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AN ANALYTICAL STUDY OF FARMER SUICIDES IN MAHARASHTRA

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ABSTRACT

The large number of farmers' suicides in different parts of India is possibly the most perturbing incidence observed in over the last two decades. These suicides reached almost contagion proportions in certain pockets of the country, particularly in the state of Maharashtra. According to NCRB data, over 60,000 farmers have killed themselves in the state since 1995. This paper looks at the several factors that directly or indirectly influence the agricultural sector production and farmers' incomes and thereby have an impact on the number of farmers' suicides in Maharashtra. Some of these factors include: irrigation, road infrastructure, availability of institutional credit, agricultural insurance scheme, genetically modified crops. Statistical tools of scatter plot and Correlation are used to study the relationship. Lastly the paper suggests that the promotion of irrigation, raising cotton MSP, encouraging textile industry along with controlling rural population growth rates in the state can be the key factors in tackling the battle against farmers' distress in the state.

KEYWORDS

Farmer Suicides, Maharashtra, NCRB, Scatter Plot, Trend Line, Correlation.

INTRODUCTION

The latest data of the National Crime Records Bureau (NCRB) shows that some 3,146 farmers committed suicide in Maharashtra in 2013. This takes the total number of farmers committing suicides in the Western Indian state to 60,750 since 1995. (The NCRB commenced recording farm data in its annual Accidental Deaths & Suicides in India reports since 1995)

The picture in the state got a lot worse during 2004- 2008. On average, 4191 farmers in the state took their lives every year during this four year period. A total of 2, 96,438 farmers have committed suicide in India since 1995 (NCRB ADSI reports 1995-2013) of which the state of Maharashtra alone accounts for 20.5% of these farmers' suicidal deaths.

What are the factors that influence farmers' suicides? Do they occur because of the rainfall uncertainties and crop failures?

Farmers have been killing themselves in years both when the crop has been excellent and has failed. It is just that when it does not rain, their circumstances reach even worse state. There have been appalling suicide numbers in some bright monsoon years.

The monsoon does have a very real impact on Indian agriculture. But it is by no means the main reason for the farm suicides. And with the bulk of those suicides occurring amongst cash crop farmers, various other issues come to the fore which are majorly driven by state policies.

In this paper, an attempt has been made to gauge the strength of relationship between farmers' suicidal deaths and various factors that affect the agricultural production and incomes and thereby are alleged to have a role in influencing the suicidal deaths. For doing this statistical tools of scatter plot and correlation have been employed.

LITERATURE REVIEW

A number of studies have been conducted in the form of assessments and research work on farmers' suicide. In every study an attempt has been made by the researcher to comprehend the factors that influence farmers Suicides in Maharashtra, India.

The paper by **Jennifer Guha** namely "**Farmer suicides in Maharashtra India**" (2012) studies farmer suicides in Maharashtra between 1990-2011 to find the causes of farmer suicide in India, factors contributing to the fluctuation in number and frequency of suicides and the extent to which globalization has affected farmer suicides. The paper also tries to find the best type of policy to be pursued so as to address this problem. It found that globalization, inadequate government policies, ecological distress and social issues are precise reasons. Based on these facts, this paper recommended policy suggestions to pursue as defensive strategies. The organic farming techniques, insurance schemes, and the creation of community groups for farmers are expected to have a positive impact on farmer's living.

Sarah Hebous and Stefan Klöner (2013) in their paper "**Sources of Agrarian Distress and Farmers' Suicides in Southern India: An Econometric Investigation**" analyze the sources of severe agrarian distress in semi-arid India. They collected district-level data on farmers' suicides for the period 1998 to 2004 in 62 districts in Southern India. Using panel techniques, they estimate the effects of temporary rainfall shocks and structural changes in agriculture on the occurrence of suicides of adult males whose primary occupation is agriculture.

The paper by **Srijit Mishra, Sangeeta Shroff, Deepak Shah, Vivek Deshpande, Anjali P. Kulkarni, Vinayak S. Deshpande, P. R. Bhatkule** (2006) namely "**Suicide of Farmers in India**" analysis of 192 news reports which quotes cases of farmers' suicides in Maharashtra reported during 2004. A study of circumstances reveals multiple risk factors such as economic downfall, agrarian crisis, and social disgrace among others. Indebtedness, a manifestation of economic downfall, becomes acute with reliance on moneylenders

A study by **B B Mohanty** in his paper "**Social Roots of Farmer Suicides in Maharashtra**" (2014) examines farmer suicides in the Amravati and Yavatmal districts of Maharashtra. He studied how agrarian changes having noticeably lowered the level of economic achievements of farmers; and how the disproportion between achievement and aspiration greatly felt by farmers who experience egoism influences suicides.

IMPORTANCE OF THE STUDY

An attempt has been made to get some insights into the problem of suicides of agricultural farmers in the state of Maharashtra. This paper tries to find out the impact of several factors on the number of suicides of farmers by quantifying the strength of relationship between the factor and the number of farmer suicides using the statistical tools of scatter plot and correlation. This can help the decision makers and further researchers to understand on which factors to focus on urgent basis out of the several factors.

OBJECTIVES OF THE STUDY

The objectives of this study are:

1. To study the factors that influence agricultural production and incomes directly or indirectly and thereby can influence the number of farmer suicides in the state of Maharashtra through a scatter plot and a trend line.
2. To study the correlation i.e. the strength of linear relationship between number of farmer suicides and the factor.
3. To identify factors having strong relationship with the number of farmer suicides.

RESEARCH METHODOLOGY

In this paper, descriptive statistics has been employed. The source of data is secondary. Factors such as irrigation, insurance, Bt cotton, institutional credit have been considered to find out whether it has any relationship with the number of farmer suicides in Maharashtra. Statistical methods of scatter plot, trend line and correlation have been used in order to find the underlying trend and strength of the relationship.

CAUSES OF FARMER SUICIDES

There are several economic, social, political, environmental and cultural reasons for farmer suicides. In this paper, some possible factors have been handpicked from the Maharashtra Economic Survey that have a role in influencing the agricultural scenario in the state, farmers’ income and thereby the number of farmers’ suicides. And further an attempt has been made to gauge the strength of relationship between the factor and suicidal deaths. In this regard help has been taken of statistical tools of scatter plot, trend line and correlation coefficient.

Below is the list of factors selected to be analysed. The factors can be largely divided into two categories

1. Factors that constitute the part of rural and agricultural infrastructure which indirectly affects rural incomes and the number of farmer suicides.
2. Factors that directly affects farmers’ income and thereby number of suicides.

List of first set of factors include:

- a) Central Assistance received under Accelerated Irrigation Benefit Programme in Rs. Crores.
- b) Number of farmers covered under the National agricultural insurance scheme in Maharashtra
- c) Village Road length (in kms) in Maharashtra
- d) Number of Primary Health Centres in Maharashtra
- e) Number of banking branches of Scheduled Commercial Banks in rural and semi-urban areas indicating the reach of institutional credit.

The second set of factors taken in this study is:

- a) Farmers in Maharashtra grow largely cash crops in which the prominent one is cotton. So here we consider the cotton yield measured in kgs per hectare.
- b) Closely related to the first factor is the Minimum Support Price of cotton. Raising of cash crops such as cotton requires sizable financial input and it raises the cost of cultivation. In such scenario minimum support prices play an important role in determining farmers’ income.
- c) Use of genetically modified cotton seeds i.e. Adoption of Bt cotton in Maharashtra measured in’000 hectares.
- d) Spread of Textile industry in Maharashtra measured by the no. of spinning plus composite mills (both SSI and Non SSI units) and power loom units in the state. Larger the number of mills, more demand for raw cotton and the farmers will be able to receive better as well as quicker returns for their produce.
- e) Alternative source of employment for farmers and their families measured here by the employment generated under Swarnajayanti Grameen Swarozgar Yojana in terms of total Swarozgaris assisted.
- f) Lastly population growth rates in rural areas of Maharashtra is taken to proxy for various social and economic burdens that large sizes of the families pose on the farmers.

ANALYSIS AND DISCUSSION

FARMER SUICIDES IN MAHARASHTRA (MH)

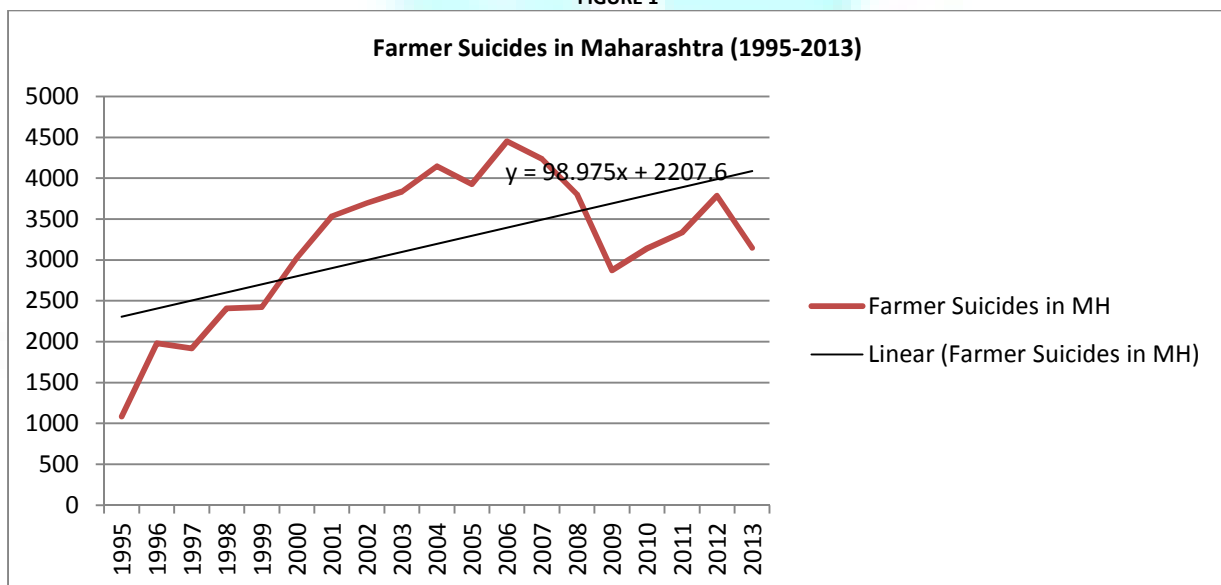
Farmer Suicides in Maharashtra are seen to be rising from 1083 in 1995 to 3146 in 2013 with suicides reaching as high as 4453 in 2006. The year 2009 saw a fall to 2872 in suicides, however post 2009 again saw a rise in the farmer suicides (Refer Table 1 below). The same can be seen in Figure 1 which plots the data for farmer suicides. A trend line has been drawn which is positively sloped implying a rise in suicide numbers over the years 1995-2013 on average.

TABLE 1

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Farmer Suicides in MH	1083	1981	1917	2409	2423	3022	3536	3695	3836	4147	3926	4453	4238	3802	2872	3141	3337	3786	3146

Source: National Crime Records Bureau (1995-2013)

FIGURE 1



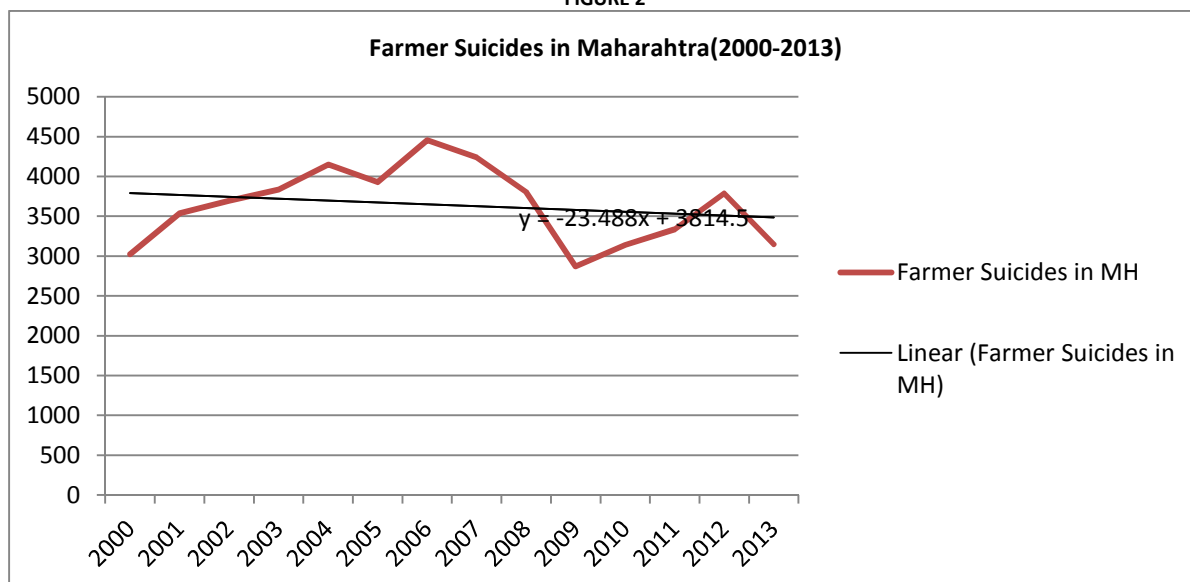
For the 2000 to 2013 period the number of suicides has seen some fluctuations. In the year 2000 and 2013, the suicides are around 3000. However in period 2004 to 2007 the suicides increased, peaking to 4453 in 2006 while year 2009 witnessed a decline in suicides to 2872. (Table 2 below) Figure 2 which plots the data shows an average tendency of suicide numbers to fall in the period primarily due to a dip in years 2009 and 2010. Though in 2012 and 2013 again the numbers have seen a rise due to which the issue of farmer suicides continues to be an issue of deep concern.

TABLE 2

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Farmer Suicides in MH	3022	3536	3695	3836	4147	3926	4453	4238	3802	2872	3141	3337	3786	3146

Source: National Crime Records Bureau (2000-2013)

FIGURE 2



ANALYSIS OF FACTORS INFLUENCING FARMERS’ SUICIDES

A. Factors that constitute the rural and agricultural infrastructure that indirectly affects rural incomes and the number of farmer suicides.

1. **CENTRAL ASSISTANCE UNDER ACCELERATED IRRIGATION BENEFIT PROGRAMME** (crore Rs)

Almost 80 to 85% of farming in Maharashtra is dependent on the whims of the seasonal rains. In such a scenario role of irrigation gains extreme importance for facilitating farming in Maharashtra.. The table given below shows the assistance received by the state under the Accelerated Irrigation Benefit Programme from the centre.

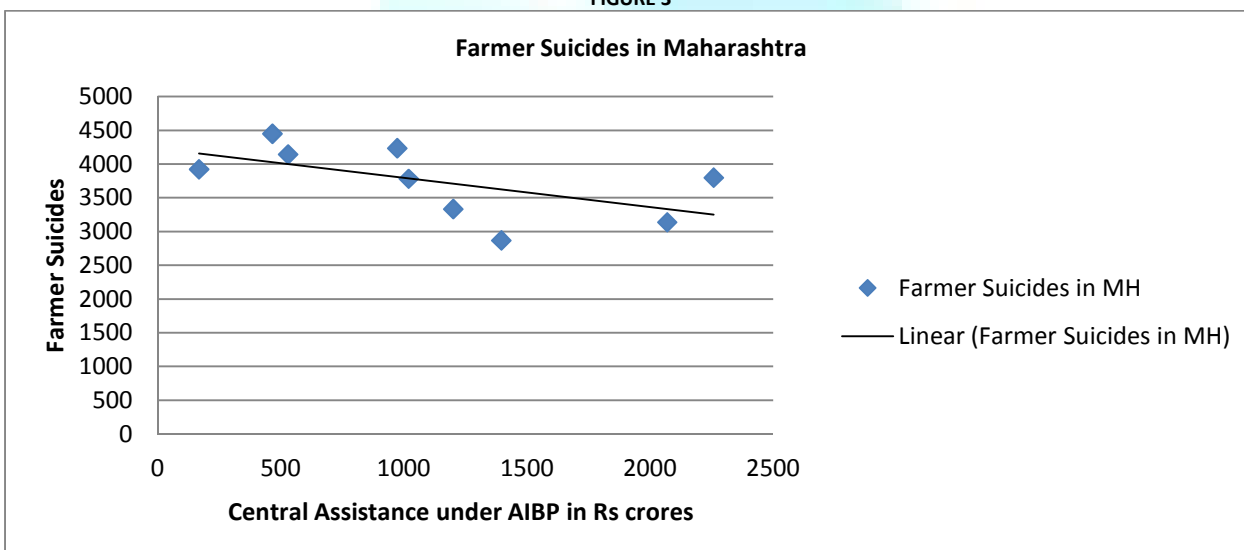
TABLE 3

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
Central Assistance under AIBP in crore Rs	529.29	167.38	465.52	972.25	2257.83	1395.39	2069.06	1199.89	1019.02

Source: Maharashtra Economic Survey (Various issues)

Below (Figure 3) is the scatter plot showing the relationship between this factor and the number of farmer suicides in the state. As can be seen from the trend line, there is a negative relation between the two variables for the period 2004-2012.

FIGURE 3



Further, using the statistical tool of Correlation, a negative relation has been found between the Central Assistance under AIBP in (Rs. Crore) in Maharashtra and the number of farmer suicides which means that as irrigation support under AIBP increases, the number of farmer suicides falls.

	Farmer Suicides in MH	Central Assistance
Farmer Suicides in MH	1	
Central Assistance under AIBP in (crore Rs)	-0.5793	1

2. **NATIONAL AGRICULTURAL INSURANCE SCHEME**

Next factor taken is insurance. Since agriculture in Maharashtra is highly susceptible to risks like droughts, hailstorms and floods, it is necessary to shield the farmers from such calamities and ensure their credit eligibility for the next season. For this purpose, the Government of India introduced many agricultural schemes throughout the country. Here we have taken the data on farmers covered under the National agricultural insurance scheme in Maharashtra for the period 2001 to 2013. (Table 4)

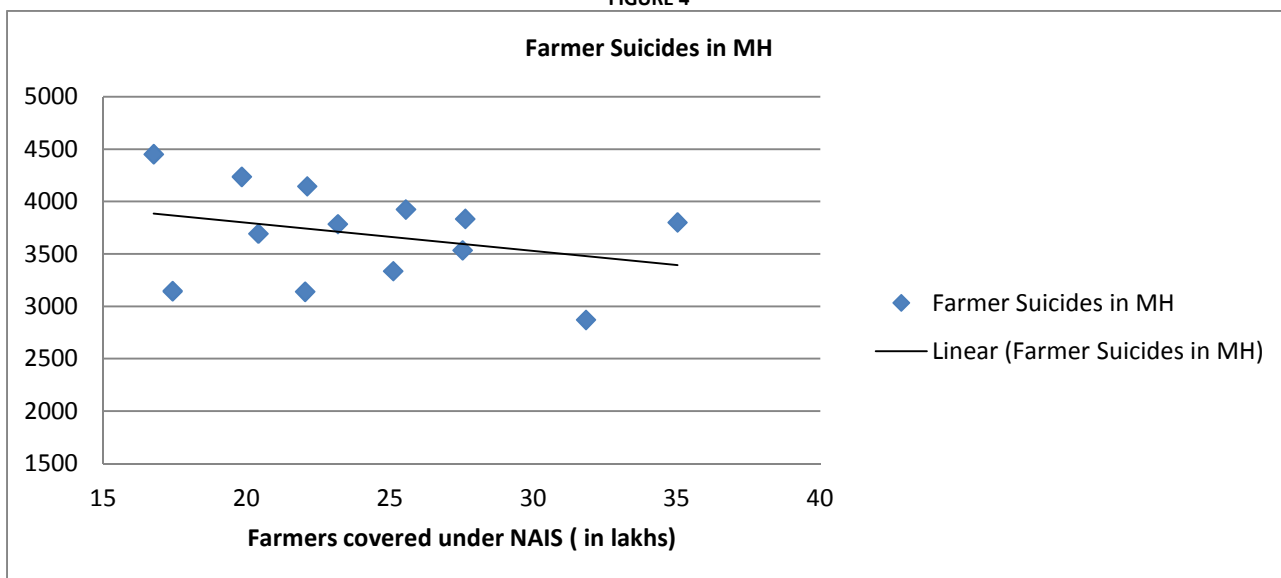
TABLE 4

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
NAIS	27.53	20.41	27.62	22.11	25.55	16.76	19.83	35.02	31.83	22.04	25.11	23.18	17.42

Source: Agriculture Insurance Company of India Limited

As can be seen from the scatter plot of the data (Figure 4) on the two variables for the said period there exists a negative relation between the two.

FIGURE 4



Using Correlation, again a negative relation is found between the number of farmers covered under the National agricultural insurance scheme in Maharashtra and the number of farmer suicides which means that as number of farmers covered under NAIS increases, the number of farmer suicides falls.

	<i>Farmer Suicides in MH</i>	<i>NAIS</i>
Farmer Suicides in MH	1	
NAIS	-0.3105	1

3. ROAD INFRASTRUCTURE

Investment in road infrastructure is essential to increase farmers’ access to input and output markets, to stimulate the rural non-farm economy and vitalise rural towns, to increase consumer demand in rural areas and to facilitate the integration of less-favoured rural areas into national and international economies. Data on village road length in kms in Maharashtra for the period 2001 to 2011 (Table 3) has been collected from the Maharashtra Economic Surveys (various issues from 2006-2013)

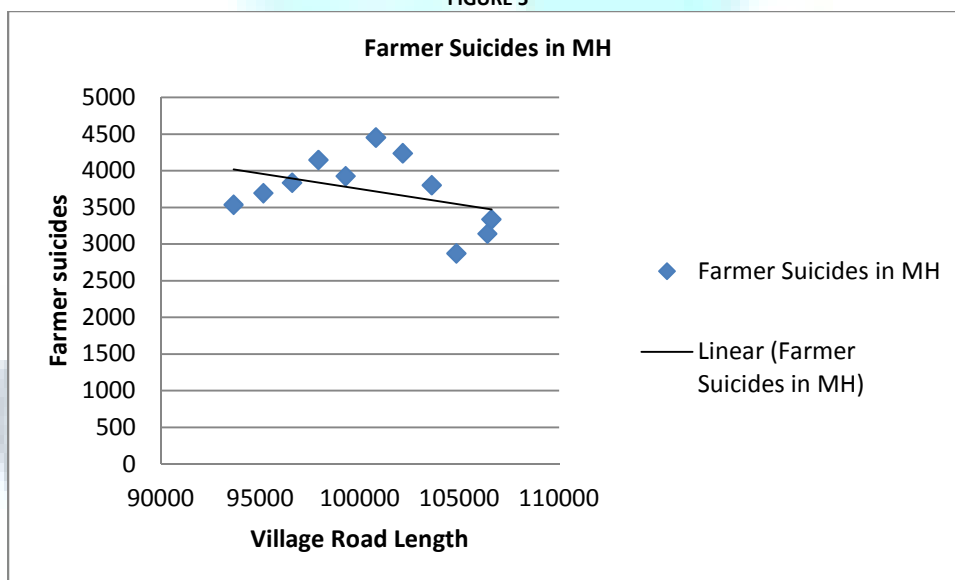
Below (Figure 3) is the scatter plot of the data on the two variables for the period 2001-2011, showing the negative relationship.

TABLE 5

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Village road length in kms	93652	95150	96593	97913	99279	100801	102149	103604	104844	106400	106601

Source: Maharashtra Economic Survey (Various issues)

FIGURE 5



Using the statistical tool of Correlation also, a negative relation is found between village road length and the number of farmer suicides which means that as Village road length increases, the number of farmer suicides falls.

	<i>Farmer Suicides in MH</i>	<i>Village road length in kms</i>
Farmer Suicides in MH	1	
Village road length	- 0.3969	1

4. PRIMARY HEALTH CARE CENTRES

Primary Health Centres are state-owned rural health care facilities in India. They are the most basic units of health care system in rural area of the state. They are essential because poor health, illness and inability to meet the necessary expenditure on medicine and health services are other major factors determining farmer suicides.

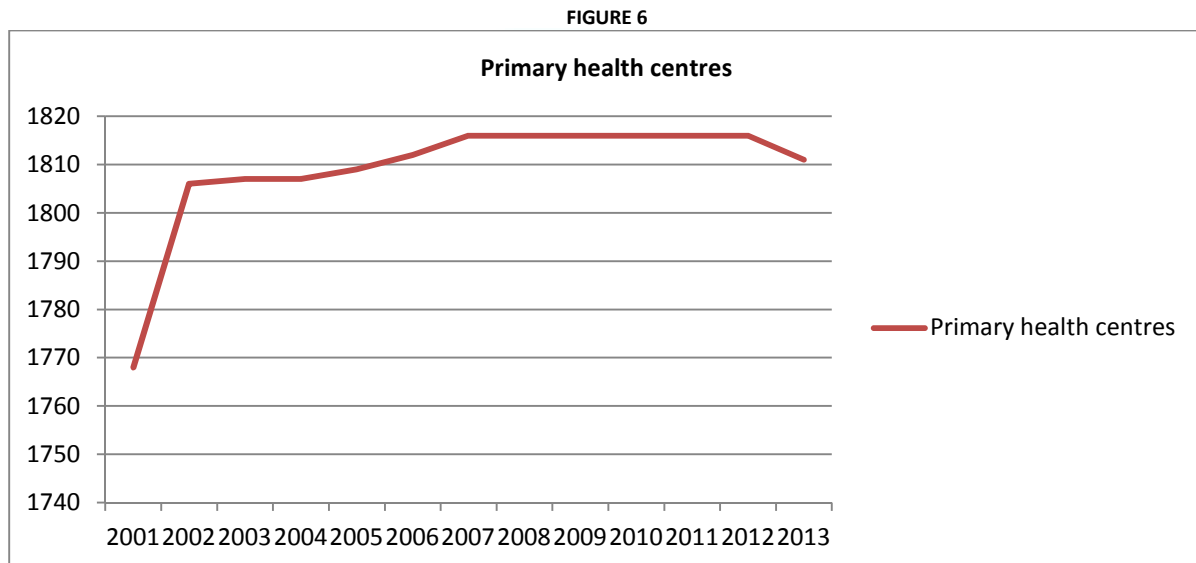
Below is the data on the number of Primary Health Centres in Maharashtra for the period 2001-2013. (Table 6)

TABLE 6

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Primary health centres	1768	1806	1807	1807	1809	1812	1816	1816	1816	1816	1816	1816	1811

Source: Maharashtra Economic Survey (Various issues)

However as the above data and the chart below (Figure 6) shows, the number of Primary Health Centres over the last many years has almost remain stagnant. It is a matter of great concern that health care facilities have been ignored by the state.



Using the statistical tool of Correlation, a very small but negative relation is found between the number of Primary Health Centres in Maharashtra and the number of farmer suicides which means that as number of Primary Health Centres increases, the number of farmer suicides falls. With the recognition of this negative relation, serious attempt should be made to improve the health care facilities in rural Maharashtra

	Farmer Suicides in MH	Primary health centres
Farmer Suicides in MH	1	
Primary health centres	-0.0063	1

5. NO. OF BANKING OFFICES SCBs IN RURAL AND SEMI-URBAN AREAS

Institutional credit reach is required to lower the dependence of farmers on moneylenders, relieve them of indebtedness and to achieve higher levels of agricultural investment and output. Table 7 shows the data on the number of banking offices SCBs in Rural and semi-urban areas.

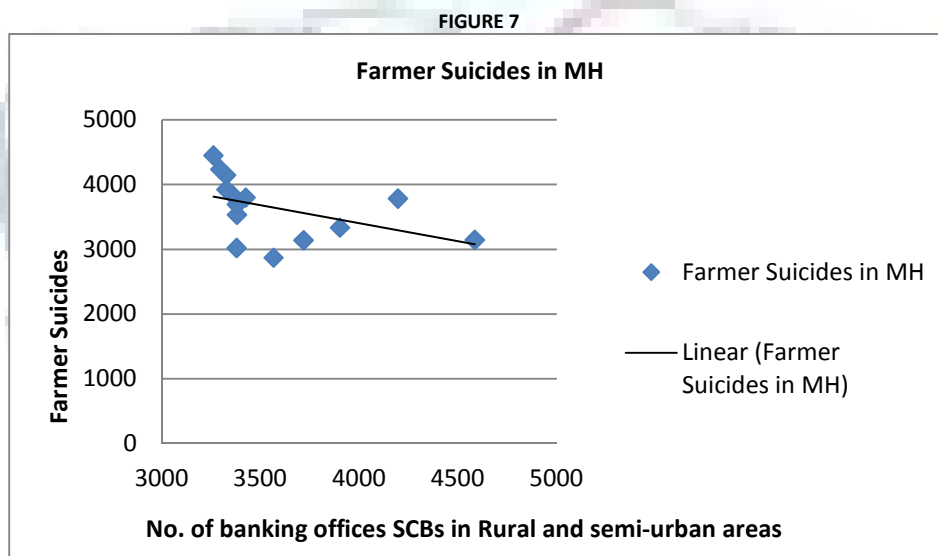
TABLE 7

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
No. of banking offices SCBs in Rural and semi-urban areas	3379	3380	3380	3360	3326	3327	3261	3295	3425	3566	3718	3902	4196	4585

Source: Maharashtra Economic Survey (Various issues)

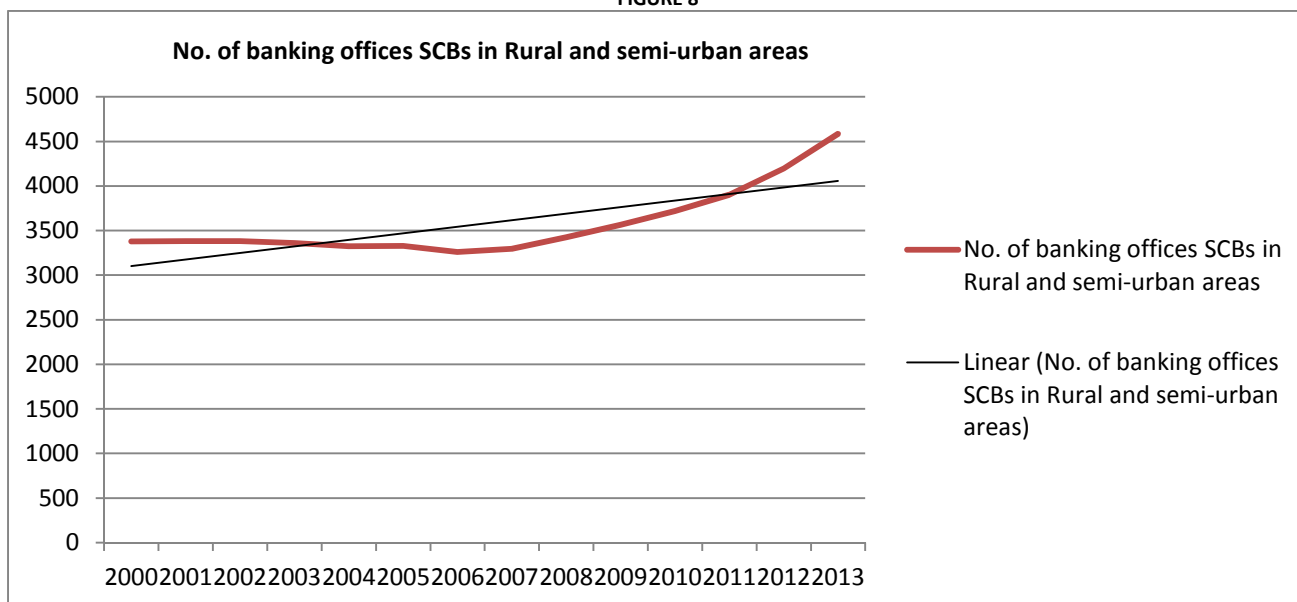
Below (Figure 7) is the scatter plot of the data on the two variables for the period 2000-2013 and the trend line has been fitted. It shows the existence of a negative relationship between the two.

Initially this negative relationship was much stronger i.e. as the institutional credit initially increased it was followed by a large decline in the number of farmer suicides. But off late this relationship has grown weaker perhaps other factors did not follow the rise in institutional credit availability.



There was a quite steep rise in bank branches post 2005 as can be seen from figure given below, but the fall in farmer suicides has not been this sharp thereby weakening the relationship between the two. (Figure 8)

FIGURE 8



Using the statistical tool of Correlation, again a negative relation is found between the number of banking offices Scheduled Commercial Banks in Rural and semi-urban areas in Maharashtra and the number of farmer suicides which means that as number of bank branches increases, the number of farmer suicides falls.

	<i>Farmer Suicides in MH</i>	<i>No. of banking offices</i>
Farmer Suicides in MH	1	
No. of banking offices SCBs in Rural and semi-urban areas	-0.4573	1

B. FACTORS THAT DIRECTLY AFFECTS FARMERS' INCOME AND THEREBY NUMBER OF SUICIDES

1. COTTON YIELD KG PER HECTARE

The farmers in the state overwhelmingly grow cash crops such as cotton, sugar cane, groundnut, vanilla, coffee, pepper and others. Cotton among them is a prominent cash crop. The yield of cotton thereby affects the fate of huge number of farmers in Maharashtra. Below is the data on cotton yield for the period 2003 to 2012. (Table 8)

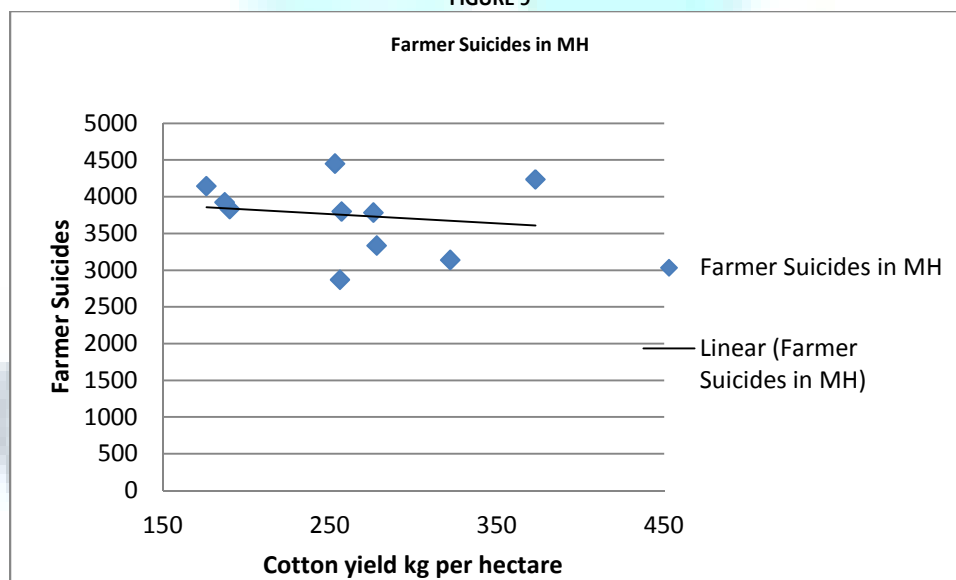
TABLE 8

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cotton yield kg per hectare	190	176	187	253	373	257	256	322	278	276

Source: Maharashtra Economic Survey (Various issues)

Below (Figure 9) is the scatter plot and trend line of the data on the two variables for the period 2003-2012 exhibiting a negative relationship.

FIGURE 9



Using the statistical tool of Correlation, a negative relation is confirmed between the Cotton yield kg per hectare in Maharashtra and the number of farmer suicides which means that as Cotton yield kg per hectare increases, the number of farmer suicides falls.

	<i>Farmer Suicides in MH</i>	<i>cotton yield</i>
Farmer Suicides in MH	1	
cotton yield kg per hectare	-0.1551	1

2. MINIMUM SUPPORT PRICE OF COTTON

Since growing cash crop requires sizeable financial input, MSP declared by the Commission on Agricultural Cost and Prices, Government of India has a crucial role in making the agricultural activity more viable as well as to protect the farmer's economy from natural calamities and low prices offered by traders. Below is the data on MSP of cotton for the period 2002 to 2013. (Table 9)

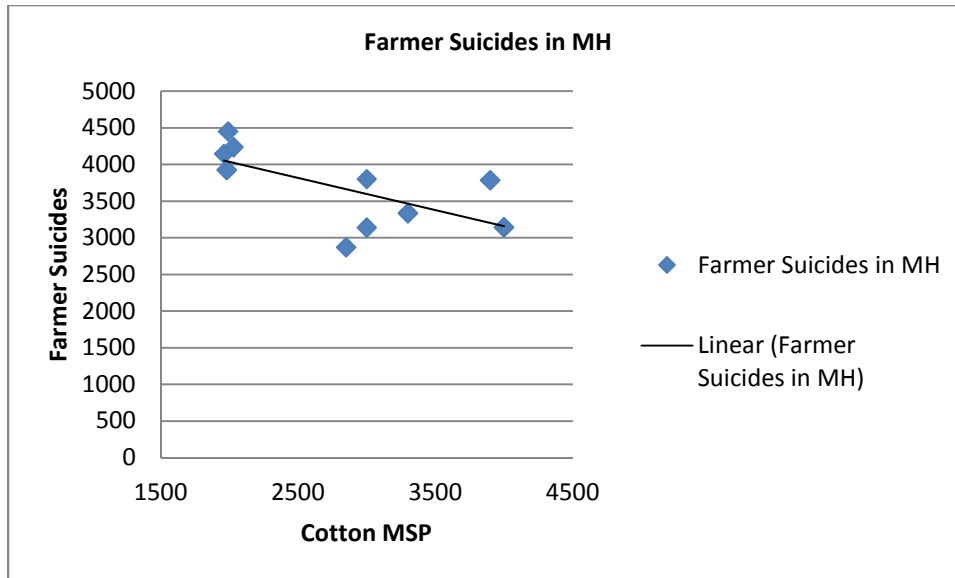
TABLE 9

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cotton MSP	1960	1980	1990	2030	3000	2850	3000	3300	3900	4000

Source: Commission on Agricultural Cost and Prices

The scatter plot of the data on the two variables for the period 2002-2013 and the fitted trend line exhibit a negative relationship.

FIGURE 10



Using the statistical tool of Correlation, again a strong negative relation is found between the Minimum support price of cotton declared by the CACP, GOI and the number of farmer suicides which means that as Minimum support price of cotton increases, the number of farmer suicides falls.

	Farmer Suicides in MH	Cotton MSP
Farmer Suicides in MH	1	
Cotton MSP	-0.652	1

3. ADOPTION OF BT COTTON ('000 HA) IN MAHARASHTRA

Bt cotton has been alleged to be responsible for the suicide of thousands of Indian farmers. However, the data analysis below reveals that there is no such relation between the suicides and the increasing degree of adoption of Bt cotton. On the contrary, as the adoption of Bt cotton has increased over the years, the number of suicides appear to have decreased.

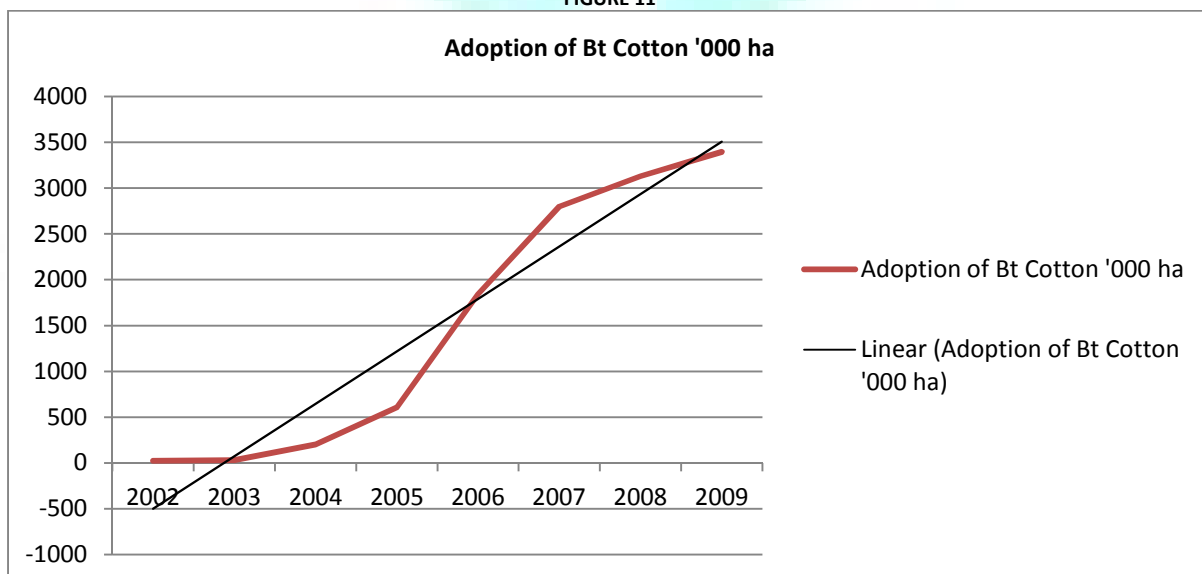
Figure 11 plots the data on adoption of Bt cotton in Maharashtra (Table 10).

TABLE 10

Year	2002	2003	2004	2005	2006	2007	2008	2009
Adoption of Bt Cotton '000 ha	25	30	200	607	1840	2800	3130	3396

Source: ISAAA (2009) Report

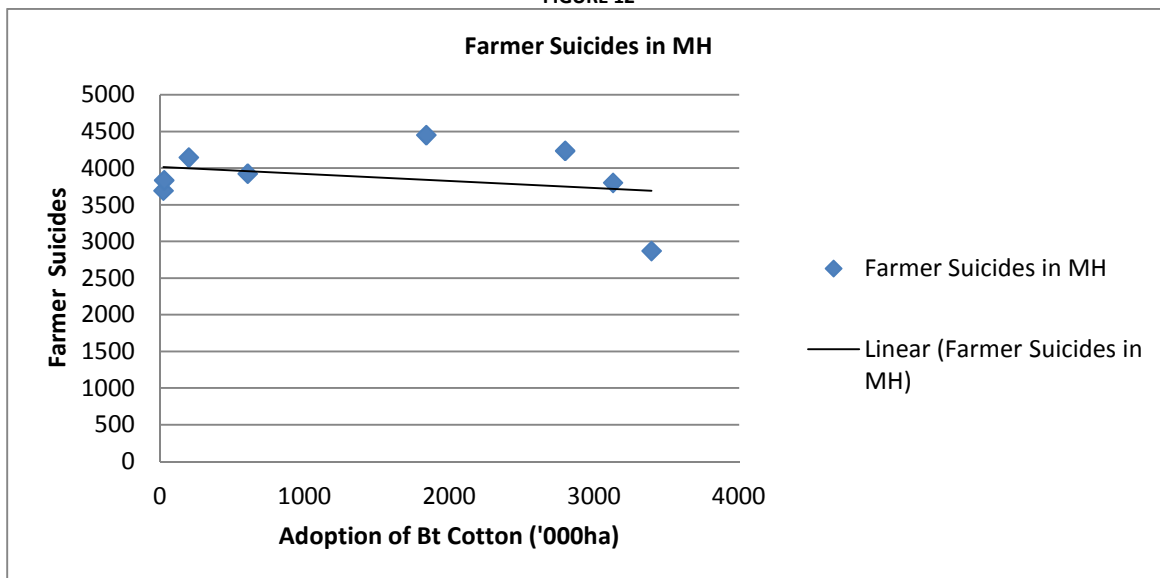
FIGURE 11



As seen in the above figure, post 2003 there has been sharp increase in the adoption of Bt cotton by the farmers in Maharashtra. However despite this there has not been a matching sharp rise in farmer suicides as opposed to popular beliefs. It may be concluded that Bt cotton is not the reason for farmer suicides in Maharashtra.

Below (Figure 12) is the scatter plot of the data on the adoption of Bt cotton and farmer suicides for the period 2002-2009, bearing out a negative relationship between the two.

FIGURE 12



Using the statistical tool of Correlation, again a negative relation is found between the adoption of Bt Cotton '000 ha in Maharashtra and the number of farmer suicides which means that as adoption of Bt Cotton '000 ha increases, the number of farmer suicides falls.

	<i>Farmer Suicides in MH</i>	<i>Adoption of Bt Cotton '000 ha</i>
Farmer Suicides in MH	1	
Adoption of Bt Cotton '000 ha	-0.29388	1

4. EMPLOYMENT GENERATION (TOTAL SWAROZGARIS ASSISTED) UNDER SGSY

Availability of alternative employment and self-employment opportunities lowers the burden on the farmers and they and their families can have other sources of income apart from farming activities.

TABLE 11

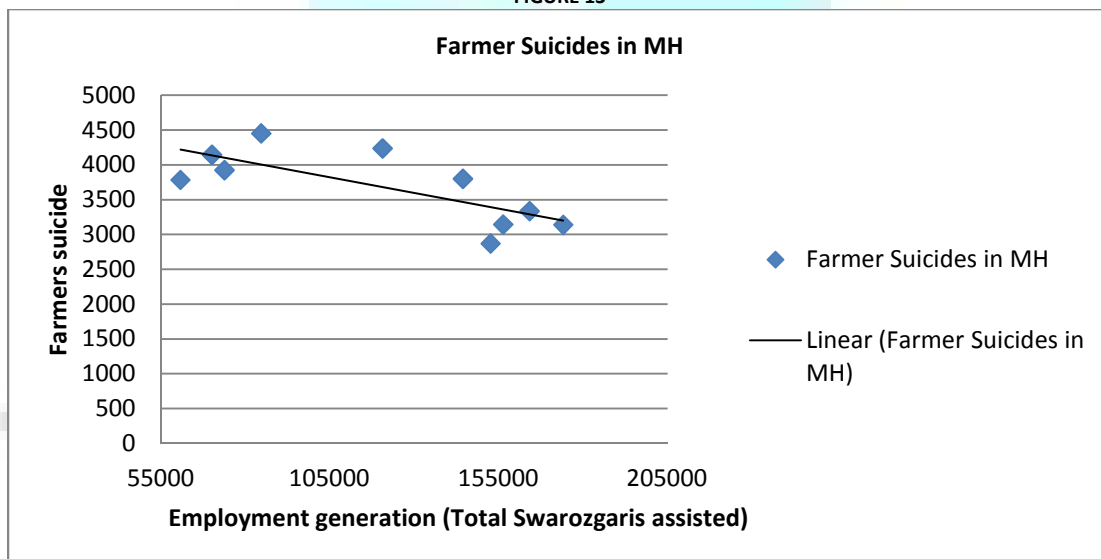
Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Employment generation (Total Swarozgaris assisted)	70146	73839	84707	120668	144442	152654	174156	164196	60801	156360

Source: Maharashtra Economic Survey (Various issues)

Here we have taken data on employment generation under the Swarnjayanti Grameen Swarozgar Yojana in Maharashtra in terms of the total Swarozgaris assisted under the scheme for the period 2004 to 2013.

Below is the scatter plot of the data on the two variables for the period 2004-2013, showing a negative relationship between the two.

FIGURE 13



Using Correlation also, a negative relation has been found between the Employment generation (Total Swarozgaris assisted) under the Swarnjayanti Grameen Swarozgar Yojana in Maharashtra and the number of farmer suicides which means that as employment under SGRY increases, the number of farmer suicides falls.

	<i>Farmer Suicides in MH</i>	<i>Employment generation under SGSY</i>
Farmer Suicides in MH	1	
Employment generation (Total Swarozgaris assisted)	-0.7379	1

5. NO OF SPINNING AND COMPOSITE MILLS (SSI AND NON SSI)+ POWERLOOM UNITS IN MAHARASHTRA

Number of cotton mills is important in determining the demand and prices of cotton, farmers will be facing in the market. This further determines their incomes and thereby influences the number of suicides.

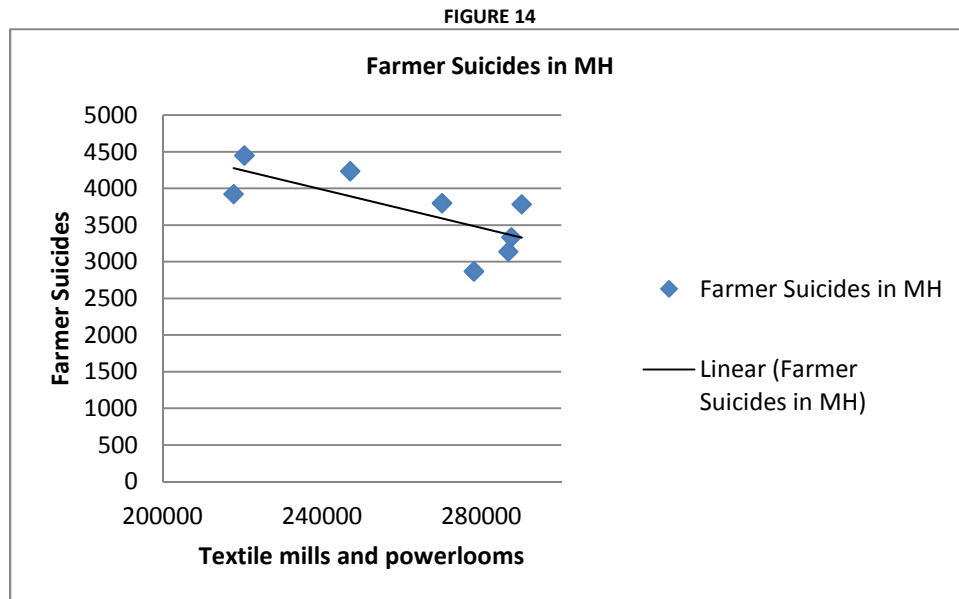
Table 12 shows the number of mills and powerloom units in Maharashtra over the period 2005 to 2012.

TABLE 12

Year	2005	2006	2007	2008	2009	2010	2011	2012
No of spinning and Composite mills(SSI and Non SSI)+ Powerloom units in Maharashtra	217767	220458	247045	270102	278122	286753	287500	290116

Source: Ministry of Textile, Office of the Textile Commissioner, Mumbai

Below (Figure 14) is the scatter plot of the data on the two variables for the period 2005-2012, showing a negative relationship.



Using the statistical tool of Correlation, a strong negative relation is found between the number of spinning and Composite mills (SSI and Non SSI)+ Powerloom units in Maharashtra and the number of farmer suicides which means that as number of mills increases, the number of farmer suicides falls.

	Farmer Suicides in MH	Textile industry
Farmer Suicides in MH	1	
Textile industry Maha No of spinning and Composite mills(SSI and Non SSI)+ Powerloom units	-0.7261	1

6. RURAL POPULATION GROWTH RATES

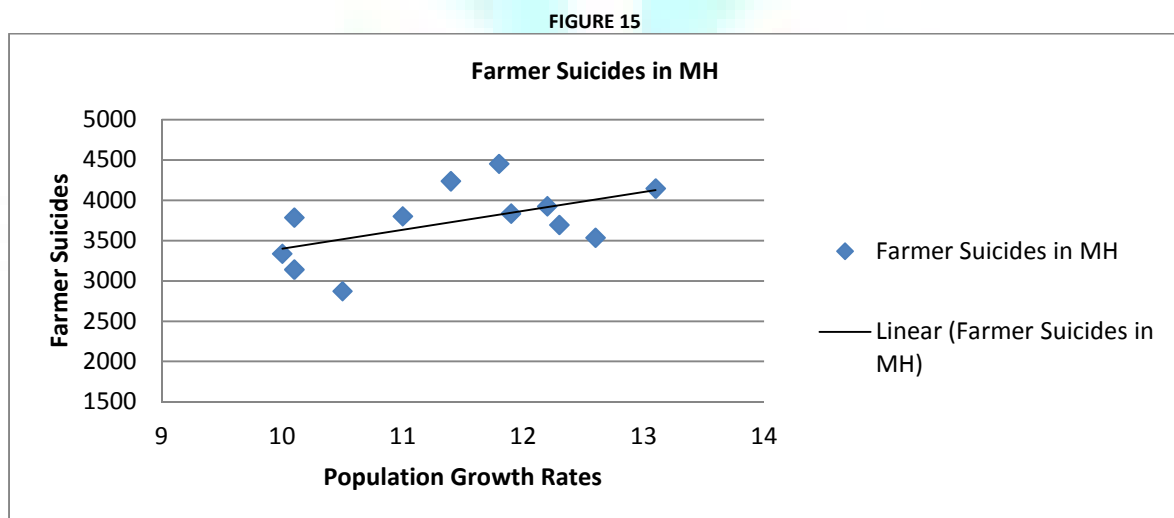
Population growth rates in rural Maharashtra have been taken as the difference between birth rates and death rates in rural areas of the state. This variable indicates the family pressure on farmers, number of mouths to be fed on farming income, marriages and other social expenditures to be undertaken. Data on population growth rate in rural Maharashtra is listed for the period 2001 to 2012 in Table 13.

TABLE 13

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Population Growth Rates	12.6	12.3	11.9	13.1	12.2	11.8	11.4	11	10.5	10.1	10	10.1

Source: Maharashtra Economic Survey (Various issues)

Below is the scatter plot of the data on the two variables for the period 2001-2012, showing a positive relationship.



A positive relation is also found between population growth rates and the number of farmer suicides using correlation which means that as population growth rates increases, the number of farmer suicides also rises.

	Farmer Suicides	Population growth rates
Farmer Suicides	1	
Population growth rates	0.5478	1

FINDINGS

The above data analysis shows:

1. A strong negative relationship between the number of farmer suicides and irrigation, Cotton MSP, employment generation under SGSY, number of mills in the state.
2. A weak negative relationship between the number of farmer suicides and village road length, number of primary health centres, farmers coverage under NAIS, number of banking branches of commercial banks, cotton yield and adoption of bt cotton.
3. A strong positive relationship between the number of farmer suicides and rural population growth rates.
4. Therefore policies directed towards irrigation, MSP, growth of textile industry, employment generation and controlling rural population growth rates seem to be more effective in tackling the problem of farmer suicides.

CONCLUSIONS

Farming community world over has faced high suicide rates relative to other professions. This problem is more prominent in developing states where agriculture sector is still not fully developed. High numbers of farmers' suicides in Southern India and in the state of Maharashtra is a cause of great concern.

In this study, secondary data and statistics on the suicides has been analysed for the state of Maharashtra. The data analysis has studied various factors influencing farm incomes and thereby farmer suicides in India. Understanding the drivers behind farmer suicides has important policy implications. Our results suggest that the promotion of irrigation, matching Cotton MSP with the rising cost of cultivation, promoting the growth of textile industry and providing alternative employment opportunities to rural Maharashtra can be the key factors in tackling the battle against farmers' distress in the state.

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