

Original Research Article

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## Farmer's Suicide: Causes and Sustainable Technological Interventions for Prevention of Suicides

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### ABSTRACT

A total of 15 victim families belonging to Shikaripura and Shivamogga taluks of Shivamogga district of Karnataka were interviewed. The data collected was analysed using descriptive statistics. Most of the suicided farmers were 73.33 per cent belongs to medium level of age group. Majority of suicided farmers 60.00 per cent were having medium level of education. The marital status was married for all the suicided farmers and 66.67 per cent of suicided farmers were marginal farmers (< 2.5 acre). It was found that 53.33 per cent suicided farmers belonged to the medium level income group. Majority of suicided farmers had farming experience more than 10 years. It was observed that 86.66 per cent of the farmers purchased the inputs from private firms. It is very clear that failure of crops was the major reason for farmers commit suicide that is 80.00 per cent and a high debt burden 73.33 per cent was found to be the major risk factor for suicide. Further, revealed that 66.66 per cent of the farmers were suicided due to the financial stress and followed by 60.00 per cent of the farmers suicided because they were getting lowest market price. Recommended suitable intervention of technologies to overcome problems, integrated farming system, intercropping and Promotion of vegetables like French bean, tomato and chilli in ginger growing areas. The technology interventions on integrated farming system, water management through drip irrigation and sprinkler irrigation, entrepreneurship development activities among rural youth, rural women and farmers, timely awareness programmes on improved cultivation practices on different crops based on season and market and also skill development programmes are needed for rural youths, farmers and women for higher net returns with lesser cost of production, there by the economic status of the farmers will be improved and automating suicidal cases will be avoided.

#### Keywords

Farmer suicides, IFS, Intervention of technologies, Farmers training

#### Article Info

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### Introduction

India is an agrarian country and nearly 60 per cent of the population depending on agriculture directly or indirectly. Among all the suicides, farmers' suicide is about 11.20

per cent in India. Farmer's suicide in India is the intentional ending of one's life by a person dependent on farming as their primary source of livelihood. Activists and scholars have offered a number of conflicting reasons for farmer suicides, such as monsoon failure,

weather hazards, high debt burdens, genetically modified crops, government policies, public mental health, personal issues and family problems (Parvathamma, 2016). There is no consensus on what are the main causes might be but studies shows suicide victims are motivated by more than one cause, on an average three or more causes for committing suicide.

As many as 1,903 farmers in Karnataka died themselves since 2014 (Indian express, August, 2017). Statistics shows farmer suicides in the state have increased from 122 in 2014-15 to a record of 1,461 in 2015-16. In the year 2017-18 between April and September, the state has witnessed 320 farmer suicides. The number of farmer suicides in the current financial year has already surpassed the record of 2014-15. The districts Mysuru and Mandya, comes under Cauvery command area had reported 14 per cent of the total farmer suicides (275 deaths). Government officials say that the crop loss, drought and pressure from private money lenders are the main reasons. A majority of the farmers those who have committed suicide in the sugarcane belt of Mandya and Mysuru districts is also because of the low price for sugarcane they add. "It's difficult for farmers to get crop loans from nationalised banks. Hence, many of them are forced to borrow from private lenders at huge interest rates for various expenses and then are unable to repay. The increased compensation for bereaved families of farmers is also forcing many to resort to such acts," (Indian express, August 16, 2017). There is a wide array of factors that has led to the increasing spate of farmer suicides in India. The lands are not as productive as before, the markets are failing, the debts are piling up, and the pest and diseases cannot be kept at bay. More than an economic problem, this has now assumed political and humanitarian dimensions, especially since the past decade and the lack of farm labour. These days farm labour is regarded as demeaning,

especially causal labour. Sectors such as construction and industries are already employing people, who would otherwise be engaged in agriculture. This is also one reason for urban migration has increased so much in the last few decades.

## **Materials and Methods**

The study was mainly based on primary data. A total of 15 victim families belonging to Shikaripura and Shivamogga taluks of Shivamogga district of Karnataka were interviewed. Although, the farmer's suicides were observed, the selected talukas had highest number of suicides during 2015-16 constituting. The number of sample (victim) households contacted through the survey represented. The data *viz.*, socio-economic characteristics of suicided farmers and main causes leading to farmer suicides were collected. The data collected was analysed using descriptive statistics.

### **Age**

From the table 1 it was observed that 73.33 per cent of the suicided farmers belongs to medium age group followed by higher age group 26.66 per cent farmers.

### **Education**

The 60.00 per cent of the suicided farmers were belongs to medium level of education (Higher primary school, High school, and P.U.C) followed by 40 per cent of the farmers having low level of education (Illiterate, Primary school) and none of the farmers were completed the high level of education (Degree and post graduation)

### **Family size**

The 80.00 per cent of the suicided farmers were from nuclear family and 20.00 per cent of farmers belongs to joint family.

### **Head of family**

From the table 1 it was known that the head of the family and those who are decision makers by suicided farmers is about 86.66 per cent followed by other family members i.e. 13.37 per cent.

### **Marital status**

The marital status was married for all the suicided farmers.

### **Landholdings**

From the data it was observed that the suicided farmers had own land of 93.33 per cent and only 6.67 per cent of farmers were having both own and leased land.

### **Land in acre**

Table 1 depicts that 66.67 per cent of suicided farmers were marginal farmers (< 2.5 acre) followed by small and big farmers were 20.00 per cent (2.5-5 acre) and 13.37 per cent (> 5 acre) respectively.

### **Land holding**

The suicided farmers had dry land and irrigated land of 40.00 per cent each and both irrigated and dry land was 20.00 per cent.

### **Source of irrigation**

The data showed that most of the farmers (33.33 per cent) had bore well and about 26.66 per cent of farmers had dependent on rainfall.

From the table 2 it was found that 53.33 per cent suicided farmers belonged to the medium level income group followed by low level and high level of income group that is 33.33 per cent and 13.34 per cent, respectively.

The data clearly showed that majority of suicided farmers had farming experience more than 10 years (66.66 per cent) followed by medium and low level (26.67 and 6.67 per cent, respectively).

From the table 3 it was observed that 86.66 per cent of the farmers purchased the inputs from private firms followed by 80.00 per cent from government department subsidies, 33.33 per cent were purchased from other farmers and 26.66 of per cent farmers were purchased from commission agents.

From the table 4 it was observed that majority of suicided farmers took credit from money lenders (86.66 per cent) followed by co-operative societies 80.00 per cent and from commercial banks 60.00 per cent and 60.00 per cent credit took from commission agents.

From the table 5 it was shown that mode of marketing system of suicided farmers was 46.66 per cent from direct marketing followed by 26.67 per cent through commission agent and 26.67 per cent of farmers marketing system was through door steps.

From the table 6 it is very clear that failure of crops was the major reason for farmers committed suicide that is 80.00 per cent and a high debt burden 73.33 per cent was found to be the major risk factor for suicide.

Further, revealed that 66.66 per cent of the farmers were suicided due to the financial stress and followed by 60.00 per cent of the farmers suicided because they were getting lowest market price.

It was observed that farmers were suicide because of low yield and loan for marriage purpose they were 53.33 per cent and 40.00 per cent, respectively. Some of the other reasons for farmer's suicides were monsoon

failure, house loan and scarcity of water 40.00 per cent, 33.33 per cent and 33.33 per cent, respectively. It was revealed that 26.66 per cent of farmers suicide due to force to repay the loan amount by money lenders. Further, the least reasons for farmer's suicides were borrowing too much for house construction, losses in non-farm activities, failure of bore wells and finally 13.33 per cent of the farmers suicided due to storage facilities (Table 7).

**Recommended suitable technological intervention to overcome problems**

**Technologies**

- a. Integrated farming system
- b. Intercropping in maize and ragi with red gram and field bean
- c. Intercropping in arecanut in malnad and

maidan areas

- d. Promotion of vegetables like French bean, tomato and chilli in ginger growing areas
- e. Short duration pulse varieties for paddy fallows

**Training components**

Integrated farming system

- a. Water management through drip irrigation and sprinkler irrigation
- b. Entrepreneurship development among rural youth, rural women and farmers
- c. Awareness programmes on improved cultivation practices on different crops based on season and market
- d. Skill development programmes for rural youth, farmers and rural women

**Table.1** Profile of suicided farmers

(n=15)

Sl. No.	Characteristics	Frequency	Per cent
1.	Age (years)	Low (< 25 years)	0
		Medium (25-50)	11
		High (>50)	4
2.	Education	Low (Illiterate and PS)	6
		Medium (HPS, HS, PUC)	9
		High (Degree, PG)	0
3.	Family size	Nuclear	12
		Joint	3
4.	Head of family	Suicide farmer	13
		Others	2
5.	Marital status	Married	15
		Unmarried	0
6.	Landholdings	Owned	14
		Leased	1
7.	Land in acre	Marginal farmers (<2.5 acre)	10
		Small farmers (2.5-5 acre)	3
		Big farmers (> 5 acre)	2
8.	Land holding	Irrigated	6
		Dry land	6
		Both	3
9.	Source of irrigation	Bore well	5
		Canal	4
		Tank	2
		Rain fed	4

**Table.2** Annual income and farming experience of suicided farmers

(n=15)

Particulars	Income & experience	No.	Per cent
Annual income	Low (<10,000)	05	33.33
	Medium (10,000-25,000)	08	53.33
	High (>25,000)	02	13.34
Farming experience in No. of years	Low (< 1-5)	01	6.67
	Medium (5-10)	04	26.67
	High (>10)	10	66.66

**Table.3** Mode of purchase of inputs

(n=15)

Sl. No.	Particulars	No.	Per cent
1	Private	13	86.66
2	Department subsidies	12	80.00
3	Farmers to farmers	5	33.33
4	Commission agents	4	26.66

**Table.4** Credit orientation

(n=15)

Sl. No.	Particulars	No	Per cent
1	Money lenders	13	86.66
2	Co-operative societies	12	80.00
3	Commercial banks	9	60.00
4	Commission agents	9	60.00

(Getting Multiple Response)

**Table.5** Mode of marketing system

(n=15)

Sl. No.	Particulars	No.	Per cent
1	Direct marketing	7	46.66
2	Through commission agents	4	26.67
3	Door step	4	26.67

**Table.6** Reasons for farmers suicide

(n=15)

Reasons for farmers suicided	Frequency (numbers)	Per cent of suicides
Failure of crops	12	80.00
High debt burdens	11	73.33
Financial stress	10	66.66
Lowest market price	9	60.00
Low yield	8	53.33
Loan for marriage purpose (Daughters/ sons)	6	40.00
Monsoon failure	6	40.00
House loan	5	33.33
Scarcity of water	5	33.33
Force to repay the loan amount by money lenders	4	26.66
Regular bank notice to repay the loan amount	4	26.66
Borrowing too much (e.g. for house construction)	3	20.00
Losses in non-farm activities	3	20.00
Failure of bore wells	3	20.00
Storage facilities	2	13.33
<b>Note: Reasons were given by family members and each person's given more than one reasons</b>		

**Table.7** Promotion of technologies

Sl. No.	Constraints identified	Technologies enlisted	Technologies prioritized and promoted
<b>Crop components</b>			
1	Maize as sole crop	Inter cropping with High yielding varieties of red gram	Inter cropping with red gram (8:2) Red Gram - BRG-1 and BRG-2
2	Ragi as sole crop	Inter cropping High yielding varieties of ragi and red gram	Inter cropping ragi with red gram (8:2) Ragi – ML-365, GPU-66 & Red Gram - BRG-1 and BRG-2
3	Low yield in paddy	Demonstration of high yielding paddy variety	Paddy - JGL-1798

4	Non availability of short duration green gram variety for rice fallows	Demonstration of short duration green gram variety for rice fallows.	Green gram variety : KKM-3
5	Non availability of short duration Black gram variety for rice fallows	Demonstration of short duration black gram variety for rice fallows.	Black gram variety: Rashmi (LBG-625).
<b>Horticulture</b>			
6	Arecanut as sole crops	Intercropping in both old and younger arecanut gardening	Intercropping with cocoa, black pepper, betel vine, banana, nut mug, cardamom, etc., in older gardens. Intercropping with French bean, field bean, cowpea, medicinal plants, etc., in younger gardens.
7	Low yield in Drumstick	Promotion of high yielding perennial drumstick varieties for dry land	Drumstick – PKM-1, Bhagya
8	Poor management in ginger	Improved production technologies	INM, IPM and IDM
9	Low yield in vegetables	Improved production technologies and plant protection measures	Arka series of French bean, tomato and chilli IPM and IDM
<b>Nutrient management</b>			
10	Micronutrient deficiency	Demonstration of micronutrient as foliar and soil application	ZnSO <sub>4</sub> , Gypsum, Boron, 19:19:19 (Foliar spray)
11	Lack of knowledge about bio-fertilizers	Promotion of use of bio-fertilizers	Azatobacter, Rhizobium, PSB

12	Lack of knowledge regarding soil sampling	Training on importance of soil sampling and conducting method demonstration	Soil sample collection, analysis and application of nutrients based on soil test results
13	Poor water management	Follow mulching, drip and sprinkler irrigation	Convergence with agriculture and horticulture department
<b>Pesticides</b>			
14	Pest and disease incidence in ginger	Use of bio-pesticides	Trichoderma, Pseudomonas and neem oil
15	Pest and disease incidence in paddy	Demonstration on management of pest and diseases	IPM in paddy
<b>Animal Components</b>			
16	Lack of knowledge about Improved sheep breed	Promotion of improved sheep breed	Sheep breed – Bandur
17.	Lack of knowledge about Improved poultry birds	Promotion of improved poultry birds	Poultry birds – Swarnadhara, Giriraja
18.	Lack of knowledge on bee keeping	Promotion of bee keeping for poverty alleviation	Rearing and management of honey bee colonies
19.	Low market price in cereals, fruits and milk	value addition for higher income	Value addition in cereals, fruits and milk
20.	No awareness regarding mushroom	Promotion of mushroom production	Mushroom cultivation and value addition
21.	Lack of knowledge on marketing and storage facilities	knowledge on government programmes, subsidies and organise commodity based association	Training, Group discussion and role of CBA's and FPO's



In conclusion, Indian Agriculture is predominately dependent on nature. Any failure of nature adversely affects the farmers. Additionally our agricultural system is largely unorganized and the farmers work in an unsystematic manner, they lack of technical support and institutionalized finance treated as a seasonal occupation in the country. Farmers remain unemployed in some seasons of the year. Hence, they required knowledge on climate smart practices, institutional financial support through crop insurance scheme in case of crop failure, cooperative and commercial banks provide loan at low interest rates, avoid money lenders. Further, the technology interventions on integrated farming system, water management through drip irrigation and sprinkler irrigation, entrepreneurship development activities

among rural youth, rural women and farmers, timely awareness programmes on improved cultivation practices on different crops based on season and market and also skill development programmes are needed for rural youths, farmers and women for higher net returns with lesser cost of production, thereby the economic status of the farmers will be improved and automating suicidal cases will be avoided.

### References

- Parvathamma, G. L., 2016. Farmers Suicide and Response of the Government in India -An Analysis. *Journal of Economics and Finance*, 7 (3):1- 6.  
Indian Express. August 16, 2017.

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