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IMPACT OF ABOVE DEGREE OF SUFFERING WITH THE HELP OF FUZZY MATHEMATICS : A STUDY OF FARMERS IN GANTAGI, YAVATMAL KALAMB TALUKA

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ABSTRACT

My aim is to discuss two major issues namely causes and consequence of suicide and strategies to overcome suicide, so that this paper will be of great help to the policy makers and social scientist who are engaged in development work. Though the Major goal is of getting insight in to a social problem, I have used the survey data to illustrate how fuzzification can help in formulating the problem when many aspects do not fall under the traditional two-valued logical domain.

According the study is based on the data generated form both secondary as well as primary field sources in three selected taluka. The psychological, social and financial impact of suicide on the family and community though it is immeasurable in my research paper

I want to try to measure impact of above factors in terms of degree of suffering with the help of fuzzy mathematics. Firstly with the help of weighted score we have determined the preferences of causes alcoholism it is due to which farmers are being driven to indebtedness but it is vary difficult to prove this just as we can feel air but cannot see it. We went to state excise office and collected information, thus suicide is avoidable by banning alcoholism truly Most of the victims were married and by committing suicide left behind their young family members to suffer the struggle for survival. It is to be noted that no suicide case out of distress has been reported from joint family background. The average size of the family is between 5 to 6 members 2 adults and 3 children/ 3 adults and three children some of these families have come out of the larger families just a few years ago.

It may be noted that in the joint family structure, subsist tencecrise are mitigated and managed through collective efforts by the family members. Whereas in nuclear family setup collective risk mitigation strategies are absent and uneven economic crises would distress conditions among the family members and coping mechanisms also their own limitation.

Keywords: *Fuzzy sets, Social Survey, correlation matrix.*

1. INTRODUCTION

Here the major focus of the discussion is on micro level causes that are forcing small and marginal farmers to commit suicide. The purpose of the study was to examine

- (1) The basic elements of distress increasingly faced by farmers, which are driving them to commit suicide.
- (2) The pressing demands that have pushed the farmers into debt trap.
- (3) The role of institutional support.

Through purposeful sampling method 32 affected and 32 not affected (total 64) families were selected for the study. Names of respondents were collected from local news papers. An exhaustive list was also procured from revenue department, which formed the population from which a sample was randomly selected.

The total geographical area of the district is 13,584 Sq. Km, which is 4.40per cent of the total area of the state. The district is divided into 16 Tahasils (Blocks). The district head quarter is at Yavatmal. The district comprises of 8 Municipal cities and 1205 Gram Panchayats, working for the Rural Development of the district. The total number of village in the district are 2131 out of which 306 are deserted villages. There are 5 Tribal Blocks in the district viz., Kelapur (Pandharkawada), Zari Jamni, Ralegaon, Ghatanji and Maregaon. The dominating tribes are Kolam, Gond, Pardhan and Andh.

There are totally 16 taluqas in Yeotmal district. Out of these three taluqas namely Kalamb, Ghatanji and Yavatmal, were purposefully selected considering their proximity. The rational for selecting these taluka was high incidence of problem in each of these taluka. (reference:1,2,3) Farmers from these taluquas were randomly selected in the second , stage of sampling. Method of collection of data included personal interviews and pre tested questionnaire. All the farmers having land less than 5 acres, normally termed as small and marginal farmers, constituted the sample space.



International Journal of Engineering Researches and Management Studies

Secondary information on State and Central assistance made available to farmers was taken from following sources:

The data was analyzed using qualitative and quantitative investigate methods such as Descriptive statistics, Correlations and regression

2. FOCUSED GROUP DISCUSSIONS

Results are reported in table No I.

About the Questionnaire:

Questionnaire. is given in appendix I. Questionnaire constituted on

A :- Personnel information

B :- His opinion about important factors affording agriculture or Efficiency of own farming.

The respondents in case of affected farmers were mostly the victim's wife (18), in few cases it was the mother of the victim (9) or in rest of the cases it was farmer's grown up son (5).

Table No I Distribution of questions in the questionnaire according to basic parameters.

Q 1	Personal information
Q 2	Seeds
Q 3	Irrigation System
Q4	Intra structure development of Agriculture (Krushi Utppanna Bazar Samitee
Q5	Harassment of Recovery of loan
Q 6	Changing crop pattern
Q 7	Lack of remunerative price
Q 8	IDEBTNESS
Q 9	Apathy of nationalized bank to disbursed sufficient crop credit
Q 10	Alcoholism & prevalence Abdication
Q 11	Power Supply
Q 12	Government Policy
Q 13	Whether expenditure is proportional to earnings ?
Q 14	psychosocial factors & 1)Family disorder 2) Marriage problem of Adult daughter 3) Chronic Diseases Within family 4) Depression due to loss social & economical status
Q 15	Development of communication method of transport

Table No 2: Classification of Questions in the Questionnaire according Resource and related parameters.

Basic Parameters	Question Nos.
Resource availability	2,3,11
Infra Structure	4 , 9, 7, 12, 15
Economic	13, 6, 8
Indicative of stress	8 , 5, 9, 10, 14

Thus above table gives complete structure of questionnaire.

Focus group discussions were conducted involving panchayat president ward member & farmers.

Besides some key informant were identified like old people from whom valuable information on the economic position of their family was obtained.

Description about scale

The farmers were supposed to answer, or award scores in the range of – 5 to 5 , i.e. 11 point scale , the questions from two to fifteen.Q1 was personal information or his profile.



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Q 2 Seeds

If the score is +ve. seed is important factor. If score is negative then it is not so important.

Q 3 Irrigation System

If the score is positive then irrigation constituent is important if the score is negative then irrigation constituent is not so important for raising the efficiency of land.

Q4 Intra structure development of Agriculture (Krushi Utppanna Bazar Samitee)

If the score is positive then good facility is available. If the score is negative then its means facility is not satisfactory or it is unavailable.

Q5 Harassment of Recovery of loan

This question is regarding harassment of recovery of loan. If the score is negative means harassment of recovery of loan is not so important and if score is positive then. Harassment of recovery of loan is important.

Q 6 Changing crop pattern

If the Score is negative then we consider that farmer is traditional. Attitude of the farmer is negative .If the Score is positive then attitude of farmer is positive.

Q 7 Lack of remunerative price

If the score is positive then economic attitude is positive. If the score is negative economic attitude is negative.

Q 8 IDEBTNESS

If the score is negative the effect of indebt ness is more is the score is positive then effect of indebtness is less.

Q 9 Apathy of nationalized bank to disbursed sufficient crop credit

If the score is negative then apathy of nationalized bank to disbursed sufficient crop credit is not satisfactory i.e. unsatisfactory. If the score is Positive then apathy of nationalized bank to disbursed sufficient crap credit is satisfactory.

Q 10 Alcoholism & prevalence Abdication

Negative score shows more addiction & positive score shows less addiction.

Q 11 Power Supply

Negative score means availability of the power supply is less i.e. not satisfactory. Positive score means availability of the power supply is satisfactory.

Q 12 Government Policy

Negative score means. The effects of Government policies to are not satisfactory. Positive score means the effect of government policies are satisfactory.

Q 13 Whether expenditure is proportional to earnings ?

Negative score means Importance of proportionality to raise the efficiency of farmer is not understood by the farmer. Their expenditure is not proportional to earning & positive score means their expenditure is proportional to earning. They know the importance.

Q 14 psychosocial factors & 1)Family disorder 2) Marriage problem of Adult daughter 3) Chronic Diseases Within family 4) Depression due to loss social & economical status

Negative score means high intensity problem Positive score means low problems intensity.

Q 15 Development of communication method of transport

Negative score means development of communicable method of transport is not satisfactory. & Positive Score means. Development of communicable method is satisfactory.



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Procedure of ranking the questions according to their importance as indicated by their weighted score.

After giving score various parameters the product of number of farmers having particulars score and score was obtained. That product is known as vetted score on the basis of weighted score the top three reasons for farmer suicides are

- i) Alcoholism & prevalence Addictions.
- ii) Apathy of nationalized bank to disbursed sufficient crop credit.
- iii) IDEBTNESS

(Ranking procedure, ranking table to be introduced, frequency distribution ... how it was used?)

Table no III Difference Between Weighted Scores

Qu. No.	Control Group	Non Control Group	Difference
10	121	-113	234
9	113	-30	143
8	110	-21	131
14	93	-36	129
11	35	-84	119
15	54	-45	99
4	140	53	87
13	75	-2	77
12	50	9	41
3	143	108	35
2	131	101	30
5	121	99	22
6	18	12	6
7	-59	-6	-53



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Score	Seed s / Fertilizer s	Irrigation System	Intra structure development of Agriculture (Krushi Utpanna Bazar Samitee)	Harasment of Recovery of loan	Changin g crop pattern	Lack of remunerative price	IDEBT NESS	Apathy of nationalized bank to disbursed sufficient crop credit	Alcoholism & prevalence Addictions	Power Supply	Government Policy	Whether expenditure is proportional to earnings ?	psychosocial factors & 1)Family disorder 2) Marriage problem of Adult daughter 3) Chronic Diseases Within family 4) Depression due to loss social & economical status	Develop ment of commun ication method of transport
	Q 2	Q 3	Q4	Q5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14	Q 15
-5														
-4														
-3							3				1	2		
-2							21				1	4		3
-1					10	8				10	2			
0	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1					20					19	14	2	2	12
2									5	3	5	3	4	7
3	10			2			18	18	7		5	7	9	6
4	9	17		16	29	2	14	11	10		2	9	8	4
5	13	15		14	3			3	10		2	5	6	
	32	32		32	32	32	32	32	32	32	32	32	32	32

Q 10 Alcoholism & prevalence Addiction		
	Good (Control Group)	Bad Non (Control Group)
-5	0	3
-4	0	21
-3	0	3
-2	0	2
-1	0	1
0	x	x
1	0	0

Q 09 Apathy of nationalized bank to disbursed sufficient crop credit		
	Good (Control Group)	Bad Non (Control Group)
-5		
-4		
-3		7
-2		14
-1		2
0	x	x
1		

Q 08 IDEBTNESS		
	Good (Control Group)	Bad Non (Control Group)
-5		
-4		
-3		17
-2		1
-1		3
0	x	x
1		

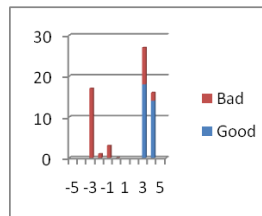
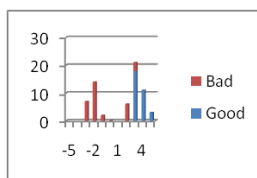
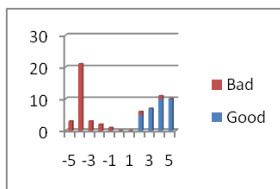


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2	5	1
3	7	0
4	10	1
5	10	0

2		6
3	18	3
4	11	
5	3	

2		
3	18	9
4	14	2
5		



Sale of liquor in the last 10 years in Yavatmal district.

(Figures in litre)

Year	Country liquor	Foreign liquor	Bear	Wine	Total
2000-2001	5321865	834656	1130745	--	72,87,265
2001-2002	5366162	887887	1147379	--	74,01,428
2002-2003	5235278	918158	1204540	--	73,57,976
2003-2004	5380671	987358	1237392	--	76,05,421
2004-2005	5788251	1060012	1253522	--	81,01,785
2005-2006	6034219	1123366	1259182	--	83,81,825
2006-2007	7219982	1344055	1535989	--	1,01,00,110
2007-2008	8751970	1496857	1682261	--	1,19,31,088
2008-2009	9902937	1725570	2029541	--	1,36,58,048
2009-2010	1,06,45,827	19,12,548	23,02,854	--	1,45,61,229
2010-2011	1,16,45,319	21,40,892	27,32,257	5112	1,65,23,580

3. CONCLUSIONS FROM THE DIAGNOSTIC ANALYSIS OF QUESTIONNAIRE

- Q. No. 2 :- Form both the groups nobody has given negative marking. It means that everybody recognizes' its importance. Form the graph It can be observed that it is balance that may be due to economic condition & awareness.
- Q. No. 3 :- Form the graph Control group farmers is skewed towards high importance zone.
- Q. No. 4 :- Non Control group farmers have a problem regarding marking facility 50% people lies between 1 to 1 & nine are on natural position.
- Q. No. 5 :- The question is regarding Harassment of recovery of loan. It seems that control group knows the importance of loan. The tendency of Harassment of recovery of loan seems to be more in case of none control group.
- Q. No. 6 :- We do not find difference of opinion regarding changing corp. pattern both the groups have given positive score. Nobody has given negative score we can conclude that attitude of the farmers from control & control is positive.
- Q. No. 7 :- Both the groups have given negative score. It means that everybody agrees that there is definitely lack of remunerative price.
- Q. No. 8 :- It seems that effect of indebt-ness is more in case of no control group & at is less in care of control group.
- Q. No. 9 :- I control group is of the opinion that apathy of nationalized bank to disburse. Sufficient croup credit is satisfactory 70% farmers form non control group are not satisfactory about bank loan.
- Q. No. 10 :- From data it is clear that non control group farmers are more addicted than control group farmers.
- Q. No. 11 :- 96% forms non control farmers are not satisfactory about power supply from control group farmers seems to be satisfactory.



International Journal of Engineering Researches and Management Studies

- Q. No. 12 :- Control group feels that government policies are good. 50% from non control group farmers have opinion thru.
- Q. No. 13 :- It is seen that control group realizes the importance of proportionality 60 person framers from non control group haven given negative scare it means that their earning is not proportional to expenditure.
- Q. No. 14 :- No doubt everybody has a problem but it can be seen from dater thru non control group farmers have great intercity as compare to control group problem.
- Q. No. 15 :- We can say that more than 50% farmers from the non- control group as well as control group, were in the opinion that communication method of transport was not satisfactory.

Analysis and Inferences

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