livestock)		Case 2 (No. of Livestock)		Case 3 (No. of Livestock)		Case 4 (No. of Livestock)		Case 5 (No. of Livestock)	
	S	NS	S	NS	S	NS	S	NS	S	NS
Bullocks	0	0	0	2	2	2	2	2	2	2
Cow	0	0	0	0	1	0	0	0	0	2
Buffalo	1	1	0	0	0	0	1	0	2	1
Sheep/Goat	2	3	0	5	2	2	0	0	0	4
Poultry/Bird	0	0	0	0	0	0	0	0	0	2
Total Value	20K	25K	0k	45k	50k	15k	20k	10k	20k	65k

S- suicidal, NS- Non-Suicidal, K-thousand -***Source- Primary Data***

The crops they usually grew in their village were maize, soybean and urad dal (black gram pulses) during the kharif season. They sell soybean but keep maize and urad dal for their daily consumption, one reason being the production of maize and urad dal is too little to sell. The average productivity of white maize is up to three quintals per acre. Soybean is being procured by the local traders in the village. Other than this no other crop is being produced by them and not even vegetables. Maize and Urad Dal seems to be their only source of carbohydrate and protein without any diversified consumption and I could see that they were physically weak and mentally unbalanced. Excess alcoholism (unlimited supply of local alcohol with Rs. 20) and poor dietary pattern may be the reasons for the shorter life span (hardly around 40 to 45 years), as I was told. It is surprising that Surat, big industrial city is hardly 200km away from these villages, with some people from these villages already have migrated there, why some remittance has not been trickle down to these villages. After getting all our survey questionnaires filled up, we left these villages with their lifeless eyes haunting our backs.

6.3. Cases from the Field

Dr. G. Jagadeesh

The Case of Vertical Tenancy

Jinakala Chandraiah of buddaram Village of Nalgonda mandal, Nalgonda district committed suicide on 27th April 2016. J. Chandraiah, owned **one** acre of land and was from Mudiraj community. Mudiraj community is a backward class community. He was cultivating paddy crop in his land. Two years prior to his death, he has leased- in additional five acres from upper dominant peasant class and, cultivated cotton crop. He cultivated paddy in his one acre land and cotton in the five acres of leased land during 2015-16. The lease per acre per

year was Rupees 5,000.Chandraiah borrowed all this money from money lender, traders and his close relatives of the same caste**.** In addition to the amount spent on land leasing the other investment in form of inputs burdened him with a debt of around Rs.2, 95,000. After the suicide the family did not have money for the funeral expenses and the caste community supported that expenditure. The close relatives who lent Chandraiah the money however expect the money to be paid back to them. Chandraiah himself never shared his psychological pressure and situation with his wife and family members when he was alive. After verification of suicides by three man commission, the family has received money from the government. Chandraiah's family members informed that though the caste community supported them financially at the time of funeral, the amount was repaid to them. This along with other social expenditure incurred to follow the social norms post the death of victim has engulfed the entire compensation, leaving the wife all alone continuing to the battle issues her husband has left behind.

Increased Indebtedness leading to Social Vulnerability

Mandha Anjaiah of ponugonda Village of Nalgonda mandal, Nalgonda district committed suicide on 19th July 2015. He had half an acre of dryland and, prior to his demise he cultivated three and half acres of land which was leased to him from a local land owner from Reddy caste at the rate of Rupees 7000 per acre per year. Anjaiah was a Scheduled Caste farmer. He cultivated cotton crop in the total three and half acres of land. He was cultivating cotton for past eight to nine years prior to his death. Anjaiah diedowing to debt burden that accumulated over a period of time to around Rupees 2, 60,000 at the time of his death. The cotton crop failed continuously for two years prior to his death. Anjaiah borrowed the money from money lender, traders and his relatives from this village and the neighboring villages with high interest rate. The lenders never pressurized him to pay back but he went into depression owing to debt and committed suicide by consuming pesticide.

Case of Delayed Compensation

Manda Sammaiah died consuming pesticide on 17th December, 2017. He owned two acres of dry land and leased in another two acres from an upper caste landowner at the rate of Rupees 4,000 per acre per year. Sammiah was a Scheduled Caste farmer who cultivated cotton on his own land as well as on the leased land. At the time of his death Sammiah had debts amounting to Rupees 1, 00,000. Of this, Rs 40,000 were borrowed from the land owner, who leased out the land to him, at four percent interest rate. And the remaining amount was borrowed from his relatives. Those who lent money pressurized Sammiah to pay back; and under the pressure he committed suicide. It is perturbing to decipher, how a person would be

pushed to the extremity of committing suicide just so that his family could continue living on the ex gratia they would receive after his death. The family is still waiting for the ex gratia that was promised. An enquiry with the Mandal Development Officer and Mandal Revenue Officer revealed that they would receive the compensation shortly.

Water failed, Seeds failed and Pesticides failed

Parikirala Sadaiah died of pesticide consumption on 16th September 2017. He was a backward class farmer owning three acres of dry land and 0.75 acres of wetland. Sadaiah died owing to, accumulated debts of about 1, 15,000 Rupees. The debts were accumulated as a result of failure of the cotton and chilly crops, and also, to a failed attempt to dig a well in his dry land .The major reason for the crop failures was failure of the cotton seeds to germinate and also, because the pesticides did not work on the pests. As his family members informed, seeds failed, fertilizer failed and pesticides failed. The well failed owing to a rock layer that came after digging some depth. The interest on the loans multiplied. Sadaiah brought money for his crops, from his relatives. And the lenders pressurized and humiliated him to pay it back. Also, the caste community has a caste chit fund and Sadaiah borrowed some money from the chit fund too. That money too is to be paid back. The members of the caste were not of much help because; they too are small and marginal farmers and could not afford to help Sadaiah in paying his debts. There was no help from any side which ultimately led him to take his own life. Local Sarpanch and other village elders contributed to the funeral expenses. There is no exgratia or compensation from the government so far. The family still cultivates cotton; apparently owing to the reason that the crop withstands drought condition better than the other crops.

Social Pressures and Indebtedness

Lenkala Bhaskar Reddy died on 17th February 2014 consuming pesticide. Lenkala Bhaskar Reddy had two daughters and one son. He owned a land, which was about two acres and also, leased in five acres of land. He cultivated cotton on six acres and paddy on one acre. He has borrowed both from institutional and non- institutional sources. From the institutional sources, he borrowed Rs.4, 74,182 and non- institutional sources Rs. 5, 00,000 with high interest rates. He died of pressure from accumulated debts and other losses owing to digging of a well and death of plough animal.

Mismatch between raising aspirations and meeting the needs

Mr. Shivanna Aof Kuppa of Muddur Taluk, MandyaDistrict is a Small Farmer, who owns 2.5 acres of land. He has sown paddy in One Acre and sugarcane crop in 1.5 acres. He is father of two Daughters and one Son. He borrowed Rupees 2.5 lakhs from Institutional

sources like Banks and Self Help Groups (SGHs), and Rupees 6 lakhs from non- institutional sources at 36 percent interest rate. Out of these 6 lakh Rupees, 5 lakh Rupees were spent on one of his daughters' marriage. The remaining One Lakh Rupees were paid towards the education of his only Son. Apart from these loans, another One Lakh Rupees were taken as a loan for the House Repairs. From the Traders and Money Lenders another 2.5 Lakh Rupees were borrowed at 36 percent interest rate, to meet other Family Social functions and Obligations. Over and above, for Sugarcane Cultivation he depends on Sugar Factory for the inputs on Seeds, Fertilizers and Pesticides. For Paddy cultivation, seeds were collected from local Villagers and buys on credit fertilizers and pesticides from Inputs Dealer's Shop. The canal water has failed to reach the sugarcane field, his being the tail-end land. Therefore the yield of sugarcane has come down which was just enough to repay the sugar factory the advance he has taken for inputs. Meanwhile moneylenders, inputs dealers, friends, and everybody who lends the money have cornered him for the recovery of loans. This has inflicted a social shame and the deflated dignity resulted in committing suicide.

How marriage as a mark of social respectability pulling the families down

Jayasheelamma of Shankarapura village, Muddur Mandal of Mandya has 0.25 acres of irrigated land and she also leased in 0.5 acres land. She has two bullocks worth of Rs.60000 and two goats worth of Rs.20000. She grows mulberry in her own land and paddy in the leased-in land. In addition, she also attends MGNREGA wage works. She has a total credit of Rs.7.5 lakhs of which Rs.6 lakhs was taken from a trader at an interest rate of 36%,

Rs.1.5 lakh from SHG at 0.8% interest rate. The purpose for which loan was taken was, for the marriage of her daughter which cost her Rs.3 lakhs, and also for other investment purposes. Both her husband and son have died and the crop failed with improper water facility, she is left all alone to battle the commitments to repay the lease amount and other debts. Unable to cope up with the pressure led her to commit suicide.

Bore Gowda from Khudaragundi Village, Muddur Mandal, and Mandya committed suicide on 14-1-2017. He has an irrigated land of 1.25 acres and taken another 1 acre land on lease. Main crops were sugarcane in own land and paddy in leased-in land. Apart from cultivation he also attends the agriculture labour works. Incurred Rs.4 lakhs for daughter's marriage, Rs.1 lakh for hospital, crop investment Rs.3 lakhs, house repairs Rs.50000.

Case of Alienation from the Society

Ganesh from Chakalamba village of Georaraimandal of Beed districtbelonging to VimuktaJati Non Tribe (VJNT) tribe, committed suicide in 2017. Has an agricultural land of 3.5 acres and leased in 7 acres of land from a Trust in his village. Main crops he has cultivated were cotton in 3.5 acres and Bajra in 7 acres. He used to arrange workers from his village for the sugarcane factory to cut the sugar cane crop. He has collected Rs.11 lakhs from the sugar factory and distributed to the sugarcane cutters as an advance in his village. These workers after receiving the advance migrated from the village and did not participate in sugarcane cutting as part of the agreement. The sugar factors owners have taken 2 acres of his land and he was left with an outstanding indebtedness of Rs.13 lakhs. No moral support he has received from the village left him with a depression leading to suicide.

No alternate source of Income

Ms. Sunita Patel from Chandupurvillage,Sirmor Mandal of Rewa district, Madhya Pradesh committed suicide in 2015. Has an own land of 0.5 acres with no assets. The crop grown is paddy in both kharif and rabi seasons. The total outstanding debt is 3 lakhs with an institutional debt of Rs.2.5 lakh and non-institutional debt of Rs.50000.

Fallen Social Status with Farming

Chotilalof Kanchanapur village, Rewa District, Madhya Pradesh committed suicide in 2015. He belongs to Brahmin community. He has an irrigated land of 2.5 acres and one cow with a value of 25000. During kharif they cultivate black gram and during Rabi wheat. He committed suicide as he could not get married because of his fallen social status with respect to agriculture.

Resorting to Crime with a lack of livelihood

Premlal Patil from Gorgave of Raipur Mandal, Rewa District, Madhya Pradesh committed suicide in 2016. Has an irrigated land of 1 acre without any livestock. Grows paddy during kharif and wheat during Rabi. He has a murder case in his name and has deposited 6 lakhs against the name of his children and committed suicide because he is afraid of police case relating to the murder.

6.4 Key Messages

- Land (in a small size) is the only asset these farmers had to continue their livelihood. In order to fulfill their rising needs and aspirations they were trying to augment their production base by leasing in land.
- Agriculture as the only means of livelihood is unable to meet the increased expenditure in social, health and education
- Farming as a livelihood is leaving out the prospects of young people in villages in getting suitable partners.
- Expenditure for marriage as a mark of social respectability and a fear of social alienation if they are unable spend on marriages is pulling down the rural households into a perpetual debt trap which they were unable to come out.
- Increased social alienation and indifference among the rural households because of economic and social factors.

Chapter 7: Innovative Programs of Selected States

7.1 Bhaavantar BhugtaanYojana (BBY) – The Case of MP3 *

Government of Madhya Pradesh has launched a new scheme called Price Deficiency Payment Scheme (PDPS) or Bhaavantar BhugtaanYojana (BBY) during Kharif, 2017.The scheme envisaged direct payment of the difference between the MSP and the average sale price (ASP) to the farmers who are selling their produce in the notified APMC yard, through a transparent auction process. The payment would be done directly into beneficiary farmers bank accounts. Under the scheme it is mandatory that the farmers should register in BBY portal at registration centers run by 3500 PACS and to trade agriculture produce in the notified APMC campus within the time period declared for sale by the state government. The scheme covers 8 identified crops for Kharif 2017 including Soybean, Groundnut, Sessamum, Ramtil, Maize, Moong, Urad and Tuar. Every farmer was provided with a unique registration number (URN). Farmers were also informed of the URN through SMS on their registered mobile number. The registration data pertaining to sown area has been verified by the revenue officials in the field. After the sale auction in APMC, the farmers have to provide the URN where the nominated employee/ officer of APMC have to record the URN along with Quantity of sale and rate of sale on the entries of Agreement Slip, Weight Slip and Payment slip which are then uploaded against the URN of the farmers on the Bhaavantar BhugtaanYojana (BBY) portal. Uploading details of registered farmers' transactions will be only after the payment by the licensee trader to the farmer has been made. The calculation of the ASP for the specified crops is based on simple average of the modal prices of the crop taken from AGMARKNET portal of MP and other two states. That is, a weightage of one third was given to all the three states modal prices for arriving at ASP.

The price deficiency payment would be made to the farmer's bank account for the quantity traded in the APMC which is upto the maximum limit of his expected production. The expected production has to be calculated on the basis of sown area given by farmer at the time of registration (verified by the revenue department) and average productivity of the district of that crop. The average productivity of a crop was calculated for best three years out of 5 preceding years as per CCEs carried out by the Revenue Department. In any agro-climatic zone, best figure of a district compared to others in that. Agro-climatic zone were considered as average productivity for all other districts falling in the same agro-climatic zone. The

[3]*Taken from the note on BBY by the Telangana State MARKFED department

payments in the farmers bank accounts through DBT would be done by APMC after verification and confirmation by a committee headed by the District Collector as per following formula:-

- If the sale price of agriculture produce sold in the APMC of an individual farmer is at par or more than the MSP, no benefit would be paid under Bhaavantar BhugtaanYojana (BBY)
- If the sale price of agriculture produce sold in the APMC is less than the MSP but more than the ASP, benefit would be admissible only to the extent of actual difference between MSP and actual sale price of the farmer.
- If the sale price of agriculture produce sold in the APMC is less than the ASP, benefit would be admissible to the extent of difference between MSP and ASP.

The amount payable to a farmer is to be transferred to his/her bank account registered on BBY portal at the time of registration. A warehouse storage incentive was designed to such registered farmers who does not sell his produce during the notified time limit in anticipation of upward price movement in the later part of the year has been provided under Bhaavantar BhugtaanYojana (BBY). Any farmer keeping his produce in a registered warehouse would be eligible for this grant. The warehouse has to be registered with MP Warehousing & Logistics Corporation (MPWLC). The eligible Ware housing charges has been declared at the rate of Rs.9.90 per quintal per month. Approximately 40% of total farmers who engage in cultivation of these notified crops in the State have registered in BBY portal so far.The arrivals of oilseeds and pulses were 23% higher in October 2017 compared to October, 2016.This is mainly due to registered Bhaavantar BhugtaanYojana (BBY) farmers reaching APMCs for the trade of their produce. Out of Rs.4000 Crs released under this programme, at present Rs.880 Crs were given to the farmers under BBY.

Some of the concerns aroused in this scheme are, as there are no FAQ restrictions, this scheme is applicable to all farmers irrespective of quality, which leads to inefficiency in management practices. Likely chances of adulteration of quality to get more incentive, chances of farmers bringing the second quality produce to APMCs disposing the best quality and chances of recycling the produce needs to be reviewed. Because of the time limit for selling the produce, there is a chance of heavy arrivals in the yards during a particular period making the farmers to stand in long Qs and traders also may not purchase beyond their capacity. Chances of traders forming a syndicate and purchase in lower prices during the Scheme running period, especially at the places where processing units are less.

7.2 Revolving Fund Scheme-The Case of Karnataka4

The State Government of Karnataka during 1998-99, announced the price stabilization revolving fund scheme be managed by Karnataka State agricultural Marketing Board (KSAMB) to save the distress sales. The fund was started with a corpus amount of which an amount of Rs.15 Crs was contributed by APMCs of the state and Rs.5 Crs grant from the government. This was enhanced later to Rs.75 Crs out of which Rs.50 Crs was contributed by APMCs and Rs.25 Crs by the Govt of Karnataka. From 2004 onwards market committees in the state started contributing 0.5% of the market fee of 1.5% collected every month towards the revolving fund. Market Intervention Scheme was started with perishables like potato and onion but extended later to other crops where the fund is also being utilized for MSP operations and also in case of Tur where there is a process delay from central agencies in procurement of such commodities. The Floor prices covered under this scheme shall be prescribed by the State Level Committee one month before harvest along with their fair average quality standards. The floor price will be applicable for one season only. Committees were constituted at the State and district level under the overall control of Agriculture Prices Commission. While the State Committee undertakes the planning, implementation and monitoring of Floor Prices and raise necessary Revolving Fund (RF) required for operation of the scheme and releases the RF to the purchasing agency. The district committee identifies the purchase points; fix the maximum quality to be purchased from the individual farmers, allotment of quantity to be purchased by the purchase agency and overall supervision of the scheme. The State Level Committee (SLC) has designated around ten government departments including Karnataka State Cooperative Marketing Federation, Karnataka as its purchasing agencies. The APMC shall see that no trader purchases any commodity of FAQ standard below the prevalent floor price rates declared by the SLC. In case the private traders are not coming forward to purchase at or above floor price, then the concerned APMC should immediately inform the designated PA under intimation to the Chairman of DLC to ensure that designated PA enters the market and make purchases of such commodity having FAQ standards from farmers .Immediately after the receipt of information from the APMC, the concerned PA enters the market and make purchase of commodities of FAQ standards from the farmers at the floor price. The PAs shall not refuse the request of the DLC to purchase agricultural /horticultural commodities of FAQ standards at the floor price. The PA should make immediate payment to the farmers and settle the accounts towards purchase of commodities. The government of Karnataka has introduced the incentive scheme for the commodities which are covered under the MSP fixed by the GoI

[4]Taken from the note on Revolving Fund of Karnataka Government by the Telangana State MARKFED department

to incentivize their production as per the recommendation of SLC the decision taken by the Cabinet subcommittee and fix an incentive/bonus over the MSP to be paid to the farmers. The amount incurred towards the incentive scheme shall be met from the RF. An amount of Rs.2500 Crores was released from revolving fund from 2008-09 to 2017-18 to procure various crops under RF scheme. The RF scheme is supporting KSAMB in timely management of crisis arising out of drastic fall in prices, without burdening the state exchequer.

7.3 Agriculture Investment Support Scheme – A Case of Telangana

The risks that the farmers face have multiple dimensions and Indebtedness is one such risk the farmers are forced to take, to meet their consumption and investment needs. Less availability of credit influences adversely the adoption of modern technology and private capital investments, which in turn lowers the productive capacity of the agricultural sector and also pushes the farmers to borrow from non-institutional sources. In order to insulate farmers against non-institutional lending for purchasing the inputs of the crops the Government of Telangana introduced “Rythu Bandhu” scheme (Agriculture Investment Support Scheme) in the year 2018 with an objective to empower 72 Lakh Telangana farmers from their financial difficulty (Indian Express, August 28,2018) . This scheme is remarkably different from any other loan waiver scheme wherein the farmers take loans from a lending institution and when unable to repay are rescued by the government, as in Punjab and Haryana. But ‘RythuBandhu’ scheme provides funds to farmers before the sowing so that they do not have to bother about input costs.

The scheme was implemented by the Agricultural and Farmer Welfare Department of Telangana State. The state government is providing investment support for agriculture and horticultural crops by way of annual grant of Rs. 8,000 per acre per farmer in two instalments of Rs. 4000 per season (Kharif and Rabi) for the purchase of inputs such as seeds, labour, fertilizers, pesticides, and other investments for the field. This scheme aims to cover 1.42 crore acres of land area with an implementation done in two different phases of cheque distribution. Telangana government allocated Budget of Rs.12000 crores for the financial year 2018-19. Pattadar registered under Forest Rights Record can also apply and take the benefit of this scheme. Before the implementation of the scheme farmer wise survey of agricultural lands was taken up under “The Land Records Updation Program (LRUP) and the revenue department has taken up the task of updation and purification of land records. The updated land record data base has formed the basis for implementation of “Investment Support scheme”

The State Level Bankers Committee (SLBC) Telangana identified mandal wise list of Banks. For every mandal in the State, a designated Bank has been identified through which

“Order Checks“were issued before Kharif season**.** While the “Order Checks “were issued by the designated banks, farmers were enabled to encash them at any branch of the Bank in Telangana State.

Some Positives and Negatives about the Scheme

Updating and cleaning of the land records was a precondition to the implementation of the scheme. The purification of land record system and updating of land data to be placed on a web portal shortly will bring down many land based litigations costing the exchequer huge amount. The scheme has provided good support to small and marginal farmers to the extent of providing timely support in meeting their investment needs. The implementation of the scheme has also been monitored through J-PAL scheme so that checks and balances could be fixed while the scheme is ongoing.

As land-holding is a pre-requisite for getting the benefit of the scheme it has not considered the land less tenant farmers who accounts to major share with 40 percent of 72 lakh farmer’s i.e., 28.80 Lakh farmers. It is also an established fact that religion, social, education and health are the major components under which the indebtedness of farmers has been accumulating over a period. Besides these, there is a chance that the investment support for agriculture may also be diverted for other unproductive purposes in this context. Instead, the State may park the investment support in Kisan Credit Card so that the farmer could swipe the card at points of sale of Input supply which could have channelized the investment support for production purpose only.

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Chapter 8: Summary of Observations and Recommendations

8.1: Summary of Observations

Farmers as an occupational group the World over face high risk and uncertainty in their income flow (Malberg and Hawton, 1998). However, nowhere in the world such huge number of farmers committing suicides as that of India. The supply side bottlenecks of the sector such as fragile asset base ,imperfect markets for inputs and outputs , less access to credit, unskilled labour force, less information on HYV seeds, lack of apolitical collectivization and negative externalities arising from land and management (NCEUS2008), continue to dog the sector even after seven decades only with changing intensity. Farmers suicides are identified as a case of 'egoistic 'when they are harassed by the debtors or lenders , a case of 'altruistic' when agriculture as a livelihood is not in a position to meet the increased social expenditure, a case of 'anomic' when a series of adverse incidents snowballs into a distress kind of situation (Durkheim,1952). Farmer's distress is the huge iceberg hiding below the visible tip of suicides could be a far more serious growth retarding factor in the long run than the suicides themselves keeping in view of majority of rural households depending on this sector. The study is taken up in four States i.e., MP, Maharashtra, Telangana and Karnataka which ranked highest in terms of number of suicides in the country during 2014-15 (NCRB Report). Some of the pointers for agrarian distress are discussed below. These pointers are culled out from the previous chapters presented with an analysis on primary and secondary data and case study documentation and literature review.

8.1. A: General Observations

Declining Public Investment in Agriculture

Though the Public Sector Gross Capital Formation in Agriculture has increased in absolute number, its percentage share of Total Gross Capital Formation (TGCF) has come down from 43.2% in 1980-81 to 14.6% in 2014-15. This decline in its share refers to the decline in the share of investment in irrigation that too mainly in major and medium irrigation schemes. The corresponding investment in Private Sector capital formation which accounts to 56.8% of TGCF during 1980-81 has increased to 85.4% during 2014-15.

Irrigation is an important component in increasing in the productivity of crops. The Gross Irrigated Area as a percentage of Gross Cropped Area which was only 18 percent in 1959-60 has increased to 47.9 percent in 2014-15. The total area under irrigation at present is 67.5 mha out of total 142 mha of net sown area. Out of 67.5 mha, only around 25 mha is accounted for by the government created under major, medium and minor canal irrigation

projects. Excess investment on tube wells these and their subsequent failure was identified as a major reason for distress.

The net area under tube wells and other wells at All India level was 42.4 mha during 2015.Among the selected States MP occupies more share under tube wells with 6.2 mha followed by Maharashtra and Karnataka with 2.2 and 1.7 mha respectively. Large gap still exists between potential and actual area under micro irrigation in the selected states as well as at All India Level. The total area under micro irrigation in India by 2015 was 7.73 mha occupying 18.23 percent of the potential (i.e, area under tube wells) . Whereas, the percentage of potential created under micro irrigation was lowest for MP with only 5.64 percent followed by Maharashtra and Karnataka with 57.72 and 50 percent respectively. For the combined States of Telangana and AP during this period, the area under micro irrigation was 1.16 mha.

Increase in investment on inputs was another reason for increased private investment in Agriculture. The present Seed Replacement Ratio (SRR) in the country is only 15 percent, wherein majority of the farmers are spending money on seed by purchasing from the local store. The number of FS households who reported to have increased the purchase of seed from local store (rather than sourcing from their neighbors or previous seed which was the practice earlier) was highest in Maharashtra (94%) followed by Telangana (92 %), Karnataka (76 %) and MP (64%). Similarly, the number of FS households who reported to have increased their fertilizer application was highest in Telangana (98%), followed by Karnataka (96%), Maharashtra (84 %) and MP (56%). The practice of application of organic manure has decreased in the last five years as reported by the FS households of Karnataka (58%) and MP(50%) and the application of organic manure was almost nil in case of Maharashtra (100%) and Telangana (94%). The number of FS households who reported to have increased the pesticide application was highest in Telangana (98%) followed by Maharashtra (96%), Karnataka (70%) and MP(44%).

Farmer based private investment which is sourced at very high interest rate from non-institutional source by small farmers is one of the major driver identified for distress in agriculture.

Fast declining share of Agriculture in GDP but with slower declining workforce depending in Agriculture

Gross Domestic Product in Agriculture (GDPA) is influenced by cumulative investment through public and private capital formation and Terms of Trade in Agriculture. In the absence of sufficient share of public investment in agriculture the sectoral distribution of GDP has also

seen a declining share in Agriculture without a concomitant shift in labour force. The Share of Agriculture in Total GDP over the years which constitutes 48.5 percent to total GDP in 1959-60 has declined to 14.1 percent in 2014-15 while the workforce employed remained almost constant with around 56.5 percent. A very high share of service sector and a reasonably good share of industrial sector in GDP without a concomitant growth in agriculture sector are indicating a shrink in agriculture economy at large. Compared to the All India Average the share of agriculture to total GDP was more than national average in case of MP which is hovering around 35 percent. For the other three states the GDPA has been ranging from 10 to 17 percent and is showing a declining trend in its contribution to TGDPA.

Declining Farm Size across all Size Classes

The increasing demographic pressure on land has resulted in undue stress on land resources and reduced the size of holdings to uneconomic levels. The high burden of labour force in the sector has been falling on the contracting cultivable area for all the land size groups more so for small land holdings. Between1960-61 to 2013 the number of holdings has increased from 50.77 million to 137.75 million. Whereas, the per capita area operated has come down from 2.63 ha to 1.16 ha. The proportion of marginal and small farmers together has increased from 61.7 percent in 1960-61 to 88.47 in 2012-13 out of the total holdings. Whereas, the percentage of area operated by them has increased from 19.2 to 51.1 percent indicating a downward mobility of land size. Nevertheless the downward mobility was seen in all the land size categories.

Low Labor Productivity in Farm Sector relative to Non-Farm Sector

The ratio of income of non-farm worker to that of agriculture labour in 2011-12 was5.06. The same in case of non-farm worker and cultivator was 2.23. An increase in disparity in productivity of 1.04 percentage points was observed between cultivators *vis-a-vis* Agriculture labor from 1970-71 to 2004-05. Interestingly this disparity has come down by 0.13 percentage points by 2011-12 probably with an impact of MGNREGS program introduced in the country during 2005. Similarly the disparity in productivity between Non-Farm Worker and Farm Worker has increased by 1.91 percent during 1970-71 to 2004-05 and came down by 1.4 percent by 2011-12. Interestingly the disparity in urban income to rural income which was 3.18 percent in 1970-71 has come down to 2.78 percent during 2004-05. Similar was the case of urban to non-farm worker which was 1.67 percent in 1970-71 has come down to 1.64 percent during 2011-12 which could be attributed to significant increase in wage rate and wage earnings of rural households with the employment guarantee program.

Decrease in area under pasture lands which has an implication on livestock for grazing purposes

Land utilization pattern has important implications for sustainable agriculture practices because of agriculture– livestock interface. The reporting area for land utilization which was 294 mha during TE 1959-60 has increased marginally to 307.7 mha during TE 2014-15. Forest area has significantly increased from 18 percent in TE 1959-60 to 22 percent during TE 2014-15. Area under pasture lands which is a significant source of livelihood for landless for raising livestock, has come down from 17 to 8 percent during this period **.**The land not available for cultivation has decreased from 47.7 mha in 1959-60 to 43.7 mha in 2014-15 which could be attributed to investment on watershed program and other soil and moisture conservation works over a period of time.

Change in Cropping Pattern towards High Risk Commercial Crops

Area under cereals which constitutes around 61 percent in 1969-70 has declined to 50.2 percent in 2014-2015. Area under pulses which constitutes only 13.6 percent in 1969-70 has declined to 12.6 percent in 1989-90. Partial increase in area under Pulses was observed between the years 2009-10 to 2014 -15, the period during which NFSM was launched. The area under fruits and vegetables which was 2.2 percent in 1969-70 has increased to 4.9 percent by 2014-2015. The area under other crops like cotton which was 12.6 percent in TE 1969-70 has increased to 19.2 percent in 2014-15. Maximum sown area of the FS households was registered under cotton with 66.2, 55.3 and 56.5 percent of Gross Sown Area (GSA) in case of Maharashtra, Telangana and Karnataka respectively. Followed by Cotton, area under paddy and maize as a percent of GSA occupies second and third position in Telangana and area under sugarcane and paddy occupies second and third position in Karnataka in case of FS households.

Continuing dependence on high cost non-institutional credit especially by Small and Marginal Farmers

Post reforms period has witnessed an increased share of non-institutional lending. The interventions such as Kisan Credit Scheme and Self Help Groups Bank linkage initiated during 1990s doesn't seem to provide any impact on non-institutional source whose share in rural credit has increased from 36 percent in 1991 to 44 percent in 2013.The increase in commercialization of agriculture and increased investment in groundwater contributed to the continued resilience of non-institutional credit needs of the farmers.

The share of co-operatives, which once dominated the rural credit market in the institutional segment with a 74 per cent share in 1975-76, has been declining consistently. By 2012-13, the share of co-operative banks had fallen to around 17 per cent while that of commercial banks had increased to 73 per cent. Even though the cooperative banks share in total agricultural credit flow has diminished, they still provide credit to approximately 3 crore farmers, compared to 2.55 core farmers who receive credit from commercial banks and 82 lakh farmers who receive credit from regional rural banks.

The percentage of accounts of small and marginal farmers out of total number of small and marginal households in the country during 2016-17 was 47.43 percent. Surprisingly, except Telangana State all the other three selected states reveal a low percentage of accounts under small and marginal farmers. It was 98.06, 51 and 35.21 and 35 percent for Telangana, Karnataka, MP and Maharashtra respectively. As per NSS0, the average agriculture credit per household was highest in case of Karnataka with Rs.2.73 Lakhs followed by Madhya Pradesh, Telangana and Maharashtra with Rs.1.50, 1.47 and Rs.1.36 Lakhs respectively during 2017-18.

Poor Implementation of Agricultural Marketing Reforms and Low Reach of MSP

The total number of agricultural households who were able to sell paddy and wheat to the procurement agencies during 2012-2013, were 5.21 million i.e., around 5.8% of the agricultural households. The sale of these crops at mandi for every 100 farmers was only 17 and 44 respectively for paddy and wheat. As per SAS 70th Round, except sugarcane, the awareness about procurement agency was less. The maximum procurement quantity by the agencies like NAFED /FCI is limited to percentage of the total production of a State for that crop. In practice the targets given to these crops was minimal as seen in case of oilseeds (soybean and groundnut) and pulses (urad and moong) the target given by the Government of India to various procurement agencies (FCI/NAFED) for pan-India during kharif 2017 was less than 12 LT, which accounts to only 4 percent of total production of these crop. Madhya Pradesh, Maharashtra and Telangana are the states with maximum number of mandis with e-NAM accounting to 58, 54 and 44 respectively. The multiple buyer-transparent-price-discovery chain, as expected from e-NAM, is not happening at present in these States.

Low Coverage under Crop Insurance including Pradhan Manthri Fasal Bhima Yojana (PMFBY) particularly during Rabi

The percentage of farmers covered in crop insurance schemes out of total agriculture households has increased from 23 percent in kharif 2013 to 36 percent in kharif 2015 and then

to 44 percent of farmers in 2016 after the introduction of PMFBY. MP ranks top among the selected States with 46.95 followed by Karnataka and Telangana with 40.68 percent and 28 percent respectively during Kharif 2016. The coverage under PMFBY during Rabi 2016-17 was very less with only 0.18 percent at all India level.

The PMBSY doesn't provide universal coverage of all crops, at all stages of crop growth and against all form of damages. Unlike the NAIS, whose premium rates range from 1.5 to 3 percent for food grain, oilseeds and horticulture and cash crops, the premium rates under PMBSY are uniform and high with a 2 percent for kharif crops, 1.5 percent for Rabi crops and 5 percent for commercial and horticulture crops.

Compared with Restructured Weather Based Crop insurance scheme (RWBCIs) the number of farmers covered under PMFBY was more than RWBCIS. However, the percentage of farmers benefitted under RWBCIS at All India level was 82 percent compared to PMFBY with 20.86 percent. Similar is the case of selected states which is a pointer towards restructuring the Crop Insurance Scheme with Weather based parameters**.**

Failure of the Public Extension System

Extension of information regarding latest technology, schemes of the government and market support systems is vital to enhance the income of the farmers. The public sector extension worker was a source of information for only 5.7 % of farmer households and the Krishi Vigyan Kendra (KVK) accounted as an extension source for only 0.7 percent, Private and NGO extension services were accessed by only 0.6 percent as per the NSSO, 2005. The extension reach of other line departments such as animal husbandry, fisheries, horticulture, and sericulture is further minimal. For instance, the spending on livestock extension activities by state Departments of Animal Husbandry (SDAH) is only around 1–3% of their total budget (Chander et al 2010). Public Procurement of Paddy and Wheat is in place in the country since the last five decades. However, the awareness to the farmers about the MSP of these crops is only to the extent of 31.5 and 39.2 percent respectively. Awareness about procurement agencies is further less with only 18.7 and 34.5 percent respectively.

Poor Implementation of Supplementary Employment Programs like MGNREGS

The implementation of MGNREGS is yet to take off as the percentage of families who have completed 100 days of employment out of total demanded families was as low as 1.40 percent in Karnataka to 3.35 percent, 6.79 percent and 10.75 percent in MP, Telangana and Maharashtra respectively during 2017-18. The number of agriculture works as a percentage of total works under MGNREGS increased from 44 percent in 2014-15 to 70.26 in 2017-18 at

All India level. The expenditure for these works at the same time increased from 56 percent to 64 percent during this period. However, the average expenditure per work on per Agri&agri allied works has come down from 1.09 lakhs to 0.45 lakhs .Similarly in some of the selected sample districts like Mandya and Haveri of Karnataka and the Yavatmal of Maharashtra , the average per work expenditure has come down.

Inadequate Rural Infrastructure

a) Rural connectivity is a key component of rural development in India. Pradhan Mantri Gram SadakYojana (PMGSY) aims at providing connectivity by means of properly laid all-weather surfaced roads (with necessary culverts and cross drainage structures) to all unconnected habitations. The Scheme was launched during 2000.Till the launching of the programme the road connectivity was only 60% in the country (MoRD, 2015). PMGSY has taken only those habitations with a population of above 500 into consideration unlike the MoWR which considers habitation with less than 250 population. Therefore, there is a mismatch in number of habitations reported by the Ministry of Water Resources and PMGSY official statistics. The difference in the total number of habitations as reported by PMGSY and MoWR in MP was 31,601. Even we take the data of PMGSY data into consideration, the number of habitations yet to be covered are highest in MP followed by Maharashtra, the states with highest tribal population. The coverage of all the four selected districts in these two states is minimal.

b) Rural Warehousing System

The storage capacity created so far is 158. 52 MMT (53 percent) for a production of food grains of around 280 MMT leaving a deficit storage capacity of 120 MMT. While the state agencies own 63.8 percent of the total infrastructure created, the remaining is in the hands of cooperative sector and private sector. It is estimated that 20-30 percent of food grains are wasted every year due to inadequate storage capacity, lack of scientific storage facilities, and regional imbalance in storage and inefficient logistic management in the country. As per estimation of Central Institute of Post-Harvest Engineering and Technology (CIPHET) the annual value of harvest and post-harvest losses of major agricultural produces at national level is of the order of US$ 26.35 accounting for Rs.1,84,450 Crores as per of 2017-18 at 2014 wholesale prices.

Status of SHGs as an Institution of Empowerment

Local Community based Institutions are key to leverage the collective strength of unorganized sector in rural areas in order to improve their financial , livelihood and natural resources. SHGs have played an important role in enabling financial inclusion in rural areas by financially empowering women within the family and in local community. The NPA of the loan of an SHG is 6.5%, which is much less than the overall NPA of Indian Banks i.e. 10.2 %. While 50 Lakh SHGs were formed so far in the country, the potential scope for coverage of SHGs in the country is 114.13 Lakhs. The coverage of members so far through SHGs was 30.82 percent at All India level. Among the selected states, MP is the state with lowest number of SHG formation. MP and Maharashtra are the States with lowest coverage of women members through SHG with 21.78 and 26.34 percent respectively. Among the selected districts, Rewa of MP and Beed and Yavatmal of Maharashtra have lowest coverage with 27.76, 21.94 and 27.94 percent respectively.

8.1. B: Household Specific Main Findings of the Study

More number of dependent (female) family members in the households Majority (95.5 percent) of the suicides were occurred among the male farmers compared to female farmers. The number of dependent members was found to be more among the FS households. Among these again the number of female dependent members was found to be more than the male dependent members.

Caste as a deterring factor

Majority of the FS households from Maharashtra, Karnataka and Telangana states belongs to other backward castes except in case of Alirajpur of MP with STs and Rewa of MP with a predominance of OCs in the FS households. In Yavatmal of Maharashtra, majority VimuktaJati Non Tribe (VJNT) households who belong to OBC category were found to commit suicide.

Low levels of Education

If education of the head of the household is taken as a proxy to access to information and extension systems, low levels of education were found among the FS households compared to CG households. This is particularly found in Maharashtra and MP where percent of illiterate members in FS households to the total sampled households was higher with 56 percent and 76 percent respectively. The same in CG households was 45 and 56 percent respectively in these states.

Major Incidence of Suicides among marginal and small farmers

Majority of the FShouseholds were under the category of marginal (43%) with an average holding 1.5 acres followed by small (39%) and semi-medium (16.5%) category with an average size of holding 3.7 and 7.8 acres respectively.

Low Asset Base with Kutcha house

Mandya is a relatively better off district regarding irrigation. Therefore, in the case of Mandya, majority (>95%) of the FSHHs are living in pucca houses. With an exception to this district, majority of the suicide FSHHs in Maharashtra (98%), Telangana (72%), Madhya Pradesh (90%) and Karnataka (60%) were living in kucha houses.

Lack of Livestock Support Systems

The number of HHs with livestock was less in FSHHs compared to CG HHs in all the states. Backyard poultry as a livelihood not only provides nutrition security to the households but also acts as an ATM in case of emergency for petty needs. The size of poultry was also less in both CG and FS households.

Among the selected states the total number of livestock was less in Maharashtra and 51.5 percent of the FS households observed that they sold out the livestock because of the lack of proper veterinary care for the animals. Meeting the family health care and education needs were the other reasons observed by majority (30.30 percent) of FS households in this state, for selling their livestock. Whereas, in Telangana majority (54.05 percent) of FS households were selling the livestock for investment in agriculture mainly to meet the expenses for drilling the bore wells, as claimed by them in FGDs. The FS households of Karnataka were selling away their livestock both to meet the expenses in agriculture (22 percent) and their inability to maintain the livestock due to lack of proper health care (30.13 percent). In total, both FS households (32.68 percent) and CG households (49 percent) observed that investment in agriculture was the major reason for selling the livestock followed by lack of proper health care and inability in maintenance of livestock. Among these two, 26 percent of FS households and 15.8 percent of CG households observed that they could not maintain the livestock due to lack of health care and inability in feeding the livestock.

Lack of Information and Access to Good quality Seed

The desirable seed replacement rates, without which it is not possible to achieve higher productivity are 25% for self-pollinated crops, 35% for cross pollinated crops and 100% for hybrids. The present Seed Replacement Ratio ranges from 40 percent to the crops like paddy and wheat which are in public domain to 15 % which are in private domain. There is no proper data at present regarding the extent of Seed Replacement Rate for the crops whose seed is sourced from private sector mainly.

The source of information of quality cotton seed through public extension department in Telangana was only 3.4 percent and 4.9 percent in case of FS and CG households respectively. The source of information about seed of this crop by the public extension system in Maharashtra, where majority of FSHHs cultivate this crop was almost nil. Followed by Cotton, Maize occupies major area with 22 percent of the sample farmers of both categories reporting the cultivation of this crop. The access to information about quality seed through public extension system was better in MP compared to the other States with 13.7 and 36.2 percent among FS and CG households respectively. Similar is the case of wheat crop where access to the source of information of quality seed was better in MP with 66.7 and 77.3 percent for FS and CG households respectively. The source of information of millet seed from the public extension system was less for FS households with 20.9 percent .Whereas, the same for CG households was 29 percent.

Less Access to Information about Fertilizer through Public Extension Systems

The current consumption of NPK is 6.7: 2.4 :1 against the norm of 4:2:1.As per a study on Soil Health Card system, only around 44 percent of the sample farmers received information about their soils after soil te4sting and 66 percent could not decipher any information on the card. Element of trust was missing in the information provided by the department as sample was not collected in the presence of farmers.The information about application of fertilizers by the public extension system was only 4.3 and 5.7 percent in case of both FS and CG households respectively.

Less Access to Information about Pesticides through Public Extension Systems

Knowledge about right type, amount and time of application of pesticides play a key role in keeping pests and diseases at bay, while controlling the cost of cultivation. As revealed earlier while 44 percent of the sample farmers of both categories reported Cotton cultivation, the knowledge about application of pesticides in this crop given by the public extension system was only 0.9 percent to FS households. The same for CG households was not better with 4.9

percent, though better than FS households. The imbalanced application of pesticides as per the advice given by the input dealers whose knowledge is also limited is resulting in pests developing resilience on one hand and increased cost of cultivation on the other hand losing out the net income sometimes with negative receipts. Maize, Wheat and Soyabean farmers belonging to FS households have received information about pesticides from public extension system with 13.7, 66.7 and 30 percent respectively. This is because of better access to extension systems in MP compared to other states. Even here the source of public extension information of FS households was less compared to CG households.

Source of purchasing the inputs determining the quality of inputs and cost of cultivation

A significant share of FS households have been purchasing the inputs from sources other than the authorized and formal sources. This has contributed to some extent on difference in yield levels and higher cost of cultivation for these households compared to that of CG households. As the inputs are available through credit the farmers are forced to buy available low grade inputs from these shops, and this is the common practice prevailing in all the selected districts to purchase inputs. In the absence of sufficient safety nets this is pushing them to the levels of accepting the existing state of yields as well as income.

Mode of Payment for the purchase of inputs by FS households

Similar pattern was observed in all the crops (except sugar cane and millets in case of FS HHs) for purchasing seed, fertilizer and pesticides where the mode of payment for these inputs was through cash in case of FS households and through credit in case of CG households. The fact that the CG HHs have managed to purchase the same on credit from input dealers led to an understanding that these families (FS HHs) seem to have lost their credit rating with the input dealers. Focus Group discussions with the villagers revealed the fact that when other expenditure on health and social norms has been compounding along with the loss of crop these households were unable to repay the earlier debts they had with input dealers, which is affecting their credit rating with them. To get the inputs on cash they had to source the credit from money lenders whose rate of interest was more than that of input dealers.

No change in the cropping pattern in the last five years

Any change in the cropping pattern of the farmers in the last five years reveal the fact that either the households are cultivating the new crops as per market demand or they are following the sustainable agricultural practices with a mix of leguminous crops and predator

crops . Unfortunately, majority of the sample households were small and marginal farmers working in isolation of each other as well as working in isolation of the institutions. Therefore, no change in cropping pattern was observed both in FS and CG households across all the sample states.

Change in Technology and Agronomic Practices in the Last five Years

Any change in technology and agronomic practices by the sample households in the last five years reflect on the support systems by the State. Majority of both FS and CG households were using desi ploughs (67% and 60 % respectively with FS and CG HHs) five years ago. Because of the implementation of RKVY which has encouraged tractor drawn implements on custom hiring basis there was an agronomical shift in practices where the farmers who use to prepare the land with bullock drawn desi plough shifted to tractor drawn land tiller (64 and 67% respectively with FS and CG). Other than mechanization, no shift in agronomical practice was observed among the sample households

Artisan turned Farmers (first generation) cultivating the Cotton crop

Farmers with less percentage of experience were more in MP followed by Maharashtra. This was seen more in case of Alirajpur of MP and Yavatmal of Maharashtra with around 42% of the farmers having 0 to 5 years of experience in farming. In Telangana farming was predominantly by the dominant farming caste for a long time. When these communities have migrated to cities, the erstwhile artisan groups have entered into the farming. Majority of the farmers in Nalgonda who committed suicide were the first generation farmers. While, crop cultivation is the primary vocation for 60 percent of the total sampled HHs among the CG households, the same for FS HHs was around 36 percent, the remaining depending on agriculture labour operations.

More incidence of Tenancy in Telangana and Karnataka

Informal tenancy was highest in selected FS households of Telangana and Karnataka compared to MP and Maharashtra. In Telangana, 31 and 20 out of 50 each FS and CG households have leased-in land, while the same in Karnataka was 17 and 21 in case of FS and CG households. Majority of them belongs to marginal and small farmer's category which clearly shows that they were augmenting their land base by leasing in land. This has created significant problems to the lessee to bear the risk as well as distress, as informal tenants were not eligible to access the formal credit based on the land and government -sponsored schemes (ex: crop insurance). Therefore they have to rely on informal money lenders for the credit with the higher interest rate to meet the cost of cultivation expenses. The average size

of leased in land of marginal farmers was very high with 6.33 acres in Telangana which was almost equal to that of semi medium land size. It is therefore noted that higher tenancy operation by FS households was one among the factors for suicide in these states.

Poor Livestock base

Livestock is a valuable asset that is to be seen as a cushion against distress in the rural households. The number of households with livestock was less in FS households compared to CG households in all the sample districts of selected States. Among the selected states the total number of livestock was less in Maharashtra and 51.5 percent of the FS households observed that they sold out the livestock because of the lack of proper veterinary care for the animals. Meeting the family health care and education needs were the other reasons observed by majority (30.30 percent) of FS households in this state, for selling their livestock. Whereas, in Telangana majority (54.05 percent) of FS households were selling the livestock for investment in agriculture mainly to meet the expenses for drilling the bore wells, as claimed by them in FGDs. The FS households of Karnataka were selling away their livestock both to meet the expenses in agriculture (22 percent) and their inability to maintain the livestock due to lack of proper health care (30.13 percent). In total, both FS households (32.68 percent) and CG households (49 percent) observed that investment in agriculture was the major reason for selling the livestock followed by lack of proper health care and inability in maintenance of livestock. Among these two, 26 percent of FS households and 15.8 percent of CG households observed that they could not maintain the livestock due to lack of health care and inability in feeding the livestock.

Less Diversified Cropping Pattern

The cropping pattern of sample households was not much diversified. Cotton, millets and pulses followed by soyabean were the major crops of the sample households in Maharashtra. Whereas, Cotton, paddy and maize were the major crops in Karnataka. Maize followed by cotton, paddy and sugarcane were the major crops of the selected households in Karnataka. Maize, followed by wheat, pulses, paddy and soyabean were the major crops of the HHs in MP. Urad dal was the main pulse in MP. The cropping pattern of CG households is more diversified than FS households and this was more in case of MP compared to the other States.

Local traders as the primary source of absorption of marketed surplus

Local traders are the primary source (around 60 percent) for the purchase of cotton in both FS and CG households. In case of paddy the share of government procurement was more by FS households with 46 percent compared to 37 percent of CG households as the

latter got better price outside the government centers. 60 percent of the CG households sold at open market whereas the same by the FS households was 53 percent. Private traders in market yards were the major source of cotton purchases in Maharashtra and Karnataka. In Telangana, procurement by the private traders in market yards was the main source of marketing of the cotton crop. In Telangana, majority of both FS and CG households have sold the paddy to the private traders in market yards as procurement by the agencies (ex: CCI, FCI etc.) and market interventions schemes are not adequately supporting. For ex: in Telangana state, paddy is being procured by SHG women and PACS in the villages, cotton is being procured by Cotton Corporation of India but the procurement points of CCI were less compared to paddy procurement centers. Whereas, in Karnataka and MP most of the paddy crop was procured by state agencies of the respective states. While private traders in the APMC yard were the major source of procurement of maize in FS and CG HHs of Telangana and FS HHs of Karnataka, local traders were the major source for CG HHs of Karnataka and both FS and CG HHs of MP. None of the sample households of both FS and CG observed that they were not aware about the moisture content, grading and cleaning specifications of the crops to fetch a better price.

Increase in input use leading to increased cost of cultivation

There was an increase in input use in the last five years in an effort to increase the yield. Further, the application of organic manures decreased (from around 45% to 20 %) and other inputs like pesticides(from about 10% to nearly 60 to 65%), and fertilizers (from around 10 to 20% to nearly 75%) have increased in the last five years which has an implication on increased cost of cultivation of crops. With an increase in investment on groundwater, the area under irrigation and availability of irrigation (from around 10 to 12 % to nearly 30%) sources has increased for the sample households in the last five years which again has a bearing on increased private investment from non-institutional sources of lending.

While the income from cultivation of FS households was Rs 54,189, the same of CG households was Rs 1, 32,000. It was lowest in case of MP both for FS and CG households with Rs.14, 500 and Rs.21, 313 respectively. The income from cultivation of CG households was higher by 143, 103, 46 and 26 percent compared to FS households in Telangana, Karnataka, MP and Maharashtra respectively. Apart from Income from cultivation, income from allied agriculture activities contributed to the higher income of CG households compared to FS households. The low level of incomes from cultivation for FS households is mainly due to the higher cost of cultivation that these have incurred on account of substantial dependence on informal sources of inputs and reliance on informal sources of credit with higher costs, as reported by them.

Higher dependence on non-institutional lending by the Sample households

The total debt of the sample households from non-institutional sources amounts to Rs.2.13 Lakhs for all the categories together, the same from institutional sources amounts to Rs.1.41 Lakhs. While the rate of interest of institutional lending ranges from 8 to 12 percent, the same from money lender and traders ranges from 24 to 36 percent. The institutional and non-institutional debt of FS HHs was 122.22 and 141.28 percent higher than CG HHs of marginal farmers. Whereas, in case of small farmers the institutional debt of CG HHs was higher by 21.18 percent and non-institutional debt was higher by 137.03 percent for FS HHs compared to CG HHs. Among the four selected states the institutional borrowing was more by the total sample HHs of (FS and CG households together) Karnataka with 2.28 lakhs followed by Maharashtra, MP and Telangana with 1.04, 0.79 and 0.73 lakhs respectively. Whereas, the Non Institutional lending of total sample households was more in case of Karnataka with 2.98 laks followed by Telangana, Maharashtra and MP with 2.36 lakhs, 1.19 lakhs and 0.24 lakhs respectively. Credit absorption in MP was very less with both non institutional lending as well as rate of interest from non-institutional lending (24 percent) being very less in this state compared to other three states. The non-institutional lending of FS HHs was highest in Karnataka with 4.28 Lakhs followed by Telangana with 3.03 Lakhs, Maharashtra with 1.50 Lakhs and MP with 0.42 Lakhs.

a) Increased dependence on multiple micro credits

On an average each FS household received credit from 3.62 sources whereas the same by CG household was 2.13 sources. Among the selected States the FS households of Karnataka availed loans from 5.66 sources followed by 4.62 of Telangana and 3.14 of Maharashtra. Whereas the CG households of the same have availed from 2.98, 3.22 and 1.8 sources respectively. Availing multiple micro credits seems to be less only in case of MP with 1.04 and 0.52 sources respectively by FS and CG households.

b) RRB's catering the Institutional credit needs most comparing to others

Among the institutional sources, the share of RRB was most with 13 and 16.7 percent in case of FS and CG HHs respectively. Among the FS HHs of sample states the share of RRB was highest in Maharashtra followed by MP with 24.2 and 21.2 percent respectively. The share of commercial bank lending was more in Karnataka with 14.5 and 12.8 percent to the FS and CG HHs respectively. Surprisingly, the share of commercial banks was almost nil among both the FS and CG HHs in MP.

c) *Availing credit for multiple purposes*

The average number of purposes for which loan was taken by each family in the selected sample HHs was 'four' in case of FS HHs and ''two'" in case of CG HHs . The average number of purposes taken among the FS HHs was highest in Karnataka with six purposes followed by Telangana, Maharashtra and MP with Five, Three and One respectively. Among these States MP is the only State where for only ''one" purpose, loan was taken on an average by the FS and CG HHs. While it goes without saying that Agriculture was the primary purpose for which loan was taken by the majority sample HHs. Followed by this, Loans for Consumption were taken by 21.4 percent of FS HHs and 18.8 percent of CG HHs. Loans for consumption purpose was maximum in MP followed by Maharashtra, Karnataka and Telangana respectively. Loans for House Construction and Digging the bore wells were maximum among the FS HHs of Telangana followed by Karnataka. In Karnataka, in Haveri district majority of the FS HHs borrow loan mainly for the purpose of leasing the land (32%) which was also found in Nalgonda district of Telangana

***d)* No collateral for the loans (non- institutional) taken which has an implication on cost of loan**

Majority of the farmers in both FS and CG HHs (56.2 and 22.1 percent) reported that no collateral was submitted for the loans taken from non-institutional sources. This may be compensated with a high rate of interest ranging from 36 to 48 percent depending on the purpose for which loan was obtained and time and mode of repayment. Among those who submitted land as the main collateral (27.2 and 34.3 percent of FS and CG HHs reported this) have taken loans from the banks.

e) Limited issue of Kisan Credit Cards

The issue of KCC to the farmers at All India level was 16.14 percent out of operational holdings. In the selected states it was 14.98 percent, 16.45 percent, 30.21 percent and 10.29 percent in case of Maharashtra, MP, Telangana and Karnataka respectively.

Increased expenditure on health, education and social norms

Construction of own house and expenditure on marriages and other religious norms were seen as a mark of social respectability among rural households. Followed by agriculture and consumption loans, maximum borrowings were for religious and social expenditure among FS households more so in Telangana and Karnataka. Around 29 percent of the FS households have taken loan for the purpose of house construction and 27.5 percent for the

purpose of daughter marriage. The borrowing by CG households for the same purpose was 10 and 5 percent respectively. The FS households of Telangana and Karnataka have borrowed more for house construction whereas; the FS households of Karnataka borrowed more for marriage purpose. Health is another major item for which loan was obtained by 21 percent of the FS households. Majority of these were from Karnataka. Though many health related cases were observed in Alirajpur of MP, only 4 cases were found reported that they have borrowed for health expenditure. Apart from these two, loans for children higher education purpose were found to have more among FS households with 17 percent compared to CG households with 8.5 percent respectively.

Limited Coverage under Crop Insurance

Almost all the sampled farmers in all the states except few farmers in Madhya Pradesh reported that they were not covered under the crop insurance. In MP, among the sample households, 24 per cent of the FS households and 34 per cent of the CG households were covered by crop insurance during the period of the study. Only one household in the sample reported to have received compensation through crop insurance. This points to the dismal state of coverage as well as the execution of the crop insurance scheme in case of an eventuality.

Multiple distresses being faced by the selected households

Farmers in the selected HHs reported multiple shocks they have confronted in the last three years i.e., 2015-16, 2016-17 and 2017-18. The average number of distresses /shocks faced by each household in the last three years was around 3.3 in case of FS households and 1.7 in case of the CG households. The average number of distresses faced by the FS households of Telangana and MP were more with four in number, the same in Maharashtra was 3 and Karnataka was 2.7. Though the intensity of distress couldn't be traced with the number of distresses, it is an equally distressing factor to know that each household has been facing 3- 4 distresses on an average in a span of three years.

Reduced Consumption as a way of coping strategy

The sample households of both FS and CG households reported multiple coping strategies to withstand shocks in personal life as well as against farming. The major coping strategy is obviously increase in formal and informal borrowing. Reduced consumption of quality foods with proteins such as egg, milk and meat was also reported by many. It is alarming that reduced consumption was reported by majority (23 percent) of FS HHs of MP where high levels of nutritional insecurity are already reported in this state as per NFHS -3.

Unfortunately, support from village panchayats or peer to peer counselling seems to be very less with only 1.3 percent and 1.6 percent of the total coping strategies adopted by the FS households.

Low Support from panchayats and SHGs

The role of panchayat in mitigating the distress of the households in a village was found to be minimal**.** Around 34 FS HHs (17 percent) reported that local panchayat supported their families after the suicide. Among them majority were from Telangana. Support for children education was provided by some panchayats (10 percent) majorly from Karnataka. Control Group HHs received more support than FS HHs regarding this. The support received by Panchayat to both FS and CG HHs of MP was almost nil except allotting the development of agriculture lands under MGNREGS to some HHs.

Compared to local panchayat system the support of SHG to the families of FS households was more with 32.5 percent. The support systems provided by SHGs of Karnataka was more with 44 percent followed by Telangana with 36 percent. Good number of SHGs have also provided moral support to the sample HHs (96 percent of CG HHs and 85 percent of FS HHs) in case of creditor harassment. Control Group households were found to have received more (56 percent) support from SHGs for health related problems compared to FS households HHs with 18 percent. Similarly livelihood support was provided more to the control group households with 36 percent compared to FS HHs with 18 percent. The SHGs of Karnataka and Telangana were found to be more active in providing moral support the sample HHs compared to Maharashtra. MP fared least in this case.

Majority of suicides during some months

There is a pattern that emerged from the analysis of the timing (in terms of month in which farmer households have committed suicide) of suicide in the study States. The highest number of suicides in each of the States studied had occurred immediately after the harvesting season specific to the study areas i.e., in months following harvest and sale of Rabi (February –June) and kharif (November- December) crops.

Cotton crop and high probability of suicides

It is observed that probability of farmers committing suicides associated with cotton cultivation is high in the selected states.

Perceived change in self-esteem of the FS households before the incident

Overall, majority of the suicide victims of Telangana and Karnataka had been found to have suffered from depression due to harassment for the repayment of loans which led them to perceive that their social status has degraded in the village. The obligation of performing the marriage to the family members of marriageable age is one of the critical social reasons for distress as marriage is a social norm which if failed will be considered as a failure on the part of the head of the household. The reduction in economic and social status of a family coupled with alcohol addiction which the male members usually resort to as an escape from the hard realities of life has also led to unrest in the families. Domestic violence is a subset of this which has led to problems with spouse and dispute with other members of the family or other households which further chained with health related problems. This also helps to draw inferences about the role of the traditional and religious institutions whose presence could provide some solace to the people at the time of distress. Unfortunately, these institutions were utterly absent in Alirajpur district of MP which made these people isolated and alienated from the rest of the world. Overall, the absence of timely supporting institutions and increased economic problems drive the farmers to take up the extreme steps to commit suicide.

Status of data collection regarding Farmers Suicides

In India, since 1967, the National Crime Records Bureau (NCRB), Ministry of Home Affairs, publishes annually disaggregated level (states and major cities) data on the Accidental Deaths & Suicides in India (ADSI). From 1995 onwards the NCRB started publishing disaggregated data on death and suicidal data by profession. The latest official data on farmer's suicides available is upto 2015 as per Accidental Deaths and Farmers Suicides (ADSI) of National Crime Record Bureau (NCRB). ADSI is the crucial indicator that exposes the farmer's distress in the country. There is a need to publish this data annually so that it provides some insights into the growth path ways of the country.

While the State governments of Maharashtra, Telangana and Karnataka recognized the farmer's suicides officially and came out with a policy for relief and rehabilitation of the victim households, the government of Madhya Pradesh is yet to recognize the suicides in the rural areas as farmer's suicides. The data regarding the farmer's suicides are available only with the Home department in this State, as of now.

Status of Compensation to the suicide families

The land and Revenue department of Maharashtra has taken the responsibility of providing compensation to the victim families to an extent of Rs. One Lakh from Social Security

and Welfare Fund which is a regular budgetary head. Out of One lakh compensation package, Rs. 30,000 was paid in cash and Rs. 70,000 was deposited in the bank as a Fixed Deposit. All the FS HHs were found to have received compensation.

In Telangana compensation is being provided by Revenue department as a relief for suicide families with an ex-gratia of Rs.5.00 lakhs and a onetime loan settlement ceiling limit of Rs. One Lakh. In addition a rehabilitation package of admission of children in Social Welfare schools and hostels, allotment of houses under I.A.Y Scheme, economic support under Government schemes and Pensions will be provided to them.In practice, the victim family needs to provide 13 documents as a proof of suicide. After the proof of above, an amount of one lakh will be released to repay the outstanding debt. Followed by this the ex gratia amount of Rs. 5 Lakhs is placed under the joint Account of Mandal Revenue Officer and the Wife of the victim which will be released to her only with a proof of any expenditure incurred on inputs (such as Fertilizers and Pesticides) by the victim prior to his demise. Out of 50 FS HHs, compensation was received by 44 HHs of which the full amount of compensation was received by only 17 HHs with the reason that the others could not provide enough evidence of expenditure incurred on agriculture inputs.

The compensation amount by the government of Karnataka to the victim families is Rs.5 lakhs after submitting five documents as proof of suicide. The other rehabilitation package to the family is widow pension to the spouses with Rs. 2,000, educational expenses to the children till their post-graduation, Rs.2, 00,000 from Panchayati and one cow by State Government. Out of 50 FS households, the compensation was received by 35 households so far.

8.2: Recommendations

The discussion in the previous chapters revealed the fact that farmers in the rural context operate in a complex frame work where many forces dictate their state of livelihood. If the issues pertaining to farmers and agriculture are to be put into first and second order depending on the magnitude , the first order problems mainly emanated from the study are i) more number of dependent family members, ii)efforts to augment the land size with informal tenancy, iii)poor asset base, iv) absence of multiple livelihood base, v) higher non-institutional lending ,vi) multiple micro credits for multiple purposes including increased expenditure for social, health and education, vii) limited coverage under crop insurance and viii)increased individualization alienating from the society. Whereas, the second order problems are i) decline in public investment on irrigation, ii) increase in private investment on ground water, iii) potential for increasing the irrigated area through micro irrigation ,iv) missing links between policy, practice and extension systems, v) decline in pasture lands, vi) majority of marginal

and small farmers out of banking system, vii) market intervention through few crops, viii) limited offtake of employment guarantee programmes, ix) poor physical (roads) and social connectivity of rural households.

Results of the logit model reveal the fact that if indebtedness goes by one unit, the probability of committing suicides will increase by 7.2 units. However, indebtedness related vulnerability of the farmer is built over a period of time with multiple distresses (3.3) that occur in a period of 3 to 4 years , with multiple lending sources (3.62) and for multiple purposes (on average four) . The attempt made by The State so far, to provide relief to the anxiety ridden rural households through debt relief scheme was of first order and short term in nature. As the distress of farmer is not something related to the agriculture sector but to the whole development sector, the second order problems need to be looked into, on a priority basis so that they will reinforce the physical and human resources and social capital base of agriculture sector. For this, all the stakeholders working in the development sector such as agriculture, rural development, Panchayat system, education, health and social development including religious sector should undertake the responsibility and work in symphony with each other. However, the agriculture sector the backbone on which the entire rural economy depends upon cannot diffuse away its primary responsibility. The recommendations given by the National Farmers Commission (2006) holds valid even after more than a decade of its formation which should be implemented on a priority basis. A part from this, the following recommendations are given to bring out some structural reforms in development sector.

- **Increase the Public Investment in Irrigation with an emphasis on Minor Irrigation Systems** Agriculture Growth and Rural development closely follow the growth pattern of irrigation expansion in the country. All surface and groundwater schemes with a command area of 2000 ha come under minor irrigation. They comprise of tanks, anicuts, and lift irrigation schemes and sub-surface schemes i.e., dug wells and bore wells, renovation and restoration of old tanks along with construction of new tanks.
    i) Maharashtra and MP ranked as moderately developed States under minor irrigation (Twelfth five year plan) which have more scope to develop irrigation under this.
    ii) Need for policy support towards increase in expenditure on Irrigation by GoI
    iii) Each and every panchayat should be promoted with a new tank either in govt land or if necessary by purchasing the private land or by renovating the existing tank under MGNREGS.

iv) The entire area under tube wells should be mandatorily covered under Micro Irrigation systems by creating necessary infrastructural and financial support systems.

- **Reduce the Private Investment in inputs by encouraging Seed Village Program (SVP) in every panchayat**. Guidelines on Seed Village Program were already issued by Ministry of Agriculture (MoA) wherein the Department of Agriculture of respective State Governments should identify the implementing agencies for SVP.

  i) To encourage this on a large scale MoA can collaborate with National Rural Livelihood Mission (NRLM) of MoRD and implement the SVP with SHGs by providing them with necessary skills. Also many research stations are looking for promising village units to produce seeds from their newly evolved parental breeders' seeds. If both RARS and National Agriculture Research Stations especially those who are involved in plant breeding, can converge with community based SHGs, FIGs and FPOs for seed multiplication and processing, there can be tremendous opportunity both in terms of livelihoods opportunities and stable guaranteed income for the farmers.

  ii) Upscaling the programme on National Mission for Sustainable Agriculture (NFSM) in the entire country.

- **Reduce the dependency on Agriculture as the major source of livelihood by the rural households**

  Nearly, 57.8 percent of the households in rural areas are depending on Agriculture as their major and only source of livelihood. There is a need to provide support systems so that they could depend on multiple sources of livelihood which reduces their vulnerability.

  i) Need for mapping the skill sets required in a village based on their existing livelihoods and the cropping pattern so that the unemployed youth, SHG women could be encouraged to train on these skills. Deen Dayal Upadhyay Kaushal Yojana (DDUGKY) of MoRD can take up the task of skill mapping of the villages.

  ii) Promote multiple livelihood base in the village with livestock as a cushion in case of emergencies and distress

  iii) There is a need for a policy on carrying capacity of agriculture so that the excess labor could be moved out of agriculture. Policy Research Organizations such as NIRDPR should conduct Research studies in these areas.

- **Implementation of National Land Use Policy by reviving State Land Use Boards with Statutory functions**

  State Land Use Boards were formed during 1970s in all the states with the basic objective of providing necessary advisory support on matters related to the optimum use of land and land resources viz; soil, water, plant, animal system.

  i) State Land Use Boards should be under the purview of Rural Development Department

  ii) The State Land Use Boards (SLUB) have to be made more functional with advisory and monitoring roles on land use, crop planning and crop colonies regulating the supply and demand of the crops.

  iii) Panchayats are to be recognized as local implementing institutions for land use planning

  iv) Crop Colony approach being planned by Telangana Government in the ensuing kharif season is a promising model wherein 100 to 200 farmers synchronize their crop sowings and harvest so that they can collectively build a robust value chain and supply chain of their products to up markets.

- **Promoting the crops which are less irrigation intensive and nutritive in rainfed areas**

  i) Nutri Cereals such as Ragi , Bajra , Sorghum and Korra are not only the power house of nutrients but also they are climate resilient crops. They need to be encourage under Public Distribution System by introducing systems for procurement.

  ii) Extensive subsidy based financial support systems for the value chain of these crops are to promote through NABARD.

- **Promote extension systems that incorporate a holistic concept including information about crops and animal husbandry and agriculture marketing**

  i. Scientist – FPO- KVK/ATMA/DOT Centre – Service Provider (Agri Entrepreneur) , linkage is the need of the hour.

  ii. A Village Knowledge Centre should be promoted at every Panchayat with ICT services which should be a platform for all the information systems.

  iii. Livestock extension system must be integrated with agriculture extension system**.** KVKs must have a veterinary specialist to promote feed care and health care practice for the livestock.

iv. Directorate of Marketing and Inspection under DMI) Ministry of Agriculture and Farmer Welfare Information is implementing the provisions of Agriculture Produce (Grading and Marking) Act, 1937 .Till date AGMARK covered guidelines for 222 agriculture products spanning from cereals, pulses to fresh fruits. Maintaining the grading and quality standards as per AGMARK helps the farmers to better realize the prices. AGMARK standards have to be reached to the farmers in a campaign mode by the local KVKs. Awareness about the procurement agencies, about MSP of the crops and the quality standards have to be reached to the people by the State Agriculture Marketing Department through the village knowledge centre.

- **Promote Livestock based Livelihoods Extensively in the Rural Areas**

Back yard poultry which is a major source of nutrition for rural households should be promoted extensively. Necessary support systems in the form of chick rearing and vaccination could be provided through SHGs. Dairy and small ruminants are to be promoted as a livelihood for land less rural households extensively. Necessary support systems such as information on animal care, vaccination, and infrastructure have to provide along with the supply of animals.

- **Promote Common Pool Resources (CPRs) in every Panchayat**
  i) Pasture lands as CPRs are the main source of livelihood for landless for promoting livestock of landless. Pasture lands are to be promoted in every panchayat under MGNREGS in a staggered approach.
  ii) Minor Irrigation Tanks are to be promoted as CPRs in every panchayat.
  iii) Every state should come out with a policy of CPRs under the purview of Panchayat

- **Promote State of Art Soil Testing Laboratory in every district**
  i) Establish the State of Art Soil Testing Laboratory in every district which provides information on macro and micro nutrients.
  ii) The findings presented in the Soil Health Card should be passed on to the farmers with appropriate recommendations.

- **FPOs could be trained for facilitating the soil sample collection, testing and for transferring the recommendations to their farmer members.**

- **Encourage FPOs for Input dealerships**

  i) Input dealerships can be provided to FPOs in the villages. For doing so, The FPOs should be provided with necessary infrastructural facilities.

- **Promote support systems for tenancy**

  i) Model Agricultural Land leasing Act, 2016 was drafted by Expert committee on Land Leasing by NITI AAYOG in 2016. The report has recommended liberalizing land lease acts while protecting the interests of the owner farmers. An implementation of this Act will support the tenant farmers of the country in getting access to institutional credit and insurance.

  ii) Encourage VO- SHGs to enter into land leasing business with the Intermediation of Panchayat. Village Organizations i.e., the federated bodies of SHGs in the villages are loaded with "Community Investment Fund" being parked unproductively in the 'Savings Account'. This could be leveraged by them to lend to tenant farmers under the mediation of local panchayat so that it could be a *win-win* for both SHGs and tenant farmers.

- **Need for strengthening Institutional Finance**

  i) Deploy more number of banking correspondents either as Individuals or Farmer Producer Organizations in all Panchayats to make available all the services under Financial Inclusion. Lead banks of the respective National Banks should take proactive role in this.

  ii) Provide for a wider coverage of operational holdings under Kisan Credit Cards

  iii) Majority of the sample households have been availing loans for multiple purposes borrowing from multiple sources. There is need for consumption component in the scale of finance of Institutional borrowings. At the same time, financial literacy must be provided to the farmers at least in distress areas, to begin with.

  iv) Institutional loans must be mandatorily tied up with awareness campaigns on financial literacy. District Financial literacy and Credit Counseling Centres (FLCC) under lead banks should take up this, in a campaign mode.

  v) Financial Inclusion of the peasant communities who are in distress can help avoid crisis.

Farmers need financial support both in terms of credit and also socio protection. When formal sector employees are getting cradle to grave coverage of credit and insurance services, farmers are deprived of majority or all of such protection or productive measures. They include

old age pension, accident coverage, health coverage, consumption loans for education, house and marriages and production linked loans in a comprehensive way.

While land owners are creating charge of their land against loans, the tenant farmers who are actually cultivating their land are not getting benefits like crop loan interest subvention, crop insurance, loan waiver and direct cash benefit schemes. The deprivation is very much avoidable with schemes for inclusion of tenant farmers also

Promote Rural Warehousing Infrastructure in a saturation approach

i) Negotiable Warehouse Receipts through Pledge financing is an important instrument to support farmers against distress sales and to spur the supply chain momentum in agriculture. Warehousing Development and Regulatory Authority (WDRA) was established with the enactment of Warehousing (Development and Regulation) Act 2007 which has defined norms for accreditation of warehouses. Creating intermediary warehousing structures at panchayats under MGNREGS will result in, labour intensive asset based structures while supporting farmers during low tides of price crash.

ii) It may require an amount of Rs.48, 000 Crores to fill the gap required for construction of warehouses in all the panchayats in a saturation approach.

iii) Expand the usage of warehousing for other commodities like pulses, millets and cotton. The WDRA should come out with norms for identifying the warehousing structures at the village level

iv) The existing FPOs in the village or Panchayats may be identified as Warehousing Service Providers (WSP) of WDRA and theymay be provided with norms to identify the unoccupied houses in the villages to convert into a warehousing structure, by leasing them.

v) The FPOs or the panchayats can be the agents between WDRA and farmers so that the ‘Negotiable Warehouse Receipt ‘’issued by them will be used as collateral by the Bank for lending the loans to the farmers.

- **Promote Agriculture Marketing extensively**

i) Price Stabilization Fund in line with the Marketing department of Karnataka need to be maintained by the marketing department of the selected states.

ii) Grameen Agriculture Market (GrAM) is a village level market to be promoted with a budget outlay of Rs.9.09 lakhs for each GrAM proposed in the Union budget 2018-19. The construction part of GrAM needs to be integrated with MGNREGS

iii) All the regulated APMCs are to be integrated with E Nam with proper facilities for grading and assaying.

iv) The necessary marketing infrastructure for drying and grading should be available at each panchayat in the country.

- **Promote Crop Insurance as mandatory for every agriculture holding in the country**

  i) Weather based Crop Insurance scheme has to be promoted in a wider scale by ensuring necessary infrastructure at every panchayat level.

- **Promote SHG Institutions across the country in a saturation approach**

  i) All the women in the rural households should be covered under SHGs in a saturation approach.

- **Encourage diversification as a mantra among the Rural Households**

  i) Crop diversification as well as livelihood diversification need to be promoted by the Department of Agriculture in convergence with Department of Rural Development through Village Knowledge Centres.

- **Encourage Farmer Producer Organizations for consolidation of operations of small holdings**

  i) FPOs need to be encouraged in a larger scale for scaling the volume and operations of small and marginal farmers.

- **Maintain Price Stabilization Fund (PSF) by the Marketing Fund**

A PSF is to be maintained by the marketing department in line with Revolving Fund of Karnataka. The State Marketing Department should have information well in advance about the quantum of harvest of the crops so that they intervene timely to avoid distress sales.

- **Promote Support Systems from local Institutions like SHGs and Panchayats to distress households**

  i) SHGs and Panchayats are the institutions with ‘ear on ground’’ so that they can detect the signs of distress of the households at an early stage before they get snowballed into a crisis and commit suicide. An institutional pathway in the form

of process guidelines need to be devised for these institutions by the Policy Research Institutions like NIRDPR.

- **Ensure yearly publication of state wise and national data on Farmers Suicide**

i) NCRB should come out with an yearly publication of data on farmers suicide (ADSI) as it is a crucial indicator in exposing the farmers suicides in the country.

ii) Government of MP should recognize the suicides of the farmers as agriculture as a source of livelihood is not mitigating their distress. The Department of Revenue or land Administration or Agriculture department should start collating the data on farmers as in the case of other states instead of Home Department

- **Ensure proper relief and rehabilitation to distress households**

i) The compensation for the distress households provided by the Government of Karnataka is better compared to other states with more amount and relatively hassle free which can be emulated by other states.

8.3: This section has focused on Action Specific Recommendations to the Selected States /Ministries / Departments

Ministry of Agriculture

- Ministry of Agriculture should direct the National Agriculture Research Stations especially those who are involved in plant breeding, to converge with community based SHGs, FIGs and FPOs for seed multiplication and processing,
- Implement the programme on National Mission for Sustainable Agriculture (NFSM) in the entire country.
- Crop Colony approach being planned by Telangana Government need to be promoted in the entire country.
- Promote extension systems linking Scientist – FPO- KVK/ATMA/DOT Centre – Service Provider(Agri Entrepreneur)
- Livestock extension system must be integrated with agriculture extension system**.** KVKs must have a veterinary specialist to promote feed care and health care practice for the livestock.
- AGMARK standards have to be reached to the farmers in a campaign mode by the local KVKs.
- Awareness about the procurement agencies, about MSP of the crops and the quality standards have to be reached to the farmers by the State Agriculture Marketing Department in a campaign mode in collaboration with State Agriculture Departments

- Develop modules for livestock extension systems and disseminate them extensively through FPOs and SHGs by the respective departments.
- Enhance the budgetary allocation under animal husbandry and fisheries development programmes
- Establish the State of Art Soil Testing Laboratory in every district which provides information on macro and micro nutrients and ensure that the The findings presented in the Soil Health Card should be passed on to the farmers with appropriate recommendations. FPOs could be trained for facilitating the soil sample collection, testing and for transferring the recommendations to their farmer members.
- Encourage Input dealerships to be provided to FPOs in the villages

National Crime Record Bureau

NCRB should come out with an yearly publication of data on farmers suicide (ADSI) as it is a crucial indicator in exposing the farmers distress in the country.

Ministry of Rural Development

- Department of Land Resources of MoRD should undertake the responsibility of enacting The draft Model Agricultural Land leasing Act, 2016 drafted by Expert committee on Land Leasing sponsored by NITI AAYOG in 2016
- MoRD should develop guidelines for renovating the existing Minor Irrigation Tanks under MGNREGs
- Need for mapping the skill sets required in a village based on their existing livelihoods and the cropping pattern so that the unemployed youth, SHG women could be encouraged to train on these skills. Deen Dayal Upadhyay Kaushal Yojana (DDUGKY) of MoRD can take up the task of skill mapping of the villages.
- Promote policy Policy for a National Land Use Policy and promote implementation of the same National by reviving State Land Use Boards with Statutory functions
- NRLM through SERP of respective state governments should encourage the SHGs with Capital Subsidy on Micro Irrigation Systems along with necessary support systems such as providing training on the maintenance of these systems , for custom hiring to to the farmers.
- NRLM through SHGs should promote Back yard poultry which is a major source of nutrition for rural households. Necessary training in the form of chick rearing and vaccination could be provided through SHGs.
- NRLM could encourage VO- SHGs to enter into land leasing business with the Intermediation of Panchayat. The “Community Investment Fund” being parked in the

'Savings Account' of VOs could be leveraged by them to lend to tenant farmers under the mediation of local panchayat so that it could be a *win- win* for both SHGs and tenant farmers.

- Promote creating intermediary warehousing structures at panchayats under MGNREGS so that it will result in creation of durable assets while supporting farmers during price crash.
- Develop guidelines for the construction of Grameen Agriculture Markets (GRaMs) under MGNREGS
- Promote SHGs in a saturation approach in the entire country under NRLM

Ministry of Panchayat Resources

- Panchayats are to be recognized as local implementing institutions for land use planning
- A Village Knowledge Centre should be promoted at every Panchayat with ICT services which should be a platform for all the information systems.
- Pasture lands have to promoted under each Panchayat in the form of Common Pool Resources (CPRs), if necessary by taking the land on lease for 5 to 10 years and developed under MGNREGs
- Promote a Minor Irrigation Tank in every Panchayat under MGNREGS by acquiring the land if required under National Land Acquisition Act.
- Every state should come out with a Policy of CPRs under the purview of Panchayats
- The necessary Agriculture marketing infrastructure for drying and grading should be available at each panchayat under MGNREGS.

Agriculture Insurance Company of India Ltd

- Encourage Weather Based Crop Insurance by providing necessary infrastructure at every panchayats

National Institute of Rural Development and Panchayati Raj

- Need for a policy on carrying capacity of agriculture so that the excess labor could be moved out of agriculture. Policy Research Organizations such as NIRDPR should conduct Research studies in these areas.
- NIRDPR as a National Policy Research Institute should develop process guidelines for SHGs for detecting the early warning signals for agrarian distress and for providing immediate relief.

- **Ministry of Consumer Affairs, Food and Public Distribution**

i. Nutri Cereals such as Ragi , Bajra , Sorghum and Korra are to be encouraged under Public Distribution System by introducing systems for procurement.

ii. Ware House Development Authority (WDRA) under Ministry of Food and Public Distribution should promote Agriculture marketing in the country by

a) Expanding the usage of warehousing for other commodities like pulses, millets and cotton.

b) Developing the norms for identifying the warehouse structures at the village level

c) Identifying the existing FPOs in the village and Panchayats as Warehousing Service Providers (WSP) of WDRA.

d) Developing norms for leasing in the unoccupied houses in the villages and converting them into a warehouse by local panchayats.

e) Developing norms for FPOs and panchayats as agents between WDRA and farmers so that the 'Negotiable Warehouse Receipt ''issued by them will be used as collateral by the Bank for lending the loans to the farmers.

Reserve Bank of India

- Deploy more number of banking correspondents either as Individuals or Farmer Producer Organizations in all Panchayats to make available all the services under Financial Inclusion. Lead banks of the respective National Banks should take proactive role in this.
- Provide for a wider coverage of operational holdings under Kisan Credit Cards
- Majority of the sample households have been availing loans for multiple purposes borrowing from multiple sources. There is need for consumption component in the scale of finance of Institutional borrowings. At the same time, financial literacy must be provided to the farmers at least in distress areas, to begin with.
- Institutional loans must be mandatorily tied up with awareness campaigns on financial literacy. District Financial literacy and Credit Counseling Centres (FLCC) under lead banks should take up this, in a campaign mode.
- Ensure financial Inclusion of the peasant communities by including old age pension, accident coverage, health coverage, consumption loans for education, house and marriages and production linked loans in a comprehensive way.
- Promote inclusion of tenant farmers for crop loan interest subvention, crop insurance, loan waiver and direct cash benefit schemes

NABARD

i) Extensive subsidy based financial support systems for the value chain of the Nutri Cereals such as Ragi , Bajra , Sorghum and Korra are to promoted by NABARD.

Government of Maharashtra

- Increase the expenditure on Minor Irrigation by the Department of Water Resources
- Promote connecting the entire area under tube wells with Micro Irrigation Systems by the Department of Agriculture
- Department of Agriculture of Maharashtra should direct the RARS of State Agriculture Universities especially those who are involved in plant breeding to converge with community based SHGs, FIGs and FPOs for seed multiplication and processing
- All the regulated APMCs under Department of Agriculture Marketing are to be integrated with E Nam with proper facilities for grading and assaying
- Department of Agriculture should promote Input dealerships to FPOs in the villages. For doing so, the FPOs should be provided with necessary infrastructural facilities.
- State Marketing Department should develop norms for " Promoting and maintaining the Price Stabilization Fund" in line with Revolving Fund of Karnataka
- The compensation for the distress households provided by the Government of Karnataka is better compared to other states with more amount and relatively hassle free which could be emulated by other states.

Government of Madhya Pradesh

- Government of MP should recognize the suicides of the farmers. The Department of Revenue or land Administration or Agriculture department should start collating the data on farmers as in the case of other states instead of Home Department
- Increase the expenditure on Minor Irrigation by the Department of Water Resources
- Department of Agriculture should connect the entire area under tube wells with Micro Irrigation Systems.
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- All the regulated APMCs under Department of Agriculture Marketing are to be integrated with E-Nam with proper facilities for grading and assaying

Government of Telangana

- Connect the entire area under tube wells with Micro Irrigation Systems by the Department of Micro Irrigation.
- Department of Agriculture of Telangana should direct the RARS of State Agriculture Universities especially those who are involved in plant breeding to converge with community based SHGs, FIGs and FPOs for seed multiplication and processing
- Department of Agriculture should promote Input dealerships to FPOs in the villages. For doing so, the FPOs should be provided with necessary infrastructural facilities
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References

A.R. Vasavi (2009), Suicides And The Making Of India's Agrarian Distress, National Institute Of Advanced Studies, Iisc Campus,Bangalore-560012,India.

Acharya, S.S (1998); "Agricultural Marketing in India: Some Facts and Emerging Issues", *Indian Journal of Agricultural Economics*, 53(3), pp

Action for Welfare and Awakening in Rural Environment (AWARE, 1998), Report on Farmers Suicides in Andhra Pradesh, Hyderabad; Development Research Advisory Group.

Adhiguru, P., Birthal, P.S., & Ganesh Kumar, B. (2009). Strengthening pluralistic agricultural information delivery systems in India. *Agricultural Economics Research Review*, *22*, 71–79.

Agriculture Statistics (2016); Ministry of Agriculture and Farmers Welfare, www.agricoop.nic.in

Arvind Virmani, 2008, Growth and Poverty: Policy Implications for Lagging States, *Economic and Political Weekly*, Vol. 43, No. 2 (Jan. 12 - 18, 2008), pp. 54-62

Ashok Gulati, Prerna Terway and Siraj Hussain, 2018, Crop Insurance in India: Key Issues and Way Forward, ICRIER, working paper,

Ashok Gulati, Seema Bathlav (2001) Capital Formation in Indian Agriculture: re-visiting the debate, *Economic and political weekly*, Vol. 36, Issue No. 20, 19 May, 2001, pp-1697 to1708.

Babu, Suresh Chandra, Joshi, P.K, Claire, J Glendenning, Kwadwo Asenso-Okyere, Rasheed Sulaiman V (2012) The state of Agricultural Extension Reforms in India: Policy Options and Investement Priorities, Draft, January 2012

Babu, V. Suresh, B. Dhanyashree, Joseph Abraham and K. Hanumatha Rao (2011). 'Impact of MGNREGS on Scheduled Castes in West Bengal', NIRD, Hyderabad (Processed).

Balamuralidhar Posani (2009) Crisis in the Countryside: Farmer Suicides and The Political Economy of Agrarian Distress in India, working paper, developing destin studies institute, LSEP.

Banerjee, Kaustav and Partha Saha (2010). 'The NREGA, the Maoists and Development Woes of the Indian State', Economic and Political Weekly, Vol. XLV, No. 28, July 10.

Bhalla, G. S. and Gurmail Singh (2001), Indian Agriculture: Four Decades of Development, Sage Publications, New Delhi

Byerlee, D. (1988), "Agricultural Extension and the Development of Farmers' Management Skills", In J. Howell (ed.), *Training and Visit Extension in Practice*, Agricultural Advisory Unit Occasional Paper 8, ODI, London, pp. 8-27.

Byerlee, D. (1988), "Knowledge Intensive Crop Management Technologies: Concepts, Impacts, and Prospects in Asian Agriculture", In P. Pingali (ed.),*Impacts of Rice Research,* Thailand Development Research Institute, Bangkok, and International Rice Research Institute, Los Baños, Philippines, pp. 113-34.

C H Hanumantha RaoAshok Gulati, (1994) Issues, Economic, Vol. 29, Issue No. 53, 26 Nov, 1994,pp-A158 to160.

C. Ramasamy, R. Balasubramanian and S.D. Sivakumar (2005). Dynamics of land use Pattern with Special Reference to Fallow Lands-An Empirical Investigation in Tamil Nadu. Ind. Jn. of Agri. Econ Vol. 60 No.4 Oct-Dec-2005, pp. 629-643.

Chand, 2003 Development Policies and Agricultural Markets, *Economic and Political Weekly*, December, 2012 vol xlvii no 52

Chand, 2012, Development Policies and Agricultural Markets, *Economic and Political Weekly*, 47(52):52-63

Chand, R and Kumar P(2004)," Determinants of Capital Formation and Agriculture Growth Some New Explorations" Economic and Political Weekly, December25, pp 5611-16

Chandrashekar (2006),' Agrarian Crisis in Andhra Pradesh, *journal of Indian school of political economy*, Vol.18 (1&2) pp: 36-37.

Chowdhary, P A (2002), 'Report of the Farmers' Commission of Experts on Agriculture in Andhra Pradesh, Vyavasayaranga ParirakhanaH Hyderabad, PP: 28-29.

CSO (2008),'National Accounts Statistics 2008 and back issues', Central Statistical Organization, Ministry of Statistics and Programme Implementation, Government of India New Delhi,PP-75-76.

Deshpande and Naik, 2002, Impact of Minimum Support Prices on Agricultural Economy (Consolidated Report) Agricultural Development and Rural Transformation Unit Institute for Social and Economic Change Nagarbhavi, Bangalore-560 072, and December 2003

Deshpande, R S and Khalil Shah (2010): "Globalisation, Agrarian Crisis and Farmers' Suicides: Illusion and Reality" in R S Deshpande and Saroj Arora (ed.), Agrarian Crisis and Farmer Suicides (New Delhi: Sage Publications), 118-48.

Deshpande, R. S., M.J. Bhende, P. Thippaiah and M. Vivekananda (2004), Crops and Cultivation, State of Indian Farmer-A Millennium Sturdy , Vol. 9, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, New Delhi.

Deshpande, R.S. and Nagesh Prabhu (2005), 'Farmers' Distress: Proof Beyond Question', Economic and Political Weekly, Vol. 40(44-45), Oct. 29 – Nov. 4, pp. 4663-4665.

Dipankar Gupta (2005) Whither the Indian Village: Culture and Agriculture in 'Rural' India, in *Economic and political weekly* 40(8):751-758 · January 2005

Dreze, Jean. 2004. 'Employment a Social Responsibility' The Hindu, November 22.

Glenn Davis Stone (2011) Contradictions in the Last Mile Suicide, Culture, and E-Agriculture in Rural India, Science, technology and human values 36 issue: 6, page(s): 759-790, sage publication.

GOI (2008), 'Economic Survey 2007-08 and back issues' Economic Division, Ministry of Finance, Government of India, New Delhi, PP:126-127

Gokul Patnaik, 2014, Impact Evaluation Study, Global agri system report National Mission on Micro Irrigation.

Government of India 2005a, Mid Term Appraisal of the Tenth Five Year Plan, New Delhi, Planning Commission

Government of India 2007, report of the expert group on agricultural indebtedness, New Delhi, Ministry of finance, July

Gulati, A., and S. Bathla. 2001. Capital Formation in Indian Agriculture: Trends, Composition, and Implications for Growth. NABARD Occasional Paper 24. Mumbai: NABARD.

Jairam Ramesh, 2018, The Times of India Blog, What is next for Self Help Group movement in India?

Johnson (2010), "Aetiological Factors in Suicides behavior,' PhD Dissertation,

K. Nagaraj, P. Sainath, R. Rukmani, and R. Gopinath (2014) Farmers' Suicides in India: Magnitudes, Trends, and Spatial Patterns, 1997–2012, Review of Agrarian Studies, Vol. 4, No. 2 July-December, and 2014.

Kahlon, A.S., &Tyagi, D. S. (1983); Agricultural Price Policy in India.Allied Publishers Pvt. Ltd. New Delhi

Malmberg, Sue Simkin and Keith Hawton, 1999, "suicides in farmers", British journal of Psychiatry , 175 (2): 103-105

Mandal, R. B. (1982) Land utilization: Theory and Practice. New Delhi: Concept Publishing Company. pp. 1-21

Mohan Rao R.M (2004), Suicides among Farmers- A study of Cotton Farmers, New Delhi: Concepts Publications Company, Pp:

Nancharaiah.G (2000), Agrarian Reforms and Agrarian Changes; 50 year of independence' inR.K.Gupth(ed) Issues in IndianEconomyVol. 111, AtlantiPublishersand Distributors, 2000.Pp:63-92.

Nancharaiah.G(2000). New economic policy and its effects on Dalits, Rawat Publications.

Narasimha Reddy.D and Srijit Mishra (2008), 'Agriculture in Reform Regime,'in Narasimha Reddy.D and Srijit Mishra (ed), Agrarian Crisis in India ,Oxford Publication,2008,Pp;16-17.

NarasimhaReddy,D (2013), 'Functions of NREGS in Andhra Pradesh, ' in K.P.Kannan and Jan Breman (Ed), The long roads to social security,assessing the implementation of national social security initiatives for the working poor in India, Oxford Publication,2013,Pp-:117-163.

National Bank for Agriculture and Rural Development (NABARD) , 2018, Adolph, Barbara (2003). The Role of Self-Help Groups in Rural Non-Farm Employment. NRI Publications. http://www.nri.org/projects/rnfe/pub/papers/roleofselfhelpgroups.pdf

National Crime Report Bureau (2007-09), 'Accidentals Deaths and Suicides Deaths, Ministry of Finance, Government of India.

National Sample Survey Organisation (NSSO), Government of India, 2005

NCEUS (2008), “A Special Programme for Marginal and Small Farmers”, A Report prepared by the National Commission for Enterprises in the Unorganized Sector, NCEUS, New Delhi

Paliwal, Ankur (2011) “Water Turns the Tide” Down to Earth, April 15.

Parthasarthy, G and Shameen (1997), ‘Suicides of Cotton Farmers in Andhra Pradesh; AnExploratory Study,’ Economic and Political Weekly vol.33.no.13.28.March, pp.720-6.

Planning Commission (2000); Report on agriculture

Planning Commission (2007); Extension of MSP: Fiscal and Welfare Implications, a Study for the Planning Commission, Integrated Research and Action for Development

Rajalalsmi, N (2017) why the e-NAM platform hasn’t taken off despite all the fanfare, Business line, Hindu, July18, 2017

Ramesh Chand (2001), ‘Emerging trends and issue in public and private investment in Indian agriculture: A state wise analysis”, Indian Journal of Agricultural Economics, Vol.56, No.2, April-June, 2001, Pp.161-184.

Ramesh Chand (2002), ‘Indian’s agricultural challenges and their implications for growth and equity” paper presented in seminar on perspectives on equitable development: international experience and what can India learn? CESS Hyderabad, Pp: 319-346.

Ramesh Chand, S. K Srivastava and Jaspal Singh, 2017, Changing Structure of Rural Economy of India Implications for Employment and Growth, Discussion Paper, National Institution for Transforming India NITI Aayog

Ramesh Chand, S. S. Raju and L. M. Pandey (2007) Growth Crisis in Agriculture: Severity and Options at National and State Levels, *Economic and Political Weekly*Vol. 42, No. 26 (Jun. 30 - Jul. 6, 2007), pp. 2528-2533.

Ramesh Chand, Shinoj Parappurathu (2012) Temporal and Spatial Variations in Agricultural Growth and Its Determinants, EPW, Vol. 47, Issue No. 26-27, 30 Jun, 2012.

Rao, C.H.H 1975, Technological change and distribution of Gains in Indian Agriculture, New Delhi, Macmillan.

Rao, Purna Chandra (2002), ‘Crops shifts in Andhra Pradesh and its formations” in Y.V.Krishna Rao and S.Subrahamanyam (ed) Development of Andhra Pradesh: 1956-2001 A Study of Regional Disparites.N.R.R Research foundation, Hyderabad, 2002, Pp129-151.

Ratna Reddy (2002),’ Irrigation: Development and Reform. In Rao, C.H.H and S.M.Dev (ed), Andhra Pradesh Development; Hyderabad, Center for Economic and Social Studies, PP: 76-77.

Reddy Narasimha D, (2006), ‘Economic Reforms, Agrarian Crisis and Rural Distress,’4th Annual Professor B.Janarthan Rao Memorial Lecture, Professor B. Janarthan Rao Memorial Foundation, Warangal, Telangana, and PP: 15-16.

Reddy Narasimha D, (2006), 'Economic Reforms, Agrarian Crisis and Rural Distress,' 4th Annual Professor B.Janarthan Rao Memorial Lecture, Professor B.Janarthan Rao Memorial Foundation, Warangal, Telangana, Pp: 18-19

Report of Expert Group on Agriculture Indebtedness, Ministry of Finance, government of India, New Delhi (Chairman; R. Radhakrishna), Pp: 96

Report of the Commission on Farmers' Welfare (2005), Government of Andhra Pradesh, Pp-12

Revathi (2009), 'Farmers' Suicides and Unfolding Agrarian Crisis in Andhra Pradesh; in D. Narasimha Reddy and Srijit Mishra (ed); Oxford Publication, 2009, Pp-170.

Revathi, E (2005),' Farmers Suicides in Andhra Pradesh: issues and policy concerns, in Rao, C.H.H and S.M.Dev (ed), Human Development Report in Andhra Pradesh, enter for Economic and Social Studies,PP-214-215.

Revathi.E (1998), 'Farmers Suicides; Missing Issue, '*Economic and Political Weekly*, Vol.33.No.17, 16 May.

S.M.Dev and C. Ravi (2003), 'Macro-Economic Scene; Performance and Polices, 'in Rao, C.H.H and S.M.Dev (eds), Andhra Pradesh Development; Hyderabad, Center for Economic and Social Studies.

School of Behavioral Sciences, Mahathama Gandhi University, Pp: 26-27.

Sethi. D.K, Andrews. U, (2008), Frank ISC Economics, Class-xi, Frank bros. & Co-Publications, Pp: 251-252.

Shah Mihir, 2009, 'Multiplier – Accelerator Synergy in NREGA', The Hindu, 30 April.

Shayequa Z. Alia, R.S. Sidhu and Kamal Vatta (2012), Effectiveness of Minimum Support Price Policy for Paddy in India with a Case Study of Punjab * *Agricultural Economics Research Review* Vol. 25(No.2) July-December 2012 pp 231-242

Shenggen Fan and Peter Hazell(2000) Should Developing Countries Invest More in Less-Favoured Areas? An Empirical Analysis of Rural India, *Economic and political weekly*, Vol. 35, No. 17 (Apr. 22-28, 2000), pp. 1455-1464.

Sidhu, R.S. and Sukhpal Singh, (2003); 'Economic Sustainability of Wheat and Rice Crops in Punjab: Issues on Prices. Profitability and Natural Resources Use', *Indian Journal Agricutural Economics*, Vol. 58, No. 3.

Singh Katar, "Rural Development Principles, Practice and Management" Sage Publications, New Delhi,(1998), pp.21-22

Sridhar, G and K. Dasaradharamaiah (2006) 'Farmers Committing Suicides', International Journal of Women, Social Justice and Human Rights,1(1);93-115.

Sridher, V. (2006), 'Why do farmers commit suicides: the case study of Andhra Pradesh,' Economic and Political Weekly, Vol.41, No.16, 22 April, Pp1559- 65.

Srijit Mishra (2006),'Farmers' Suicides in Maharashtra, *'Economic andPolitical Weekly*, Vol.41, No.16, Pp.1538-45.

Srijit Mishra(2008) agrarian crisis and farmers suicides**,** a paper presented at a one day international seminar, "Environmental degradation and food crisis – Lessons for India" organized by Greenpeace India on 24 October 2008 at India International Centre, Lodhi Road, New Delhi, India.

Statistical Abstract of Andhra Pradesh, Directorate of Economic and Statistical, Government of Andhra Pradesh.1990-91 TO 2005-06.

Statistical Abstract of Karnataka reports, Directorate of Economic and Statistical, Government of karnataka.http://des.kar.nic.in/ptc_stat_reports.asp

Statistical year book of Telangana, 2017, Directorate of Economic and Statistical, Government of Telangana. https://www.telangana.gov.in/PDFDocuments/Statistical-Year-Book-2017.pdf

Subramanyam S. and Satya Sekhar P (2003), "Agricultural Growth: Pattern and Prospects", Andhra Pradesh Development: Economic Reforms and Challenges head, Ed. Ch. Hanumantha Rao & S. Mahendra Dev, CESS, Hyderabad

Sulaiman, R. 2003, *Innovations in agricultural extension in India*. Rome: Food and Agriculture Organization of the United Nations, Sustainable Development Department.

Sulaiman, R. 2003. *Agriculture extension: Involvement of private sector*. Occasional Paper 29. Mumbai: Department of Economic Analysis and Research.

Tirthankar Roy (2007) Roots of Agrarian Crisis in Interwar India: Retrieving a Narrative, *Economic and political weekly Vol*. 41, No. 52 (Dec. 30, 2006 - Jan. 5, 2007), pp. 5389+5391-5400.

Vakulabhranam.V and S.Motiram (2007),'Political Economy of Agrarian distress in India since the 1990s Paper presented at Columbia-LSC-New School Conference on "Great Transformation: Understanding India's New Political Economy,' Columbia University, New York, September,Pp:3-4.

Vasavi A.R (1999),' Agrarian Distress in Bidar; Market, State and Suicides,' *Economic and Political Weekly*, vol.34, No32, 7 augest, pp.2263.8.

Vishav Bharti (2011) Indebtedness and Suicides: Field Notes on Agricultural Labourers of Punjab, Economic and political weekly, Vol. 46, Issue No. 14, 02 Apr, 2011, pp-35 to 40.

http://www.mospi.gov.in/download-tables-data

https://www.indiaagristat.com/

https://eands.dacnet.nic.in/

MAHARASHTRA DISTRICT-WISE TABLES

Profile of the Respondents

Table-1:Basic Particulars of Suicides and control Families in Selected Districts

Table-1:Basic Particulars of Suicides and control Families in Selected Districts													
Characteristics		**Beed**				**Yavatmal**				**Total**			
		Suicides		**control**		**Suicides**		**control**		**Suicides**		**Control**	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Male	27	45.0 %	40	66.7 %	43	54.4 %	50	59.5%	70	50.4 %	90	62.5 %
	Female	33	55.0 %	20	33.3 %	36	45.6 %	34	40.5%	69	49.6 %	54	37.5 %
	Total	60	100.0%	60	100.0 %	79	100.0 %	84	100.0 %	139	100.0 %	144	100.0 %
Caste	SC	0	.0%	0	.0%	1	4.0%	1	4.0%	1	2.0%	1	2.0%
	ST	0	.0%	0	.0%	5	20.0 %	7	28.0%	5	10.0 %	7	14.0 %
	OBC	8	32.0 %	7	28.0 %	15	60.0 %	13	52.0%	23	46.0 %	20	40.0 %
	All	1	4.0 %	0	.0%	2	8.0%	1	4.0%	3	6.0%	1	2.0%
	Others	16	64.0 %	18	72.0 %	2	8.0%	3	12.0%	18	36.0 %	21	42.0 %
	Total	25	100.0%	25	100.0 %	25	100.0 %	25	100.0 %	50	100.0 %	50	100.0 %
Age	Below 21	26	43.3 %	19	31.7 %	16	20.3 %	19	22.6%	42	30.2 %	38	26.4 %
	21-30	14	23.3 %	12	20.0 %	21	26.6 %	22	26.2%	35	25.2 %	34	23.6 %
	31-40	9	15.0 %	10	16.7 %	19	24.1 %	19	22.6%	28	20.1 %	29	20.1 %
	41-50	4	6.7 %	12	20.0 %	13	16.5 %	14	16.7%	17	12.2 %	26	18.1 %
	51-60	4	6.7 %	4	6.7%	5	6.3%	8	9.5%	9	6.5%	12	8.3%
	60+	3	5.0 %	3	5.0%	5	6.3%	2	2.4%	8	5.8%	5	3.5%
	Total	60	100.0%	60	100.0 %	79	100.0 %	84	100.0 %	139	100.0 %	144	100.0 %
Marital status	Never Married	20	33.3 %	20	33.3 %	24	30.4 %	25	29.8%	44	31.7 %	45	31.2 %
	Currently married	16	26.7 %	39	65.0 %	31	39.2 %	58	69.0%	47	33.8 %	97	67.4 %
	Widow/ Widowed	18	30.0 %	0	.0%	24	30.4 %	1	1.2%	42	30.2 %	1	.7%
	NA (below 18)	6	10.0 %	1	1.7%	0	.0%	0	.0%	6	4.3%	1	.7%
	Total	60	100.0%	60	100.0 %	79	100.0 %	84	100.0 %	139	100.0 %	144	100.0 %
	Illiterate	23	38.3 %	19	31.7 %	55	69.6 %	47	56.0%	78	56.1 %	66	45.8 %

Education	Below primary	5	8.3 %	5	8.3%	10	12.7 %	16	19.0%	15	10.8 %	21	14.6 %
	Primary	6	10.0 %	13	21.7 %	5	6.3%	8	9.5%	11	7.9%	21	14.6 %
	Seconda ry	11	18.3 %	12	20.0 %	5	6.3%	4	4.8%	16	11.5 %	16	11.1 %
	Higher secondar y	3	5.0 %	3	5.0%	2	2.5%	3	3.6%	5	3.6%	6	4.2%
	Technical	1	1.7 %	1	1.7%	0	.0%	0	.0%	1	.7%	1	.7%
	Graduatio n & above	2	3.3 %	6	10.0 %	0	.0%	3	3.6%	2	1.4%	9	6.2%
	Non formal												
	NA (age ≤5)	9	15.0 %	1	1.7%	2	2.5%	3	3.6%	11	7.9%	4	2.8%
	Total	60	100. 0%	60	100.0 %	79	100.0 %	84	100.0 %	139	100.0 %	144	100.0 %

Sources: Field survey -2017-2018

Characteristics		Beed				Yavatmal				Total			
		Suicides		control		Suicides		control		Suicides		Control	
Experience in farming	0-5	10	40.0%			3	12.0%			13	26.0%		
	06-10	4	16.0%			2	8.0%			6	12.0%		
	11-20	5	20.0%			12	48.0%			17	34.0%		
	21-40	3	12.0%			8	32.0%			11	22.0%		
	41-60	3	12.0%			0	.0%			3	6.0%		
	60 Above												
	Total	25	100.0%			25	100.0%			50	100.0%		

Sources: Field survey -2017-2018

Table 2 : Number of Dependent and Independent Members in the Family

	Beed				Yavatmal				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	%	N	%	N	%	N	%	N	%	N	%
Dependent												
Male												
Below 18	11	18.3%	13	21.7%	9	11.4%	9	10.7%	20	14.4%	22	15.3%
Above 60	1	1.7%	2	3.3%	2	2.5%	2	2.4%	3	2.2%	4	2.8%
Female												
Below 18	11	18.3%	3	5.0%	6	7.6%	7	8.3%	17	12.2%	10	6.9%
Above 60	2	3.3%	1	1.7%	3	3.8%	0	0.0%	5	3.6%	1	0.7%
Independent												
Male												
18-60	15	25.0%	25	41.7%	32	40.5%	39	46.4%	47	33.8%	64	44.4%
Female												
18-60	20	33.3%	16	26.7%	27	34.2%	27	32.1%	47	33.8%	43	29.9%

Table 3 :Type of Livelihoods adopted by Independent members in the sample households

	Beed				Yavatmal				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	%	N	%	N	%	N	%	N	%	N	%
Cultivation	10	32.3%	5	27.8%	28	44.4%	24	42.9%	38	40.4%	29	39.2%
Allied Agriculture Activities			1	5.6%			3	5.4%			4	5.4%
Only Agriculture Labour	20	64.5%	12	66.7%	31	49.2%	26	46.4%	51	54.3%	38	51.4%
Other Labour			0	.0%			1	1.8%			1	1.4%
Agriculture and other labour	1	3.2%			0	.0%			1	1.1%		
Household Industry	0	.0%			1	1.6%			1	1.1%		
Service (Govt)			0	.0%			1	1.8%			1	1.4%
Service (Pvt)			0	.0%			1	1.8%			1	1.4%
Others	0	.0%			3	4.8%			3	3.2%		
Total	31	100.0%	18	100.0%	63	100.0%	56	100.0%	94	100.0%	74	100.0%

Table-4: Distribution of Suicides farmers and Control Farmers According to size of Landholdings from the selected sample

Farm Size	Beed				Yavatmal				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	%	N	%	N	%	N	%	N	%	N	%
Marginal	6	24.0%	8	32.0%	1	4.0%	2	8.0%	7	14.0%	10	20.0%
Small	11	44.0%	15	60.0%	16	64.0%	15	60.0%	27	54.0%	30	60.0%
Semi-Medium	8	32.0%	2	8.0%	8	32.0%	8	32.0%	16	32.0%	10	20.0%
Medium												
Total	25	100.0%	25	100.0%	25	100.0%	25	100.0%	50	100.0%	50	100.0%

Sources: Field survey -2017-2018.

Asset Structure

Table-5 :Distribution of Suicides farmers and Control Farmers According to size of Landholdings and Leased-In Land from the selected sample

Farmer Status			Beed			Yavatmal			Total		
			FS	CG	Total	FS	CG	Total	FS	CG	Total
Marginal	Own Land	Avg	1.7	1.6	1.6	2.0	2.0	2.0	1.7	1.7	1.7
		N	6	8	14	1	1	2	7	9	16
Small	Own Land	Avg	3.5	4.1	3.9	3.8	4.1	3.9	3.7	4.1	3.9
		N	11	15	26	16	15	31	27	30	57
	Leased in (Acs)	Avg	7.0		7.0				7.0		7.0
		N	1		1				1		1
Semi-Medium	Own Land	Avg	6.9	9.3	7.4	8.4	7.4	7.9	7.7	7.8	7.7
		N	8	2	10	8	8	16	16	10	26
Total	Own Land	Avg	4.2	3.7	3.9	5.2	5.1	5.1	4.7	4.4	4.5
		N	25	25	50	25	24	49	50	49	99
	Leased in (Acs)	Avg	7.0		7.0				7.0		7.0
		N	1		1				1		1

Asset Structure

Table-6: Distribution of Suicides farmers and Control Farmers According to size of LandholdingsAnd Leased-In Land from the selected sample. (Number)

Farm size	Beed				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In
Marginal	6		8		1		1		7		9	
Small	11	1	15		16		15		27	1	30	
Semi-Medium	8		2		8		8		16		10	
Medium												
Large												
Total	25	1	25		25		24		50	1	49	

Sources: Field survey -2017-2018

Table7 :Distribution of Suicides farmers and Control Farmers according to size of Livestock from the selected sample										
		1			2			Total		
		Type			Type			Type		
		FS	CG	Total	FS	CG	Total	FS	CG	Total
Bullocks	Avg	1.71	2.00	1.90	1.67	2.00	1.86	1.69	2.00	1.88
	N	7	13	20	6	8	14	13	21	34
Cow	Avg	1.50	1.67	1.61	1.00	2.26	1.89	1.21	2.03	1.78
	N	6	12	18	8	19	27	14	31	45
Buffalo	Avg	1.20	1.00	1.14	3.00		3.00	1.71	1.00	1.56
	N	5	2	7	2		2	7	2	9
Sheep/Goat	Avg	3.67	2.12	2.55		4.36	4.36	3.67	3.42	3.45
	N	3	8	11		11	11	3	19	22
Poultry/Birds	Avg		2.00	2.00		7.00	7.00		5.33	5.33
	N		1	1		2	2		3	3

Table-8 : Distribution of Suicides farmers and Control Farmers according to size of Livestock from the selected sample (Average size of livestock)

Livestock	Beed			Seddipet			Total		
	Suicides	Control	Total	Suicides	Control	Total	Suicides	Control	Total
Bullocks	2	2	2	2	2	2	2	2	2
Cow	2	2	2	1	2	2	1	2	2
Buffalo	1	1	1	3		3	2	1	2
Sheep/Goat	4	2	3		4	4	4	3	3
Poultry/Birds		2	2		7	7		5	5

Table 9: Reasons for selling the livestock in the last five years

Farm size	Beed				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Bullocks												
Debt	3	42.9%			0	.0%			3	23.1%		
Marriage	1	14.3%			0	.0%			1	7.7%		
Others	3	42.9%	13	100%	6	100%	8	100%	9	69.2%	21	100%
Cow												
Debt	1	25.0%			0	.0%			1	8.3%		
Others	3	75.0%	10	100%	8	100%	19	100%	11	91.7%	29	100%
Buffalo												
Debt	1	25.0%			0	.0%			1	16.7%		
Others	3	75.0%	2	100%	2	100%			5	83.3%	2	100%
Sheep / Goat												
Debt	1	33.3%							1	33.3%		
Others	2	66.7%	8	100%			11	100%	2	66.7%	19	100%
Poultry/Birds												
Others			1	100%			2	100%			3	100%

Table 10 : Other Asset structure

Assets	Beed				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Smokeless Chullah	16	64%	17	68%	21	84%	21	84%	37	74%	38	76%
Gas	14	56%	18	72%	21	84%	20	80%	35	70%	38	76%
Electric Fan	15	60%	25	100%	24	96%	22	88%	39	78%	47	94%
Mobile	17	68%	24	96%	24	96%	23	92%	41	82%	47	94%
TV	13	52%	19	76%	22	88%	23	92%	35	70%	42	84%
Bicycle	12	48%	13	52%	16	64%	17	68%	28	56%	30	60%
House												
a) Kucha	23	92%	23	92%	23	92%	22	88%	46	92%	45	90%
b) Pucca	1	4%			0	.0%			1	2%		

Sources: Field survey -2017-2018

Table 11 : Agriculture Implements (No)

Assets	Beed				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Plough	0	.0%	2	8%	3	12%	5	20%	3	6%	7	14%
Bullock Cart	3	12%	12	48%	7	28%	6	24%	10	20%	18	36%
Two wheeler	3	12%	9	36%	8	32%	8	32%	11	22%	17	34%
Tractor	1	4%	1	4%	0	.0%	2	8%	1	2%	3	6%
Other (specify)	1	4%	1	4%	0	.0%	0	.0%	1	2%	1	2%

Sources: Field survey -2017-2018

Table 12: Cropping Pattern among Farmers Suicides and control (No.of farmers)

Crops	Beed		Yavatmal		Total	
	Suicides	Non-Suicides	Suicides	Non-Suicides	Suicides	Non-Suicides
Irrigated						
Cotton			2	2	2	2
Unirrigated						
Bajra	3		0		3	
Cotton	21	20	20	22	41	42
Jowar		1		0		1
Soyabeen	0		1		1	
Both						
Cotton	1	4	2	1	3	5

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018.

Table 13 : Agricultural Practices (Input) of Two Major Crops A) Seed

Implements	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
a) Who Suggested												
i) Extension Officer												
ii) Friends/ Relatives	40	95.2%	33	100.0 %	17	34.0 %	24	44.4 %	57	62.0 %	57	65.5%
iii) Input Dealer	2	4.8%	0	.0%	33	66.0 %	29	53.7 %	35	38.0 %	29	33.3%
iv) Others			0	.0%			1	1.9%			1	1.1%
b) Source of Purchase												
i) Govt Store												
ii) Local Pvt store	41	97.6%	33	100.0 %	46	92.0 %	47	87.0 %	87	94.6 %	80	92.0%
iii) Others	1	2.4%	0	.0%	4	8.0%	7	13.0 %	5	5.4%	7	8.0%
c) Mode of payment												
i) Cash	19	45.2%	8	24.2%	28	56.0 %	28	51.9 %	47	51.1 %	36	41.4%
ii) Credit	23	54.8%	25	75.8%	21	42.0 %	24	44.4 %	44	47.8 %	49	56.3%
iii) Others	0	.0%	0	.0%	1	2.0%	2	3.7%	1	1.1%	2	2.3%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 14: Agricultural Practices (Input) of Two Major Crops b) Fertlisers

Implements	**Beed**				**Yavatmal**				**Total**			
	Suicides		**Control**		**Suicides**		**Control**		**Suicides**		**Control**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**		
Crop 1												
a) Who Suggested												
v) Extension Officer			0	.0%			2	3.8%			2	2.3%
vi) Friends/Relatives	41	95.3%	35	100.0 %	16	30.8 %	23	43.4%	57	60.0 %	58	65.9%
vii) Input Dealer	2	4.7%	0	.0%	36	69.2 %	28	52.8%	38	40.0 %	28	31.8%
viii) Others												

b) Source Of Purchase												
iv) Govt Store												
v) Local Pvt store	42	97.7%	35	100.0 %	48	92.3 %	46	86.8%	90	94.7 %	81	92.0%
vi) Others	1	2.3%	0	.0%	4	7.7%	7	13.2%	5	5.3%	7	8.0%
c) Mode of payment												
iv) Cash	20	46.5%	10	28.6 %	28	53.8 %	27	50.9%	48	50.5 %	37	42.0%
v) Credit	23	53.5%	25	71.4 %	24	46.2 %	24	45.3%	47	49.5 %	49	55.7%
vi) Others			0	.0%			2	3.8%			2	2.3%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 15: Agricultural Practices (Input) of Two Major Crops (No of sample Farmers) c) Pesticides

Implements	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
a) Who Suggested												
ix) Extension Officer												
x) Friends/Relatives	41	95.3%	35	100.0%	16	30.8%	24	45.3%	57	60.0%	59	67.0%
xi) Input Dealer	2	4.7%	0	.0%	36	69.2%	29	54.7%	38	40.0%	29	33.0%
xii) Others												
b) Source Of Purchase												
vii) Govt Store	0	.0%			2	3.8%			2	2.1%		
viii) Local Pvt store	42	97.7%	35	100.0%	46	88.5%	46	86.8%	88	92.6%	81	92.0%
ix) Others	1	2.3%	0	.0%	4	7.7%	7	13.2%	5	5.3%	7	8.0%
c) Mode of payment												
vii) Cash	21	48.8%	10	28.6%	28	53.8%	27	50.9%	49	51.6%	37	42.0%
viii) Credit	22	51.2%	25	71.4%	24	46.2%	24	45.3%	46	48.4%	49	55.7%
ix) Others			0	.0%			2	3.8%			2	2.3%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table:16 Source of irrigation

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
Bajra												
Tube well	1	33.3%							1	33.3%		
Others	2	66.7%							2	66.7%		
Cotton												
Open well	2	9.1%	3	12.5%	13	54.2%	12	48.0%	15	32.6%	15	30.6%
Tube well	13	59.1%	6	25.0%	5	20.8%	4	16.0%	18	39.1%	10	20.4%
Others	7	31.8%	15	62.5%	6	25.0%	9	36.0%	13	28.3%	24	49.0%
Jowar												
Tube well			1	100.0%							1	100.0 %
Soyabeen												
Open well					1	100.0 %			1	100.0%		

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 17: Source of Marketing the Crops

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Cotton												
Govt Centres												
Open Market	4	100%	14	100%	3	100%	3	100%	7	100%	17	100%
Others												
Bajra												
Govt Centres												
Open Market	3	100%	9	100%	2	100%	3	100%	5	100%	12	100%
Others												
Others												
Govt Centres												
Open Market	1	100%	2	100%			1	100%	1	100%	3	100%
Others												

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 18: Technology and Changes in Practices in the last five Years (No of Farmers) (5 years ago)

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
A) Land Preparation												
Desi Plough	22	88.0%	12	48.0%	21	84.0%	23	92.0%	43	86.0%	35	70.0%
Tractor Drawn Cultivator	3	12.0%	13	52.0%	4	16.0%	2	8.0%	7	14.0%	15	30.0%
B) Seed Source												
Shop	4	16.0%	1	4.0%	6	24.0%	5	20.0%	10	20.0%	6	12.0%
Neighbour Farmer	21	84.0%	24	96.0%	19	76.0%	20	80.0%	40	80.0%	44	88.0%
C) Fertiliser Application												
More	3	12.0%	2	8.0%	3	12.0%	2	8.0%	6	12.0%	4	8.0%
Less	22	88.0%	23	92.0%	22	88.0%	23	92.0%	44	88.0%	46	92.0%
D) Pesticide Application												
More	1	20.0%	0	.0%	1	11.1%	1	10.0%	2	14.3%	1	4.5%
Less	4	80.0%	12	100.0%	8	88.9%	9	90.0%	12	85.7%	21	95.5%
E) Organic Manure Application												
More	0	.0%			2	14.3%			2	6.1%		
Less	19	100.0%	8	100.0%	12	85.7%	9	100.0%	31	93.9%	17	100.0%
F) Availability of Irrigation												
More												
Less	19	100.0%	13	100.0%	18	100.0 %	14	100.0%	37	100.0 %	27	100.0%
G) Agriculture Implements												
Own												
Hiring	1	100.0%	1	100.0%			1	100.0%	1	100.0 %	2	100.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 19: Technology and Changes in Practices in the last five Years (No of Farmers)(Now)

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
H) Land Preparation												
Desi Plough	7	28.0%	7	28.0%	14	56.0%	15	60.0%	21	42.0%	22	44.0%
Tractor Drawn Cultivator	18	72.0%	18	72.0%	11	44.0%	10	40.0%	29	58.0%	28	56.0%
I) Seed Source												
Shop	23	92.0%	23	92.0%	24	96.0%	20	80.0%	47	94.0%	43	86.0%
Neighbour Farmer	2	8.0%	2	8.0%	1	4.0%	5	20.0%	3	6.0%	7	14.0%
J) Fertiliser Application												
More	20	80.0%	21	84.0%	22	88.0%	20	80.0%	42	84.0%	41	82.0%
Less	5	20.0%	4	16.0%	3	12.0%	5	20.0%	8	16.0%	9	18.0%
K) Pesticide Application												
More	2	40.0%	5	41.7%	1	11.1%	4	40.0%	3	21.4%	9	40.9%
Less	3	60.0%	7	58.3%	8	88.9%	6	60.0%	11	78.6%	13	59.1%
L) Organic Manure Application												
More												
Less	19	100.0%	8	100.0%	14	100.0 %	9	100.0 %	33	100.0 %	17	100.0 %
M) Availability of Irrigation												
More	0	.0%	0	.0%	1	5.6%	1	7.1%	1	2.7%	1	3.7%
Less	19	100.0%	13	100.0%	17	94.4%	13	92.9%	36	97.3%	26	96.3%
N) Agriculture Implements												
Own												
Hiring	1	100.0%	1	100.0%			1	100.0 %	1	100.0 %	2	100.0 %

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 20: Average Net Income from the Family In the Last Year (Rs)

Item		Beed		Yavatmal		Total	
		Suicides	Control	Suicides	Control	Suicides	Control
Cultivation	Avg.	13286	17250	28652	31727	22838	27867
	No.	14	8	23	22	37	30
Allied Agricultural Activities	Avg.	41200	42267	8650	7500	31900	38176
	No.	5	15	2	2	7	17
Agricultural Labour	Avg.	9250	7714	8955	9750	9079	9290
	No.	16	7	22	24	38	31
Other Labour	Avg.			50000	10000	50000	10000
	No.			1	1	1	1
Household Industry	Avg.			10000	50000	10000	50000
	No.			2	1	2	1
Trade or Business	Avg.						
	No.						
Service (Government)	Avg.						
	No.						
Service (Private)	Avg.				50000		50000
	No.				1		1
Remittances	Avg.				70000		70000
	No.				1		1
Others	Avg.						
	No.						

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table-21: Comparing Suicides and Non- Suicides households by Average outstanding debt among different size of landholdings. (Rs.)

Size of landholdings	Beed						Seddipet					
	Suicides			Non-Suicides			Suicides			Non-Suicides		
	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total
Marginal												
Avg.	62000	368200	215100	50000	50000	50000	60000	60000	60000	57000	132500	9475
No.	4	5	9	3	1	4	1	1	2	2	2	
Small												
Avg.	66500	192778	129639	101727	83000	92364	96667	103333	100000	59091	48125	5360
No.	10	9	19	11	5	16	15	15	30	11	8	1
Semi-mi												
Avg.	139500	40000	89750	80000		80000	208125	58000		152857	49000	10092
No.	8	2	10	1		1	8	5		7	5	1
Medium												
Avg.												
No.												
Total												
Avg.	92227	228500	160364	89933	77500	83717	132292	90476	111384	91700	59667	7568
No.	22	16	38	15	6	21	24	21	45	20	15	3

Sources: Field survey -2017-2018.

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Table 22: Credit Particulars of Sample Households (N0)

A) Purpose for Which Credit is taken

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Consumption	21	0.8	8	0.3	28	1.1	20	0.8	49	1.0	28	0.6
Education	3	0.1	1	0.0	3	0.1			6	0.1	1	0.0
Livestock					13	0.5	6	0.2	13	0.3	6	0.1
Non Farm					1	0.0	2	0.1	1	0.0	2	0.0
House Construction	1	0.0			2	0.1	3	0.1	3	0.1	3	0.1
Marriage	7	0.3	2	0.1	1	0.0	1	0.0	8	0.2	3	0.1
Health	5	0.2	2	0.1	4	0.2	3	0.1	9	0.2	5	0.1
Digging Borewells	2	0.1	1	0.0	2	0.1	0	0.0	4	0.1	1	0.0
Religious and social expenditure	20	0.4	6	0.1	17	0.3	10	0.4	37	0.3	16	0.3
Others Agriculture												
Repayment of old debt					1	0.0			1	0.0		
Others							1	0.0			1	0.0
Lease	29	1.2	20	0.8	34	1.4	19	0.8	63	1.3	39	0.8
Agriculture							1	0.0			1	0.0
Total	68	2.7	34	1.4	89	3.6	56	2.2	157	3.1	90	1.8

Sources: Field survey -2017-2018

B) Source of Institutional Credit

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Commercial Bank	1	0.0	1	0.0	7	0.3	2	0.1	8	0.2	3	0.1
Rural Bank	18	0.7	13	0.5	20	0.8	18	0.7	38	0.8	31	0.6
Cooperative Bank	16	0.6	9	0.4	10	0.4	11	0.4	26	0.5	20	0.4
SHG	1	0.0			13	0.5	5	0.2	14	0.3	5	0.1
Money Lender	9	0.4	3	0.1	22	0.9	7	0.3	31	0.6	10	0.2
Trader	3	0.1			5	0.2	4	0.2	8	0.2	4	0.1
Landlord/Employer	2	0.1			2	0.1			4	0.1		
Relations/Friends	18	0.7	8	0.3	10	0.4	7	0.3	28	0.6	15	0.3
Others							2	0.1			2	0.0
Total	68	2.7	34	1.4	89	3.6	56	2.2	157	3.1	90	1.8

Sources: Field survey -2017-2018

C) Collateral submitted for the loan taken (No of Farmers)

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
None	28	1.1	7	0.3	43	1.7	14	0.6	71	1.4	21	0.4
Land	38	1.5	19	0.8	44	1.8	41	1.6	82	1.6	60	1.2
Livestock			1	0.0							1	0.0
Crop			6	0.2							6	0.1
House					1	0.0	1	0.0	1	0.0	1	0.0
Non farm Assets	1	0.0	1	0.0					1	0.0	1	0.0
Durable Goods					1	0.0			1	0.0		
Labour												
Other	1	0.0							1	0.0		
Total	68	2.7	34	1.4	89	3.6	56	2.2	157	3.1	90	1.8

Sources: Field survey -2017-2018

D) Mode of Repayment of Loan (No of Farmers)

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Institutional												
Not known	3	0.1	6	0.2	8	0.3	6	0.2	11	0.2	12	0.2
Regular	1	0.0	2	0.1	0	0.0			1	0.0	2	0.0
Not Regular	32	1.3	15	0.6	42	1.7	30	1.2	74	1.5	45	0.9
Total	36	1.4	23	0.9	50	2.0	36	1.4	86	1.7	59	1.2
Non Institutional												
Not known	5	0.2			2	0.1	2	0.1	7	0.1	2	0.0
Regular												
Not Regular	27	1.1	11	0.4	37	1.5	18	0.7	64	1.3	29	0.6
Total	32	1.3	11	0.4	39	1.6	20	0.8	71	1.4	31	0.6

Sources: Field survey -2017-2018

E) Amount of Outstanding Loan (No of Farmers)

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
NO Loan	68	2.7	34	1.4	89	3.6	56	2.2	157	3.1	90	1.8
Below 10,000 Rs												
Below 30,000 Rs												
Below 70,000 Rs												
Below 1 Lakh Rs												
More Than One Lakh (Rs)												
Total	68	2.7	34	1.4	89	3.6	56	2.2	157	3.1	90	1.8

Table 23: Crop Insurance (No of Farmers)

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Covered with Insurance												
Yes												
No	25	100%	25	100%	25	100%	25	100%	50	100%	50	100%
Received Insurance in the last three Years												
Yes												
No	25	100%	25	100%	25	100%	25	100%	50	100%	50	100%
Reasons for not Receiving the Insurance												
Dont Know	25	100%	25	100%	25	100%	25	100%	50	100%	50	100%
Wrong crop was insured												
Village was not covered in the disaster												

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 24: Distress Occurred in the family in the last three years (No of Farmers)

Item	Beed				Yavatmal				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Drought	9	33.3%	8	47.1%	2	40.0%	6	46.2%	11	34.4 %	14	46.7 %
Cyclone/Foods/Hailstorm												
Pest attack	7	25.9%	1	5.9%			1	7.7%	7	21.9 %	2	6.7%
Bad seed quality	4	14.8%	5	29.4%			3	23.1%	4	12.5 %	8	26.7 %
Input price fluctuations	2	7.4%			1	20.0%			3	9.4%		
Output price fluctuations	3	11.1%	3	17.6%	1	20.0%	2	15.4%	4	12.5 %	5	16.7 %
Livestock epidemic	1	3.7%			1	20.0%	1	7.7%	2	6.3%	1	3.3%
Human epidemic (like cholera)	1	3.7%							1	3.1%		
Fire accident												
Robbery/Violence												

Death of family members												
Sudden health problem/accidents												
Other												
Total	27	100.0%	17	100.00%	5	100.0%	13	100%	32	100.0 %	30	100%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 25: Information About the deceased member (No of Farmers)

Item	Beed		Yavatmal		Total	
	N	%	N	%	N	%
Sex						
Male	25	100.0%	22	88.0%	47	94.0%
Female	0	.0%	3	12.0%	3	6.0%
Status in the family						
Head of the Household	24	96.0%	20	80.0%	44	88.0%
Family Member	1	4.0%	5	20.0%	6	12.0%
Education Status						
Illiterate	14	56.0%	17	68.0%	31	62.0%
Literate but below Primary	2	8.0%	4	16.0%	6	12.0%
Primary	3	12.0%	3	12.0%	6	12.0%
Secondary	5	20.0%	1	4.0%	6	12.0%
Higher Secondary	1	4.0%	0	.0%	1	2.0%
Technical						
Graduation &Above						
Non Formal						
Marriage Status						
Never Married	8	32.0%	2	8.0%	10	20.0%
Married	17	68.0%	23	92.0%	40	80.0%
Widow/Widower						
Divorced/Separate						
Method of Suicide						
Pesticide Consumption	9	36.0%	18	72.0%	27	54.0%
Hanging	12	48.0%	6	24.0%	18	36.0%
Others	4	16.0%	1	4.0%	5	10.0%

Sources: Field survey -2017-2018

Table 26 : Reasons for Distress (No of Farmers)

Item	Beed		Yavatmal		Total	
	N	%	N	%	N	%
Change in the social position before the incident						
Yes	1	4.0%	16	64.0%	17	34.0%
No	24	96.0%	9	36.0%	33	66.0%
Deterioration in Economic Status before the Incident						
Yes	2	8.0%	7	28.0%	9	18.0%
No	23	92.0%	18	72.0%	41	82.0%
Family members of marriageable age						
Yes	6	24.0%	15	60.0%	21	42.0%
No	19	76.0%	10	40.0%	29	58.0%
Harassment for the repayment of loan before the incident						
Yes	5	20.0%	6	24.0%	11	22.0%
No	20	80.0%	19	76.0%	39	78.0%
Problems with Spouse						
Yes	1	4.0%	11	44.0%	12	24.0%
No	24	96.0%	14	56.0%	38	76.0%
Problems with other family members						
Yes	1	4.0%	7	28.0%	8	16.0%
No	24	96.0%	18	72.0%	42	84.0%
Disputes with neighbours and others in the village						
Yes	0	.0%	12	48.0%	12	24.0%
No	25	100.0%	13	52.0%	38	76.0%
Any precedence of suicide in this village before the incident						
Yes	0	.0%	9	36.0%	9	18.0%
No	25	100.0%	16	64.0%	41	82.0%
Death in the family before the incident						
Yes	1	4.0%	11	44.0%	12	24.0%
No	24	96.0%	14	56.0%	38	76.0%
Any precedence of suicide in the family before the incident						
Yes	1	4.0%	14	56.0%	15	30.0%
No	24	96.0%	11	44.0%	35	70.0%
Incidence of Chronic illness by the victim						
Yes	0	.0%	4	16.0%	4	8.0%
No	25	100.0%	21	84.0%	46	92.0%
Goes the victim received any major medical assistance before the incident						
Yes	1	4.0%	13	52.0%	14	28.0%
No	24	96.0%	12	48.0%	36	72.0%
Change in the deceased's behaviour before the incident						
Yes	1	4.0%	5	20.0%	6	12.0%

No	24	96.0%	20	80.0%	44	88.0%
Does the deceased has any alcohol addiction						
Yes	13	52.0%	21	84.0%	34	68.0%
No	12	48.0%	4	16.0%	16	32.0%

Sources: Field survey -2017-2018

Table 27: Help Received From State Government

Item	Beed		Yavatmal		Total	
	N	%	N	%	N	%
Did the family receive any help						
a) Yes	18	72.0%	17	68.0%	35	70.0%
b) No	7	28.0%	8	32.0%	15	30.0%
Has the family received any compensation from the government						
a) a)Yes						
b) b)No	25	100.0%	25	100.0%	50	100.0%
Compensation Received (Rs)						
a) < 1 Lakh						
b) 1Lakh – 2 Lakhs	24		25		50	
c) 2 Lakhs – 3 Lakhs						
d) 3 Lakhs – 4 Lakhs						
e) 4 Lakhs - 5 Lakhs						
f) 5 Lakhs – 6 Lakhs						
g) > 6 Lakhs						
How the Compensation is Used						
a)To Repay the old Debts						
b)To Invest on Livelihoods						
c)For Consumption						
d) Agriculture / cultivation						

Sources: Field survey -2017-2018.

TELANGANA STATE- DISTRICT-WISE TABLES

Table-1:Basic Particulars of Suicides and control Families in Selected Districts													
Characteristics		Nalgonda				Siddipet				Total			
		Suicides		control		Suicides		control		Suicides		Control	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Male	29	34.9%	58	55.8%	29	34.1%	58	58.0%	58	34.5%	116	56.9%
	Female	54	65.1%	46	44.2%	56	65.9%	42	42.0%	110	65.5%	88	43.1%
	Total	83	100.0%	104	100.0%	85	100.0%	100	100.0%	168	100.0%	204	100.0%
Caste	SC	4	16.0%	3	12.0%	1	4.0%	3	12.0%	5	10.0%	6	12.0%
	ST	0	.0%			1	4.0%			1	2.0%		
	OBC	17	68.0%	18	72.0%	20	80.0%	14	56.0%	37	74.0%	32	64.0%
	All	1	4.0%	1	4.0%	0	.0%	0	.0%	1	2.0%	1	2.0%
	Others	3	12.0%	3	12.0%	3	12.0%	8	32.0%	6	12.0%	11	22.0%
Age	Below 21	40	48.2%	29	27.9%	40	47.1%	38	38.0%	80	47.6%	67	32.8%
	21-30	21	25.3%	23	22.1%	19	22.4%	18	18.0%	40	23.8%	41	20.1%
	31-40	12	14.5%	17	16.3%	11	12.9%	30	30.0%	23	13.7%	47	23.0%
	41-50	6	7.2%	16	15.4%	5	5.9%	12	12.0%	11	6.5%	28	13.7%
	51-60	2	2.4%	11	10.6%	4	4.7%	0	.0%	6	3.6%	11	5.4%
	60+	2	2.4%	8	7.7%	6	7.1%	2	2.0%	8	4.8%	10	4.9%
	Total	83	100.0%	104	100.0%	85	100.0%	100	100.0%	168	100.0%	204	100.0%
Marital status	Never Married	45	54.2%	42	40.4%	45	52.9%	46	46.0%	90	53.6%	88	43.1%
	Currently married	12	14.5%	60	57.7%	12	14.1%	51	51.0%	24	14.3%	111	54.4%
	Widow/Widowed	22	26.5%	1	1.0%	24	28.2%	3	3.0%	46	27.4%	4	2.0%
	NA (below 18)	4	4.8%	1	1.0%	4	4.7%	0	.0%	8	4.8%	1	.5%
	Total	83	100.0%	104	100.0%	85	100.0%	100	100.0%	168	100.0%	204	100.0%

Education	Illiterate	29	34.9%	47	45.2%	29	34.1%	20	20.0%	58	34.5%	67	32.8%
	Below primary	1	1.2%	1	1.0%	4	4.7%	19	19.0%	5	3.0%	20	9.8%
	Primary	10	12.0%	9	8.7%	17	20.0%	6	6.0%	27	16.1%	15	7.4%
	Secondary	3	3.6%	4	3.8%	11	12.9%	7	7.0%	14	8.3%	11	5.4%
	Higher secondary	18	21.7%	20	19.2%	6	7.1%	30	30.0%	24	14.3%	50	24.5%
	Technical	6	7.2%	5	4.8%	6	7.1%	10	10.0%	12	7.1%	15	7.4%
	Graduation & above	11	13.3%	15	14.4%	8	9.4%	7	7.0%	19	11.3%	22	10.8%
	Non formal	1	1.2%			0	.0%			1	.6%		
	NA (age ≤5)	4	4.8%	3	2.9%	4	4.7%	1	1.0%	8	4.8%	4	2.0%
	Total	83	100.0%	104	100.0%	85	100.0%	100	100.0%	168	100.0%	204	100.0%

Sources: Field survey -2017-2018

Table 2 :Profile of the Respondents

Characteristics		Nalgonda				Siddipet				Total			
		Suicides		control		Suicides		control		Suicides		Control	
Experience in farming	0-5	4	16.0%			0	.0%			4	8.0%		
	06-10	8	32.0%			9	36.0%			17	34.0%		
	11-20	11	44.0%			12	48.0%			23	46.0%		
	21-40	2	8.0%			4	16.0%			6	12.0%		
	41-60												
	60 Above												
	Total	25	100.0%			25	100.0%			50	100.0%		

Sources: Field survey -2017-2018

Table 3 : Number of Dependent and Independent Members in the Family

	Nalgonda				Siddipet				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	Avg.	N	Avg.	N	Avg.	N	Avg.	N	Avg.	N	Avg.
Dependent												
Male												
Below 18	16	0.6	14	0.6	16	0.6	22	0.9	32	1.3	36	1.4
Above 60			4	0.2	4	0.2	1	0.0	4	0.2	5	0.2
Female												
Below 18	18	0.7	9	0.4	19	0.8	7	0.3	37	1.5	16	0.6
Above 60	2	0.1	4	0.2	2	0.1	1	0.0	4	0.2	5	0.2
Independent												

Male												
18-60	13	0.5	40	1.6	9	0.4	35	1.4	22	0.9	75	3.0
Female												
18-60	34	1.4	33	1.3	35	1.4	34	1.4	69	2.8	67	2.7

Table 4 :Type of Livelihoods adopted by Independent members in the sample households

	Nalgonda				Siddipet				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	%	N	%	N	%	N	%	N	%	N	%
Cultivation	35	71.4%	50	68.5%	31	60.8%	53	64.6%	66	66.0%	103	66.5%
Allied Agriculture Activities			2	2.7%			2	2.4%			4	2.6%
Only Agriculture Labour	6	12.2%	7	9.6%	3	5.9%	1	1.2%	9	9.0%	8	5.2%
Other Labour												
Agriculture and other labour	1	2.0%	2	2.7%	0	.0%	0	.0%	1	1.0%	2	1.3%
Household Industry	1	2.0%	4	5.5%	0	.0%	0	.0%	1	1.0%	4	2.6%
Trade/Business	0	.0%			1	2.0%			1	1.0%		
Service (Govt)			0	.0%			3	3.7%			3	1.9%
Service (Pvt)	6	12.2%	8	11.0%	16	31.4%	23	28.0%	22	22.0%	31	20.0%
Total	49	100.0%	73	100.0%	51	100.0%	82	100.0%	100	100.0%	155	100.0%

Table-5: Distribution of Suicides farmers and Control Farmers According to size of Landholdings from the selected sample

Farm Size	Nalgonda				Siddipet				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	%	N	%	N	%	N	%	N	%	N	%
Marginal	15	60.0%	10	40.0%	9	36.0%	2	8.0%	24	48.0%	12	24.0%
Small	5	20.0%	9	36.0%	16	64.0%	17	68.0%	21	42.0%	26	52.0%
Semi-Medium	4	16.0%	5	20.0%	0	.0%	6	24.0%	4	8.0%	11	22.0%
Medium	1	4.0%	1	4.0%	0	.0%	0	.0%	1	2.0%	1	2.0%
Total	25	100.0%	25	100.0%	25	100.0%	25	100.0%	50	100.0%	50	100.0%

Sources: Field survey -2017-2018.

Asset Structure

Table-6 :Distribution of Suicides farmers and Control Farmers According to size of LandholdingsAnd Leased-In Land from the selected sample

(Average Size)

Farm size	Nalgonda				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In

Marginal	Avg.	1.65	7.39	1.50	4.50	1.84	3.60	1.75	5.00	1.73	6.33	1.54	4.75
	N	11	13	8	5	10	2	2	2	21	15	10	7
Small	Avg.	3.60	4.03	4.06	4.67	4.01	4.80	4.06	6.33	3.91	4.46	4.06	5.78
	N	5	4	16	5	9	3	17	6	14	7	33	11
Semi-Medium	Avg.	7.03	3.33	8.20	3.00			6.50	6.83	7.03	3.33	7.27	6.29
	N	4	3			5	1	6	6	9	4	6	6
Medium	Avg.	12.00	6.00	12.00						12.00	6.00	12.00	
	N	1	1			1				2	1		
Large	Avg.												
	N												
Total	Avg.	3.63	6.10	4.18	4.33	3.29	4.20	4.46	6.36	3.45	5.49	4.32	5.75
	N	21	21	24	10	25	6	25	14	46	27	49	24

Sources: Field survey -2017-2018

Table-7 : Distribution of Suicides farmers and Control Farmers According to size of Landholdings And Leased-In Land from the selected sample.

(Number)

Farm size	Nalgonda				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In
Marginal	11	13	8	5	10	2	2	2	21	15	10	7
Small	5	4	16	5	9	3	17	6	14	7	33	11
Semi-Medium	4	3			5	1	6	6	9	4	6	6
Medium	1	1			1				2	1		
Large												
Total	21	21	24	10	25	6	25	14	46	27	49	24

Sources: Field survey -2017-2018

Table8 :Distribution of Suicides farmers and Control Farmers according to size of Livestock from the selected sample

Farm size	Nalgonda				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Bullocks	7	2	7	2	9	2	9	2	16	2	16	2
Cow	9	2	12	2	20	2	15	3	29	2	27	2
Buffalo	12	4	15	4	17	3	19	4	29	4	34	4
Sheep/Goat	4	8	4	8	1	4	4	10	5	7	8	9
Poultry/Birds	10	9	13	8	14	8	13	8	24	8	26	8
Other (specify)	-	-	-	-	-	-	-	-	-	-	-	-

Sources: Field survey -2017-2018

Table-9 : Distribution of Suicides farmers and Control Farmers according to size of Livestock from the selected sample (Average size of livestock)

Livestock	Nalgonda			Seddipet			Total		
	Suicides	Control	Total	Suicides	Control	Total	Suicides	Control	Total
Bullocks	2	2	2	2	2	2	2	2	2
Cow	2	2	2	2	3	2	2	2	2
Buffalo	4	4	4	3	4	4	4	4	4
Sheep/Goat	8	8	8	4	10	9	7	9	8
Poultry/Birds	9	8	9	8	8	8	8	8	8

Table 10 :Reasons for selling the livestock in the last five years

Farm size	Nalgonda				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Bullocks												
Meeting consumption Expenses			1	20.0%			0	.0%			1	12.5%
Debt Repayment	6	100.0%	4	80.0%	3	75.0%	3	100.0%	9	90.0%	7	87.5%
Others	0	.0%			1	25.0%			1	10.0%		
Cow												
Meeting consumption Expenses	2	40.0%	1	33.3%	3	30.0%	1	14.3%	5	33.3%	2	20.0%
Debt Repayment	3	60.0%	1	33.3%	6	60.0%	2	28.6%	9	60.0%	3	30.0%
Marriage			0	.0%			1	14.3%			1	10.0%
Health			1	33.3%			2	28.6%			3	30.0%
Others	0	.0%	0	.0%	1	10.0%	1	14.3%	1	6.7%	1	10.0%
Buffalo												
Meeting consumption Expenses			1	10.0%			0	.0%			1	5.3%
Debt Repayment	6	50.0%	8	80.0%	12	100.0%	9	100.0%	18	75.0%	17	89.5%
Marriage	1	8.3%			0	.0%			1	4.2%		
Health	4	33.3%	1	10.0%	0	.0%	0	.0%	4	16.7%	1	5.3%
Others	1	8.3%			0	.0%			1	4.2%		
Sheep / Goat												

Meeting consumption Expenses	0	.0%	2	66.7%	1	100.0 %	0	.0%	1	20.0 %	2	33. 3%
Debt Repayment	4	100.0%	1	33.3%	0	.0%	2	66.7 %	4	80.0 %	3	50. 0%
Marriage							1	33.3 %			1	16. 7%
Poultry/Birds												
Meeting consumption Expenses	4	40.0%	4	40.0%	10	100.0 %	8	88.9 %	14	70.0 %	12	63. 2%
Health	4	40.0%	6	60.0%	0	.0%	0	.0%	4	20.0 %	6	31. 6%
Others	2	20.0%	0	.0%	0	.0%	1	11.1 %	2	10.0 %	1	5.3 %

Sources: Field survey -2017-2018

Table 11 : Other Asset structure

Assets	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Smokeless Chullah	21	84.0%	24	96.0%	23	92.0%	23	92.0%	44	88.0%	47	94.0%
Gas	23	92.0%	22	88.0%	25	100.0%	25	100.0%	48	96.0%	47	94.0%
Electric Fan	22	88.0%	23	92.0%	25	100.0%	25	100.0%	47	94.0%	48	96.0%
Mobile	23	92.0%	23	92.0%	25	100.0%	24	96.0%	48	96.0%	47	94.0%
TV	22	88.0%	23	92.0%	24	96.0%	22	88.0%	46	92.0%	45	90.0%
Bicycle	17	68.0%	18	72.0%	17	68.0%	16	64.0%	34	68.0%	34	68.0%
House												
c) Kucha	20	95.2%	20	90.9%	11	45.8%	15	60.0%	31	68.9%	35	74.5%
d) Pucca	1	4.8%	2	9.1%	13	54.2%	10	40.0%	14	31.1%	12	25.5%

Sources: Field survey -2017-2018

Table 12 : Agriculture Implements (No)

Assets	Nalgonda				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Plough	11	44.0%	12	48.0%	11	44.0%	10	40.0%	22	44.0%	22	44.0%
Bullock Cart	4	16.0%	3	12.0%	1	4.0%	6	24.0%	5	10.0%	9	18.0%
Two wheeler	7	28.0%	12	48.0%	6	24.0%	18	72.0%	13	26.0%	30	60.0%
Tractor	2	8.0%	1	4.0%	1	4.0%	2	8.0%	3	6.0%	3	6.0%
Other (specify)			0	.0%			2	8.0%			2	4.0%

Sources: Field survey -2017-2018

Table 13: Cropping Pattern among Farmers Suicides and control (No of farmers)

Crops		Nalgonda				Seddipet				Total			
		Suicides		Control		Suicides		Control		Suicides		Control	
		N	%	N	%	N	%	N	%	N	%	N	%
Irrigated	Cotton	1	100.0%	7	70.0%	3	42.9%			4	50.0%	7	70.0 %
	Maize	0	.0%			3	42.9%			3	37.5%		
	Paddy	0	.0%	3	30.0%	1	14.3%			1	12.5%	3	30.0 %
	Total	1	100.0%	10	100.0%	7	100.0%			8	100.0%	10	100. 0%
Unirrigated				1	7.1%			0	.0%			1	6.7 %
	Cotton	23	100.0%	11	78.6%	2	22.2%	1	100.0%	25	78.1%	12	80.0 %
	Maize	0	.0%			1	11.1%			1	3.1%		
	Paddy	0	.0%	2	14.3%	6	66.7%	0	.0%	6	18.8%	2	13.3 %
	Total	23	100.0%	14	100.0%	9	100.0%	1	100.0%	32	100.0%	15	100. 0%
Both	Cotton	0	.0%	1	100.0%	3	33.3%	11	45.8%	3	30.0%	12	48.0 %
	Maize	0	.0%	0	.0%	1	11.1%	4	16.7%	1	10.0%	4	16.0 %
	Paddy	1	100.0%	0	.0%	5	55.6%	9	37.5%	6	60.0%	9	36.0 %
	Total	1	100.0%	1	100.0%	9	100.0%	24	100.0%	10	100.0%	25	100. 0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018.

Table 14 :Agricultural Practices (Input) of Two Major CropsSeed

Implements	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
c) Who Suggested												
xiii) Extension Officer	2	7.7%	4	13.8%	0	.0%	1	2.5%	2	3.4%	5	7.2%
xiv) Friends/ Relatives	18	69.2%	23	79.3%	33	100.0 %	38	95.0 %	51	86.4 %	61	88.4%
xv) Input Dealer	4	15.4%	2	6.9%	0	.0%	1	2.5%	4	6.8%	3	4.3%
xvi) Others	2	7.7%			0	.0%			2	3.4%		
b) Source of Purchase												
x) Govt Store	2	7.7%	0	.0%	12	36.4 %	8	20.0 %	14	23.7 %	8	11.6%

xi) Local Pvt store	22	84.6%	29	100.0 %	21	63.6 %	31	77.5 %	43	72.9 %	60	87.0%
xii) Others	2	7.7%	0	.0%	0	.0%	1	2.5%	2	3.4%	1	1.4%
c) Mode of payment												
x) Cash	20	76.9%	13	44.8%	17	51.5 %	12	30.0 %	37	62.7 %	25	36.2%
xi) Credit	4	15.4%	16	55.2%	16	48.5 %	27	67.5 %	20	33.9 %	43	62.3%
xii) Others	2	7.7%	0	.0%	0	.0%	1	2.5%	2	3.4%	1	1.4%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 15: Agricultural Practices (Input) of Two Major Crops - Fertilisers

Implements	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%		
Crop 1												
a) Who Suggested												
xvii) Extension Officer	2	7.7 %	4	13.8 %	0	.0%	2	5.0%	2	3.4 %	6	8.7%
xviii) Friends/Relatives	19	73. 1%	23	79.3 %	31	93.9 %	37	92.5 %	50	84. 7%	60	87.0 %
xix) Input Dealer	5	19. 2%	2	6.9%	2	6.1%	1	2.5%	7	11. 9%	3	4.3%
xx) Others												
b) Source Of Purchase												
xiii) Govt Store	1	3.8 %			0	.0%			1	1.7 %		
xiv) Local Pvt store	23	88. 5%	28	96.6 %	33	100. 0%	39	97.5 %	56	94. 9%	67	97.1 %
xv) Others	2	7.7 %	1	3.4%	0	.0%	1	2.5%	2	3.4 %	2	2.9%
c) Mode of payment												
xiii) Cash	20	76. 9%	13	44.8 %	17	51.5 %	11	27.5 %	37	62. 7%	24	34.8 %
xiv) Credit	4	15. 4%	15	51.7 %	16	48.5 %	28	70.0 %	20	33. 9%	43	62.3 %
xv) Others	2	7.7 %	1	3.4%	0	.0%	1	2.5%	2	3.4 %	2	2.9%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 16 :Agricultural Practices (Input) of Two Major Crops (No of sample Farmers)

Pesticides

Implements	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
a) Who Suggested												
xxi) Extension Officer	2	7.7%	4	13.8%	0	.0%	2	5.0%	2	3.4%	6	8.7%
xxii) Friends/Relatives	19	73.1%	22	75.9%	30	90.9%	37	92.5%	49	83.1%	59	85.5%
xxiii) Input Dealer	5	19.2%	2	6.9%	2	6.1%	1	2.5%	7	11.9%	3	4.3%
xxiv) Others	0	.0%	1	3.4%	1	3.0%	0	.0%	1	1.7%	1	1.4%
d) Source Of Purchase												
xvi) Govt Store	1	3.8%			0	.0%			1	1.7%		
xvii) Local Pvt store	23	88.5%	27	93.1%	32	97.0%	38	95.0%	55	93.2%	65	94.2%
xviii) Others	2	7.7%	2	6.9%	1	3.0%	2	5.0%	3	5.1%	4	5.8%
c) Mode of payment												
xvi) Cash	20	76.9%	12	41.4%	17	51.5%	12	30.0%	37	62.7%	24	34.8%
xvii) Credit	3	11.5%	14	48.3%	15	45.5%	27	67.5%	18	30.5%	41	59.4%
xviii) Others	3	11.5%	3	10.3%	1	3.0%	1	2.5%	4	6.8%	4	5.8%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 17: Change in the Cropping Pattern and Irrigation status in the last five years

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
Same Crop	25	100%	25	100%	25	100%	25	100%	25	100%	25	100%
Changed the Crops												
Changed the Variety of Crop												
Change in Irrigation status												

Table 18: Source of Marketing the Crops

Crops		Nalgonda				Seddipet				Total			
		Suicides		Control		Suicides		Control		Suicides		Control	
		N	%	N	%	N	%	N	%	N	%	N	%
Cotton	Open well			0	.0%			1	8.3%			1	3.2%
	Tube well	8	33.3%	6	31.6%	5	62.5%	9	75.0%	13	40.6%	15	48.4%
	Canal			1	5.3%			0	.0%			1	3.2%
	Others	16	66.7%	12	63.2%	3	37.5%	2	16.7%	19	59.4%	14	45.2%
	Total	24	100.0%	19	100.0%	8	100.0%	12	100.0%	32	100.0%	31	100.0%
Maize	Tube well					4	80.0%	1	25.0%	4	80.0%	1	25.0%
	Others					1	20.0%	3	75.0%	1	20.0%	3	75.0%
	Total					5	100.0%	4	100.0%	5	100.0%	4	100.0%
Paddy	Tube well	1	100.0%	4	80.0%	10	83.3%	9	100.0%	11	84.6%	13	92.9%
	Others	0	.0%	1	20.0%	2	16.7%	0	.0%	2	15.4%	1	7.1%
	Total	1	100.0%	5	100.0%	12	100.0%	9	100.0%	13	100.0%	14	100.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 19: Technology and Changes in Practices in the last five Years (No of Farmers)(5 years ago)

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
O) Land Preparation												
Desi Plough	19	76.0%	21	84.0%	25	100.0%	24	96.0%	44	88.0%	45	90.0%
Tractor Drawn Cultivator	6	24.0%	4	16.0%	0	.0%	1	4.0%	6	12.0%	5	10.0%
P) Seed Source												
Shop	7	28.0%	10	40.0%	1	4.0%	1	4.0%	8	16.0%	11	22.0%
Neighbour Farmer	18	72.0%	15	60.0%	24	96.0%	24	96.0%	42	84.0%	39	78.0%
Q) Fertiliser Application												
More	3	12.0%	1	4.0%	0	.0%	2	8.0%	3	6.0%	3	6.0%
Less	22	88.0%	24	96.0%	25	100.0%	23	92.0%	47	94.0%	47	94.0%
R) Pesticide Application												
More	3	12.0%	1	4.0%	0	.0%	1	4.0%	3	6.0%	2	4.0%
Less	22	88.0%	24	96.0%	25	100.0%	24	96.0%	47	94.0%	48	96.0%
S) Organic Manure Application												
More	19	79.2%	24	96.0%	23	92.0%	21	84.0%	42	85.7%	45	90.0%
Less	5	20.8%	1	4.0%	2	8.0%	4	16.0%	7	14.3%	5	10.0%
T) Availability of Irrigation												

More	7	28.0%	7	28.0%	2	8.0%	8	32.0%	9	18.0%	15	30.0%
Less	18	72.0%	18	72.0%	23	92.0%	17	68.0%	41	82.0%	35	70.0%
U) Agriculture Implements												
Own	6	24.0%	14	56.0%	12	48.0%	14	56.0%	18	36.0%	28	56.0%
Hiring	19	76.0%	11	44.0%	13	52.0%	11	44.0%	32	64.0%	22	44.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 20: Technology and Changes in Practices in the last five Years (No of Farmers)(Now)

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
V) Land Preparation												
Desi Plough	1	4.0%	1	4.0%	0	.0%	1	4.0%	1	2.0%	2	4.0%
Tractor Drawn Cultivator	24	96.0%	24	96.0%	25	100.0%	24	96.0%	49	98.0%	48	96.0%
W) Seed Source												
Shop	22	88.0%	24	96.0%	24	96.0%	25	100.0%	46	92.0%	49	98.0%
Neighbour Farmer	3	12.0%	1	4.0%	1	4.0%	0	.0%	4	8.0%	1	2.0%
X) Fertiliser Application												
More	24	96.0%	25	100.0%	25	100.0%	24	96.0%	49	98.0%	49	98.0%
Less	1	4.0%	0	.0%			1	4.0%	1	2.0%	1	2.0%
Y) Pesticide Application												
More	3	12.0%	1	4.0%	0	.0%	1	4.0%	3	6.0%	2	4.0%
Less	22	88.0%	24	96.0%	25	100.0%	24	96.0%	47	94.0%	48	96.0%
Z) Organic Manure Application												
More	2	8.4%	1	4.0%	2	8.0%	3	12.0%	4	8.1%	4	8.0%
Less	22	91.7%	24	96.0%	23	92.0%	22	88.0%	45	91.8%	46	92.0%
AA) Availability of Irrigation												
More	11	44.0%	15	60.0%	23	92.0%	17	68.0%	34	68.0%	32	64.0%
Less	14	56.0%	10	40.0%	2	8.0%	8	32.0%	16	32.0%	18	36.0%
BB) Agriculture Implements												
Own	18	72.0%	11	44.0%	13	52.0%	11	44.0%	31	62.0%	22	44.0%
Hiring	7	28.0%	14	56.0%	12	48.0%	14	56.0%	19	38.0%	28	56.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 21: Average Net Income from the Family In the Last Year (Rs)

Item		Nalgonda		Siddipet		Total	
		Suicides	Control	Suicides	Control	Suicides	Control
Cultivation	Avg.	68000	140000	37941	125909	54189	132250
	No.	20	18	17	22	37	40
Allied Agricultural Activities	Avg.	42143	70909	27200	58583	34414	64478
	No.	14	22	15	24	29	46
Agricultural Labour	Avg.	23684	36538	13769	35615	19656	36077
	No.	19	13	13	13	32	26
Other Labour	Avg.	26824	23333	13000	10000	23682	22000
	No.	17	9	5	1	22	10
Household Industry	Avg.						
	No.						
Trade or Business	Avg.						
	No.						
Service (Government)	Avg.						
	No.						
Service (Private)	Avg.	40000	30000	50000	22500	43333	27000
	No.	2	3	1	2	3	5
Remittances	Avg.						
	No.						
Others	Avg.	10000	24286		6000	10000	18800
	No.	2	7		3	2	10

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table-22: Comparing Suicides and Non- Suicides households by Average outstanding debt among different size of landholdings. (Rs.)

Size of landholdings	Nalgonda						Seddipet					
	Suicides			Non-Suicides			Suicides			Non-Suicides		
	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total
Marginal												
Avg.	70000	328571	199286	24167	85000	54584	45750	185778	115764	30000	105000	67500
No.	13	14	27	6	6	12	8	9	17	1	2	3
Small												
Avg.	30000	364000	197000	121000	144000	132500	77778	289867	183823	74615	138529	106572
No.	5	5	10	5	5	10	9	15	24	13	17	30
Semi-mi												
Avg.	107500	415000	261250	50000	150000	100000				75000	268000	171500
No.	4	4	8	1	1	2				2	5	7
Medium												
Avg.	474182	459000	466591									
No.	1	1	2									
Total												

Avg.	85399	355792	220596	66667	115000	90834	62706	250833	156770	71875	162708	117292
No.	23	24	47	12	12	24	17	24	41	16	24	40

Sources: Field survey -2017-2018.

Table 23: Credit Particulars of Sample Households (No)

F) Purpose for Which Credit is taken

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Consumption	21	0.8	12	0.5	4	0.2	3	0.1	25	0.5	15	0.3
Education	6	0.2	4	0.2	9	0.4	11	0.4	15	0.3	15	0.3
Livestock	6	0.2	9	0.4	3	0.1	10	0.4	9	0.2	19	0.4
Non Farm	2	0.1	1	0.0	0	0.0	1	0.0	2	0.0	2	0.0
House Construction	20	0.8	10	0.4	10	0.4	1	0.0	30	0.6	11	0.2
Marriage	8	0.3	5	0.2	1	0.0	2	0.1	9	0.2	7	0.1
Health	7	0.3	4	0.2	1	0.0	1	0.0	8	0.2	5	0.1
Digging Borewells	4	0.2	2	0.1	21	0.8	14	0.6	25	0.5	16	0.3
Religious and social Expenditure	20	0.6	4	0.5	24	0.4	8	0.3	44	0.7	12	0.2
Others Agricuture	0	0.0	0	0.0	2	0.1	1	0.0	2	0.0	1	0.0
Repayment of old debt	1	0.0	1	0.0	0	0.0	1	0.0	1	0.0	2	0.0
Others	1	0.0	1	0.0	1	0.0	1	0.0	2	0.0	2	0.0
Lease	36	1.4	19	0.8	5	0.2	7	0.3	41	0.8	26	0.5
Agriculture	17	0.7	2	0.1	46	1.8	38	1.5	63	1.3	40	0.8
Total	129	5.2	70	2.8	103	4.1	91	3.6	232	4.6	161	3.2

Sources: Field survey -2017-2018

G) Source of Institutional Credit

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Commercial Bank	17	0.7	5	0.2	5	0.2	9	0.4	22	0.4	14	0.3
Rural Bank	12	0.5	8	0.3	6	0.2	10	0.4	18	0.4	18	0.4
Cooperative Bank	5	0.2	2	0.1	8	0.3	5	0.2	13	0.3	7	0.1
SHG	10	0.4	1	0.0	10	0.4	16	0.6	20	0.4	17	0.3
Money Lender	33	1.3	19	0.8	37	1.5	18	0.7	70	1.4	37	0.7
Trader	17	0.7	11	0.4	15	0.6	12	0.5	32	0.6	23	0.5
Landlord/Employer	5	0.2		0.0	1	0.0		0.0	6	0.1		0.0
Relations/Friends	30	1.2	24	1.0	21	0.8	21	0.8	51	1.0	45	0.9
Total	129	5.2	70	2.8	103	4.1	91	3.6	232	4.6	161	3.2

Sources: Field survey -2017-2018

H) Collateral submitted for the loan taken (No of Farmers)

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
None	36	1.4	4	0.2	66	2.6	21	0.8	102	2.0	25	0.5
Land	20	0.8	13	0.5	12	0.5	25	1.0	32	0.6	38	0.8
Livestock	10	0.4	9	0.4	8	0.3	16	0.6	18	0.4	25	0.5
Crop	33	1.3	26	1.0	13	0.5	25	1.0	46	0.9	51	1.0
House	22	0.9	14	0.6	4	0.2	4	0.2	26	0.5	18	0.4
Non farm Assets	1	0.0		0.0	0	0.0		0.0	1	0.0		0.0
Durable Goods	5	0.2	2	0.1	0	0.0	0	0.0	5	0.1	2	0.0
Labour	2	0.1	1	0.0	0	0.0	0	0.0	2	0.0	1	0.0
Other		0.0	1	0.0		0.0	0	0.0		0.0	1	0.0
Total	129	5.2	70	2.8	103	4.1	91	3.6	232	4.6	161	3.2

Sources: Field survey -2017-2018

:

I) Mode of Repayment of Loan (No of Farmers)

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Institutional												
Not known	15	0.6							15	0.3		0.0
Regular	28	1.1	16	0.6	29	1.2	40	1.6	57	1.1	56	1.1
Not Regular	1	0.0							1	0.0		0.0
Total	44	1.8	16	0.6	29	1.2	40	1.6	73	1.5	56	1.1
Non Institutional												
Not known	21	0.8							21	0.4		0.0
Regular	53	2.1	54	2.2	73	2.9	51	2.0	126	2.5	105	2.1
Not Regular	11	0.4		0.0	1	0.0			12	0.2		0.0
Total	85	3.4	54	2.2	74	3.0	51	2.0	159	3.2	105	2.1

Sources: Field survey -2017-2018

J) Amount of Outstanding Loan (No of Farmers)

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
NO Loan	111	4.4	30	1.2	66	2.6	29	1.2	177	3.5	59	1.2
Below 10,000 Rs	18	0.7	40	1.6	26	1.0	37	1.5	44	0.9	77	1.5
Below 30,000 Rs							4	0.2			4	0.1
Below 70,000 Rs							7	0.3			7	0.1
Below 1 Lakh Rs					11	0.4	14	0.6	11	0.2	14	0.3
More Than One Lakh (Rs)												
Total	129	5.2	70	2.8	103	4.1	91	3.6	232	4.6	161	3.2

Sources: Field survey -2017-2018

Table 24: Crop Insurance (No of Farmers)

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Covered with Insurance												
Yes	2	8.0%	0	.0%	2	8.0%	9	36.0%	4	8.0 %	9	18.0 %
No	23	92.0%	25	100.0%	23	92.0 %	16	64.0%	46	92.0 %	41	82.0 %
Received Insurance in the last three Years												
Yes	2	8.0%	0	.0%	0	.0%	3	12.0%	2	4.0 %	3	6.0%
No	23	92.0%	25	100.0%	25	100.0 %	22	88.0%	48	96.0 %	47	94.0 %
Reasons for not Receiving the Insurance												
Dont Know	17	73.9%	22	88.0%	1	4.0%	8	36.4%	18	37.5 %	30	63.8 %
Wrong crop was insured	6	26.1%	0	.0%	14	56.0 %	1	4.5%	20	41.7 %	1	2.1%
Village was not covered in the disaster	0	.0%	3	12.0%	10	40.0 %	13	59.1%	10	20.8 %	16	34.0 %

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 25: Distress Occurred in the family in the last three years (No of Farmers)

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Drought	24	96%	25	100%	24	96%	25	100%	48	96%	50	100%
Cyclone/Foods/Hailstorm	11	44%	3	12%	10	40%	9	36%	21	42%	12	24%
Pest attack	24	96%	24	96%	21	84%	25	100%	45	90%	49	98%
Bad seed quality	9	36%	3	12%	2	8%	1	4%	11	22%	4	8%
Input price fluctuations	2	8.%			8	32%	13	52%	10	20%	13	26%
Output price fluctuations					2	8%			2	4%		
Livestock epidemic	10	40%	11	44%			5	20%	10	20%	16	32%
Human epidemic (like cholera)												
Fire accident	2	8%	1	4%			1	4%	2	4%	2	4%
Robbery/Violence												
Death of family members	2	8%	1	4%	1	4%	1	4%	3	6%	2	4%
Sudden health problem/accidents	5	20%	12	48%	10	40%	15	60%	15	30%	27	54%
Other												

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 26: Coping Strategies Adopted by the sample households

Item	Nalgonda				Siddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Total (From above Table)												
Mortgage	2	0.9		0	0	0		0	2	0.4		0.0
Sell Assets	22	9.8	15	6.9	6	2.7	5	1.8	28	6.3	20	4.0
Use Savings	23	10.2	17	7.9	7	3.2	11	3.9	30	6.7	28	5.6
Withdraw Children from School	7	3.1	4	1.9	1	0.5	1	0.4	8	1.8	5	1.0
Migration		0.0	1	0.5		0.0	2	0.7		0.0	3	0.6
Bonded Labour	39	17.3	54	25.0	4	1.8	6	2.1	43	9.7	60	12.0
Formal Borrowing	52	23.1	55	25.5	50	22.7	46	16.3	102	22.9	101	20.3
Informal Borrowing	38	16.9	41	19.0	50	22.7	53	18.8	88	19.8	94	18.9
Reduce Consumption	27	12.0	21	9.7	42	19.1	40	14.2	69	15.5	61	12.2
Help from village panchayat	2	0.9		0.0	2	0.9		0.0	4	0.9		0.0
More wage employment	0	0.0	0	0.0	2	0.9	7	2.5	2	0.4	7	1.4
Depend upon NTFP		0.0	0	0.0		0.0	6	2.1		0.0	6	1.2
Change crop choices	9	4.0	3	1.4	32	14.5	49	17.4	41	9.2	52	10.4
Improve technology	4	1.8	4	1.9	0	0.0	5	1.8	4	0.9	9	1.8
Work as self-employee		0.0	1	0.5		0.0	3	1.1		0.0	4	0.8
Help from Aasara		0.0	0	0.0		0.0	3	1.1		0.0	3	0.6
Accessed health risk fund	0	0.0	0	0.0	24	10.9	36	12.8	24	5.4	36	7.2
Availed community run		0.0	0	0.0		0.0	3	1.1		0.0	3	0.6

Others		0.0	0	0.0		0.0	6	2.1		0.0	6	1.2
	225	100.0	216	466.56	220	100.0	282	100.0	445	100.0	498	100.0

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 27: Information About the deceased member (No of Farmers)

Item	Nalgonda		Siddipet		Total	
	N	%	N	%	N	%
Sex	23	92.0%	25	100.0%	48	96.0%
Male	2	8.0%	0	.0%	2	4.0%
Female						
Status in the family						
Head of the Household	24	96.0%	22	88.0%	46	92.0%
Family Member	1	4.0%	3	12.0%	4	8.0%
Education Status						
Illiterate	15	60.0%	10	40.0%	25	50.0%
Literate but below Primary	5	20.0%	10	40.0%	15	30.0%
Primary	1	4.0%	1	4.0%	2	4.0%
Secondary	1	4.0%	1	4.0%	2	4.0%
Higher Secondary	2	8.0%	2	8.0%	4	8.0%
Technical						
Graduation &Above						
Non Formal	1	4.0%	1	4.0%	2	4.0%
Marriage Status						
Never Married	0	.0%	1	4.0%	1	2.0%
Married	25	100.0%	24	96.0%	49	98.0%
Widow/Widower						
Divorced/Separate						
Method of Suicide						
Pesticide Consumption	16	64.0%	18	72.0%	34	68.0%
Hanging	3	12.0%	6	24.0%	9	18.0%
Others	6	24.0%	1	4.0%	7	14.0%

Sources: Field survey -2017-2018

Table 28 : Reasons for Distress (No of Farmers)

Item	Nalgonda		Siddipet		Total	
	N	%	N	%	N	%
Change in the social position before the incident						
Yes	3	12.0%	8	32.0%	11	22.0%
No	22	88.0%	17	68.0%	39	78.0%
Deterioration in Economic Status before the Incident						
Yes	19	76.0%	10	40.0%	29	58.0%

No	6	24.0%	15	60.0%	21	42.0%
Family members of marriageable age						
Yes	5	20.0%	12	48.0%	17	34.0%
No	20	80.0%	13	52.0%	33	66.0%
Harassment for the repayment of loan before the incident						
Yes	20	80.0%	23	92.0%	43	86.0%
No	5	20.0%	2	8.0%	7	14.0%
Problems with Spouse						
Yes	14	56.0%	24	96.0%	38	76.0%
No	11	44.0%	1	4.0%	12	24.0%
Problems with other family members						
Yes	4	16.0%	0	.0%	4	8.0%
No	21	84.0%	25	100.0%	46	92.0%
Disputes with neighbours and others in the village						
Yes	0	.0%	1	4.0%	1	2.0%
No	25	100.0%	24	96.0%	49	98.0%
Any precedence of suicide in this village before the incident						
Yes	8	32.0%	9	36.0%	17	34.0%
No	17	68.0%	16	64.0%	33	66.0%
Death in the family before the incident						
Yes	1	4.0%	2	8.0%	3	6.0%
No	24	96.0%	23	92.0%	47	94.0%
Any precedence of suicide in the family before the incident						
Yes	1	4.0%	0	.0%	1	2.0%
No	24	96.0%	25	100.0%	49	98.0%
Incidence of Chronic illness by the victim						
Yes	1	4.0%	0	.0%	1	2.0%
No	24	96.0%	25	100.0%	49	98.0%
Goes the victim received any major medical assistance before the incident						
Yes	1	4.0%	0	.0%	1	2.0%
No	24	96.0%	25	100.0%	49	98.0%
Change in the deceased's behaviour before the incident						
Yes	2	8.0%	11	44.0%	13	26.0%
No	23	92.0%	14	56.0%	37	74.0%
Does the deceased has any alcohol addiction						
Yes	4	16.0%	9	36.0%	13	26.0%
No	21	84.0%	16	64.0%	37	74.0%

Sources: Field survey -2017-2018

Table 29:Help Received From State Government

Item	Nalgonda		Siddipet		Total	
	N	%	N	%	N	%
Did the family receive any help						
c) Yes	12	48.0%	22	88.0%	34	68.0%
d) No	13	52.0%	3	12.0%	16	32.0%
Has the family received any compensation from the government						
c) a)Yes	23	92.0%	20	80.0%	43	86.0%
d) b)No	2	8.0%	5	20.0%	7	14.0%
Compensation Received (Rs)						
h) < 1 Lakh	1	4.3%	0	.0%	1	2.2%
i) 1Lakh – 2 Lakhs	0	.0%	5	22.7%	5	11.1%
j) 2 Lakhs – 3 Lakhs	1	4.3%	0	.0%	1	2.2%
k) 3 Lakhs – 4 Lakhs	1	4.3%	0	.0%	1	2.2%
l) 4 Lakhs - 5 Lakhs	5	21.7%	7	31.8%	12	26.7%
m) 5 Lakhs – 6 Lakhs	0	.0%	10	45.5%	10	22.2%
n) > 6 Lakhs	15	65.2%	0	.0%	15	33.3%
How the Compensation is Used						
a)To Repay the old Debts						
b)To Invest on Livelihoods						
c)For Consumption						
d) Agriculture / cultivation	23	92.0%	9	48.0%	32	64.0%

Sources: Field survey -2017-2018.

KARNATAKA DISTRICT-WISE TABLES

Table-1:Basic Particulars of Suicides and control Families in Selected Districts

Characteristics		Haveri				Mandya				Total			
		Suicides		control		Suicides		control		Suicides		Control	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Male	36	45.0%	46	56.1%	30	40.5%	59	48.8%	66	42.9%	105	51.7%
	Female	44	55.0%	36	43.9%	44	59.5%	62	51.2%	88	57.1%	98	48.3%
	Total	80	100.0%	82	100.0%	74	100.0%	121	100.0%	154	100.0%	203	100.0%
Caste	SC	0	.0%			1	4.0%			1	2.0%		
	ST	1	4.0%			0	.0%			1	2.0%		
	OBC	24	96.0%	25	100.0%	22	88.0%	25	100.0%	46	92.0%	50	100.0%
	Others	0	.0%			2	8.0%			2	4.0%		
	Total	25	100.0%	25	100.0%	25	100.0%	25	100.0%	50	100.0%	50	100.0%
Age	Below 21	16	20.0%	14	17.1%	18	24.3%	58	47.9%	34	22.1%	72	35.5%
	21-30	17	21.2%	15	18.3%	26	35.1%	12	9.9%	43	27.9%	27	13.3%
	31-40	22	27.5%	19	23.2%	10	13.5%	41	33.9%	32	20.8%	60	29.6%
	41-50	7	8.8%	15	18.3%	12	16.2%	10	8.3%	19	12.3%	25	12.3%
	51-60	9	11.2%	15	18.3%	5	6.8%	0	.0%	14	9.1%	15	7.4%
	60+	9	11.2%	4	4.9%	3	4.1%	0	.0%	12	7.8%	4	2.0%
	Total	80	100.0%	82	100.0%	74	100.0%	121	100.0%	154	100.0%	203	100.0%
Marital status	Never Married	14	17.5%	12	14.6%	10	13.5%	11	9.1%	24	15.6%	23	11.3%
	Currently married	37	46.2%	57	69.5%	21	28.4%	60	49.6%	58	37.7%	117	57.6%
	Widow/Widowed	15	18.8%	2	2.4%	27	36.5%	0	.0%	42	27.3%	2	1.0%
	NA (below 18)	14	17.5%	11	13.4%	16	21.6%	50	41.3%	30	19.5%	61	30.0%
	Total	80	100.0%	82	100.0%	74	100.0%	121	100.0%	154	100.0%	203	100.0%
Education	Illiterate	19	23.8%	52	63.4%	40	54.1%	27	22.3%	59	38.3%	79	38.9%
	Below primary	26	32.5%	8	9.8%	5	6.8%	23	19.0%	31	20.1%	31	15.3%
	Primary	13	16.2%	7	8.5%	6	8.1%	24	19.8%	19	12.3%	31	15.3%
	Secondary	14	17.5%	4	4.9%	5	6.8%	11	9.1%	19	12.3%	15	7.4%
	Higher secondary	6	7.5%	8	9.8%	7	9.5%	7	5.8%	13	8.4%	15	7.4%
	Technical	2	2.5%	3	3.7%	2	2.7%	25	20.7%	4	2.6%	28	13.8%
	Graduation & above	0	.0%	0	.0%	3	4.1%	2	1.7%	3	1.9%	2	1.0%
	Non formal												
	NA (age ≤5)	0	.0%	0	.0%	6	8.1%	2	1.7%	6	3.9%	2	1.0%
	Total	80	100.0%	82	100.0%	74	100.0%	121	100.0%	154	100.0%	203	100.0%

Sources: Field survey -2017-2018

Characteristics		Haveri				Mandya				Total			
		Suicides		control		Suicides		control		Suicides		Control	
Experience in farming	0-5	1	4.0%			2	8.0%			3	6.0%		
	06-10	7	28.0%			6	24.0%			13	26.0%		
	11-20	5	20.0%			13	52.0%			18	36.0%		
	21-40	10	40.0%			4	16.0%			14	28.0%		
	41-60	2	8.0%			0	.0%			2	4.0%		
	60 Above												
	Total	25	100.0%			25	100.0%			50	100.0%		

Sources: Field survey -2017-2018

Table 2 : Number of Dependent and Independent Members in the Family

	Haveri				Mandya				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Dependent												
Male												
Below 18	5	0.2	9	0.4	9	0.4	25	1.0	14	0.3	34	0.7
Above 60	3	0.1	2	0.1	0	0.0	0	0.0	3	0.1	2	0.0
Female												
Below 18	9	0.4	2	0.1	7	0.3	25	1.0	16	0.3	27	0.5
Above 60	6	0.2	2	0.1	3	0.1	0	0.0	9	0.2	2	0.0
Independent												
Male												
18-60	28	1.1	35	1.4	21	0.8	34	1.4	49	1.0	69	1.4
Female												
18-60	29	1.2	32	1.3	34	1.4	37	1.5	63	1.3	69	1.4

Table 3 :Type of Livelihoods adopted by Independent members in the sample households

	Haveri				Mandya				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	%	N	%	N	%	N	%	N	%	N	%
Cultivation	1	1.8%	12	25.5%	2	4.9%	55	98.2%	3	3.1%	67	65.0%
Allied Agriculture Activities	16	28.6%	10	21.3%	1	2.4%	0	.0%	17	17.5%	10	9.7%
Only Agriculture Labour	18	32.1%	19	40.4%	31	75.6%	1	1.8%	49	50.5%	20	19.4%
Other Labour												
Agriculture and other labour	2	3.6%			0	.0%			2	2.1%		
Household Industry	13	23.2%	6	12.8%	0	.0%	0	.0%	13	13.4%	6	5.8%
Trade/Business												
Service (Pvt)	3	5.4%			7	17.1%			10	10.3%		
Others	3	5.4%			0	.0%			3	3.1%		
Total	56	100.0%	47	100.0%	41	100.0%	56	100.0%	97	100.0%	103	100.0%

Table-4: Distribution of Suicides farmers and Control Farmers According to size of Landholdings from the selected sample

Farm Size	Haveri				Mandya				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	%	N	%	N	%	N	%	N	%	N	%
Marginal	5	20.0%	2	8.0%	17	68.0%	0	.0%	22	44.0%	2	4.0%
Small	14	56.0%	17	68.0%	7	28.0%	3	12.0%	21	42.0%	20	40.0%
Semi-Medium	6	24.0%	5	20.0%	1	4.0%	15	60.0%	7	14.0%	20	40.0%
Medium			1	4.0%			7	28.0%			8	16.0%
Total	25	100.0%	25	100.0%	25	100.0%	25	100.0%	50	100.0%	50	100.0%

Sources: Field survey -2017-2018.

Asset Structure

Table-5 :Distribution of Suicides farmers and Control Farmers According to size of LandholdingsAnd Leased-In Land from the selected sample

(Average Size)

Farm size	Haveri				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In
Marginal	2.3	4.0	2.0		1.0	2.0			1.3	2.1	2.0	
Small	3.4	5.7	3.9	2.0	3.5		4.8	2.8	3.4	5.7	4.0	2.5
Semi-Medium	8.5	1.0	8.4		8.0		8.4	9.5	8.4	1.0	8.4	9.5
Medium			12.0				15.7	9.3			15.3	9.3
Large												
Total	4.4	4.4	5.0	2.0	2.0	2.0	10.0	8.8	3.2	2.7	7.5	8.5

Sources: Field survey -2017-2018

Asset Structure

Table-6 :Distribution of Suicides farmers and Control Farmers According to size of LandholdingsAnd Leased-In Land from the selected sample.

(Number of farmers)

Farm size	Haveri				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In
Marginal	5	1	2		17	12			22	13	2	
Small	14	3	17	1	7		3	2	21	3	20	3
Semi-Medium	6	1	5		1		15	11	7	1	20	11
Medium			1				7	7			8	7
Large												
Total	25	5	25	1	25	12	25	20	50	17	50	21

Sources: Field survey -2017-2018

Table7 :Distribution of Suicides farmers and Control Farmers according to size of Livestock from the selected sample

		Haveri			Mandya			Total		
		FS	CG	Total	FS	CG	Total	FS	CG	Total
Bullocks	Avg	2	2	2	2	4	3	2	4	3
	N	5	4	9	6	25	31	11	29	40
Cow	Avg	2	2	2	1	5	3	2	4	3
	N	8	22	30	16	21	37	24	43	67
Buffalo	Avg	2	2	2	1	9	8	2	6	6
	N	3	17	20	5	23	28	8	40	48
Sheep/Goat	Avg		5	5	2	10	9	2	7	6
	N		14	14	2	9	11	2	23	25
Poultry/Birds	Avg		8	8		10	10		10	10
	N		6	6		18	18		24	24
Others	Avg	2		2				2		2
	N	2		2				2		2

Table-8 : Distribution of Suicides farmers and Control Farmers according to size of Livestock from the selected sample (Average size of livestock)

Livestock	Haveri			Seddipet			Total		
	Suicides	Control	Total	Suicides	Control	Total	Suicides	Control	Total
Bullocks	2	2	2	2	4	3	2	4	3
Cow	2	2	2	1	5	3	2	4	3
Buffalo	2	2	2	1	9	8	2	6	6
Sheep/Goat		5	5	2	10	9	2	7	6
Poultry/Birds		8	8		10	10		10	10
Others	2		2				2		2

Table 9 :Reasons for selling the livestock in the last five years

Farm size	Haveri				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Bullocks												
Debt Repayment	0	.0%	0	.0%	2	66.7 %	22	100.0 %	2	33.3 %	22	88. 0%
Others	3	100.0%	3	100.0%	1	33.3 %	0	.0%	4	66.7 %	3	12. 0%
Cow												
Meeting consumption Expenses	0	.0%	0	.0%	3	37.5 %	3	18.8%	3	23.1 %	3	10. 3%
Debt Repayment	3	60.0%	0	.0%	5	62.5 %	8	50.0%	8	61.5 %	8	27. 6%
Marriage			0	.0%			3	18.8%			3	10. 3%
Health	1	20.0%	0	.0%	0	.0%	2	12.5%	1	7.7%	2	6.9 %

Others	1	20.0%	13	100.0%	0	.0%	0	.0%	1	7.7%	13	44.8%
Buffalo												
Meeting consumption Expenses			0	.0%			1	4.3%			1	3.0%
Debt Repayment	2	66.7%	0	.0%	1	100.0%	20	87.0%	3	75.0%	20	60.6%
Marriage			0	.0%			1	4.3%			1	3.0%
Health			0	.0%			1	4.3%			1	3.0%
Others	1	33.3%	10	100.0%	0	.0%	0	.0%	1	25.0%	10	30.3%
Sheep / Goat												
Meeting consumption Expenses	0	.0%	1	50.0%			2	22.2%	1	50.0%	2	9.1%
Debt Repayment	0	.0%					6	66.7%			6	27.3%
Marriage	0	.0%					1	11.1%			1	4.5%
Others	13	100.0%	1	50.0%			0	.0%	1	50.0%	13	59.1%
Poultry/Birds												
Meeting consumption Expenses			0	.0%			17	94.4%			17	77.3%
Debt			0	.0%			1	5.6%			1	4.5%
Others			4	100.0%			0	.0%			4	18.2%

Sources: Field survey -2017-2018

Table 10 : Other Asset structure

Assets	Haveri				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Smokeless Chullah	20	80.0%	3	12.0%	6	24.0%	12	48.0%	26	52.0%	15	30.0%
Gas	24	96.0%	25	100.0%	24	96.0%	25	100.0%	48	96.0%	50	100.0%
Electric Fan	23	92.0%	25	100.0%	25	100.0%	25	100.0%	48	96.0%	50	100.0%
Mobile	23	92.0%	25	100.0%	24	96.0%	25	100.0%	47	94.0%	50	100.0%
TV	23	92.0%	25	100.0%	24	96.0%	25	100.0%	47	94.0%	50	100.0%
Bicycle	16	64.0%	24	96.0%	21	84.0%	25	100.0%	37	74.0%	49	98.0%
House												
e) Kucha	17	68.0%	14	56.0%	2	8.0%	1	4.0%	19	38.0%	15	30.0%
f) Pucca			0	.0%			24	96.0%			24	48.0%

Sources: Field survey -2017-2018

Table 11 : Agriculture Implements (No)

Assets	Haveri				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Plough	0	.0%	2	8.0%	1	4.0%	25	100.0 %	1	2.0 %	27	54.0 %
Bullock Cart	0	.0%	7	28.0%	5	20.0 %	25	100.0 %	5	10.0 %	32	64.0 %
Two wheeler	2	8.0%	16	64.0%	9	36.0 %	24	96.0 %	11	22.0 %	40	80.0 %
Tractor	1	4.0%	0	.0%	0	.0%	12	48.0 %	1	2.0 %	12	24.0 %
Other (specify)	1	4.0%	3	12.0%	0	.0%	0	.0%	1	2.0 %	3	6.0%

Sources: Field survey -2017-2018

Table 12: Cropping Pattern among Farmers Suicides and control (No.of farmers)

Assets	Haveri				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Irrigated												
Malbury					2	13.3%			2	13.3%		
Paddy					2	13.3%			2	13.3%		
Sugar Cane					10	66.7%	1	100.0%	10	66.7%	1	100.0%
Vegetables					1	6.7%			1	6.7%		
Total					15	100.0%	1	100.0%	15	100.0%	1	100.0%
Unirrigated												
Cotton	1	4.0%	4	16.0%	0	.0%			1	3.2%	4	16.0%
HG	0	.0%			1	16.7%			1	3.2%		
Maize	24	96.0%	21	84.0%	0	.0%			24	77.4%	21	84.0%
Paddy	0	.0%			1	16.7%			1	3.2%		
Ragi	0	.0%			1	16.7%			1	3.2%		
Sugar Cane	0	.0%			2	33.3%			2	6.5%		
Tomato	0	.0%			1	16.7%			1	3.2%		
Total	25	100.0%	25	100.0%	6	100.0%			31	100.0%	25	100.0%
Both												
Paddy					1	25.0%	2	8.3%	1	25.0%	2	8.3%
Ragi							6	25.0%			6	25.0%
Sugar Cane					3	75.0%	16	66.7%	3	75.0%	16	66.7%
Total					4	100.0%	24	100.0%	4	100.0%	24	100.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018.

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Table 13 :Agricultural Practices (Input) of Two Major Crops

A) Seed

Implements	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
e) Who Suggested												
xxv) Extension Officer	3	6.1%	11	23.4%	14	29.8%	10	20.0%	17	17.7%	21	21.6%
xxvi) Friends/ Relatives	28	57.1%	33	70.2%	19	40.4%	0	.0%	47	49.0%	33	34.0%
xxvii) Input Dealer	18	36.7%	2	4.3%	10	21.3%	30	60.0%	28	29.2%	32	33.0%
xxviii) Others			1	2.1%	4	8.5%	10	20.0%	4	4.2%	11	11.3%
b) Source of Purchase												
xix) Govt Store	0	.0%	12	25.5%	7	14.9%	0	.0%	7	7.3%	12	12.4%
xx) Local Pvt store	49	100.0%	35	74.5%	40	85.1%	50	100.0%	89	92.7%	85	87.6%
xxi) Others												
c) Mode of payment												
xix) Cash	21	42.9%	5	10.6%	4	8.5%	0	.0%	25	26.0%	5	5.2%
xx) Credit	20	40.8%	40	85.1%	27	57.4%	50	100.0%	47	49.0%	90	92.8%
xxi) Others	8	16.3%	2	4.3%	16	34.0%	0	.0%	24	25.0%	2	2.1%

Note: Fingers in the brackets indicates percentage

Sources: Field survey -2017-2018

Table 14: Agricultural Practices (Input) of Two Major Crops Fertlisers

Implements	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%		
Crop 1												
a) Who Suggested												
xxix) Extension Officer	8	16.3%	11	23.4%	16	34.0%	20	40.0%	24	25.0%	31	32.0%
xxx) Friends/Relatives	33	67.3%	33	70.2%	22	46.8%	0	.0%	55	57.3%	33	34.0%
xxxi) Input Dealer	8	16.3%	2	4.3%	9	19.1%	30	60.0%	17	17.7%	32	33.0%
xxxii) Others			1	2.1%			0	.0%			1	1.0%
b) Source Of Purchase												
xxii) Govt Store	2	4.1%	12	25.5%	5	10.6%	0	.0%	7	7.3%	12	12.4%
xxiii) Local Pvt store	47	95.9%	35	74.5%	41	87.2%	50	100.0%	88	91.7%	85	87.6%
xxiv) Others	0	.0%			1	2.1%			1	1.0%		
c) Mode of payment												
xxii) Cash	21	42.9%	5	10.6%	4	8.5%	0	.0%	25	26.0%	5	5.2%
xxiii) Credit	20	40.8%	40	85.1%	26	55.3%	50	100.0%	46	47.9%	90	92.8%
xxiv) Others	8	16.3%	2	4.3%	17	36.2%	0	.0%	25	26.0%	2	2.1%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 15: Agricultural Practices (Input) of Two Major Crops (No of sample Farmers) Pesticides

Implements	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
a) Who Suggested												
xxxiii) Extension Officer	0	.0%	10	21.3%	15	31.9%	20	40.0%	15	15.8%	30	30.9%

xxxiv) Friends/Relatives	31	64.6%	33	70.2%	22	46.8%	0	.0%	53	55.8%	33	34.0%
xxxv) Input Dealer	17	35.4%	3	6.4%	10	21.3%	30	60.0%	27	28.4%	33	34.0%
xxxvi) Others			1	2.1%			0	.0%			1	1.0%
f) Source Of Purchase												
xxv) Govt Store	0	.0%	10	21.3%	5	10.6%	0	.0%	5	5.3%	10	10.3%
xxvi) Local Pvt store	45	93.8%	37	78.7%	40	85.1%	50	100.0%	85	89.5%	87	89.7%
xxvii) Others	3	6.2%			2	4.3%			5	5.3%		
c) Mode of payment												
xxv) Cash	25	52.1%	3	6.4%	4	8.5%	0	.0%	29	30.5%	3	3.1%
xxvi) Credit	16	33.3%	42	89.4%	27	57.4%	50	100.0%	43	45.3%	92	94.8%
xxvii) Others	7	14.6%	2	4.3%	16	34.0%	0	.0%	23	24.2%	2	2.1%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 16 : Change in the Cropping Pattern and Irrigation status in the last five years

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
Same Crop	25	100%	25	100%	25	100%	25	100%	50	100%	50	100%
Changed the Crops												
Changed the Variety of Crop												
Change in Irrigation status												

Source of irrigation

Q8_crop1		District								Total			
		Haveri				Mandya							
		Suicides		Control		Suicides		Control		Suicides		Control	
Cotton	Others	1	100.0%	4	100.0%					1	100.0%	4	100.0%
HG	Open well					1	100.0%			1	100.0%		
Maize	Open well	2	8.3%	1	4.8%					2	8.3%	1	4.8%
	Others	22	91.7%	20	95.2%					22	91.7%	20	95.2%
Malbury	Open well					1	50.0%			1	50.0%		
	Canal					1	50.0%			1	50.0%		
Paddy	Tube well					1	25.0%			1	25.0%		
	Canal					3	75.0%	2	100.0%	3	75.0%	2	100.0%
Ragi	Tube well					1	100.0%	6	100.0%	1	100.0%	6	100.0%
Sugar Cane	Open well					1	6.7%	2	11.8%	1	6.7%	2	11.8%
	Tube well					2	13.3%	4	23.5%	2	13.3%	4	23.5%
	Canal					12	80.0%	11	64.7%	12	80.0%	11	64.7%
Tomato	Others					1	100.0%			1	100.0%		
Vegetables	Canal					1	100.0%			1	100.0%		

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 17: Source of Marketing the Crops

Item		Haveri				Mandya				Total			
		Suicides		Control		Suicides		Control		Suicides		Control	
		N	%	N	%	N	%	N	%	N	%	N	%
Cotton	Open Market			1	100.0%							1	100.0%
	Total			1	100.0%							1	100.0%
Maize	Govt. centres	4	18.2%							4	18.2%		
	Open Market	16	72.7%	4	100.0%					16	72.7%	4	100.0%
	Others	2	9.1%							2	9.1%		
	Total	22	100.0%	4	100.0%					22	100.0%	4	100.0%
Paddy	Govt. centres							2	100.0%			2	100.0%
	Open Market					1	100.0%			1	100.0%		
	Total					1	100.0%	2	100.0%	1	100.0%	2	100.0%
Ragi	Govt. centres					1	100.0%			1	100.0%		
	Open Market							6	100.0%			6	100.0%
	Total					1	100.0%	6	100.0%	1	100.0%	6	100.0%
Sugar Cane	Govt. centres							13	81.2%			13	81.2%
	Open Market					1	100.0%	3	18.8%	1	100.0%	3	18.8%
	Total					1	100.0%	16	100.0%	1	100.0%	16	100.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 18: Technology and Changes in Practices in the last five Years (No of Farmers)(5 years ago)

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
CC) Land Preparation												
Desi Plough	4	16.0%	3	12.0%	4	16.7%	0	.0%	8	16.3%	3	6.0%
Tractor Drawn Cultivator	21	84.0%	22	88.0%	20	83.3%	25	100.0%	41	83.7%	47	94.0%
DD) Seed Source												
Shop	15	60.0%	12	48.0%	9	37.5%	0	.0%	24	49.0%	12	24.0%
Neighbour Farmer	10	40.0%	13	52.0%	15	62.5%	25	100.0%	25	51.0%	38	76.0%
EE) Fertiliser Application												
More	18	75.0%	10	40.0%	9	37.5%	0	.0%	27	56.2%	10	20.0%
Less	6	25.0%	15	60.0%	15	62.5%	25	100.0%	21	43.8%	40	80.0%
FF) Pesticide Application												
More	5	26.3%	6	24.0%	11	45.8%	10	40.0%	16	37.2%	16	32.0%
Less	14	73.7%	19	76.0%	13	54.2%	15	60.0%	27	62.8%	34	68.0%
GG) Organic Manure Application												
More	7	70.0%	2	9.1%	11	64.7%	25	100.0%	18	66.7%	27	57.4%
Less	3	30.0%	20	90.9%	6	35.3%	0	.0%	9	33.3%	20	42.6%
HH) Availability of Irrigation												
More	0	.0%			2	14.3%			2	8.3%		
Less	10	100.0%	24	100.0%	12	85.7%	25	100.0%	22	91.7%	49	100.0%
II) Agriculture Implements												
Own												
Hiring	2	100.0%	9	100.0%	7	100.0%	25	100.0%	9	100.0%	34	100.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 19: Technology and Changes in Practices in the last five Years (No of Farmers)(Now)

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
JJ) Land Preparation												
Desi Plough	11	44.0%	7	28.0%	1	4.2%	0	.0%	12	24.5%	7	14.0%
Tractor Drawn Cultivator	14	56.0%	18	72.0%	23	95.8%	25	100.0%	37	75.5%	43	86.0%
KK) Seed Source												
Shop	14	56.0%	20	80.0%	14	58.3%	15	60.0%	28	57.1%	35	70.0%
Neighbour Farmer	11	44.0%	5	20.0%	10	41.7%	10	40.0%	21	42.9%	15	30.0%
LL) Fertiliser Application												
More	16	66.7%	20	80.0%	12	50.0%	15	60.0%	28	58.3%	35	70.0%
Less	8	33.3%	5	20.0%	12	50.0%	10	40.0%	20	41.7%	15	30.0%

M)Pesticide Application												
More	17	89.5%	23	92.0%	18	75.0%	25	100.0%	35	81.4%	48	96.0%
Less	2	10.5%	2	8.0%	6	25.0%	0	.0%	8	18.6%	2	4.0%
N) Organic Manure Application												
More	0	.0%	2	9.1%	11	64.7%	10	40.0%	11	40.7%	12	25.5%
Less	10	100.0%	20	90.9%	6	35.3%	15	60.0%	16	59.3%	35	74.5%
O) Availability of Irrigation												
More	0	.0%	0	.0%	9	64.3%	25	100.0%	9	37.5%	25	51.0%
Less	10	100.0%	24	100.0%	5	35.7%	0	.0%	15	62.5%	24	49.0%
P) Agriculture Implements												
Own												
Hiring												

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 20: Average Net Income from the Family In the Last Year (Rs)

Item		Haveri		Mandya		Total	
		Suicides	Control	Suicides	Control	Suicides	Control
Cultivation	Avg.		30000	37632	115600	37632	76522
	No.		21	19	25	19	46
Allied Agricultural Activities	Avg.		22500	10000	29600	10000	29074
	No.		2	1	25	1	27
Agricultural Labour	Avg.	13652	11650	18056	12083	15585	11886
	No.	23	20	18	24	41	44
Other Labour	Avg.	10000	6667	5000		9375	6667
	No.	7	3	1		8	3
Household Industry	Avg.	5000	16714			5000	16714
	No.	1	7			1	7
Trade or Business	Avg.	10000			11818	10000	11818
	No.	1			11	1	11
Service (Government)	Avg.			50000	13333	50000	13333
	No.			1	6	1	6
Service (Private)	Avg.			13333	16000	13333	16000
	No.			3	5	3	5
Others	Avg.	8000				8000	
	No.	1				1	
Total	Avg.	16167	35870	44583	166200	30375	103750
	No.	24	23	24	25	48	48

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table-21: Comparing Suicides and Non- Suicides households by Average outstanding debt among different size of landholdings. (Rs.)

Size of landholdings	Haveri						Mandya					
	Suicides			Non-Suicides			Suicides			Non-Suicides		
	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total
Marginal												
Avg.	170000	350000	260000	196471	414706	305588.5	125000	50000	87500			
No.	5	5	10	17	17	34	2	2	4			
Small												
Avg.	249890	404643	327266.5	100001	307145	203573	305882	67857	186869.5	75000	196667	135833.5
No.	14	14	28	7	7	14	17	14	31	3	3	6
Semi-mi												
Avg.	866667	466667	666667	200000	2000000	1100000	190000	90000	140000	64167	237083	150625
No.	6	6	12	1	1	2	5	5	10	12	12	24
Medium												
Avg.							300000	50000	175000	85714	232143	158928.5
No.							1	1	2	7	7	14
Total												
Avg.	381939	408600	395269.5	169600	448001	308800.5	268000	70455	169227.5	72500	230000	151250
No.	25	25	50	25	25	50	25	22	47	22	22	44

Table 22: Credit Particulars of Sample Households (N0)

K) Purpose for Which Credit is taken

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Consumption	29	1.2	25	1.0	35	1.4	0	0.0	64	1.3	25	0.5
Education	8	0.3	1	0.0	5	0.2	0	0.0	13	0.3	1	0.0
Livestock	2	0.1	0	0.0	1	0.0	1	0.0	3	0.1	1	0.0
Non Farm			1	0.0			10	0.4			11	0.2
House Construction	9	0.4	0	0.0	15	0.6	16	0.6	24	0.5	16	0.3
Marriage	15	0.6			16	0.6			31	0.6		
Health	8	0.3			13	0.5			21	0.4		
Digging Borewells	15	0.6	9	0.4	13	0.5	0	0.0	28	0.6	9	0.2
Religious and social expenditure	14	0.3	10	0.2	24	0.4	12	0.2	38	0.7	22	0.3
Others Agriculture	1	0.0			0	0.0			1	0.0		
Repayment of old debt	9	0.4			2	0.1			11	0.2		
Others												

Lease	46	1.8	31	1.2	18	0.7	6	0.2	64	1.3	37	0.7
Agriculture	3	0.1	0	0.0	20	0.8	49	2.0	23	0.5	49	1.0
Total	145	5.8	67	2.7	138	5.5	82	3.3	283	5.7	149	3.0

Sources: Field survey -2017-2018

L) Source of Institutional Credit

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Commercial Bank	24	1.0	18	0.7	17	0.7	1	0.0	41	0.8	19	0.4
Rural Bank	8	0.3	15	0.6	19	0.8	3	0.1	27	0.5	18	0.4
Cooperative Bank	19	0.8	13	0.5	4	0.2	0	0.0	23	0.5	13	0.3
SHG	22	0.9	16	0.6	26	1.0	26	1.0	48	1.0	42	0.8
Money Lender	27	1.1	0	0.0	40	1.6	45	1.8	67	1.3	45	0.9
Trader	29	1.2	0	0.0	7	0.3	5	0.2	36	0.7	5	0.1
Landlord/Employer	6	0.2	0	0.0	2	0.1	2	0.1	8	0.2	2	0.0
Relations/Friends	10	0.4	5	0.2	23	0.9	0	0.0	33	0.7	5	0.1
Total	145	5.8	67	2.7	138	5.5	82	3.3	283	5.7	149	3.0

M) Collateral submitted for the loan taken (No of Farmers)

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
None	86	3.4	21	0.8	110	4.4	3	0.1	196	3.9	24	0.5
Land	51	2.0	46	1.8	18	0.7	0	0.0	69	1.4	46	0.9
Livestock							51	2.0			51	1.0
Crop					1	0.0	24	1.0	1	0.0	24	0.5
House	8	0.3			1	0.0	4	0.2	9	0.2	4	0.1
Non farm Assets												
Durable Goods					6	0.2			6	0.1		
Labour												
Other					2	0.1			2	0.0		
Total	145	5.8	67	2.7	138	5.5	82	3.3	283	5.7	149	3.0

Sources: Field survey -2017-2018

:

N) Mode of Repayment of Loan (No of Farmers)

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Institutional												
Not known	13	0.5	19	0.8	66	2.6	0	0.0	79	1.6	19	0.4

Regular			0	0.0			27	1.1			27	0.5
Not Regular	60	2.4	43	1.7	0	0.0	3	0.1	60	1.2	46	0.9
Total	73	2.9	62	2.5	66	2.6	30	1.2	139	2.8	92	1.8
Non Institutional												
Not known	18	0.7	5	0.2	70	2.8	0	0.0	88	1.8	5	0.1
Regular			0	0.0			40	1.6			40	0.8
Not Regular	54	2.2	0	0.0	2	0.1	12	0.5	56	1.1	12	0.2
Total	72	2.9	5	0.2	72	2.9	52	2.1	144	2.9	57	1.1

Sources: Field survey -2017-2018

O) Amount of Outstanding Loan (No of Farmers)

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
NO Loan	145	5.8	67	2.7	138	5.5	49	2.0	283	5.7	116	2.3
Below 10,000 Rs							3	0.1			3	0.1
Below 30,000 Rs							5	0.2			5	0.1
Below 70,000 Rs							17	0.7			17	0.3
Below 1 Lakh Rs							8	0.3			8	0.2
Total	145	5.8	67	2.7	138	5.5	82	3.3	283	5.7	149	3.0

Sources: Field survey -2017-2018

Table 23: Crop Insurance (No of Farmers)

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Covered with Insurance												
Yes	0	.0%	1	4.0%	1	4.0%	1	4.0%	1	2.0%	2	4.0%
No	25	100.0%	24	96.0%	24	96.0%	24	96.0%	49	98.0 %	48	96.0%
Received Insurance in the last three Years												
Yes			1	4.0%			1	4.0%			2	4.0%
No	25	100.0%	24	96.0%	25	100.0%	24	96.0%	50	100.0 %	48	96.0%
Reasons for not Receiving the Insurance												
Dont Know	25	100.0%	24	100.0%	20	80.0%	24	100.0%	45	90.0 %	48	100.0%
Wrong crop was insured	0	.0%			5	20.0%			5	10.0 %		
Village was not covered in the disaster												

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 24: Distress Occurred in the family in the last three years (No of Farmers)

Item	Haveri				Mandya				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Drought	21	84.0%							21	84.0%		
Cyclone/Foods/Hailstorm												
Pest attack	10	40.0%							10	40.0%		
Bad seed quality	19	76.0%							19	76.0%		
Input price fluctuations												
Output price fluctuations	6	24.0%							6	24.0%		
Livestock epidemic												
Human epidemic (like cholera)	2	8.0%							2	8.0%		
Fire accident												
Robbery/Violence												
Death of family members	7	28.0%							7	28.0%		
Sudden health problem/accidents												
Other												

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 25: Information About the deceased member (No of Farmers)

Item	Haveri		Mandya		Total	
	N	%	N	%	N	%
Sex						
Male	24	96.0%	23	92.0%	47	94.0%
Female	1	4.0%	2	8.0%	3	6.0%
Status in the family						
Head of the Household	15	60.0%	22	88.0%	37	74.0%
Family Member	10	40.0%	3	12.0%	13	26.0%
Education Status						
Illiterate	4	16.0%	15	60.0%	19	38.0%
Literate but below Primary	12	48.0%	5	20.0%	17	34.0%
Primary	5	20.0%	3	12.0%	8	16.0%
Secondary	2	8.0%	2	8.0%	4	8.0%
Higher Secondary	2	8.0%	0	.0%	2	4.0%
Technical						
Graduation &Above						
Non Formal						
Marriage Status						
Never Married	5	20.0%	9	36.0%	14	28.0%
Married	19	76.0%	15	60.0%	34	68.0%
Widow/Widower	0	.0%	1	4.0%	1	2.0%
Divorced/Separate	1	4.0%	0	.0%	1	2.0%

Method of Suicide						
Pesticide Consumption	15	60.0%	11	44.0%	26	52.0%
Hanging	9	36.0%	13	52.0%	22	44.0%
Others	1	4.0%	1	4.0%	2	4.0%

Sources: Field survey -2017-2018

Table 26 : Reasons for Distress (No of Farmers)

Item	Haveri		Mandya		Total	
	N	%	N	%	N	%
Change in the social position before the incident						
Yes	5	20.0%	10	40.0%	15	30.0%
No	20	80.0%	15	60.0%	35	70.0%
Deterioration in Economic Status before the Incident						
Yes	6	24.0%	13	52.0%	19	38.0%
No	19	76.0%	12	48.0%	31	62.0%
Family members of marriageable age						
Yes	11	44.0%	15	60.0%	26	52.0%
No	14	56.0%	10	40.0%	24	48.0%
Harassment for the repayment of loan before the incident						
Yes	19	76.0%	18	72.0%	37	74.0%
No	6	24.0%	7	28.0%	13	26.0%
Problems with Spouse						
Yes	7	28.0%	2	8.0%	9	18.0%
No	18	72.0%	23	92.0%	41	82.0%
Problems with other family members						
Yes	4	16.0%	1	4.0%	5	10.0%
No	21	84.0%	24	96.0%	45	90.0%
Disputes with neighbours and others in the village						
Yes	7	28.0%	3	12.0%	10	20.0%
No	18	72.0%	22	88.0%	40	80.0%
Any precedence of suicide in this village before the incident						
Yes	7	28.0%	2	8.0%	9	18.0%
No	18	72.0%	23	92.0%	41	82.0%
Death in the family before the incident						
Yes	3	12.0%	3	12.0%	6	12.0%
No	22	88.0%	22	88.0%	44	88.0%
Any precedence of suicide in the family before the incident						
Yes	0	.0%	8	32.0%	8	16.0%
No	25	100.0%	17	68.0%	42	84.0%
Incidence of Chronic illness by the victim						
Yes	0	.0%	8	32.0%	8	16.0%
No	25	100.0%	17	68.0%	42	84.0%

Goes the victim received any major medical assistance before the incident						
Yes	2	8.0%	8	32.0%	10	20.0%
No	23	92.0%	17	68.0%	40	80.0%
Change in the deceased's behaviour before the incident						
Yes	1	4.0%	8	32.0%	9	18.0%
No	24	96.0%	17	68.0%	41	82.0%
Does the deceased has any alcohol addiction						
Yes	22	88.0%	16	64.0%	38	76.0%
No	3	12.0%	9	36.0%	12	24.0%

Sources: Field survey -2017-2018

Table 27: Help Received From State Government

Item	Haveri		Mandya		Total	
	N	%	N	%	N	%
Did the family receive any help						
e) Yes	15	60.0%	22	88.0%	37	74.0%
f) No	10	40.0%	3	12.0%	13	26.0%
Has the family received any compensation from the government						
e) a)Yes	15	60.0%	21	84.0%	36	72.0%
f) b)No	10	40.0%	4	16.0%	14	28.0%
Compensation Received (Rs)						
o) < 1 Lakh						
p) 1Lakh – 2 Lakhs	0	.0%	1	4.8%	1	2.8%
q) 2 Lakhs – 3 Lakhs						
r) 3 Lakhs – 4 Lakhs						
s) 4 Lakhs - 5 Lakhs	0	.0%	4	19.0%	4	11.1%
t) 5 Lakhs – 6 Lakhs	15	100.0%	16	76.2%	31	86.1%
u) > 6 Lakhs						
How the Compensation is Used						
a)To Repay the old Debts						
b)To Invest on Livelihoods						
c)For Consumption						
d) Agriculture / cultivation						

Sources: Field survey -2017-2018.

MADHYA PRADESH DISTRICT-WISE TABLES

Profile of the Respondents

Table-1:Basic Particulars of Suicides and control Families in Selected Districts

Characteristics		Alirajpur				Rewa				Total			
		Suicides		control		Suicides		control		Suicides		Control	
		N	%	N	%	N	%	N	%	N	%	N	%
Gender	Male	43	60.6%	55	66.3%	33	45.8%	46	56.1%	76	53.1%	101	61.2%
	Female	28	39.4%	28	33.7%	39	54.2%	36	43.9%	67	46.9%	64	38.8%
	Total	71	100.0%	83	100.0%	72	100.0%	82	100.0%	143	100.0%	165	100.0%
Caste	SC	0	.0%	0	.0%	1	4.0%	1	4.0%	1	2.0%	1	2.0%
	ST	25	100.0%	21	84.0%	3	12.0%	1	4.0%	28	56.0%	22	44.0%
	OBC	0	.0%	1	4.0%	13	52.0%	15	60.0%	13	26.0%	16	32.0%
	Others	0	.0%	3	12.0%	8	32.0%	8	32.0%	8	16.0%	11	22.0%
	Total	25	100.0%	25	100.0%	25	100.0%	25	100.0%	50	100.0%	50	100.0%
Age	Below 21	28	39.4%	33	39.8%	24	33.3%	31	37.8%	52	36.4%	64	38.8%
	21-30	23	32.4%	20	24.1%	8	11.1%	19	23.2%	31	21.7%	39	23.6%
	31-40	10	14.1%	18	21.7%	14	19.4%	22	26.8%	24	16.8%	40	24.2%
	41-50	5	7.0%	8	9.6%	7	9.7%	9	11.0%	12	8.4%	17	10.3%
	51-60	5	7.0%	1	1.2%	11	15.3%	1	1.2%	16	11.2%	2	1.2%
	60+	0	.0%	3	3.6%	8	11.1%	0	.0%	8	5.6%	3	1.8%
	Total	71	100.0%	83	100.0%	72	100.0%	82	100.0%	143	100.0%	165	100.0%
Marital status	Never Married	2	2.8%	8	9.6%	4	5.6%	8	9.8%	6	4.2%	16	9.7%
	Currently married	32	45.1%	45	54.2%	35	48.6%	48	58.5%	67	46.9%	93	56.4%
	Widow/Widowed	15	21.1%	2	2.4%	14	19.4%	1	1.2%	29	20.3%	3	1.8%
	NA (below 18)	22	31.0%	28	33.7%	19	26.4%	25	30.5%	41	28.7%	53	32.1%
	Total	71	100.0%	83	100.0%	72	100.0%	82	100.0%	143	100.0%	165	100.0%
Education	Illiterate	60	84.5%	69	83.1%	49	68.1%	46	56.1%	109	76.2%	115	69.7%
	Below primary	4	5.6%	9	10.8%	1	1.4%	5	6.1%	5	3.5%	14	8.5%
	Primary	0	.0%	0	.0%	3	4.2%	1	1.2%	3	2.1%	1	.6%
	Secondary	0	.0%	0	.0%	11	15.3%	6	7.3%	11	7.7%	6	3.6%
	Higher secondary	0	.0%	1	1.2%	3	4.2%	16	19.5%	3	2.1%	17	10.3%
	Technical												
	Graduation & above	0	.0%	1	1.2%	3	4.2%	3	3.7%	3	2.1%	4	2.4%
	Non formal												
	NA (age ≤5)	7	9.9%	3	3.6%	2	2.8%	5	6.1%	9	6.3%	8	4.8%
	Total	71	100.0%	83	100.0%	72	100.0%	82	100.0%	143	100.0%	165	100.0%

Characteristics		Alirajpur				Rewa				Total			
		Suicides		control		Suicides		control		Suicides		Control	
Experience in farming	0-5	5	20.0%			16	64.0%			21	42.0%		
	06-10	6	24.0%			1	4.0%			7	14.0%		
	11-20	7	28.0%			5	20.0%			12	24.0%		
	21-40	6	24.0%			3	12.0%			9	18.0%		
	41-60	1	4.0%			0	.0%			1	2.0%		
	60 Above												
	Total	25	100.0 %			25	100.0 %			50	100.0 %		

Sources: Field survey -2017-2018

Table 2 : Number of Dependent and Independent Members in the Family

	Alirajpur				Rewa				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Dependent												
Male												
Below 18	16	0.6	22	0.9	6	0.2	15	0.6	22	0.4	37	0.7
Above 60			2	0.1	3	0.1			3	0.1	2	0.0
Female												
Below 18	6	0.2	6	0.2	13	0.5	10	0.4	19	0.4	16	0.3
Above 60			1	0.0	5	0.2			5	0.1	1	0.0
Independent												
Male												
18-60	27	1.1	31	1.2	24	1.0	31	1.2	51	1.0	62	1.2
Female												
18-60	22	0.9	21	0.8	21	0.8	26	1.0	43	0.9	47	0.9

Table 3 :Type of Livelihoods adopted by Independent members in the sample households

	Alirajpur				Rewa				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	%	N	%	N	%	N	%	N	%	N	%
Cultivation	16	30.2%	26	57.8%	15	40.5%	23	59.0%	31	34.4%	49	58.3%
Allied Agriculture Activities	3	5.7%			1	2.7%			4	4.4%		
Only Agriculture Labour	31	58.5%	19	42.2%	17	45.9%	14	35.9%	48	53.3%	33	39.3%
Other Labour												
Agriculture and other labour	3	5.7%	0	.0%	3	8.1%	2	5.1%	6	6.7%	2	2.4%
Household Industry	0	.0%			1	2.7%			1	1.1%		
Trade/Business												
Service (Govt)												
Service (Pvt)												
Total	53	100.0%	45	100.0%	37	100.0%	39	100.0%	90	100.0%	84	100.0%

Table-4: Distribution of Suicides farmers and Control Farmers According to size of Landholdings from the selected sample

Farm Size	Alirajpur				Rewa				Total			
	Suicides		control		Suicides		control		Suicides		control	
	N	%	N	%	N	%	N	%	N	%	N	%
Marginal	18	72.0%	11	44.0%	15	60.0%	11	44.0%	33	66.0%	22	44.0%
Small	7	28.0%	10	40.0%	2	8.0%	7	28.0%	9	18.0%	17	34.0%
Semi-Medium	0	.0%	4	16.0%	6	24.0%	5	20.0%	6	12.0%	9	18.0%
Medium			0	.0%			2	8.0%			2	4.0%
Large	0	.0%			2	8.0%			2	4.0%		
Total	25	100.0%	25	100.0%	25	100.0%	25	100.0%	50	100.0%	50	100.0%

Sources: Field survey -2017-2018.

Asset Structure

Table-5 :Distribution of Suicides farmers and Control Farmers According to size of LandholdingsAnd Leased-In Land from the selected sample

Farmer Status			Alirajpur			Rewa			Total		
			FS	CG	Total	FS	CG	Total	FS	CG	Total
Marginal	Own Land	Avg	1.81	1.85	1.83	1.28	1.27	1.27	1.57	1.56	1.56
		N	18	11	29	15	11	26	33	22	55
	Leased in (Acs)	Avg				1.53		1.53	1.53		1.53
		N				2		2	2		2
Small	Own Land	Avg	4.57	4.10	4.29	3.25	3.86	3.72	4.28	4.00	4.10
		N	7	10	17	2	7	9	9	17	26
Semi-Medium	Own Land	Avg		6.38	6.38	7.83	7.20	7.55	7.83	6.83	7.23
		N		4	4	6	5	11	6	9	15
Medium	Own Land	Avg					17.50	17.50		17.50	17.50
		N					2	2		2	2
Large	Own Land	Avg				25.00		25.00	25.00		25.00
		N				2		2	2		2
Total	Own Land	Avg	2.59	3.47	3.03	4.91	4.48	4.69	3.75	3.98	3.86
		N	25	25	50	25	25	50	50	50	100
	Leased in (Acs)	Avg				1.53		1.53	1.53		1.53
		N				2		2	2		2

Asset Structure

Table-6 :Distribution of Suicides farmers and Control Farmers According to size of LandholdingsAnd Leased-In Land from the selected sample.

(Number)

Farm size	Alirajpur				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In	Own land	Leased-In
Marginal	18		11		15	2	11		33	2	22	
Small	7		10		2		7		9		17	
Semi-Medium			4		6		5		6		9	
Medium							2				2	
Large					2				2			
Total	25		25		25	2	25		50	2	50	

Sources: Field survey -2017-2018

Table7 :Distribution of Suicides farmers and Control Farmers according to size of Livestock from the selected sample

		Alirajpur			Rewa			Total		
		FS	CG	Total	FS	CG	Total	FS	CG	Total
Bullocks	Avg	2	2	2	2	2	2	2	2	2
	N	12	10	22	2	3	5	14	13	27
Cow	Avg	2	3	3	2	2	2	2	3	2
	N	12	19	31	13	20	33	25	39	64
Buffalo	Avg	2	1	1	2	2	2	2	2	2
	N	4	3	7	6	5	11	10	8	18
Sheep/Goat	Avg	3	4	3	3	2	2	3	3	3
	N	18	23	41	2	13	15	20	36	56
Poultry/Birds	Avg	4	5	5	6	2	2	5	4	4
	N	3	9	12	1	6	7	4	15	19

Table-8 : Distribution of Suicides farmers and Control Farmers according to size of Livestock from the selected sample (Average size of livestock)

Livestock	Alirajpur			Seddipet			Total		
	Suicides	Control	Total	Suicides	Control	Total	Suicides	Control	Total
Bullocks	2	2	2	2	2	2	2	2	2
Cow	2	3	3	2	2	2	2	3	2
Buffalo	2	1	1	2	2	2	2	2	2
Sheep/Goat	3	4	3	3	2	2	3	3	3
Poultry/Birds	4	5	5	6	2	2	5	4	4

Table 9 :Reasons for selling the livestock in the last five years

Farm size	Alirajpur				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Bullocks												
Others	12	100.0%	9	100.0%	2	100.0%	3	100.0%	14	100.0%	12	100.0%
Cow												
Others	12	100.0%	18	100.0%	13	100.0%	20	100.0%	25	100.0%	38	100.0%
Buffalo												
Others	4	100.0%	2	100.0%	6	100.0%	5	100.0%	10	100.0%	7	100.0%
Sheep / Goat												
Others	18	100.0%	22	100.0%	2	100.0%	13	100.0%	20	100.0%	35	100.0%
Poultry/Birds												
Others	3	100.0%	9	100.0%	1	100.0%	6	100.0%	4	100.0%	15	100.0%

Sources: Field survey -2017-2018

Table 10 : Other Asset structure

Assets	Alirajpur				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Smokeless Chullah	25	100.0%	25	100.0%	17	68.0%	22	88.0%	42	84.0%	47	94.0%
Gas	10	40.0%	11	44.0%	20	80.0%	22	88.0%	30	60.0%	33	66.0%
Electric Fan	9	36.0%	9	36.0%	21	84.0%	24	96.0%	30	60.0%	33	66.0%
Mobile	8	32.0%	9	36.0%	22	88.0%	24	96.0%	30	60.0%	33	66.0%
TV	1	4.0%	7	28.0%	16	64.0%	23	92.0%	17	34.0%	30	60.0%
Bicycle	9	36.0%	9	36.0%	17	68.0%	24	96.0%	26	52.0%	33	66.0%
House												
g) Kucha	24	96.0%	23	92.0%	20	80.0%	17	68.0%	44	88.0%	40	80.0%
h) Pucca	1	4.0%	1	4.0%	4	16.0%	8	32.0%	5	10.0%	9	18.0%

Sources: Field survey -2017-2018

Table 11: Agriculture Implements (No)

Assets	Alirajpur				Seddipet				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Plough			0	.0%			1	4.0%			1	2.0%
Bullock Cart	1	4.0%	2	8.0%	0	.0%	1	4.0%	1	2.0%	3	6.0%
Two wheeler	2	8.0%	5	20.0%	7	28.0%	9	36.0%	9	18.0%	14	28.0%
Tractor	1	4.0%	1	4.0%	1	4.0%	3	12.0%	2	4.0%	4	8.0%
Other (specify)	0	.0%			1	4.0%			1	2.0%		

Sources: Field survey -2017-2018

Table 12: Cropping Pattern among Farmers Suicides and control

Crops		Alirajpur				Rewa			
		Suicides		Non-Suicides		Suicides		Non-Suicides	
		N	%	N	%	N	%	N	%
Irrigated	Bengalgram					1	12.5%		
	Paddy			1	100.0%	6	75.0%	7	77.8%
	Wheat			0	.0%	1	12.5%	2	22.2%
	Total			1	100.0%	8	100.0%	9	100.0%
Unirrigated	Bajra	6	24.0%	2	8.3%	1	7.7%	1	6.7%
	Maize	19	76.0%	20	83.3%	2	15.4%	0	.0%
	Paddy	0	.0%	0	.0%	6	46.2%	6	40.0%
	Wheat	0	.0%	1	4.2%	4	30.8%	8	53.3%
	Others			1	4.2%			0	.0%
	Total	25	100.0%	24	100.0%	13	100.0%	15	100.0%
Both	Paddy					3	75.0%	1	100.0%
	Wheat					1	25.0%		
	Total					4	100.0%	1	100.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018.
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Table 13: Agricultural Practices (Input) of Two Major Crops -Seed

Implements	Alirajpur (Maize)				Rewa (Paddy)				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
g) Who Suggested												
xxxvii) Extension Officer	19	40.4%	31	64.6%	30	71.4%	28	70.0%	49	55.1%	59	67.0%
xxxviii) Friends/ Relatives	21	44.7%	14	29.2%	9	21.4%	12	30.0%	30	33.7%	26	29.5%
xxxix) Input Dealer	7	14.9%	3	6.2%	3	7.1%	0	.0%	10	11.2%	3	3.4%
xl) Others												
b) Source of Purchase												
xxviii) Govt Store	14	29.8%	23	47.9%	9	21.4%	9	22.5%	23	25.8%	32	36.4%
xxix) Local Pvt store	30	63.8%	22	45.8%	33	78.6%	31	77.5%	63	70.8%	53	60.2%
xxx) Others	3	6.4%	3	6.2%	0	.0%	0	.0%	3	3.4%	3	3.4%
c) Mode of payment												
xxviii) Cash	27	57.4%	17	35.4%	31	73.8%	27	67.5%	58	65.2%	44	50.0%
xxix) Credit	20	42.6%	27	56.2%	11	26.2%	13	32.5%	31	34.8%	40	45.5%
xxx) Others			4	8.3%			0	.0%			4	4.5%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 14: Agricultural Practices (Input) of Two Major Crops- Fertlisers

Implements	Alirajpur (Maize)				Rewa (Paddy)				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%		
Crop 1												
a) Who Suggested												
xli) Extension Officer	19	40.4%	31	64.6%	30	71.4%	29	72.5%	49	55.1%	60	68.2%
xlii) Friends/Relatives	23	48.9%	14	29.2%	10	23.8%	11	27.5%	33	37.1%	25	28.4%
xliii) Input Dealer	5	10.6%	3	6.2%	2	4.8%	0	.0%	7	7.9%	3	3.4%
xliv) Others												
b) Source Of Purchase												
xxxi) Govt Store	14	29.8%	23	47.9%	9	21.4%	9	22.5%	23	25.8%	32	36.4%
xxxii) Local Pvt store	30	63.8%	22	45.8%	33	78.6%	31	77.5%	63	70.8%	53	60.2%
xxxiii) Others	3	6.4%	3	6.2%	0	.0%	0	.0%	3	3.4%	3	3.4%
c) Mode of payment												
xxxi) Cash	27	57.4%	17	35.4%	31	73.8%	27	67.5%	58	65.2%	44	50.0%
xxxii) Credit	20	42.6%	27	56.2%	11	26.2%	13	32.5%	31	34.8%	40	45.5%
xxxiii) Others			4	8.3%			0	.0%			4	4.5%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 15 :Agricultural Practices (Input) of Two Major Crops (No of sample Farmers)- Pesticides

Implements	Alirajpur (Maize)				Rewa (Paddy)				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Crop 1												
a) Who Suggested												
xlv) Extension Officer	19	40.4%	31	64.6%	31	73.8%	29	72.5%	50	56.2%	60	68.2%
xlvi) Friends/Relatives	22	46.8%	14	29.2%	9	21.4%	11	27.5%	31	34.8%	25	28.4%
xlvii) Input Dealer	6	12.8%	3	6.2%	2	4.8%	0	.0%	8	9.0%	3	3.4%
xlviii) Others												
h) Source Of Purchase												
xxxiv) Govt Store	14	29.8%	23	47.9%	9	21.4%	9	22.5%	23	25.8%	32	36.4%
xxxv) Local Pvt store	30	63.8%	22	45.8%	33	78.6%	31	77.5%	63	70.8%	53	60.2%
xxxvi) Others	3	6.4%	3	6.2%	0	.0%	0	.0%	3	3.4%	3	3.4%

c) Mode of payment													
xxxiv) Cash	28	59.6%	17	35.4%	31	73.8%	26	65.0%	59	66.3%	43	48.9%
xxxv) Credit	19	40.4%	27	56.2%	11	26.2%	14	35.0%	30	33.7%	41	46.6%
xxxvi) Others			4	8.3%			0	.0%			4	4.5%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 16 : Change in the Cropping Pattern and Irrigation status in the last five years

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
Same Crop	25	100%	25	100%	25	100%	25	100%	25	100%	25	100%
Changed the Crops												
Changed the Variety of Crop												
Change in Irrigation status												

Source of Irrigation

Source of irrigation		Alirajpur				Rewa				Total			
		Suicides		Control		Suicides		Control		Suicides		Control	
Bajra	Tube well	2	33.3%			0	.0%			2	28.6%		
	Others	4	66.7%	2	100.0%	1	100.0 %	1	100.0%	5	71.4%	3	100.0 %
Bengal gram	Others					1	100.0 %			1	100.0%		
Maize	Tube well	18	94.7%	8	40.0%	1	50.0 %			19	90.5%	8	40.0%
	Others	1	5.3%	12	60.0%	1	50.0 %			2	9.5%	12	60.0%
Paddy	Open well			0	.0%	1	6.7%	3	21.4%	1	6.7%	3	20.0%
	Tube well			1	100.0%	10	66.7 %	9	64.3%	10	66.7%	10	66.7%
	Others			0	.0%	4	26.7 %	2	14.3%	4	26.7%	2	13.3%
Wheat	Open well					1	16.7 %			1	16.7%		
	Tube well			1	100.0%	5	83.3 %	9	90.0%	5	83.3%	10	90.9%
	Others			0	.0%			1	10.0%			1	9.1%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 17: Technology and Changes in Practices in the last five Years (No of Farmers) (5 years ago)

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
QQ) Land Preparation												
Desi Plough	25	100.0%	21	84.0%	14	56.0%	16	64.0%	39	78.0%	37	74.0%
Tractor Drawn Cultivator	0	.0%	4	16.0%	11	44.0%	9	36.0%	11	22.0%	13	26.0%
RR) Seed Source												
Shop			0	.0%			1	4.0%			1	2.0%
Neighbour Farmer	25	100.0%	25	100.0%	25	100.0%	24	96.0%	50	100.0%	49	98.0%
SS) Fertiliser Application												
More			0	.0%			1	4.0%			1	2.0%
Less	25	100.0%	25	100.0%	25	100.0%	24	96.0%	50	100.0%	49	98.0%
TT) Pesticide Application												
More												
Less	25	100.0%	25	100.0%	25	100.0%	25	100.0%	50	100.0%	50	100.0%
UU) Organic Manure Application												
More	21	84.0%	15	60.0%	4	16.0%	3	12.0%	25	50.0%	18	36.0%
Less	4	16.0%	10	40.0%	21	84.0%	22	88.0%	25	50.0%	32	64.0%
VV) Availability of Irrigation												
More	2	8.0%	5	20.0%	4	16.0%	4	16.0%	6	12.0%	9	18.0%
Less	23	92.0%	20	80.0%	21	84.0%	21	84.0%	44	88.0%	41	82.0%
WW) Agriculture Implements												
Own			1	4.0%			0	.0%			1	2.0%
Hiring	25	100.0%	24	96.0%	25	100.0%	25	100.0%	50	100.0%	49	98.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 18: Technology and Changes in Practices in the last five Years (No of Farmers)(Now)

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
XX) Land Preparation												
Desi Plough	25	100.0%	21	84.0%	13	52.0%	14	56.0%	38	76.0%	35	70.0%
Tractor Drawn Cultivator	0	.0%	4	16.0%	12	48.0%	11	44.0%	12	24.0%	15	30.0%
YY) Seed Source												
Shop	2	8.0%	4	16.0%	20	80.0%	19	76.0%	22	44.0%	23	46.0%
Neighbour Farmer	23	92.0%	21	84.0%	5	20.0%	6	24.0%	28	56.0%	27	54.0%
ZZ) Fertiliser Application												
More	3	12.0%	2	8.0%	19	76.0%	20	80.0%	22	44.0%	22	44.0%

Less	22	88.0%	23	92.0%	6	24.0%	5	20.0%	28	56.0%	28	56.0%
AAA) Pesticide Application												
More	3	12.0%	2	8.0%	19	76.0%	20	80.0%	22	44.0%	22	44.0%
Less	22	88.0%	23	92.0%	6	24.0%	5	20.0%	28	56.0%	28	56.0%
BBB) Organic Manure Application												
More	21	84.0%	14	56.0%	4	16.0%	3	12.0%	25	50.0%	17	34.0%
Less	4	16.0%	11	44.0%	21	84.0%	22	88.0%	25	50.0%	33	66.0%
CCC) Availability of Irrigation												
More	2	8.0%	4	16.0%	5	20.0%	4	16.0%	7	14.0%	8	16.0%
Less	23	92.0%	21	84.0%	20	80.0%	21	84.0%	43	86.0%	42	84.0%
DDD) Agriculture Implements												
Own												
Hiring	25	100.0%	25	100.0%	25	100.0%	25	100.0%	50	100.0%	50	100.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 19: Average Net Income from the Family In the Last Year (Rs)

Item		Alirajpur		Rewa		Total	
		Suicides	Control	Suicides	Control	Suicides	Control
Cultivation	Avg.	4412	9333	25933	28500	14500	21313
	No.	17	12	15	20	32	32
Allied Agricultural Activities	Avg.		10000				10000
	No.		1				1
Agricultural Labour	Avg.	7500	5286	5789	5273	6667	5280
	No.	20	14	19	11	39	25
Other Labour	Avg.	4833	4625	5000	6250	4857	5167
	No.	6	8	1	4	7	12
Household Industry	Avg.	1000			30000	1000	30000
	No.	2			1	2	1
Trade or Business	Avg.		15000	5000	107500	5000	76667
	No.		1	1	2	1	3
Service (Government)	Avg.						
	No.						
Service (Private)	Avg.	10000				10000	
	No.	1				1	
Remittances	Avg.						
	No.						
Others	Avg.	6000	3667	39500	18750	22750	12286
	No.	3	3	3	4	6	7

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table-20: Comparing Suicides and Non- Suicides households by Average outstanding debt among different size of landholdings. (Rs.)

Size of landholdings	Haveri						Mandya					
	Suicides			Non-Suicides			Suicides			Non-Suicides		
	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total	Institutional	Non-Institutional	Total
Marginal												
Avg.	50000	9667	29834	130000	113333	121667		8000	8000	30000	5500	17750
No.	1	3	4	6	3	9		3	3	2	4	6
Small												
Avg.	125000	32500	78750	5000	50000	27500		6000	6000		5000	5000
No.	1	2	3	1	1	2		3	3		1	1
Semi-mi												
Avg.				25000	6333	15667				35000	5000	20000
No.				2	3	5				1	1	2
Medium												
Avg.												
No.												
Total												
Avg.	87500	18800	53150	92778	58429	75604		7000	7000	31667	5333	18500
No.	2	5	7	9	7	16		6	6	3	6	9

Table 21: Credit Particulars of Sample Households (N0)

P) Purpose for Which Credit is taken

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Consumption	4	0.2	4	0.2	13	0.5	8	0.3	17	0.3	12	0.2
Education												
Livestock												
Non Farm												
House Construction					1	0.0			1	0.0		
Marriage	1	0.0			6	0.2			7	0.1		
Health	2	0.1			2	0.1			4	0.1		
Digging Borewells												
Religious and Social expenditure	3	0.2	7	0.4	8	0.3	7	0.3	12	0.3	14	0.5
Others Agriculture					2	0.1			2	0.0		
Repayment of old debt												
Others												
Lease	4	0.2	4	0.2	17	0.7	10	0.4	21	0.4	14	0.3

Agriculture												
Total	11	0.4	8	0.3	41	1.6	18	0.7	52	1.0	26	0.5

Sources: Field survey -2017-2018

Q) Source of Institutional Credit

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Commercial Bank												
Rural Bank	3	0.1			8	0.3	4	0.2	11	0.2	4	0.1
Cooperative Bank					7	0.3	1	0.0	7	0.1	1	0.0
SHG	6	0.2	8	0.3	16	0.6	11	0.4	22	0.4	19	0.4
Money Lender					2	0.1			2	0.0		
Trader	2	0.1			2	0.1	2	0.1	4	0.1	2	0.0
Landlord/Employer					2	0.1			2	0.0		
Relations/Friends					4	0.2			4	0.1		
Total	11	0.4	8	0.3	41	1.6	18	0.7	52	1.0	26	0.5

Sources: Field survey -2017-2018

R) Collateral submitted for the loan taken (No of Farmers)

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
None	6	0.2	8	0.3	32	1.3	16	0.6	38	1.5	24	1.0
Land	5	0.2	0	0.0	9	0.4	2	0.1	14	0.6	2	0.1
Livestock												
Crop												
House												
Non farm Assets												
Durable Goods												
Labour												
Other												
Total	11	0.4	8	0.3	41	1.6	18	0.7	52	2.1	26	1.0

Sources: Field survey -2017-2018

:

S) Mode of Repayment of Loan (No of Farmers)

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
Institutional												
Not known	6	0.2	8	0.3	26	1.0	16	0.6	32	1.3	24	1.0

Regular												
Not Regular	3	0.1			5	0.2			8	0.3		
Total												
Non Institutional												
Not known					8	0.3			8	0.3		
Regular												
Not Regular	2	0.1			2	0.1	2	0.1	4	0.2	2	0.1
Total	6	0.2	8	0.3	26	1.0	16	0.6	32	1.3	24	1.0

Sources: Field survey -2017-2018

Amount of Outstanding Loan (No of Farmers)

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg	N	Avg
NO Loan	11	0.4	8	0.3	41	1.6	18	0.7	52	2.1	26	1.0
Below 10,000 Rs												
Below 30,000 Rs												
Below 70,000 Rs												
Below 1 Lakh Rs												
More Than One Lakh (Rs)												
Total	11	0.4	8	0.3	41	1.6	18	0.7	52	2.1	26	1.0

Sources: Field survey -2017-2018

Table 22: Crop Insurance (No of Farmers)

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Covered with Insurance												
Yes	1	4.0%	4	16.0%	10	40.0%	13	52.0%	11	22.0%	17	34.0%
No	24	96.0%	21	84.0%	15	60.0%	12	48.0%	39	78.0%	33	66.0%
Received Insurance in the last three Years												
Yes			0	.0%			1	4.0%			1	2.0%
No	25	100.0%	25	100.0%	25	100.0%	24	96.0%	50	100.0%	49	98.0%
Reasons for not Receiving the Insurance												
Dont Know	25	100.0%	25	100.0%	25	100.0%	24	100.0%	50	100.0%	49	100.0%
Wrong crop was insured												
Village was not covered												

in the disaster												

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 23: Distress Occurred in the family in the last three years (No of Farmers)

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Drought	17	68.0%	26	104.0%	10	40.0%	4	16.0%	27	54.0%	30	60.0%
Cyclone/Foods/Hailstorm	2	8.0%	6	24.0%	3	12.0%			5	10.0%	6	12.0%
Pest attack	10	40.0%	11	44.0%	12	48.0%	4	16.0%	22	44.0%	15	30.0%
Bad seed quality	10	40.0%	7	28.0%	5	20.0%			15	30.0%	7	14.0%
Input price fluctuations	2	8.0%	1	4.0%	1	4.0%			3	6.0%	1	2.0%
Output price fluctuations	7	28.0%	7	28.0%					7	14.0%	7	14.0%
Livestock epidemic	1	4.0%	6	24.0%	7	28.0%	4	16.0%	8	16.0%	10	20.0%
Human epidemic (like cholera)												
Fire accident					1	4.0%			1	2.0%		
Robbery/Violence			1	4.0%			1	4.0%			2	4.0%
Death of family members	4	16.0%	3	12.0%	3	12.0%	1	4.0%	7	14.0%	4	8.0%
Sudden health problem/accidents												
Other												

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 24: Coping Strategies Adopted by the sample households

Item	Alirajpur				Rewa				Total			
	Suicides		Control		Suicides		Control		Suicides		Control	
	N	%	N	%	N	%	N	%	N	%	N	%
Total (From above Table)												
Mortgage												
Sell Assets	0	.0%	0	.0%	5	4.2%	1	2.4%	5	3.0%	1	.8%
Use Savings	6	13.3%	11	13.1%	17	14.2%	7	16.7%	23	13.9%	18	14.3%
Withdraw Children from School												
Migration												
Bonded Labour	3	6.7%	10	11.9%	6	5.0%	0	.0%	9	5.5%	10	7.9%
Formal Borrowing	6	13.3%	19	22.6%	32	26.7%	9	21.4%	38	23.0%	28	22.2%
Informal Borrowing	7	15.6%	15	17.9%	24	20.0%	8	19.0%	31	18.8%	23	18.3%
Reduce Consumption	14	31.1%	18	21.4%	25	20.8%	11	26.2%	39	23.6%	29	23.0%
Help from village panchayat	5	11.1%	4	4.8%	4	3.3%	2	4.8%	9	5.5%	6	4.8%

More wage employment												
Depend upon NTFP												
Change crop choices	4	8.9%	7	8.3%	6	5.0%	4	9.5%	10	6.1%	11	8.7%
Improve technology												
Work as self-employee	0	.0%			1	.8%			1	.6%		
Help from Aasara												
Accessed health risk fund												
Availed community run												
Others												
Total	45	100.0%	84	100.0%	120	100.0%	42	100.0%	165	100.0%	126	100.0%

Note: Fingers in the brackets indicates percentage
Sources: Field survey -2017-2018

Table 25: Information About the deceased member (No of Farmers)

Item	Alirajpur		Rewa		Total	
	N	%	N	%	N	%
Sex						
Male	25	100.0%	24	96.0%	49	98.0%
Female	0	.0%	1	4.0%	1	2.0%
Status in the family						
Head of the Household	25	100.0%	22	88.0%	47	94.0%
Family Member	0	.0%	3	12.0%	3	6.0%
Education Status						
Illiterate	25	100.0%	18	72.0%	43	86.0%
Literate but below Primary						
Primary						
Secondary	0	.0%	1	4.0%	1	2.0%
Higher Secondary	0	.0%	4	16.0%	4	8.0%
Technical						
Graduation &Above	0	.0%	2	8.0%	2	4.0%
Non Formal						
Marriage Status						
Never Married	0	.0%	2	8.0%	2	4.0%
Married	25	100.0%	22	88.0%	47	94.0%
Widow/Widower						
Divorced/Separate	0	.0%	1	4.0%	1	2.0%
Method of Suicide						
Pesticide Consumption	11	44.0%	10	40.0%	21	42.0%
Hanging	12	48.0%	15	60.0%	27	54.0%
Others	2	8.0%	0	.0%	2	4.0%

Sources: Field survey -2017-2018

Table 26: Reasons for Distress (No of Farmers)

Item	Alirajpur		Rewa		Total	
	N	%	N	%	N	%
Change in the social position before the incident						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Deterioration in Economic Status before the Incident						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Family members of marriageable age						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Harassment for the repayment of loan before the incident						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Problems with Spouse						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Problems with other family members						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Disputes with neighbours and others in the village						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Any precedence of suicide in this village before the incident						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Death in the family before the incident						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Any precedence of suicide in the family before the incident						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Incidence of Chronic illness by the victim						
Yes						
No	25	100.0%	25	100.0%	50	100.0%
Goes the victim received any major medical assistance before the incident						
Yes						

No	25	100.0%	25	100.0%	50	100.0%
Change in the deceased's behaviour before the incident						
Yes	0	.0%	1	4.0%	1	2.0%
No	25	100.0%	24	96.0%	49	98.0%
Does the deceased has any alcohol addiction						
Yes	6	24.0%	4	16.0%	10	20.0%
No	19	76.0%	21	84.0%	40	80.0%

Sources: Field survey -2017-2018

Table 27:Help Received From State Government

Item	Alirajpur		Rewa		Total	
	N	%	N	%	N	%
Did the family receive any help						
g) Yes						
h) No	25	100.0%	25	100.0%	50	100.0%
Has the family received any compensation from the government						
g) a)Yes						
h) b)No	25	100.0%	25	100.0%	50	100.0%
Compensation Received (Rs)						
v) < 1 Lakh						
w) 1Lakh – 2 Lakhs						
x) 2 Lakhs – 3 Lakhs						
y) 3 Lakhs – 4 Lakhs						
z) 4 Lakhs - 5 Lakhs						
aa) 5 Lakhs – 6 Lakhs						
bb) > 6 Lakhs						
How the Compensation is Used						
a)To Repay the old Debts						
b)To Invest on Livelihoods						
c)For Consumption						
d) Agriculture / cultivation						

Sources: Field survey -2017-2018.

Annexures

Annexure I

Table 1: Distribution of Farmer's suicides among different states in India (2014 to 2015)

States	2014	2015	Total
Andhra Pradesh	632	916	1548
Arunachal Pradesh	3	10	13
Assam	59	138	197
Bihar	10	7	17
Chhattisgarh	755	954	1709
Goa	0	0	0
Gujarat	600	301	901
Haryana	119	162	281
Himachal Pradesh	63	46	109
Kashmir	37	21	58
Jharkhand	4	21	25
Karnataka	768	1569	2337
Kerala	807	210	1017
Madhya Pradesh	1198	1290	2488
Maharashtra	4004	4291	8295
Manipur	0	1	1
Meghalaya	2	3	5
Mizoram	5	1	6
Nagaland	0	0	0
Odisha	102	50	152
Punjab	64	124	188
Rajasthan	373	76	449
Sikkim	35	18	53
Tamil Nadu	895	606	1501
Telangana	1347	1400	2747
Tripura	32	49	81
Uttar Pradesh	192	324	516
Uttarakhand	0	2	2
West Bengal	230	0	230
Total (States)	12336	12590	24926

Source: ADSI 2014 and 2015: NCRB, Government of India

District wise and village wise Data of Selected Districts and Villages

1. **Telangana State**

Table- 2: Distribution of farmer's suicides among different districts in Telangana state during 2014 to 2017

District	Farmers suicides
Adilabad	51
Asifabad/Komarambheem	8
Nirmal	32
Manchiryal	2
Karimnagar	33
Siricilla	25
Peddapally	8
Jagityal	19
Warangal®	40
Mahaboobabad	15
Warangal(U)	60
Jayashankar/Bhupallapalli	22
Jangaon	20
Khammam	20
Bhadradri/ Kothagudem	23
Nalgonda	94
Yadadri/ Bhuvanagiri	31
Suryapet	4
Medchal (Malkajigiri)	0
RangaReddy	48
Vikarabad	38
Medak	31
Siddipet	81
SangaReddy	22
Nizamabad	16
Kamareddy	11
Mahaboobnagar	70
Wanaparthy	18
Jogulamba/Gadwal	4
Nagarkurnool	0
Total	846

Source: Revenue Department, government of Telangana

Table-3: Distribution of Suicidal and Non-Suicidal Farmer's Households in Selected Villages.

Revenue Division	Mandal	Villages	Suicides Cases	Non-suicides cases
Nalgonda Revenue Division	Nalgonda	Kanchanapally	1	1
		Deepakunta	1	1
		Anneparthy	1	1
		Panagal	1	1
		Appajipeta	1	1
		Khudavanpuram	1	1
		Panagallu (Rural)	1	1
		Buddaram	1	1
		Dandempally	1	1
		Mushampally	2	2
		Kranthi Nagar, Peddabanda	1	1
	Kanagal	G. Yadavally	4	4
		Kanagal	1	1
		Regatte	3	3
		Dorepally	1	1
		Parvathagiri	1	1
		Turkapally	2	2
		M.Gouraram	1	1
		S. Lingotam	2	2
		Ponugode	1	1
		Pagidimarri	1	1
		Total	28	28

Source: Districts Revenue Office, Nalgonda.

Table-4: Distribution of Selection of sample Among Different Mandals in Siddipet District

districts	Mandal	Villages	Suicides	Control
Siddipet	Doulthabad	Timmakkapally	2	2
		Yelkal	1	1
		Lingaipalli	1	1
		Deepayampally	1	1
		Narsampet / Sheripally	1	1
		Godugupally	1	1
		Konapur	1	1
		Ramsagar	1	1
		Raipole	1	1
		Mantoor	1	1
	Mirdoddy	Mothey	2	2

		Lingupally	1	1
		Veerareddypally	1	1
		Chepyal	1	1
		Veerareddypally	1	1
		Dharmaram	2	2
	Nangnoor	Siddannapet	1	1
		Narmeta	2	2
		Gatlamalyala	1	1
		Maqdumpur	1	1
		Ghanapur	1	1
			25	25

Sources: Revenue Department, Siddipet. Govt Of Telangana.

2. Karnataka state

Table-5: Distribution of farmer's suicides among different districts in Karnataka state during 2014 to 2017

Districts	Farmers suicides	%
Haveri	125	8.4
Mandya	118	7.92
Mysuru	113	7.58
Belagavi	112	7.52
Kalaburagi	75	5.03
Hassan	74	4.97
Chikkamagalur	74	4.97
Tumakuru	72	4.83
Raichur	69	4.63
Chitradurga	69	4.63
Yadgir	60	4.03
Dharwad	60	4.03
Shivamogga	60	4.03
Bidar	54	3.62
Vijayapura	47	3.15
Davanagere	46	3.09
Gadag	44	2.95
Koppal	35	2.35
Ramnagar	31	2.08
Bagalkot	30	2.01
Bellary	29	1.95
Chikballapur	23	1.54
Uttara Kannada	14	0.94
Kolar	11	0.74
C.R.Nagar	10	0.67

Bengaluru (Rural)	9	0.6
Dakshina Kannada	9	0.6
Udupi	9	0.6
Kodagu	7	0.47
Bengaluru (Urban)	1	0.07
Total	1490	100

Source: Department of Agriculture, Government of Karnataka (2016).

Table-6: Village Wise data in Karnataka

Districts	Taluka	Village	Suicides	Control
Mandya	Mandya	Bonpal	1	1
		Hulikere koppath	1	1
		B Hatna	1	1
		Bevokallu	1	1
		Bommanlills	1	1
		Machelly	1	1
		Bdattar	1	1
		Doddagarudavahalli	1	1
		Gopalapuram	1	1
		Keelara	1	1
		Maraliga	1	1
		Kottatha	1	1
		Valagerehelli	1	1
		Doddabanasavadi	1	1
		Maraliga	1	1
		Gantagowdanavalli	1	1
		B Vasura	1	1
	Maddur	Kudarajurdi	1	1
		Goravanahalli	1	1
		Valagerehelli	1	1
		Halebudanur	1	1
		Kudaragundi	1	1
		Shankarapura	2	2
		Kuppa	1	1
HAVERI	Haveri	Dwogiri	3	3
		Verehogord	2	2
		Kobbur	3	3
		Kurobogondu	1	1
		Bonakonchdli	1	1
		Genojer	1	1
	Byadogi	Ingologondi	1	1
		Hosoexngrogyer	1	1
		Mosonogi	1	1
		Hoddigond	1	1
		Kurjagi	1	1

		Nallivoppo	1	1
		Byadogi	1	1
		Bonakonchdli	1	1
		Kolledouor	1	1
		Shidenur	2	2
		Bonnihutti	1	1
		Shidenur	2	2

Source: Department of Agriculture, Districts agricultural Office, Haveri and Mandya.

3. Maharashtra State

Table-7: Distribution of farmer's suicides among different districts in Karnataka state during 2015 to 2017

Districts	Farmers Suicides	%
Aurangabad	172	5.12
Jalana	116	3.45
Parbhani	123	3.66
Hingoli	52	1.55
Nanded	195	5.8
Beed	287	8.54
Latur	132	3.93
Osmanabad	181	5.39
Amravati	348	10.35
Akola	197	5.86
Yavatmal	304	9.04
Buldhana	206	6.13
Washim	103	3.06
Nashik	117	3.48
Dhule	80	2.38
Nandurbar	8	0.24
Jalgaon	202	6.01
Nagpur	61	1.81
Wardha	155	4.61
Bhandara	67	1.99
Gondia	36	1.07
Chandrapur	95	2.83
Gadchorili	11	0.33
Ahmednagar	156	4.64
Pune	22	0.65
Solapur	47	1.4
Satara	16	0.48
Sangli	21	0.62
Kolhapur	7	0.21
Total	3361	100

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

Table-8: Distribution of farmer's suicides among different regions in Maharashtra state during 2015 to 2017

Division	FS	%
Aurangabad Division	1258	37.43
Amravati Division	1158	34.45
Nashik Division	407	12.11
Nagpur Division	425	12.65
Pune Division	69	2.05
Kolhapur Division	44	1.31
Total	3361	100

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

Table 9: Village wise data in Maharashtra

District	Block	Village Name	Farmers suicides	Control Group
Beed	Georai	Shindewadi	1	1
		Jategarm	1	1
		Rangani	1	1
		Jategarm	2	2
		Chekalu	1	1
		Rui	1	1
		Bhenddi	1	1
		Sirasdevi	1	1
		Georwri	1	1
		Nipani Jawaka	2	2
		Matepch	1	1
		Chaklambu	3	3
		Gadi	1	1
		Poulichipudi	1	1
	Beed	Charctha	1	1
		Vasanwadi	3	3
		Rajurin	2	2
Yavatmal	Yavatmal	Ghodkind	5	5
		Bhambron	3	3
		Bhanraja	2	2
		Bhambraja	2	2
		Bhanraja	7	7
		Bhothbodan	3	3
	Kulamb	Dernala	3	3

Source: land and revenue department, Govt of Maharashtra.

4. Madhya Pradesh:

Table- 10: Farmer suicides in Madhya Pradesh

District	2015	2016	Total
Gwalior	4	10	14
Shivpuri	33	32	65
Gunaa	0	0	0
Ashok Nagar	23	19	42
Muraina	0	0	0
Shyopur	0	0	0
Dathiya	0	0	0
Bhind	0	6	6
Indore	1	0	1
Dhaar	1	5	6
Jhaambuaa	26	27	53
Alirajupur	24	70	94
Khargaun	29	16	45
Badwani	29	25	54
Khandwa	0	0	0
Burhanpur	0	0	0
Ujjain	18	16	34
Devaas	2	2	4
Shahjapur	2	4	6
Rathlaam	7	1	8
Mandhsaur	3	4	7
Neemach	20	18	38
Jabalpur	21	40	61
Katni	4	2	6
Chindwada	7	0	7
Shivni	0	0	0
Narasinhpur	1	0	1
Saagar	18	31	49
Damoh	3	0	3
Chatarpur	2	0	2
Panna	5	1	6
Tiikmagand	15	14	29
Balaghat	1	0	1
Mandala	0	0	0
Reeva	80	42	122
Santhna	17	20	37
Shahdol	39	17	56
Umariya	36	57	93
Anooparoor	10	3	13
Seedhi	21	52	73
Singhroli	25	24	49

Dindouri	0	0	0
Hoshangabad	5	0	5
Hardha	0	0	0
Raaysen	0	0	0
Baithool	6	0	6
Bhopal	3	4	7
Seehor	20	9	29
Raajghad	0	0	0
Vidhisha	18	28	46
Aaghar	2	0	2
G.R.P Jabalpur	0	0	0
G.R.P Indore	0	0	0
G.R.P Bhopal	0	0	0
Total	581	599	1180

Source: Commissionerate of Police

Table 11 : Village wise data of Alirajpur district

Distrcit	Block	Village	Farmers Suicides	Control
Alirajpar	Sondwa	Bhakhatghad	1	1
		Karjvani	1	1
		Umarkhad	1	1
		Bhiens	1	1
		Kattvada	1	1
		Loduni	1	1
		Loduni	1	1
	Alirajpar	Ajanda	1	1
		Fata	1	1
		Tete	1	1
	Kattivada	Goda	1	1
		Charpu	1	1
		Bokadiya	1	1
		Ambadgir	1	1
		Dhodoli	1	1
		Kalibel	1	1
		Kardha	1	1
		Kumbi	1	1
	Jobat	Bilasa	1	1
		Bilkedi	1	1
		Kanda	1	1
		Kervabilpalli	1	1
		Kari	2	2
		Sindi	1	1

Source: Commission of Police, Alirajpur District, Govt Of Madhya Pradesh.

Table 12 : Village wise data of Rewa District

District	Block	Villages	Suicides	Control
Rewa	Sirmour	Atariya	1	1
		Harduva	1	1
		Beeda	1	1
		Chandupur	1	1
		Chandupur	1	1
		Patnam	1	1
		Tilkam	1	1
		Mudiuyari	1	1
	Raipur	Kanchanpur	1	1
		Gorgam	1	1
	Gangeo	Devas	1	1
		Ghopi	1	1
		Chuiri	1	1
		Kataja	1	1
		Kandaila	1	1
		Unchatula	1	1
		Rojhouhi	1	1
	Rewa	Tikar	1	1
		Dhokari	1	1
		Govind Ghed	1	1
	Raipur	Garvandi	2	2
		Gardhi	1	1
		Hardi	1	1
		Chowr Gadi	1	1

Source: Commission of Police, Rewa District, Govt Of Madhya Pradesh.

Annexure – II

Table 2.1: Farmers suicides in selected states and all india,1997-2009

States	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Andhra Pradesh	1097	1813	1974	1525	1509	1896	1800	2666	2490	2607	1797	2105	2414
Assam	223	160	82	126	167	271	187	331	229	332	278	197	314
Bihar including	94	127	127	32	88	101	69	44	163	149	86	67	112
Goa	7	5	5	15	18	11	18	8	11	5	0	6	4
Gujarat	565	653	500	661	594	570	581	523	615	487	317	526	588
Haryana	45	185	205	238	145	190	207	160	140	190	179	150	230
Himachal Pradesh	23	28	39	35	22	25	34	52	22	22	15	188	24
Jammu &Kashmir	3	2	3	38	15	16	8	1	2	34	33	6	8
Karnataka	1832	1883	2379	2630	2505	2340	2678	1963	1883	1720	2135	1737	2282
Kerala	1204	1514	1431	1295	1035	1533	1583	903	1118	1124	1232	820	896
Madhya Pradesh	2390	2278	2654	2660	2824	2578	2511	3033	2660	2858	1263	1379	1396
Maharashtra	1917	2409	2423	3022	3536	3695	3836	4147	3926	4453	4238	3802	2872
Orissa	251	418	265	199	256	345	365	379	254	283	240	260	154
Pondicherry	40	128	133	230	91	88	23	145	147	175	197	17	154
Punjab	111	108	87	73	45	40	26	74	47	85	88	66	97
Rajasthan	659	705	724	736	505	587	636	749	461	395	618	796	851
Tamil Naidu	932	1089	804	882	985	1455	1052	1599	1255	426	484	512	1060
Tripura	18	241	97	14	41	41	4	15	29	7		50	45
Uttar Pradesh	568	727	845	735	709	559	428	518	546	462	486	745	656
west Bengal	1539	1457	1240	1377	1246	1518	1036	822	965	1187	1102	759	1054
Other states	98	87	65	79	79	112	84	109	100	67			
All India	13622	16015	16082	16603	16415	17971	17164	18241	17131	17060	16632	16196	17368

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States	2010	2011	2012	2013	2014	2015
Andhra Pradesh	2130	1822	2100	1554	157	468
Arunachal Pradesh	18	12	11	32	0	7
Assam	352	300	340	278	21	84
Bihar	91	63	64	119	0	0
Chhattisgarh	778	0	4	0	391	815
Goa	15	1	1	1	0	0
Gujarat	458	473	472	489	31	50
Haryana	281	350	251	336	14	28
Himachal Pradesh	59	42	27	32	28	0
Jammu & Kashmir	16	11	10	18	7	0
Jharkhand	150	90	93	135	0	0
Karnataka	2128	1694	1516	1232	297	1173
Kerala	797	732	982	882	107	3
Madhya Pradesh	973	1132	1038	997	688	556
Maharashtra	2947	3093	3483	3020	2498	2921
Manipur	0	0	0	1	0	1
Meghalaya	15	16	9	4	0	2
Mizoram	5	13	9	6	0	0
Nagaland	0	2	8	2	0	0
Odisha	145	138	121	143	5	23
Punjab	80	94	75	83	21	99
Rajasthan	351	224	242	267	0	3
Sikkim	19	7	10	21	33	12
Tamil Nadu	442	482	409	96	63	2
Telangana			0	0	751	1205

Tripura	46	20	18	56	0	1
Uttar Pradesh	432	553	619	644	59	113
Uttarakhand	33	22	12	14	0	0
West Bengal	800	662	0	0	0	0

Source: Various Volumes of ADSI; NCRB, GOI

Table 2.2: Farmers Suicide Rate among Different State in India as per cultivators (Main plus Marginal)

States	1995	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Andhra Pradesh	15.53	14.24	23.54	25.63	19.796	19.2	24.1	22.9	33.9	31.7	33.2	22.9	26.8
Arunachal Pradesh	0.00	5.13	0.00	2.56	3.847	6.1	9.7	3.9	7.2	9.0	1.4	5.4	4.3
Assam	3.88	6.32	4.53	2.32	3.569	4.5	7.3	5.0	8.9	8.0	8.6	7.5	5.3
Bihar	1.07	0.86	1.16	1.16	0.293	0.7	1.0	0.6	0.3	0.5	0.6	1.0	0.8
Chhattisgarh						33.7	28.7	24.7	32.4	32.8	34.4	37.0	41.1
Goa	31.61	13.83	9.88	9.88	29.631	35.7	21.8	35.7	15.9	21.8	9.9	0.0	11.9
Gujarat	11.71	12.39	14.32	10.97	14.499	10.2	9.8	10.0	9.0	10.6	8.4	5.5	9.1
Haryana	9.81	2.54	10.43	11.55	13.414	4.8	6.3	6.9	5.3	4.6	6.3	5.9	5.0
Himachal Pradesh	1.34	2.06	2.33	3.49	3.133	1.1	1.3	1.7	2.7	1.0	1.1	0.8	9.6
Jammu & Kashmir	-	-	-	-	-	0.9	1.0	0.5	0.1	0.1	2.1	2.1	0.4
Jharkhand	-	-	-	-	-	0.7	0.5	0.5	0.5	3.2	2.6	2.9	1.8
Karnataka	44.02	32.38	33.29	42.05	46.490	36.4	34.0	38.9	28.5	27.4	25.0	31.0	25.2
Kerala	139.38	129.19	162.45	153.54	138.950	142.9	211.7	218.6	124.7	154.4	155.2	170.1	113.2
Madhya Pradesh	9.89	19.07	18.18	21.26	21.223	12.4	12.1	13.1	14.8	11.3	12.5	11.4	12.5
Maharashtra	10.95	19.38	24.36	24.50	30.557	29.9	31.3	32.5	35.1	33.2	37.7	35.9	32.2
Manipur	0.26	0.00	0.00	0.00	0.258	0.0	0.8	1.1	0.5	0.5	0.0	0.0	0.5
Meghalaya	2.30	0.26	1.53	1.28	0.510	0.9	1.7	0.9	2.4	0.9	0.6	3.9	1.9

Mizoram	0.00	3.62	0.00	0.00	2.173	0.0	1.2	0.0	0.8	0.0	0.4	0.0	0.0
Nagaland	1.10	2.19	0.00	0.27	0.000	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4
Odisha	8.08	5.55	9.25	5.86	4.403	6.0	8.1	8.6	8.9	6.0	6.7	5.7	6.1
Punjab	5.43	6.03	5.86	4.72	3.963	2.2	1.9	1.3	3.6	2.3	4.1	4.3	3.2
Rajasthan	0.00	8.30	8.88	9.12	9.271	3.8	4.5	4.8	5.7	3.5	3.0	4.7	6.1
Sikkim	0.00	23.15	15.78	17.89	10.522	13.7	6.1	23.6	37.3	31.2	26.7	16.0	45.7
Tamil Nadu	0.00	17.16	20.05	14.80	16.239	19.3	28.4	20.6	31.3	24.5	8.3	9.5	10.0
Tripura	79.40	5.98	80.07	32.23	4.651	13.1	13.1	1.3	4.8	9.3	2.2	0.0	16.0
Uttar Pradesh	1.80	2.65	3.39	3.94	3.428	3.1	2.4	1.7	2.2	2.4	1.9	2.2	3.4
West Bengal	22.58	26.82	25.39	21.61	23.994	22.0	26.8	18.3	14.5	17.1	21.0	19.5	13.4

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States	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Andhra Pradesh	30.7	32.1	34.0	39.6	31.0	9.7	14.1
Arunachal Pradesh	4.3	6.4	4.3	3.6	12.2	1.0	3.3
Assam	9.1	9.9	7.7	8.5	7.5	1.5	3.4
Bihar	1.4	1.2	1.2	0.9	1.8	0.1	0.1
Chhattisgarh	41.8	26.1	0.0	0.1	0.0	18.9	23.8
Goa	7.9	29.8	3.2	3.2	3.2	0.0	0.0
Gujarat	10.1	9.0	10.6	10.4	10.7	11.0	5.5
Haryana	7.6	9.8	15.5	11.1	15.1	4.8	6.5
Himachal Pradesh	1.2	3.1	2.2	1.4	1.6	3.1	2.2
Jammu & Kashmir	0.5	1.1	1.1	0.8	1.4	3.0	1.7
Jharkhand	4.2	4.4	2.5	3.1	3.7	0.1	0.6
Karnataka	33.2	37.6	31.9	28.5	21.3	11.7	23.8
Kerala	123.7	123.6	123.8	161.3	145.0	120.4	31.3
Madhya Pradesh	12.6	11.2	13.5	11.9	11.1	12.2	13.1

Maharashtra	24.3	26.6	26.5	30.1	25.0	31.9	34.1
Manipur	0.3	1.1	0.0	0.0	0.2	0.0	0.2
Meghalaya	4.5	3.4	4.4	2.0	1.0	0.4	0.6
Mizoram	14.8	2.0	6.1	4.4	2.6	2.2	0.4
Nagaland	0.2	0.0	0.4	1.7	0.4	0.0	0.0
Odisha	3.6	3.8	3.5	3.6	3.7	2.5	1.2
Punjab	4.7	3.9	5.1	3.9	4.3	3.3	6.4
Rajasthan	6.5	3.0	2.0	2.0	2.1	2.7	0.6
Sikkim	17.5	14.5	10.2	16.2	29.8	29.8	15.3
Tamil Nadu	20.7	10.6	14.7	11.7	2.5	21.1	14.3
Tripura	14.4	18.5	6.8	6.1	18.9	10.8	16.6
Uttar Pradesh	3.0	2.5	3.4	3.9	3.9	1.0	1.7
West Bengal	18.6	17.6	15.8		0.0	4.5	0.0

Source: Various Volumes of ADSI; NCRB, GOI

Annexure III.

Table1 : State-wise Procurement of Rice and Wheat in Major Rice and Wheat Producing States (According to Marketing Year)

State	2005-06	2006-07	2007-08	2008-09	2009-2010	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rice (Oct-Sept)											
Punjab	8855	7829	7981	8554	9275	8634	7731	8558	8106	7786	9350
Haryana	2054	1777	1574	1425	1819	1687	2007	2609	2406	2015	2861
Uttar Pradesh	3151	2559	2891	4008	2901	2554	3355	2286	1127	1698	2910
Andhra Pradesh	4971	5328	7597	9058	7555	9609	7540	6464	3737	3596	4253
Telangana	--	--	--	--	--	--	--	--	4353	3504	1560
Madhya Pradesh	136	74	69	247	255	516	635	898	1045	807	849
Odisha	1785	2002	2357	2801	2497	2465	2864	3613	2801	3357	3030
Tamil Nadu	926	1077	969	1201	1241	1543	1596	481	684	1051	1065
West Bengal	1275	642	1429	1743	1240	1310	2036	1766	1359	2032	1543
Chhattisgarh	3265	2865	2743	2848	3357	3746	4115	4804	4290	3423	3442
Uttarakhand	336	176	147	349	375	422	378	497	463	465	597
Others	902	778	979	1870	1519	1712	2769	2044	1474	2306	2084
All India	**27657**	**25106**	**28736**	**34104**	**----**	**34198**	**35041**	**34044**	**31845**	**32040**	**33544**

Source: Ministry of Agriculture, 2016

Table 2: Status of Paddy Procurement in Telangana

	No of Farmers				Paddy Purchased (LMTs)			
	Rabi 2015-16	**Kharif 2016-17**	**Rabi 2016-17**	**Kharif 2017-18**	**Rabi 2015-16**	**Kharif 2016-17**	**Rabi 2016-17**	**Kharif 2017-18**
Small and Marginal Farmers (<or equal to 5 acres)	109877 (41)	246200	476885	356509	4.51	10.40	23.60	16.94
Medium Farmers (>5 acres and <or equal to 12.5 acres)	34400 (86)	57160	91182	9699	2.96	4.89	11.18	1.06
Large Farmers (>12.5 acres)	6070 (159)	9219	14470	1512	0.97	1.23	2.54	0.27
Total	150347 (561)	312579	582537	367720	8.44	16.52	37.32	18.27

Note: Figures in Parenthesis indicate Quantity in Quintals procured from each category
Source: Department of Civil Supplies, GoT