The empirical study of Factors responsible for Indebtedness and Farmers suicide in Maharashtra

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Abstract:

Agriculture is the largest economic sector and plays the significant role in the overall socio economic development of India. More than 80 percent farmers who work in agriculture are marginal and small farmers. They depend for loan on private money lenders or on financial institutions for the cultivation of their land. They depend on agricultural income for survival of their family. However, the agriculture is in crises and farmers of various states, in Maharashtra in particular are indebted and consequently in economic distress due to significant variation between the income and the subsistence expenditure of farmer households. The uneconomic land holding, repeated crop failure, high cost of production, low crop yield, exploitation by money lenders and businessmen are largely responsible for deficient level of income and indebtedness. More evidently, cotton growing farmers are relatively in more distress. This paper attempts to identify the economic situation of suicide victim families, factors responsible for indebtedness and farmer's suicide in Maharashtra.

Key words: Agriculture, Distress, Farmer, Indebtedness, Income, Poverty, Suicide, Vidarbha

Introduction:

The issue of farmers suicides has been discussed intensively and extensively by media and social, economic & political thinkers since last decade of 20th century in India and particularly in the states of Maharashtra, Karnataka, Andhra Pradesh, Punjab and Kerala.[i] Further, central and state government have formed number of inquiry committees to ascertain the factors responsible for agrarian crisis, farmers indebtedness, farmer's suicides and suggesting measures for preventing suicide epidemic.[ii] A brief review of issues indicate that high population pressure on farming operations, scarcity of irrigation, declining size of land holding and large number of marginal and small operational holders, relatively high proportion of low income families, crop failure are responsible for indebtedness and consequently increasing economic distress & frustration among farming community in major suicide prone states of India. These factors have affected the survival of farmers' rather small and marginal farmers.

The study of farmer's suicide is the complex and complicated phenomenon so as to ascertain psychology of suicide victims as it depends on the information provided by family members while nature of farming is diversified in each region. This study is based on the field survey conducted in Maharashtra. The main objective of the study is to ascertain economic status of suicide victim families.

Objectives:

1. To ascertain the land holding pattern of suicide victim families.
2. To compare per hectare yield of major crops in India and Maharashtra.
3. To ascertain income of suicide victim households.
4. To know causes and intensity of indebtedness of suicide victim farmers.
5. To understand factors responsible for economic distress and farmers suicide.

Research Methodology:

This study is based on sources of primary and secondary data. The data of 652 suicide victims spread across 13 districts of Maharashtra have been collected to ascertain economic status of suicide victim families. The selected districts are Amravati, Buldhana, Bhandara, Chandrapur, Wardha and Yawatmal from Vidarbha, Nanded and Beed from Marathwada, Jalgaon and Nashik from North Maharashtra, Solapur and Satara from Western Maharashtra and Thane from Kokan region. The stratified sampling method was used while selecting districts and simple random sampling was used while selecting talukas, villages and suicide victims.[iii] A schedule was prepared for data collection. The Chi square test is used to describe the magnitude of differences between observed frequencies and the expected frequencies under the certain conditions. It is possible to find out whether such differences are significant or insignificant by same method.

$$x^2 = \sum \left[\frac{(O-E)^2}{E} \right]$$

Where, X^2 denotes value of chi square, O is observed frequencies and E is expected frequencies Moreover, average and percentage tools was used for analyzing collected data.

Moreover, the correlation coefficient technique is used to ascertain level of association between two factors.

$$r = \frac{\sum dxdy - \frac{\sum dxdy}{N}}{\sqrt{\left\{\left(\frac{\sum dx^2}{N}\right) - \left(\frac{\sum dx}{N}\right)^2\right\}\left\{\left(\frac{\sum dy^2}{N}\right) - \left(\frac{\sum dy}{N}\right)^2\right\}}}$$

r — Correlation coefficient

$$\sum dxdy - \frac{\sum dxdy}{N}$$ - Covariance of the two series

$$\sqrt{\left\{\left(\frac{\sum dx^2}{N}\right) - \left(\frac{\sum dx}{N}\right)^2\right\}}$$ - Variance of series first

$$\sqrt{\left\{\left(\frac{\sum dy^2}{N}\right) - \left(\frac{\sum dy}{N}\right)^2\right\}}$$ - Variance of series second

The correlation coefficient indicates the relationship between two variables. It represents cause and effect relationship between two variables keeping other variables constant.

Similarly, reports of NCRB, census reports, reports of Ministry of Agriculture of the State and Central Government, socio economic survey of selected districts etc. has been used while preparing the paper.

1. **Size of land holding, cropping pattern and per hectare yield:**

Almost 52 percent population is dependent on agriculture in Maharashtra (GOM; 2014). Despite of 48 suicide victims, rest was cultivable land. Table 1 represents the absolute number and relative share of small and marginal victim operational land holders, average size of operational holding and number of irrigated farmers in selected districts. The number of marginal and small operational holders was 69 percent. In comparison, largest 100 percent victims of Thane, 95 percent of Nashik, 93 percent of Satara, 81 percent of Beed and 79 percent of Bhandara marginal and small land holders. On the contrary, lowest 47 percent victims of Wardha, 51 percent of Buldhana district were marginal and small operational land holder victim families.

Moreover, merely 165 (25.3 percent) selected victim farmers was access to irrigation. Table 1 represents that highest 90 percent victim families was irrigation access in Nashik, followed by 78.6 percent in Satara and lowest 12 percent in Beed district. It was found that there is positive association between irrigation access and size of operational holdings. The Pearson's correlation coefficient of same is 0.87 and p value is close to zero.

The average size of selected victim families was found uneconomic and varying in selected districts. The average size of land holding was 1.9 ha, 0.65 ha of marginal farmers and 1.55 ha of small victim farmers (see detailed in table 1). In comparison, the average size of operational holding was less than one hectare in district Thane (0.6 ha) and Satara (0.75 ha). It was between 1-2 hectare in districts Jalgaon & Nashik and more than 2 hectare in districts Wardha, Chandrapur, Yawatmal and Buldhana. It is also found that there is close association between number of marginal and small operational holdings and farmers' suicide. The Chi-Square value of null hypothesis farmers suicide and size of land holding are independent is 49.4.[iv] It supports to suicide epidemic among marginal and small farmers is found more in India (Deshpande 2002, Mishra 2006).

Table 1: Size of land holding of selected suicide victim

District	Landless	Marginal	Small	M&L	Total	Average size	No. of Irrigated farmers
Bhandara	5	23 (59)	8 (20.5)	3	39	1.08	16 (41)
Wardha	5	11 (22.4)	12 (24.5)	21	49	2.3	11 (22.4)
Chandrapur	1	3 (17.6)	8 (47)	5	17	2.56	4 (23.5)
Yawatmal	9	34 (18.9)	86 (47.8)	51	180	2.16	36 (20)
Amravati	11	47 (37.9)	45 (36.3)	21	124	1.52	25 (20.2)
Buldhana	5	13 (21.3)	18 (29.5)	25	61	2.36	10 (16.4)
Nanded	1	12 (24.5)	28 (57.1)	8	49	1.55	9 (18.4)
Beed	1	17 (42.5)	13 (32.5)	9	40	1.9	5 (12.5)
Jalgaon	6	16 (50)	7 (21.9)	3	32	1.2	9 (28.1)
Nashik	0	13 (65)	6 (30)	1	20	1.1	18 (90)

Solapur	3	4 (19)	7 (33.3)	7	21	2.4	11 (52.4)
Satara	1	9 (64.3)	4 (28.6)	0	14	0.75	11 (78.6)
Thane	0	6 (100)	0	0	6	0.6	0
Total cases	48 (7.4)	208 (31.9)	242 (37.1)	154 (23.6)	652	1.9	165
Average size (ha)	-	0.65	1.55	4.0	1.9	1.9	25.3

Source: Field Survey, 2011-12

Note: M & L represents Medium & large operational holders.

It was ascertained that 17 victim families had left farming because lack of able members for cultivating land and 48 were landless. Therefore, only 587 selected cases were engaged in farming operations. The respondents of victim families reported major crops according to proportion of land used under particular crop (see table 3). The large number of victim farmers was producing Cotton, Soybean, Tur, Gram, Jowar, Wheat, Rice and Sugarcane in Maharashtra. The Cotton was major crop of 393 (67 percent), Soybean of 433 (74 percent), Tur 156 (26.6 percent), Gram 102 (17.4 percent) and Jowar, Wheat Sugarcane and Rice was less number of victim families. However, dumping of cotton prices in international market, low import tariff and abrogate of MCPS has adverse impact on profitability of cotton growers (NCF 2004, GOI 2006). Thus researcher concluded that cotton growing farmers are in economic distress. The non suicide victim families reported that crop failure in two or three consecutive years creates heavy economic distress among farmers and pressure of it leads towards suicide.

Table 2 : Major crops cultivated by suicide victims and per hectare yield in India and Maharashtra

Crop	No. of victims cultivate crop	Per hectare yield		
		India	Maharashtra	Percent to India
Cotton	393 (67)	464	285	-63
Soybean	433 (73.8)	1186	1209	+2
Tur	156 (26.6)	675	766	+13.5
Gram	102 (17.4)	912	855	-6.7
Jowar	64 (10.9)	922	839	-10
Wheat	59 (10)	3001	1693	-77
Rice	43 (7.3)	2252	1702	-32
Sugarcane	30 (5.1)	71	87	+22

Source: Field survey 2011-12, GOI (2015), 'Indian Agriculture at a glance 2014' Ministry of Agriculture, New Delhi & GOM (2014), 'Economic Survey of Maharashtra 2013-14', Directorate of Economics & Statistics, Mumbai.

Note: per hectare yield is represent average yield of three years (2009-10 to 2011-12).

Further, yield of major crops is relatively low in Maharashtra. Table 2 depicts per hectare yield of major crops in Maharashtra and India. It represents that per hectare yield of Sugarcane is 22 percent high, Arhar 13.5 percent high and Soybean 2 percent in Maharashtra than all India yield and yield of rest crops was less than all India yield. More explicitly, the per hectare yield of cotton is 285 kg in Maharashtra, which is 63 percent less than 464 kg of all India yield. Moreover, yield of wheat is 1693 in Maharashtra which is 77 percent less than all India yield. Consequently, net

profit and finally income of farmers is lower in Maharashtra. To sum up, farmers in Maharashtra not only facing the adverse policy decisions of government but also low profitability because of low yield.

2. **Annual income of suicide victim households:**

Farming was the major and agriculture labour as secondary activity of income of selected victims. Here, researcher has measured average annual income of victim families from main business, secondary business, by size of operational holdings and per hectare income to ascertain proper and intensive results. The reported average annual income of selected victims was Rs. 55570 from main business. Average annual income of victim families from farm business have been calculated by size of land holding and found positive correlation between size of operational holdings and average annual income. Similarly, there is negative correlation between operational size of holdings and per hectare income (see table 3). A per hectare average income of marginal victim farmers was 62 percent higher than small farmers and 79 percent higher than medium & large victim farmers (see table 3). It supports to per hectare income of marginal farmers is relatively high in India (Vyas, 2011). The number of victims engaged in supplementary activities was 350 (54 percent) and average income of same was Rs. 25370 per annum. Most of them were marginal and small farmers and playing role as an agricultural labour. Therefore, it support to small and marginal farmers are playing dual role as a farmer and labour in rainfed region and income as agricultural labour have significant share in total income of farmers (Selvaraj & Ramasamy 2006, Vatta & Sindhu, 2007).

Table 3: Average Annual income of victim families

Item	Farming Activity		Subsidiary Business		Total Average Income (Rs)
	Average Income (Rs.)	Per hectare Average income (Rs.)	No. of Farmers	Average Income (Rs)	
landless farmers	36440	-	-	-	36440
Marginal farmers	31600	48160	183	15890	46140
small farmers	46500	29770	140	27140	61800
Medium and Large farmers	108180	26960	27	80440	122160
All Farmers	55570	32010	350	25370	69190

Source: Field survey 2011-12

The total average income of selected victim families was Rs. 69190 per annum. It was also ascertain that there is positive correlation in total average income and size of operational holding of selected victims. The total average income of landless victim families was lowest Rs. 36440, Rs. 46140 of marginal farmers, Rs. 61800 of small farmers and Rs. 122160 of medium and large farmers. A per capita income of selected farmers was also calculated and found that there was negative correlation between number of BPL income families and size of operational holdings i.e. higher the size of operational land holding lower is the percentage of BPL income victims and vice versa. Table 4 represents per capita annual income of selected victim families and number of BPL families.[v] The average per capita annual income of victim families was Rs. 14620 against the net state domestic per capita annual income of Rs. 95339 in 2011-12, which was six times more (GOM, 2013).

Table 4: Classification of selected victim farm families according to per capita income

Income Group (Rs.)	Number of victim Farmers					Average Per Capita income
	Less than 11660	11661-17500	17501-23330	More than 23330	Total	
Landless	37(77)	4	5	2	48	10230
Marginal	126 (60.6)	50	22	10	208	11140
Small	145 (58.5)	67	9	21	242	12580
M & L	47 (30.5)	47	21	39	154	21280
Total	355 (54.4)	168 (25.8)	57 (8.7)	72 (11)	652	14620

Source: field survey

Note: figures in Parenthesis represent percentage to total number of victim families of respective group.

The per capita income of 54.4 percent victim families was below poverty line, 25.8 percent up to 50 percent more than BPL and only 11 percent families was more than double of BPL criteria. The correlation coefficient between size of land holding and number of BPL victim farmers was (-) 0.94 while p value close to zero. It supports to large number of marginal and small farmers are below poverty line in India (Sharma, 2005, Dev, 2009; Singh, 2013).

3. Indebtedness of selected suicide victims:

It has observed in literature on farmers suicides that most of the suicides occurred because of indebtedness (P. Satish, 2006; A. Vaidyanathan, 2006; Reddy V. and S. Gulab, 2006; Vikhe Patil, 2008; Sukhvinder Singh & Ramneet Kaur, 2011). In order to describe issue of indebtedness in detail, researcher gathered information on various aspects of indebtedness of selected victims. Table 5 represents that 590 (90.5 percent) selected victim families was incarcerated in debt trap. A frequency of institutional debtor was 460 (70.5 percent) and 373 (57.2 percent) of non-institutional debtor.

Table 5: Number of indebted victim families' prior committed suicide

Item	Selected Victim	Institutional Loan		Non Institutional Loan			Total Debtor		
		Number of Victims	Average Loan	Sawkars / Traders	Total debtor	Average Loan	Number of Victims	Average Loan	Per Hectare debt
Landless farmers	48	8 (16.7)	33750	29	36	33940	39 (77.8)	38260	-
Marginal	208	127 (61)	45240	85	14	51050	178 (82.4)	64980	84730
Small Farmers	242	193 (79.7)	78280	97	39	57280	229 (93.2)	10740	61030
M & L Farmers	154	132 (85.7)	102950	49	4	70690	144 (93.5)	135600	31600
All Farmers	652	460 (70.5)	75460	260	73	56140	590 (90.5)	94330	49140

Source: field survey

Note: figure in the parenthesis represents percentage to total number of victims,

Here researcher was divided suicide victims by size of land holding and ascertain that there is a positive relationship between size of land holding and number of victims having institutional loan

and amount of loan (Jyotimoyee Kar, 2010). The pearson's correlation coefficient between size of land holding and number of victims indebted is 0.99 while p value close to zero. In relative terms, 16.7 percent landless victims, 61 percent marginal victim farmers, 79.7 percent small farmers, 85.7 percent medium & large farmers was institutional debtor. An average institutional debt was Rs. 75460 of victim families.

Moreover, large number of victim families was borrowed from non institutional sources particularly sawkars and traders. The number of non institutional debtor was 373 (57.2 percent) among selected victims. Almost 70 percent non institutional debtor was loan of sawkars and traders. A rate of interest levied by private creditors was 3 percent per month to 133 victims' families, 4 percent to 11 victim families and 5 percent and more to 125 victims. This supports to sawkars and traders have the dominant place in rural economy and large number of farmers are exploited by them (Mishra et al 2006).

Table 6: Causes of indebtedness

Sr. No.	Causes	Cases N=590
1.	Poor financial position	359
2.	Higher dependency ratio	290
3.	Crop failure	192
4.	illness	49
5.	Addiction of Alcohol	140

Source: field survey

Table 6 depicts causes of indebtedness. A literature review shows multiple causes are responsible for farmer's indebtedness.[vi] Almost 119 cases reported three, 202 cases two and 269 single cause of indebtedness. However, poor financial position, high dependency ratio, alcoholism, crop failure was largely affected economic situation of victim farmers in Maharashtra. This creates income uncertainly on the one hand and high consumption expenditure on the other hand. Finally, high indebtedness leads towards economic distress and suicide.

4. Factors increasing economic distress among farmers:

The multiple factors were responsible for increasing suicide epidemic among farmers in India (GOI 2006; Gill & Singh 2006). An average four different causes were responsible for farmers' suicide. The researcher was selected 13 different immediate causes of farmers' suicide (see table 7). These factors were leads psychology of victims either directly or indirectly towards suicide. In more precisely, indebtedness was major cause of more than 90 percent victims, followed by unviable land holding of 69 percent and poor financial position of 55 percent selected victims. The alcoholism was also affected economic situation of 140 selected victim families and found major cause of suicide.

Table 7: Causes of suicide found during field visit

Sr.	Causes of suicide	N=652	percent
1.	Debt burden	590	90.5
2.	Poor financial position	359	55
3.	Higher dependency ratio	290	44.5
4.	Crop failure	192	29.4
5.	Unviable land holding	450	69
6.	Social stigma	33	0.5
7.	Pressure of recovery of loan by banks and money lenders	380	58.3
8.	Court cases	9	1.4
9.	Family Dispute	91	14
10.	Addicting of Alcohol	140	21.5
11.	Depression/ illness	49	7.5
12.	Non-cordial marital relation	23	3.5
13.	Property dispute	9	1.4

Source: field visit survey

Moreover, literature review represents that large area under cotton cultivation, shut down of MCPS, dumping of cotton prices in international market, reduction in tariff of cotton import, rainfed farming, traditional and neutral agriculture policy, highly exploited & uncontrolled traders and commission agents are also affected indirectly economic situation and self reliance of victim farmers.

Results:

Farmers' suicide is the complex and complicated phenomenon. The numbers of factors are responsible for indebtedness of farmers. It leads to farmers towards economic distress and finally commits suicide. More than 90 percent victim families were loan from institutional sources and 53 percent from private sources. Similarly, income of the 54 percent victim families was below poverty line. The uneconomic land holding of farmers, dependency on uneven and uncertain rainfall, low yield of major crops i.e. cotton, lack of income to meeting the subsistence expenditure, unproductive expenditure on marriages and ceremonies including dowry are heavily responsible for indebtedness. This high economic distress created many issues among farmers i.e. family dispute, alcoholism, non-cardinal relationship and so on. The researcher has concluded that lack of income sources to meeting the basic needs of farmers is the major cause of indebtedness and finally economic distress. Similarly, debt relief cannot become permanent solution on the problem of farmers' indebtedness and economic distress.

Suggestions:

Food is the basic need of human. Food security is the prime objective of every nation. However, food grains producers are in economic distress and large number of farmers committed suicide for permanent overcome from indebtedness in Maharashtra. Government have taken many policy decisions for preventing farmer's suicide. However, this could not possible because lack of positive steps for sustainable agriculture development across India. It is suggested that government

should focus on development of agro subsidiary activities, industrial expansion, irrigation extension, promoting agro processing industry and reduce regional backlog for preventing farmer's suicide in Maharashtra. There is need of social support to victim families to achieve social and economic stability in the study area. Moreover, government should ban on alcohol and strict action should be taken against tradition of dowry to prevent economic distress and issue of suicide epidemic among farmers in study area.

Conclusion:

Economic distress was found among farmers and large number of farmers committed suicide in Maharashtra. The rainfed nature of agriculture and lack of employment opportunities during lean season of farming has adverse impact on income of farmers. Similarly, low fertility of soil has an adverse impact on yield. It was found that per hectare yield of major crops in selected districts is relatively poor than average yield of India. Net return of such farmers is lower and sometimes farmers are unable to meeting the cost of cultivation. Hence, about 90.5 percent victim families were indebted before suicide and per capita income of 54.4 percent victims was below poverty line. These farmers did not capacity of loan repayment and it does not possible in future. Many farmers were committed suicide for permanent outcome from debt trap in study area. This high economic distress created many issues among farmers i.e. family dispute, alcoholism, non cardinal relationship and so on. Government have taken many policy decisions for preventing farmer's suicide. The debt waiver scheme announced by the government could not prevent issue of farmers' suicide. Therefore, government should implement policy which will be useful for sustainable agriculture development of overall India. It is also suggested that government should focus on development of agro subsidiary activities, industrial expansion, irrigation extension, promoting agro processing industry and reduce regional backlog for preventing farmer's suicide in Maharashtra. There is need of social support to victim families to achieve social and economic stability in the study area. Moreover, government should ban on alcohol and strict action shall be taken against tradition of dowry to prevent economic distress and issue of suicide epidemic among farmers in study area. This will helpful to sustainable agriculture development and employment generation. The debt relief

Notes:

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[i]Behare P. & Bhise M. (2009), Dhobale V. (2009), Epper V (2009), Talule D (2013), Mene T (2013), Kulkarni R. (2013) on farmers suicide in Maharashtra

[ii]National farmers commission (2004) Fact findings team of Planning Commission (2006), TISS (2005), IGIDR (2006), Report of Narendra Jadhav (2008)

[iii]The list provided by department of farmers suicide of Wardha district and it contains name, address and date of suicide committed by farmer during 2001-2011.

[iv] The table value is 32.9 at 0.001 significance level and p value is close to zero. degree of freedom is 12.

[v] Monthly per capita consumption expenditure of Rs. 972 in rural areas and Rs. 1407 in urban areas is treated as the poverty line at the all India level. This implies a monthly consumption expenditure of Rs. 4860 in rural areas or Rs. 7035 in urban areas for a family of five at 2011-12 prices declared

by the " **Expert Group to Review the Methodology for Measurement of Poverty"** appointed

by planning commission under the Chairmanship of Dr. C. Rangrajan.

References:

Anita Gill & Singh L. (2006), 'Farmers' Suicides and Response of Public Policy', Economic & Political Weekly, XLI (26), June 30, 2006: 2762-2768

Assadi Muzaffar (2006), *'Agrarian Crisis and Farmers" Suicide in India: Dimension, Nature and Response of the State in Karnataka'*, Indian Journal of Labour Economics, 49 (4): 791-811.

Behare P. and Bhise M. (2009), *'Farmers' suicide: Across culture'*, Indian Journal of Psychiatry, 51 (4): 242-43

Bose Ashish (2000), '*From Population to Pests in Punjab-American Boll Worn and Suicides in Cotton Belt'*, Economic and Political Weekly, 35(38) : 3375-78

CHR & CJ (2011), *'Every Thirty Minutes Farmers Suicide, Human Rights and the Agrarian Crisis in India',* Centre for Human Rights and Global Justice, New York University School of Law.

Dandekar Ajay (2005), *'The Killing Field, Farmers Suicides in Maharashtra'*Indian Journal of Social Work, 66: 345-353.

Deshpande R. (2003), *'Suicide by Farmers in Karnataka: Agrarian Distress and Possible Alleviatory Steps',* Economic and Political Weekly, 37 (26): 2601-10.

Dev S & Mahendra (2009), *'Challenges for Revival of Indian Agriculture'*, Agricultural Economics Research Review, 22 : 21-45

Dhobale V. (2009), *'Farmers suicide: Tragedy of Globalisation (Marathi book)'*, Pune, Sugawa Publication.

Emile Durkheim (1951), *'Suicide: A study in Sociology',* New York, Free Press.

Epper V. (2009), *'A critical study of Rural Indebtedness with special reference to Selected Districts from Vidarbha and Marathwada Region'*, Ph.D. thesis submitted to BAMU, Aurangabad.

Grace Boyle & Others (2012), *'Endangered Waters: Impact of Coal fired plants on water supply",* report published by Green Peace Indian Society, Bengalaru

Government of India (2004), *' Report of National commission on farmers'*, Department of Agriculture, New Delhi: 04

Government of India (2006), *'Report of the Fact Finding Team on Vidarbha'*,Planning commission of India, New Delhi.

Government of Maharashtra (2013), 'Economic Survey of Maharashtra 2012-13' Directorate of Economics & Statistics, Mumbai: 36

Hamermersh D. (1974), *'The Economics of Black Suicide',* Southern Economic Journal, 41: 188-199.

Jadhav Narendra (2008), *'Report on Farmers Suicide and Issues before Agriculture Sector: Debt Relief and All Maharashtra Balanced Agriculture Development Action Plan',* submitted to Government of Maharashtra, Mumbai.

Jyotimoyee Kar (2010), *'Institutional Credit, Transaction Cost and Informal Sector: A Case Study of Indian Villages'***,** The Indian Journal of Labour Economics, 53 (2), 2010: 397-408

K. Nagraj (2008), *'Farmers Suicide in India: Magnitude, Trends and Spatial Patterns',* Madras Institute of Development Studies, Chennai.

Kulkarni, R (2013), *'There is living drought: Insight reality found in long March (Marathi book)',*Pune, Samkalin Prakashan.

Mene Tarun (2013), *'Underestimation of Suicide: A Study of the Idu Mishmi Tribe of Arunachal Pradesh'*, Economic & Political Weekly, 48 (52): 129-133

Mishra Srijit & Others (2006), *'Suicides of Farmers in Maharashtra: A Background Paper',* Indira Gandhi Institute of Development Research, Mumbai (MH), January 2006.

Mishra Sirjit (2006), *'Farmers suicide in Maharashtra'*, Economic and Political Weekly, XLI (16): 1538-45.

Mishra Srijit (2006), *'Rural credit and Suicides in Maharashtra: A case control study',* March 2006, IGIDR, Mumbai.

P. Satish (2006), *'Institutional Credit, Indebtedness and Suicides in Punjab'*, Economic & Political Weekly, XLI (38): 2754-61

Patil Vikhe B. (2008), *'Agricultural Indebtedness: Crisis and Revival'*, Economic & Political Weekly, XLIII (05): 47-52

Reddy V. Ratna and S. Gulab (2006), *'Agrarian Crisis: Looking beyond Debt Trap'*, Economic & Political Weekly, 41 (19: 1838-41

Selvaraj. K & C. Ramasamy (2006), *'Drought, Agricultural Risk and Revenue Income'*, Economic and Political Weekly, XLI (26): 2739-46

Sharma H. (2005), *'Economic Conditions of Agricultural Labour Households in 1990s: A State Level Analysis of Wage Earnings and Indebtedness'*, The Indian Journal of Labour Economics, Vol. 48, No. 2, 2005: 425-436

Singh Ajit Kumar (2013), *'Income and livelihood Issues of Farmers: A field study in Uttarpradesh',* Agricultural Economics Research Review, Vol. 26 (Conference Number): 89-96

Sukhvinder Singh & Ramneet Kaur (2011), 'Formal & Informal Agriculture Credit: An Apprisal', Asian Journal of Research in Social Science & Humanities, 1 (3), Nov. 2011: 65-76

Talule D. (2013), *'Political Economy of Agricultural Distress and Farmers Suicides in Maharashtra'*, International Journal of Social Science & Interdisciplinary Research, 02 (2): 95-124

TISS (2005), *'Causes of Farmer Suicides in Maharashtra: An Enquiry'*, Tata Institute of Social Sciences, Tuljapur (M.H), March 15, 2005

Vyas V. (2011), '*Strengthening small farm sector'*, Yojana, 55: 11-21

Vaidyanathan A. (2006), 'Farmers Suicides and Agrarian Crisis', Economic & Political Weekly, Sept. 23, 2006: 4009-4013

Vatta K & Sindhu R. (2007), *'Income Diversification among Rural Households in Punjab: Dynamics, Impacts and Policy Implications'***,** The Indian Journal Of Labour Economics, 50 (4), 2007: 723-736 2007