

Farmer's Suicide Trends and Pattern in Amravati: Issues and Challenges



ISBN: 978-1-943295-14-2

Sushant Malik

Nisha Bharti

Arnab Das

Symbiosis Institute of International Business

(Sushant.malik@siib.ac.in)

(Nisha.bharti@siib.ac.in)

(Arnab.das@siib.ac.in)

Farmer's suicides are currently termed as the biggest agrarian distress in India. The literature has highlighted various social and economic issues behind these suicides. This problem is a mixture of bad weather, erratic rainfall, lack of institutional credit and devastating policy reform. This study was meant to analyze the current trends and patterns of farmer's suicides in Bhatkuli Block of Amravati district. The study gave contradictory results and concluded that most of the suicide cases are normal death cases which is reported as suicide cases to avail the benefits of government schemes. The study represents that how some government policies can act as a failure to the ongoing problem.

Keywords: Farmer's Suicide, Agrarian Crisis, Agriculture Policy, Sustainable Agriculture

1. Introduction and Background

Suicides are the second highest cause of death after road accidents in India. Among suicides the much highlighted phenomenon is of farmer suicides. The literature suggests that this problem is a diabolical mixture of bad weather, erratic rainfall, lack of institutional credit and devastating policy reform. As reported by National Crime Records Bureau around 58.2% of farmer suicide happen because of indebtedness or farming related issues and 59.1% of deaths happen due to illness and family problems among agricultural laborers. The report by the NCRB (National Crime Records Bureau also suggests that farming sector suicides are 9.4% of the total suicides with highest contributor being Maharashtra. This study is an attempt to explore the phenomenon of farmer's suicides little deeper and understand its status in rural areas of Maharashtra.

2. Methodology

The review study consists of extensive data mining and screening using Scopus online databases (<http://www.scopus.com/>) to draw a clear denouement. The selection and scrutiny of the articles through the Elsevier's Scopus database are done through the relevant string words and syntax commands. The strings such as "Farmer Suicide". In total, there are 157 contributions published in the considered duration.

In order to study the connections and evolution of the scholarly literature in the "Farmer Suicide" domain, keyword exploration, and network study were performed. The clustering network visualization of the keywords was performed using the VoSviewer software. The VoSviewer is a software application used to create and develop an understanding on the evolution and linkages of different keywords based on its occurrences and strength of association in the cited literature of particular domain resulting into a network and visual charts as an outcome. These charts indicate the clusters of the study area based on the keyword's occurrences and strength. In a network map, the VoSviewer represents each keyword, and the lines between the keywords are relative to the links of association. The cluster is a group of maps and is represented by a different color ion a visual map. The clusters are created in a visualization network map based on the strength of the links between keywords (Van Eck and Waltman, 2014).

For this study we have also collected data of 17 years of suicide data across 14 tehsils of Amravati district which is separated in 3 categories, those categories are number of farmer suicide cases recognized by government, number of farmer suicide cases rejected by government and total farmer suicide cases registered. We have applied descriptive statistical tools on this 17 years' data to find trends and patterns in the farmer suicide across Amravati district.

3. Review of Literature

The studies related to farmer suicides date back to early 2000's where rural indebtedness post green revolution are stated the reasons of farmer suicides in the state of Punjab (Jodhka, 2001).

Studies in Amravati district of Maharashtra in the year 2005 concludes that suicides among small farmers happen due to the aspirations created post land reforms and reasons like rising debt and decreasing incomes and deaths among large farmers are an effect on individualization and socio economic factors experienced by rural farmers during economic growth (Mohanty, 2005).

Assadi (2006) states that the beginning of farmer suicides can be traced back to 1980's when different farmer movements in India started demanding remunerative prices and farm loan waivers and has exaggerated post globalization and in the advent of capitalism. The author focuses specially on the states of Karnataka, Maharashtra, Andhra Pradesh, Punjab and Kerala. The experience with Kerala says that declining exports and rising exports with stagnant productivity has resulted in declining farm income and increased indebtedness (Jeromi, 2007).

The studies in later half of 2000’s highlighted the widening socio-economic disparities like disparities among different regions, rural-urban disparity and socio-gender disparity as the reason for agrarian distress in India (Kurian, 2007). This later half also contributes to literature contributing to the identification of factors like crop diversification, extension support and technical know-how as the reason of agrarian crises (Mishra, 2008). Many Studies between 2008-2010 co-relate the links between failure of Bt Cotton and farmer suicides. (Sheridan, 2009).

The studies in Andhra Pradesh also relates the microfinance crises to poverty and rural distress (Taylor, 2011).

The recent studies in this area are based on solutions to the agrarian distress. One of the studies in Karnataka concludes that how organic farming can be helpful in reducing the number of farmer suicides. The results proved that a shift from conventional to organic farming can result in better incomes, better yield and low input cost (Mariappan & Zhou, 2019). The recent contributions have been related to mental health, politics, GM Crops, groundwater etc. i.e. linking farmer suicides with these factors.

Keywords and Clusters

The studies related to farmer suicides has been done in various areas and these can be divided into different clusters. Cluster number one discusses the evolution of the suicides which can also be observed from the literature. Cluster one mainly includes reasons or factors that have led to the agrarian crises and issues like Bt cotton, climate change, crops, cultivation, have been linked to farmer suicides. Cluster two mainly represents the groups that have been affected by these crises and keywords like female, adults, middle aged and rural population are linked with the crises. Cluster three involves droughts, mental health and pesticides (as the consumption of pesticides in one of pattern of rural suicide) are linked to these suicides. Cluster four and five mainly represents the areas affected and the major issues like crop productivity and sustainability of agriculture.

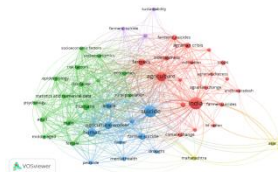


Figure 1 Clusters of Keywords

Table 1 Clusters and Keywords

Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5
Agrarian Change	Adult	Agriculture Worker	Asia	Crop Production
Agrarian Crises	Epidemiology	Article	Eurasia	Farmer Suicides
Agrarian Distress	Economics	Drought	South Asia	Sustainability
Agriculture	Female	Farmer	Maharashtra	
Andhra Pradesh	Humans	Farmer Suicide		
Bt Cotton	Male	Human		
Climate Change	Middle Aged	Mental Health		
Cotton	Politics	Pesticide		
Crops	Psychology	Priority Journal		
Cultivation	Risk Factor	Suicide		
Farmer Suicides	Risk Factors			
Farmers	Rural Population			
Farmers Suicides	Socio Economic Factors			
Gossypium Hirsutum	Socio Economics			
Indebtedness	Statistics and Numerical			
India				
Irrigation				
Poverty				
Rain				

Density of Keywords

Density of keywords represents the fact that how frequently these words have been used in the literature. Density of keywords represents that keywords like India, Maharashtra, Asia, Mental health, drought, rural population, risks have been heavily used in the literature of farmer suicides.

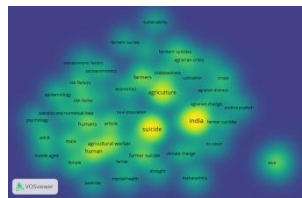


Figure 2 Density of Keywords

• **Evolution of Keywords**

As the literature represented the Initial studies have been on socio economic factors, the same is represented by the keywords. After that the focus have been shifted to keywords like India, human, agriculture workers, cultivation and Maharashtra. The recent studies represents keywords like psychology, crops, sustainability etc.

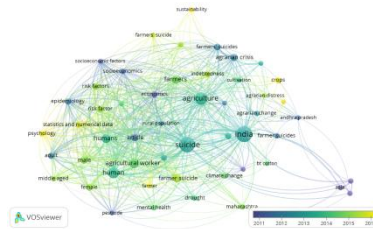


Figure 4 Evolution of Keywords

• **Gaps in Literature**

There have been various studies finding the reasons of farmer suicides based on crops, socio-economic factors, crop productivity, mental health. There have been no studies that have emerged on why the number of suicide cases have been inflated after a certain year. So we have attempted to deep dive in the pattern of suicides through accepted and rejected cases of these suicides and following is the study.

4. Suicide Pattern in Amravati

If we observe the suicide cases across the district of Amravati from 2001 to 2017 we can observe that, tehsil of Amravati has 212 registered farmer suicide cases, tehsil of Bhatkuli has 214 registered farmer suicide cases, tehsil of Nandgaon K. has 232 registered farmer suicide cases, tehsil of Chandur Railway has 162 registered farmer suicide cases, tehsil of Dhamangaon R. has 242 registered farmer suicide cases, tehsil of Tivsa has 207 registered farmer suicide cases, tehsil of Morshi has highest number of registered farmer suicide cases which is 407, tehsil of Varud has 283 registered farmer suicide cases, tehsil of Achalpur has 291 registered farmer suicide cases, tehsil of Chandurbazar has 357 registered farmer suicide cases, tehsil of Daryapur has 293 registered farmer suicide cases, tehsil of Anjangaon has 327 registered farmer suicide cases, tehsil of Dharni has 74 registered farmer suicide cases, tehsil of Chikaldhara has lowest registered farmer suicide cases with 41. The total number of farmer suicide cases in the whole district of Amravati from 2001 to 2017 is 3342 cases. In 2017 the highest number of suicide cases happened in 17 years with 340 registered farmer suicide cases

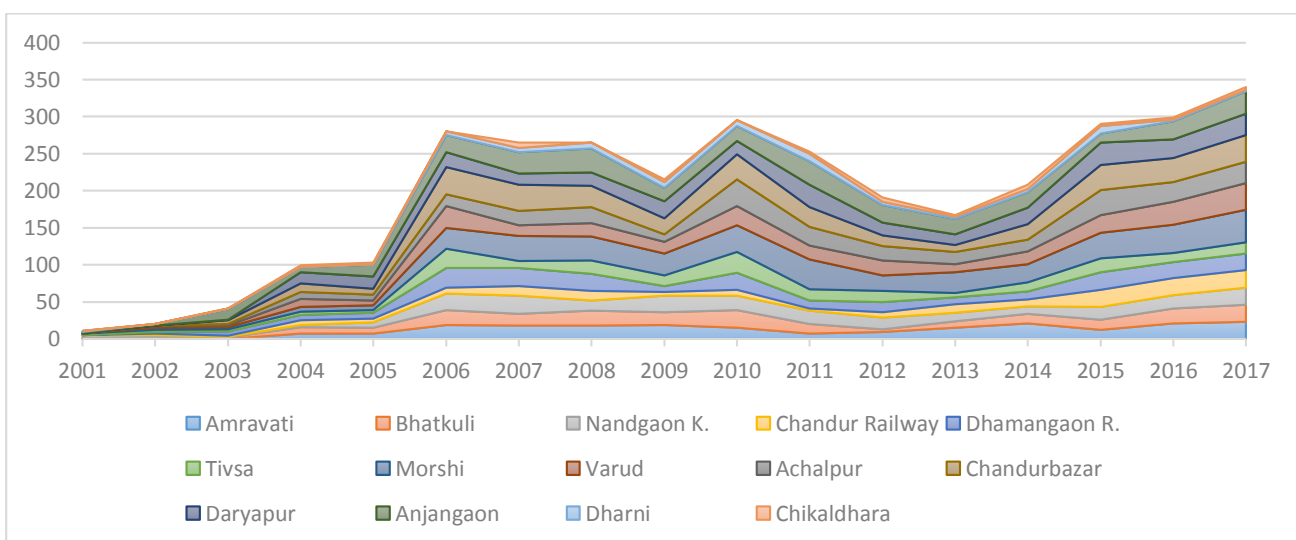


Figure 4 Suicide Pattern in District of Amravati

We have also collected 17 years of suicide data for the tehsil of Bhatkuli and the total cases of farmer suicide which is recognized by government is 64 and total cases that are rejected as farmer suicide cases is 146 whereas total farmer suicide cases registered is 214 over a period of 17 years.

Table 2 Accepted and Rejected Suicide Cases

Bhatkuli			
Year	Accepted cases	Rejected cases	Total cases
2001	1	0	1
2002	0	1	1
2003	1	1	2
2004	5	4	9
2005	8	0	8
2006	3	17	20
2007	5	11	16
2008	4	16	20
2009	3	14	17
2010	0	24	24
2011	2	11	13
2012	0	4	4
2013	0	9	9
2014	10	3	13
2015	9	5	14
2016	5	11	20
2017	8	15	23
Total	64	146	214

The highest registered farmer suicide cases which is 24 deaths occurred in 2010 and all of those death were rejected as farmer suicide cases and the lowest farmer suicide occurred in 2001 i.e. 1 death.

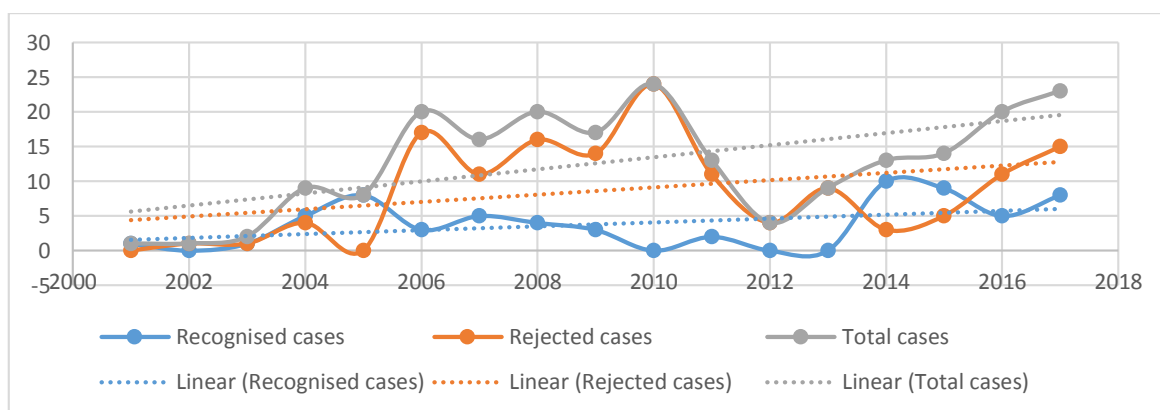


Figure 5 Pattern of Farmer Suicide cases in Tehsil of Bhatkuli

We can observe here that there is sharp increase in farmer suicide death cases after 2005 and a sharp decline after 2010. And the trend line of recognized cases is rising with very low growth but the total number of farmer suicide cases in rising sharply. Now we have done normal descriptive analysis of the suicide data which are as follows:

We can observe that the average recognized cases in the tehsil of Bhatkuli is 3.7 deaths with a standard error of 0.82 and standard deviation of 3.38, We can observe that the average rejected cases in the tehsil of Bhatkuli is 8.5 deaths with a standard error of 1.71 and standard deviation of 7.07. We can observe that the average number of total farmer suicide cases in the tehsil of Bhatkuli is 12.5 deaths with a standard error of 1.85, median of 13, mode of 20, standard deviation of 7.65.

5. Results and Discussion

The tehsil of Bhatkuli is a very prosperous one but the problem of farmer suicide is still at large staring at face unsolved. The tehsil is full of opportunity for landless farmers as the number of large farmers is very high who require a lot of hired labor

which vacuum is filled by landless laborers but what is frequently said about farmer suicide cases in the region was that most of the farmer suicide cases that are registered are normal death cases which is clubbed in suicide cases to avail the benefits of government schemes of Rs.100,000 remunerations from families and the farmer suicide because of ineptness does not exist, but as we ran the descriptive statistics across the 17 years' data we came to know about various facts and statistical figures which state that the farmer suicides cases are gradually coming down over the years. The farmer suicides were on rise because of the notification issued by the government around the year 2005. We observed that the rejected cases are on a rise after the year 2005. We can observe that as the rejected cases were increased, even normal deaths were reported as suicides to avail the benefit of the scheme. So we can conclude that sometimes the government implications schemes and policies can exaggerate the problem to a larger extent.

6. References

1. Assadi, M. (2006). Agrarian Crisis and Farmers' Suicide in India: Dimension, Nature and Response of the State In Karnataka. *Indian J Labour Economics*, 49, 799-820.
2. Jeromi, P. D. (2007). Farmers' indebtedness and suicides: impact of agricultural trade liberalisation in Kerala. *Economic and Political Weekly*, 3241-3247.
3. Jodhka, S. S. (2001). Crisis, crisis, crisis... rural indebtedness and farmers' suicides in the post-green revolution Punjab (India). *International journal of Punjab studies*, 8(1), 117.
4. Kurian, N. J. (2007). Widening economic & social disparities: Implications for India. *Indian journal of medical research*, 126(4), 374.
5. Mariappan, K., & Zhou, D. (2019). A Threat of Farmers' Suicide and the Opportunity in Organic Farming for Sustainable Agricultural Development in India. *Sustainability*, 11(8), 2400.
6. Mishra, S. (2008). Risks, farmers' suicides and agrarian crisis in India: Is there a way out?. *Indian Journal of Agricultural Economics*, 63(902-2016-67948).
7. Mohanty, B. B. (2005). 'We are like the living dead': farmer suicides in Maharashtra, Western India. *Journal of Peasant Studies*, 32(2), 243-276.
8. Sheridan, C. (2009). Doubts surround link between Bt cotton failure and farmer suicide.
9. Taylor, M. (2011). 'Freedom from poverty is not for free': rural development and the microfinance crisis in Andhra Pradesh, India. *Journal of Agrarian Change*, 11(4), 484-504.
10. Van Eck, N. J., & Waltman, L. (2014). Visualizing bibliometric networks. In *Measuring scholarly impact* (pp. 285-320). Springer, Cham.