

## Watershed Development Programme A Boon for Mitigating Suicide among Farmers: Study of Vidarbha Region of Maharashtra

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### ABSTRACT

*The study was conducted during 2011-2012 in six debt distressed districts in Vidarbha region of Maharashtra of India to assess the role of watershed development programmes in mitigating suicide among farmers. National Bank for Agriculture and Rural Development (NABARD) has launched holistic watershed development programmes on 2nd October 2006 to help farmers in the distressed districts of Vidarbha region of Maharashtra. A structured data collection schedule was developed by the investigator under this study regarding reasons of suicide, preventing measures of suicide and role of NABARD Supported Holistic Watershed Development Programmes (NSHWDP) in the Vidarbha region of Maharashtra in mitigating suicide among farmers. The study revealed that in 13.3 per cent households farmers committed suicide in the six distressed districts of the Vidarbha region. Among the farmers who committed suicide, majority (81.2 %) were male. Indebtedness was explained as major cause of suicide among the farmers of Vidarbha region of Maharashtra. The study also revealed that majority (95.8%) of farmers considered the government sponsored agricultural development programmes could be an important measure to prevent suicide among them. All farmers considered that the NSHWDP helped in decreasing the suicide cases in their region because the watershed programme helped them in more availability of irrigation water due to water storage structures and resulting increase in agricultural production.*

**Key words:** Farmers' suicide, Natural resource conservation, Watershed management

According to National Crime Records Bureau, India, more than one lakh persons (1,35,585) in the country lost their lives by committing suicide during the year 2011. This indicates an increase of 0.7 per cent over the previous year's figure (1,34,599). In the country, West Bengal has reported the highest number of suicides (16,492) accounting for 12.2 per cent of total suicides followed by Tamil Nadu (15,963), Maharashtra (15,947), Andhra Pradesh (15,077) and Karnataka (12,622) accounting for 11.8, 11.8, 11.1 and 9.3 per cent, respectively of the total suicides in the country. These 5 States together accounted for 56.2 per cent of the total suicides reported in the country (NCRB, 2013).

There have been more than 30,000 farmers who committed suicides in Maharashtra in the last decade, out of which more than 70 per cent farmers belonged to the 11 districts of Vidarbha region. This is mainly because of the unfertile land, lack of ample amount of water resources, lack of new technologies and due to the negligence of the state govt. towards the farmers needs. The main crop in Vidarbha being Cotton, but the farmers growing it do not get their share from the government, which lead to the high distress among them, leading to the cases of suicides. Due to the absence of any responsible counselling either from the government or society there were many farmers who did not know how to survive in the changing economy. Such stresses pushed many into a corner where suicide became an option for them. This also led the farmers and others in this region to make a call for a separate Vidarbha state. On August 2, 2012, fearing failed monsoon multiplying his debt burden, Murlidhar More committed suicide, the first farmer suicide during 2012. His body was found hanging from a tree in his farm in

Yamaji Patil Wadi in Atpadi taluka, Sangli district (Wikipedia, 2013). According to the Vidarbha Jan Andolan Samiti (VJAS), a social group working among farmers in Vidarbha, the toll of farmer's suicide in Vidarbha has reached 59 for the month of September, 2012 and as many as 565 farmers have killed themselves in the region because of the agrarian crisis since January to September, 2012 (The Hindu, 2012).

Dongre and Deshmukh (2012) reported that farmers' suicides in Vidarbha are caused by the complex interplay of social, political and environmental constraints. Hence, a comprehensive intervention to ensure self reliance and capacity building among farmers in modern farming techniques, monitoring and support system for vulnerable farmers, a village-level, transparent system for disbursement of relief packages is required to prevent farmer suicides in the near future.

Agriculture and forestry sciences section of Indian Science Congress Association (ISCA) conducted a panel discussion on "Ending Era of Farmers Suicide" in Indian Science Congress held at Calcutta University, Kolkata during 3-7th January, 2013 and M. S. Swaminathan quoted that the farming is a life giving profession and farmers are life givers to us. He has suggested three major steps to overcome the crisis such as (i) Diversification of source of income, through Rural System Research Cropping System Research (crop – crop / food crop - fodder) and Farming System Research (crop – livestock); (ii) A mechanism of social support in the form of a fund, which he referred as 'Life Saving Fund' (iii) Errors minimised agronomy to avoid or reduce degradation, which should be profit maximising and risk minimising. R B Singh pointed out that farmers are the backbone of the

nation and the nation faced 17 years of human tragedy as during this period about 3 lakhs farmers committed suicide and left their family to suffer with same distress. N Subba Rao had explained that non-availability of inputs, labour problems, high cost of cultivation, uncertainties of crop productivity, poor marketing scope, crop failure, are the main cause of suicide among farming community and forced them to observe crop holidays for several years (ICAR, 2013).

NABARD Supported Holistic Watershed Development Programme (NSHWDP) was launched on 2nd October 2006 in six distressed (debt stressed) districts of Vidarbha region of Maharashtra and soil and water conservation interventions were implemented on the basis of watershed approach to enhance the agricultural production in the area on sustainable manner. The project was not only encompassed soil and water conservation measures but also incorporated the overall development of families through various supporting activities of livestock development, Wadi development (horticulture development), women development and improvements in livelihood of landless families. Thus, the present research study was framed keeping the above cited views to assess the role of watershed development programmes in mitigating suicide among farmers in distressed districts of Vidarbha region of Maharashtra.

### METHODOLOGY

The study was conducted during 2011-2012 in six distressed (debt stressed) districts in Vidarbha region of Maharashtra, which were Yavatmal, Buldana, Amravati, Akola, Washim, and Wardha and following watershed clusters were selected from each district: (i) Asoli watershed cluster in Ghatanji taluka of Yavatmal district, (ii) Berala-Yeota watershed cluster falls in Chikhali taluka of Buldana district, (iii) Dharnapur watershed cluster situated in the Nandgaon Khandeshwar taluka of Amravati district, (iv) Dhudhalam watershed cluster falls in Block and district of Akola, (v) Mothegaon watershed cluster is located in Risod tahsil of Washim district and (vi) Dahegaon watershed cluster situated in Arwi taluka of Wardha district. The term watershed cluster was used in the study, which can be described as "an area comprised of two or more small watersheds at a single place adjacent to each other having different drainage channels". These watershed clusters were selected purposively because NABARD Supported Holistic Watershed Development Programme was launched on 2nd October 2006 in these six districts of Vidarbha region in Maharashtra and also a consultancy project on "Midterm evaluation of NABARD Supported Holistic Watershed Development Programme (NSHWDP), Maharashtra" was sanctioned by Deputy General Manager, National Bank for Agriculture and Rural Development (NABARD), Pune, Maharashtra to the

Central Soil and Water Conservation Research and Training Institute, Research Centre, Vasad. The study was under taken with the objective to assess the role of watershed development programmes in mitigating suicide among farmers of Vidarbha region of Maharashtra.

The respondents were selected from the beneficiary farmers of watershed clusters with the help of stratified proportionate random sampling plan. The 20 respondent farmers were selected from each watershed cluster and total 120 respondent farmers were selected for the study from six watershed clusters. A structured schedule was developed by the investigator regarding role of watershed development programme in decreasing the suicide cases in the Vidarbha region of Maharashtra and responses of respondent farmers were recorded in the schedule through personal interview method.

### RESULTS AND DISCUSSION

**Status of farmers' suicide in the region :** Actual status of farmers who committed suicide in the study area was worked out and information regarding suicide of farmers in each watershed cluster, their gender, age and ways of suicide were studied and presented in the Table 1 below.

The data in Table 1 revealed that maximum 6 farmers committed suicide in Berla Yeota watershed cluster in Chikhali taluka of Buldana district out of which 5 were male and one female and their age varied from 18 to 55 years. Four farmers succumbed by consuming poison, one jumped in well and one immolated by kerosene. Total four farmers committed suicide in Dudhalam watershed cluster of Akola district, out of which two were males and two were females of about 50 to 60 years of age. Two farmers died by consuming poison and two self immolated by kerosene. Three farmers committed suicide in Asoli watershed cluster in Ghatanji taluka of Yavatmal district and all three were male having age from 35 to 56 and all three succumbed by consuming poison (Monocrotophos). In Mothegaon watershed cluster two male young farmers committed suicide by hanging themselves. One young male farmer also died by jumping into well in Dharnapur watershed cluster of Nandgaon Khandeshwar taluka of Amravati district. The Table further revealed that overall in 13.3 per cent households farmers committed suicide in six distressed districts of the Vidarbha region of Maharashtra. Among the farmers who committed suicide, 81.2 per cent were male and 18.8 per cent were female farmers.

It was also found out that the farmers and their kin have taken loans from banks or local money lenders for purchasing agricultural inputs and also for domestic needs. The farmers were unable to repay the loans to banks or money lenders because of continued failure of crops due to drought in the region and such condition

might have compelled the poor farmers to commit suicide in these six distressed districts of Vidarbha region of Maharashtra.

developing a data collection schedule. The responses of the respondents were recorded in the schedule as yes or no against the possible reasons listed in the schedule.

**Table 1**  
**Status of farmers' suicide in watershed clusters programmes in Vidarbha area (N=120)**

Particulars	Response	Mothegaon	Berla Yeota	Asoli	Dudhalam	Dharampur	Dehgaon	Pooled
Have your any member committed suicide?	Yes	2 (10%)	6 (30%)	3 (15%)	4 (20%)	1 (5%)	No	16 (13.3%)
	No	18	14	17	16	19	20	104
What was the gender who committed suicide?	Male	2	5	3	2	1	0	13 (81.2%)
	Female	0	1	0	2	0	0	3 (18.8%)
What was the age who committed suicide? Age in years.		40 and 55	18, 25, 27, 28, 55, 55	35, 36, 56	50, 50, 55, 60	45	0	
How had he/she committed suicide?		Hanging	Immolating self-1, Consuming poison - 4, Jumping in well-1	Consuming poison (Monocrotophos)	Consuming poison-2, Immolating self -2	Jumped in well	0	

**Reasons of suicide among farmers :** Possible reasons of farmers' suicide in the Vidarbha region of Maharashtra were also studied systematically by

Farmers from all the selected watershed clusters were selected randomly and interviewed for responses. The data are presented in the Table 2 below.

**Table 2**  
**Distribution of farmers regarding reasons of farmers' suicide cases in the Vidarbha region of Maharashtra (Frequency and Percentage) (N=120)**

Reasons of farmers' suicide	Mothegaon (n=20)	Berla-Yeota (n=20)	Asoli (n=20)	Dudhalam (n=20)	Dharampur (n=20)	Dehgaon (n=20)	Pooled (N=120)
Uncertainty of agricultural enterprise in the region	18 (90.00)	20 (100)	20 (100)	17 (85)	13 (65)	13 (65)	101 (84.2)
Indebtedness or bankruptcy of farmers	20 (100)	20 (100)	20 (100)	19 (95)	20 (100)	20 (100)	119 (99.2)
Increasing costs of cultivation	14 (70.00)	18 (90)	9 (45)	18 (90)	7 (35)	20 (100)	86 (71.7)
Sudden fall in prices of farm commodities	20 (100)	18 (90)	4 (20)	18 (90)	8 (40)	14 (70)	82 (68.3)
Lack of credit facility availability for farmers	17 (85)	15 (75)	5 (25)	19 (95)	8 (40)	0 (0)	64 (53.3)
Lack of irrigation facilities	20 (100)	20 (100)	12 (60)	20 (100)	11 (55)	5 (25)	88 (73.3)
Repeated crop failures	20 (100)	20 (100)	20 (100)	20 (100)	10 (50)	20 (100)	110 (91.7)
Due to drought	20 (100)	15 (75)	20 (100)	21 (105)	15 (75)	6 (30)	97 (80.8)
Due to failure in love affairs	10 (50)	10 (50)	0 (0)	0 (0)	5 (25)	0 (0)	25 (20.8)
Due to family dispute	0 (0)	12 (60)	3 (15)	0 (0)	2 (10)	0 (0)	17 (14.2)
Due to illness or health problem	0 (0)	11 (55)	0 (0)	1 (5)	6 (30)	4 (20)	22 (18.3)

Figures in parentheses indicate percentages.

It was found out that almost all the farmers (99.2%) were of the opinion that indebtedness or bankruptcy was the main cause of suicide cases among the farmers of Vidarbha region of Maharashtra. It was also important to note that the majority (91.7%) of farmers claimed that repeated failure of crop was also a reason to compel farmers to take extreme step of suicide. More than eighty per cent of farmers considered the uncertainty of agricultural enterprise and drought in the region as important reasons to boost suicide cases among farmers. About seventy per cent of farmers were of the opinion that lack of irrigation facilities, increased cost of cultivation and sudden fall in prices of farm commodities were the reasons responsible for suicide cases among farmers of Vidarbha area of Maharashtra. About fifty per cent farmers also considered the lack of credit facilities available for farmers' as important reason for suicide by them. Least important reasons of suicide among farmers of Vidarbha region were failure in love affairs, family dispute and illness or health problem.

Therefore, it was revealed that the inability of farmers to repay their loans taken for purchasing of agricultural inputs for crop cultivation because of repeated failure of crop due to continuous drought in the area or uncertainty of agricultural enterprise was the reason to force the farmers to commit suicide. Similar

findings were also reported by; Iyer and Manick, 2000; Mishra, 2005, 2006; Mohan Rao, 2004; Mohanty, 2001, 2005; Mohanty & Shroff, 2004 and Satapathy & Mishra, 2012.

**Preventing measures for suicide among farmers :** Preventing measures for suicide among farmers in the Vidarbha region was also studied by developing a structured schedule and responses of farmers were recorded and results were explained in the Table 3. Table 3 shows that the majority (95.8%) of farmers considered the government sponsored agricultural development programmes as important measure to prevent suicide cases among farmers of Vidarbha region. It might be due to that the government sponsored agricultural programmes provide guidance, subsidized inputs, technologies to increase income of farmers by increasing agricultural production and that results in reducing poverty among farmers. Majority (88.3%) of farmers opined that the minimum support prices of farm commodities should be increased and also 85% of farmers considered that the low cost inputs should be supplied for cultivation to prevent suicide cases among farmers of Vidarbha area. It might be due to the fact that the cost of crop cultivation has increased and resulted in low or no income to farmers and more frustration among farmers and such situation compelled farmers to commit suicide. Majority

**Table 3**  
**Distribution of farmers regarding measures to prevent suicide cases**  
**in the Vidarbha region of Maharashtra (Frequency and Percentage) (N=120)**

Measures to prevent suicide in the area	Mothe-gaon (n=20)	Berla-Yeota (n=20)	Asoli (n=20)	Dudhal-am (n=20)	Dharma-pur (n=20)	Dehga-on (n=20)	Pooled (N=120)
Insurance policy for agricultural crops	20 (100)	20 (100)	9 (45)	20 (100)	11 (55)	12 (60)	92 (76.7)
Loan waving scheme by govt. for indebted farmers	20 (100)	15 (75)	8 (40)	20 (100)	6 (30)	0 (0)	69 (57.5)
Low cost inputs for cultivation	20 (100)	20 (100)	12 (60)	19 (95)	12 (60)	19 (95)	102 (85.0)
Increase in minimum support prices of farm commodities	20 (100)	20 (100)	6 (30)	19 (95)	21 (105)	20 (100)	106 (88.3)
Credit facility for farmers at low interest rate	20 (100)	20 (100)	4 (20)	20 (100)	7 (35)	15 (75)	86 (71.7)
Government sponsored agricultural development programmes	20 (100)	20 (100)	16 (80)	20 (100)	20 (100)	19 (95)	115 (95.8)
Education among rural farmers	15 (75)	20 (100)	8 (40)	17 (85)	6 (30)	6 (30)	72 (60.0)
Occupation or small scale enterprises in village	3 (15)	7 (35)	19 (95)	17 (85)	20 (100)	1 (5)	67 (55.8)
Dairying	3 (15)	3 (15)	16 (80)	4 (20)	11 (55)	0 (0)	37 (30.8)

Figures in parentheses indicate percentages

(76.7%) of farmers desired that the insurance policy for agricultural crops should be given to farmers so that the farmers can compensate the losses due to crop failure due to natural calamities. Majority (71.7%) of farmers also demanded credit facility for farmers at low interest rate. Sixty per cent of farmers also considered education among rural farmers as a measure to prevent suicide. About fifty per cent of farmers considered the loan waving scheme by government for indebted farmers and also occupation or small scale enterprises in village an important measure to prevent suicide among them. The dairying was also considered by thirty per cent of farmers as a measure to prevent suicide among farmers of Vidarbha area of Maharashtra. It might be due to that the dairying can helps to farmers to earn their livelihood.

**Role of watershed programme in decreasing suicide among farmers :** The data in Table 4 revealed that almost all farmers opined that the watershed development programme helped in decreasing the suicide cases in their region. The programme helped in more availability of irrigation water due to construction

of water storage structures and resulting increase in agricultural production. Majority (90%) of farmers perceived that the increase in their income due to livestock activities undertaken in their village through watershed programme also helped in reducing the suicide cases in the area. Majority (87.5%) were of the opinion that the suicide cases also reduced due to the employment generated by the watershed development programme in their village. Little more than three-fourth (77.5%) of farmers had opined that the small credit facility to watershed farmers to purchase inputs also helped and two-third (68.3%) of farmers said that government subsidy on inputs supplied to farmers under watershed programme also helped farmers in decreasing suicide cases in the Vidarbha area of Maharashtra. About 60 per cent of farmers considered that the interventions for reclamation of their land for cultivation as well as improved technologies transferred by PIA in the watershed development programme helped in increase agricultural production and decreased suicide cases among farmers. Fifty per cent of farmers also said that the supply of high yielding

**Table 4**  
**Distribution of farmers regarding role of watershed development programme in decreasing the suicide cases among farmers in the Vidarbha region of Maharashtra (Frequency and Percentage) (N=120)**

Roles of watershed programme in decreasing suicide cases	Mothe-gaon (n=20)	Berla-Yeota (n=20)	Asoli (n=20)	Dudhal-am (n=20)	Dharam-pur (n=20)	Dehga-on (n=20)	Pooled (N=120)
Do you think the watershed development programme helped in decreasing the suicide cases in your region?	20 (100)	20 (100)	20 (100)	20 (100)	20 (100)	20 (100)	120 (100)
Watershed programme helped in more availability of irrigation water due to water storage structures.	19 (95)	20 (100)	20 (100)	20 (100)	20 (100)	20 (100)	119 (99.2)
Small credit facility to watershed farmers to purchase inputs.	20 (100)	20 (100)	15 (75)	11 (55)	7 (35)	20 (100)	93 (77.5)
Government subsidy on inputs supplied to farmers under watershed programme.	20 (100)	10 (50)	20 (100)	12 (60)	6 (30)	14 (70)	82 (68.3)
Improved technologies transferred by PIA in the watershed helped in increase in agricultural production.	15 (75)	18 (90)	0 (0)	16 (80)	3 (15)	20 (100)	72 (60.0)
Employment generated due to the watershed development programme in your village.	20 (100)	20 (100)	7 (35)	18 (90)	20 (100)	20 (100)	105 (87.5)
Interventions for reclamation of your land for cultivation through the watershed development programme.	15 (75)	19 (95)	7 (35)	15 (75)	11 (55)	6 (30)	73 (60.8)
Increase in your income due to livestock activities undertaken in your village through watershed programme.	15 (75)	16 (80)	20 (100)	17 (85)	20 (100)	20 (100)	108 (90.0)
Increase in your income due to supply of high yielding variety seeds for crop cultivation.	15 (75)	18 (90)	0 (0)	9 (45)	6 (30)	15 (75)	63 (52.5)

Figures in parentheses indicate percentages

variety seeds for crop cultivation also helped in increasing their income and helped to farmers in fighting against suicide. Therefore, it can be concluded the watershed development programmes were highly helpful to farmers in mitigating the suicide cases among the farmers in Vidarbha area due to increase in their income by adopting different agricultural intervention in the watershed area.

### CONCLUSION

It can be concluded from the study that the farmers had committed suicide in the Vidarbha region of Maharashtra because of indebtedness or bankruptcy due to inability of farmers to repay their loans taken for purchasing of agricultural inputs for crop cultivation because of repeated failure of crop due to continuous

drought in the area or uncertainty of agricultural enterprise. It was also concluded that the watershed development programmes were highly helpful to farmers in mitigating the suicide cases due to increase in their income through more agricultural production by adopting different soil and water conservation interventions in their watershed cluster area. Therefore, it can be inferred from the study that the watershed development programmes should be implemented in such areas so that the farmers can earn their livelihood with more availability of irrigation water due to adoption of various water harvesting interventions through watershed programmes.

*Paper received on* : September 13, 2013

*Accepted on* : October 14, 2013

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