

Executive Summary

Suicide of Farmers in Maharashtra

(Submitted to the Government of Maharashtra)

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1 The Context

1.1 In recent years, a larger agrarian crisis, particularly in cotton growing regions of Andhra Pradesh, Karnataka and Maharashtra in India, has precipitated a spate of suicide death among farmers. This is of public policy concern. It is with this concern that the current study looked into various socio-economic aspects to understand processes and identify risk factors which would help formulate policy suggestions.

1.2 The broad objectives of the current study are:

- To analyze the agrarian scenario in Wardha, Washim and Yavatmal districts.
- To look into the trends and patterns of the recent suicide scenario in Maharashtra.
- To study the nature and extent of indebtedness among deceased farmers.
- To identify and examine other socio-economic factors leading to farmers' suicidal death.
- To compare the suicide (case) with non-suicide (control) households.
- To suggest policy measures.

2 Summary Findings

2.1 *The Agrarian Scenario*

2.1.1 Farmers in the selected districts are exposed to both yield as well as price shocks for their Cotton crops. In 2004, the selected districts experienced acute water problem due to deficit rainfall. Though Cotton cultivation was affected in at least some pockets of the selected districts, there has been record production in the state as well as in the rest of the country. Increased supply of Cotton in 2004 was worldwide leading to a fall in its prices.

2.1.2 Price risk in Cotton is further compounded due to large subsidy provided in the United States, low import tariff of only 5 per cent in India and the failure of the Monopoly Cotton Procurement Scheme (MCPS) in providing a fair price to the farmers in Maharashtra.

2.1.3 The number of rural branches of Scheduled Commercial Banks (SCBs) has not increased and it has been declining as a proportion of total branches.

Agricultural credit as a proportion of total credit disbursed by the SCBs has been declining. Credit lines of co-operative societies are choked. Credit flow through primary agricultural co-operative credit societies indicate that loan per hectare gross cropped area is the lowest in the Vidarbha region.

- 2.1.4 The breakdown of formal credit structures has led to increased reliance on informal private sources of credit with greater interest burden. Under normal circumstances interest charged by private moneylenders is around Rs.25 (*sawai*) or Rs.50 (*dedhi*) for a loan of Rs.100 that is to be repaid in 4-6 months time.
- 2.1.5 In the absence of government extension service, farmers are advised by input traders leading to an increase in input costs through supplier-induced-demand.
- 2.1.6 Share of input costs for seed, pesticide and fertilizer in Cotton is higher than that for other crops. In fact, 90 per cent of the total insecticide/pesticide usage in the five major crop groups in Maharashtra is in Cotton.
- 2.1.7 Cotton's share of gross value addition in Maharashtra's agriculture is much lower than its share of gross area under cultivation. In fact, estimated cost of Cotton cultivation in 2004-05 would at best break-even with the price under Monopoly Cotton Procurement Scheme.
- 2.1.8 In recent years, there is shift in cropping pattern from Cereals (particularly, Jowar) and Cotton to Soyabean. Increased supply of Soyabean has also led to a reduction in its price.
- 2.1.9 Area under cultivation in the selected districts is largely unirrigated and with option for cash crop being limited to Cotton or Soyabean the gross value addition per unit land size in these districts will be lower than that in Western Maharashtra.
- 2.1.10 Expenditure under public intervention programmes like the Maharashtra Employment Guarantee Scheme (MEGS) is not commensurate to the regions share of poor. The share is even lower for agriculture and irrigation schemes, which together account for 44 per cent of the state's expenditure under MEGS during 2001-4.
- 2.1.11 At the all India level, gross fixed capital formation in agriculture, as a proportion of gross domestic product, has declined from 3.1 per cent in 1980-5 to 1.6 per cent in 1997-2002. During the same period, proportion of plan

expenditure towards agriculture & allied activities has declined at the all India level as well as for Maharashtra.

2.2 Trends and Patterns of Suicides in Maharashtra

2.2.1 Maharashtra's suicide mortality rate (SMR, suicide death per 100000 population) has been higher than the all India situation. In 2001, age-adjusted SMR for males was 20.6 in Maharashtra compared to India's 14.0. Similarly, age-adjusted SMR for females was 12.6 in Maharashtra and 9.5 at the all India level.

2.2.2 SMR for male farmers in Maharashtra trebled from 17 in 1995 to 53 in 2004. Whereas for the overall population, the age-adjusted SMR for males has stabilized in the range of 20-21 from 2001 and that for females has been declining after 1999.

2.2.3 Male SMRs have jumped to a higher level around 2000 or 2001 in Amravati, Nagpur and Pune divisions and this is also evident in the selected districts of Wardha, Washim and Yavatmal.

2.2.4 During 2001-4, age-specific, education wise and marital status wise patterns indicate that SMR for almost each and every sub-group in Amravati and Nagpur divisions and in the selected districts is greater than the corresponding SMR for Maharashtra.

2.2.5 SMR for male farmers is the highest in Amravati division – annual average of 116 for the period 2001-4 and as high as 140 in 2004. Compared to the state average, Aurangabad and Nagpur divisions also show higher SMR for farmers.

2.2.6 Distribution by method of committing suicide indicates the higher usage of pesticides (34 per cent males and 30 per cent females). It is much higher than the state average in Amravati and Aurangabad divisions and also in the selected districts of Wardha, Washim and Yavatmal.

2.3 Probing Suicide Deaths: Micro Analysis

2.3.1 The analysis of 111 suicide cases indicates that the deceased were mostly males (91 per cent), currently married (80 per cent), below 50 years of age (71 per cent) and with more than 10 years of experience in farming (58 per cent).

Nearly two-fifths have completed their matriculation or higher education. Four-fifths of the suicides were committed by consuming insecticide/pesticide.

- 2.3.2 In our sample, the modal groups with greater proportion of suicides are Kunbis (31 per cent) and Banjaras (16 per cent) among caste groups and small (39 per cent) and semi-medium (21 per cent) farmers in terms of size-class of land. This is so because the population proportion of these groups will also be large. Comparing across three broad caste categories and three broad land size-class groups, difference in suicide incidences are not statistically significant after normalizing for population (agricultural census, 1995-6). Nevertheless, one observes that suicide incidences are slightly higher among Scheduled Castes (SCs) and Scheduled Tribes (STs) across caste groups and for marginal and small farmers across size-class of land.
- 2.3.3 The interrelated and co-existing socio-economic stressors identified in order of frequency are indebtedness, deterioration of economic status, conflict with other members in the family, crop failure, decline in social position, burden of daughter's/sister's marriage, suicide in a nearby village, addictions, change in behaviour of deceased, dispute with neighbours/others, health problem, a recent death in the family, history of suicide in family or other family members being ill.
- 2.3.4 Compared to the 106 non-suicide control households, the 111 suicide case households on average have a higher family size (particularly, greater number of females). The proportion of joint families among them is, however, lower. Their ownership of assets and access to basic amenities and average value of produce are also lower.
- 2.3.5 The average amount of outstanding indebtedness even after adjusting for family size and land size is 3.0-3.5 times higher among suicide case households when compared with non-suicide controls. After excluding households with no dues (those whose outstanding indebtedness is nil), the average amount among suicide cases is 2.2 times higher.
- 2.3.6 On average, suicide cases had taken more number of loans and a greater proportion of these were from informal sources. For both the groups, the reliance on informal sources has increased in recent years. Most of the outstanding indebtedness was for agricultural purposes, but this is relatively lower among suicide cases (67 per cent of the total amount of outstanding

indebtedness for the group) when compared with non-suicide controls (89 per cent). The non-agricultural purposes are largely for marriage, but consumption, education and healthcare among others were also mentioned.

- 2.3.7 A statistical analysis comparing suicide case and non-suicide control households indicates that indebtedness and absence of bullock (a productive asset that also serves as a liquid asset) are significant risk factors. Under other restrictive conditions (like controlling for land size, caste or limiting ourselves to a certain district), higher family size and lower value of produce also turn out to be significant risk factors.
- 2.3.8 There is scope for subjective interpretation while scrutinising criteria on eligibility for compensation. The criteria are: the deceased should be a farmer, the deceased should have been indebted and that indebtedness was the cause of suicide. Subjectivity can crop in because of *de facto* versus *de jure* ownership of land, difficulty in verifying informal sector loan, restricting loan as a cause/risk factor only if there was harassment. A perusal of the suicide case households does not reveal differences in the eligible and non-eligible households in terms of land ownership or indebtedness.

3 Policy Suggestions

3.1 *Agriculture related strategies*

Policy interventions should not be restricted to suicide households. A deeper agrarian crisis can be averted by policy interventions beneficial in overall terms. It will also help reduce suicides.

- 3.1.1 **Revitalize rural financial market:** The credit market needs immediate attention; the formal credit structure should be revitalized.
- 3.1.2 **Vaidyanathan committee report:** One could benefit from the recent recommendations of the “Task Force on Revival of Cooperative Credit Institutions,” which suggests to make the cooperative credit societies accountable, to reduce the number of intermediary societies in the three-tier structure, to reduce interest rates charged to the farmer, to reduce intervention by the state government, and to bring them under Reserve Bank of India (RBI) regulation.
- 3.1.3 **Vyas committee report:** Another recent report is on “Flow of Credit to Agriculture and Related Activities from the Banking System.” It suggests a

two-stage reorganization of Regional Rural Banks (RRBs) to consolidate their functioning. This will help them scale up their operations, utilize manpower optimally, have greater autonomy and infuse professionalism while retaining their rural focus.

- 3.1.4 **Working Capital:** This can be for consumption purposes also. It can be operationalized through Kissan Credit Cards.
- 3.1.5 **Investment Capital:** Care should be taken not to divert loans given for this purpose. There should be strict supervision by formal institutions to prevent such possibilities. Otherwise, repayment will become difficult.
- 3.1.6 **Information bureau:** There is a demand for credit, but the supply side of rural financial market is not responding due to some constraints. Enabling the formation of an information bureau will help formal institutions to judge credit worthiness of an individual. When moneylenders operate in a village, they take the help of a prominent person of the village to gather information on credit worthiness of an individual and at times also use their influence to recover loans. In return, they pay him a commission.
- 3.1.7 **Micro credit:** Formal institutions have by now started entering into rural credit market through SHGs and other micro credit enterprises. They should be encouraged to intervene and have a greater presence among farmers.
- 3.1.8 **Regulate private moneylenders:** The Non Governmental Organizations (NGOs) are already involved in facilitating self-help groups (SHGs). The NGOs and local SHGs should be encouraged to act as pressure groups to regulate private moneylenders.
- 3.1.9 **Insurance schemes:** The farmer's problem is rooted in his exposure to risk – yield as well as price shocks. Insurance schemes may be devised to mitigate these. This can be done in three possible ways. *Credit insurance* can look into the credit default. A fund with contribution from the creditor, the debtor and the Government may be created for this. Appropriate mechanisms to look into its modus operandi should be devised. *Crop insurance* will be linked with yield risk. Implementation of this should be village and if possible plot of land specific. Theft of crop and loss due to fire or other calamities should be taken into consideration while administering this. The earlier mentioned information bureau could also help in this endeavour. *Income insurance* will address the poor returns, particularly for marginal and small farmers and also tenants. The

poor returns could be because of poor prices, low yields or high transaction costs arising out of low quantity of produce.

- 3.1.10 **Risk mitigation fund:** A risk mitigation fund can be generated to finance the three different insurance schemes – crop, credit and income – or any other appropriate risk mitigation scheme. This fund will have contribution from the Government and can also be drawn from the Rural Infrastructure Development Fund (RIDF).
- 3.1.11 **Water management:** In the selected districts where agriculture is largely rainfall dependent, strategies to increase irrigation potential (particularly, through watershed development), should be devised so as to provide scope to increase value addition. The Maharashtra Employment Guarantee Scheme (MEGS), the National Watershed Development Project for Rainfed Areas (NWDPA) and the RIDF can be used for this. Expedite the completion of already initiated irrigation projects. For completed projects take measures that ensures utilization is up to potential, and there is better utilization of water through drip/sprinkler.
- 3.1.12 **Land management:** Excessive use of fertilizer and pesticides and mono-cropping can affect the fertility of land. Appropriate land management techniques should be devised. This should complement the efforts in improving water management. The MEGS and RIDF can be used for this.
- 3.1.13 **Diversification of cropping pattern:** The important cash crops of this region are Cotton and Soyabean. To reduce the vulnerability, the farmer should have more options and be able to go beyond these crops. Policies that can make diversification of cropping pattern feasible should be put into place. Inter-cropping, fitting two crops, crop rotation and horticulture should be encouraged. Better water and land management will also help in attaining this objective.
- 3.1.14 **Revive agricultural extension:** In cotton, there is the emergence of new varieties of seeds that makes conventional methods of cultivation redundant. The experience gained over the years is of no use. There is deskilling. The farmer has to upgrade his technical know-how. He should also be abreast with the latest developments in water and land management. An appropriate mechanism to revive agricultural extension is urgently required. Local NGOs can also be involved in facilitating agricultural extension.

- 3.1.15 **Input quality:** Inputs in the form of seeds, pesticides and fertilisers sold to farmers could be of spurious quality. There is no regulatory mechanism. We came across situations where farmers were advised by traders to go in for a third sowing – a case of supplier-induced-demand. The private traders should be regulated. Local non-governmental organizations (NGOs) can be involved in regulating the private trader.
- 3.1.16 **Encourage organic farming:** It will be beneficial on two counts - to reduce costs associated with pesticides and fertilizers and reduce the availability of pesticides for committing suicide. We have also observed its successful practice in two cases during our survey. Replication of such experiments should be encouraged. For instance, shifting from inorganic to organic farming will give low returns in the initial two to three years. This acts as a deterrent for marginal and small farmers. Compensating them during initial years would help. This can be done through MEGS. It would be similar to payment of wages to the landowner under horticulture scheme of MEGS. The help provided should also be in terms of technical know-how (agricultural extension), certification & quality control and marketing. The Vidarbha Organic Farmers Association and other similar organization may be involved in this endeavour.
- 3.1.17 **Integrated pest management:** Another alternative is to encourage a judicious mix of organic and inorganic farming. This will also require help in terms of agricultural extension, quality control and marketing.
- 3.1.18 **Increase import tariff:** The farmer is exposed to price fluctuations, particularly in cotton, because of global price movements. In the current scenario low domestic price is largely due to huge subsidy by the United States of America (USA), a major exporter, and low import tariff in India. The Government of India may be requested (1) to raise the issue of high subsidies in the USA at appropriate forums and (2) to increase the import tariff in Cotton to 30-35 per cent from the current 5 per cent.
- 3.1.19 **Price stabilization:** The Monopoly Cotton Procurement Scheme of Maharashtra has failed in mitigating price fluctuations. Some of the reasons are because of inappropriate functioning of the scheme like payment of additional advance price without looking into market conditions, rent-seeking by office bearers during grading/weighting, involvement of middlemen who

take a commission from farmers, delay and staggered nature of payment to farmers and the payment to farmers being linked with loan repayment among others. These failures should be looked into and an appropriate mechanism to control price fluctuation may be considered. It will also help in risk mitigation.

3.1.20 **Marketing of produce:** Good marketing network can reduce transaction costs. It will also provide non-farm employment opportunities with agricultural linkages.

3.1.21 **Non-farm employment:** A large proportion of rural population being dependent on agriculture (cultivators and agricultural labourers) indicates that there are not many avenues of diversifying sources of income. Agro-based industries and other non-farm opportunities should be increased. With the current cropping pattern, the agro-based industries can be cotton or oilseeds based. It can be related to organic farming like manufacture of composts, bio-fertilizers and bio-pesticides among others.

3.2 *Other Suicide Mitigation Strategies*

3.2.1 **Reduce access to pesticides:** Reduce the easy access and availability of insecticides/pesticides. From those available, toxicity should be reduced to non-lethal levels. The containers of these toxic chemicals should have prominent warning signs as also instructions for proper handling, storage and usage in Marathi. Wherever possible add emetics or stenching agents to make insecticide/pesticide repulsive while consuming. Consider providing formulations that cannot be readily absorbed in human body. The providers/suppliers of insecticides/pesticides should be part of this exercise and held accountable for their lapses. As mentioned earlier, encourage other forms of pest control. Encourage bio-pesticides and phase out chemical pesticides within a time frame. Some of the above-mentioned practices have helped reduce organophosphorous poisoning deaths in Sri Lanka.

3.2.2 **Public Health:** The average distance to reach a health facility which can handle poisoning cases is more than 20 kilometres in Washim and Yavatmal and there are instances where this is about 100 kilometres away. The primary health centres (PHCs) should have trained staff and be equipped with necessary material to handle cases of poisoning. This will reduce travel time and save more lives. The personnel at the primary health centres should also

be trained to identify, intervene (improve their listening skills) and refer patients with suicidal tendency for personalized care. Educate the community to identify depression and alcoholism and initiate treatment. The native healers, practitioners of alternative medicine and faith healers can also be trained to identify such cases and refer them for more specialized care.

- 3.2.3 **Volunteer crisis centres:** Organizations operating in urban areas like *The Samaritans* may be encouraged and provided with support to open their centres in these regions. The volunteers working in these centres should be adequately trained to identify psychological illness and be allowed to refer cases for more personalized care. There should be a process of certification and regulation of these centres to ensure quality and adequacy of care provided by them. Networks of various crisis centres should be encouraged so that they can learn and support each other's work.
- 3.2.4 **Helplines:** Introduce helplines and disseminate the numbers in the villages so that individuals in distress can turn to someone. To begin with, the helplines of organisations operating in urban areas like Nagpur and Mumbai can be disseminated.
- 3.2.5 **Community groups:** Develop a protocol for starting survivor support groups. Form community/farmer groups in rural areas. These groups can discuss farm related and other socio-economic problems.
- 3.2.6 **Socio-religious activities:** The help of socio-religious organization like *The Art of Living* or *Vipassana* may be sought to mitigate the general state of despair among people.
- 3.2.7 **Responsible reporting:** Guidelines by the World Health Organisation (WHO) on suicide reporting should be disseminated among the media fraternity to promote responsible reporting of suicides. Government-Media-Academia can come together to improvise on the guidelines to suit to the local condition. Enable the media personnel to form a regulatory and self-monitoring system. Sensationalizing, graphical depiction, providing too many personal details and depicting the act to be a method of resolving personal crisis should be avoided.
- 3.2.8 **Administration-media coordination:** Reporters usually get their information from government officials. The latter too have an important role in shaping the report that media presents to the public. Officials should refrain from a 'no comment' response; should avoid dictating how the suicide should be reported

and help by giving accurate and responsible responses to the reporters' queries. There is a case for coordination between the administration and the media.

- 3.2.9 **Reduce social expenditure:** One of the reasons for indebtedness is expenses associated with marriages in the family. A related risk factor observed is the difficulty in conducting daughter's/sister's marriage when faced with an economic crisis like crop loss. Initiate involvement of civil society to discuss and bring about changes in the society by curtailing huge expenses on marriages and other social functions.
- 3.2.10 **Social sector needs:** Healthcare needs and higher educational requirements also lead to credit requirement and indebtedness. Poor infrastructure also adds to transaction costs in terms of storage and marketing. Poor transportation can also lead to delay in seeking healthcare during times of emergency (including the consumption of pesticides/poison). Appropriate interventions may be designed.
- 3.2.11 **Research:** More multi disciplinary research should be encouraged.

3.3 *On Documentation and Compensation Criteria*

- 3.3.1 **Decriminalize attempted suicide:** A person attempting suicide is not a criminal. She/he needs psychosocial help. Decriminalizing attempted suicide and widely disseminating that will help reduce the shame and stigma attached to the act. This will change the society and the caregivers approach to them. This will also improve reporting and documentation of suicides.
- 3.3.2 **Clear guidelines:** In India, all suicides are supposed to be reported to the police. The police should have clear guidelines to identify farmers' suicide cases and inform the civic administration so as to facilitate scrutiny for compensation. The civic administration should also report to the police if any suicide case is reported to it directly.
- 3.3.3 **Streamline collection and maintenance of data:** A common electronic format should be used to collect and maintain data on farmers' suicides. The entry in this format should be done at the source (preferably Talukas and if not possible Districts). From Talukas it should be sent to the concerned District headquarter, Divisional headquarter and Mantralaya electronically at the same time. This electronically entered coded unit level data without revealing basic

identification of the deceased should be made available on the Internet to help research and public discourse.

3.3.4 **Criteria for compensation:** The criteria for compensation should be clear, unambiguous and minimise scope for subjective interpretation. As mentioned earlier, there was not much difference between suicide case households considered eligible and those considered not eligible in terms of land ownership or indebtedness. The scope for subjective interpretation while scrutinising should be minimized.

- Definition of farmer/cultivator should be broad. Legal ownership of land should not be the only criteria for considering an individual to be a farmer. It should include individuals who cultivate land without having the legal ownership (spouse, children, other family members and also tenants). Information on farmers should be maintained at the village level and updated regularly.
- Loan from moneylenders and other informal sources should be included while evaluating indebtedness status. It will always be difficult to verify informal loans. However, this can be reduced if the operation of moneylenders is regulated.
- Independent of indebtedness status, crop loss should also be another criterion for providing compensation. It is generally observed that crop loss can be village specific or localised in a group of villages, but situation leading to crop loss by an individual farmer due to theft, fire or other reasons should also be considered.

3.3.5 **Minimizing error:** While administering any compensation there can be two possible errors: (1) not giving compensation to a deserving case and (2) providing compensation to an undeserving case. Both errors should be minimized, but their nature is such that minimizing one might increase the error of the other. While striking a balance, decisions should be taken to minimize the former error, which we consider to be more serious.

3.3.6 **Quick processing:** The time taken for scrutiny and receipt of compensation should be streamlined and minimised. An appropriate routine may be designed for this. For instance, the last Monday of every month can be allotted for this and decision taken through a single window. Once decision is taken it should

be conveyed electronically or by fax to the districts and there should be standing order for the district administration to proceed immediately.

- 3.3.7 **Help all suicide case households:** Whether an individual is eligible/ineligible for receiving compensation, the vulnerability of the surviving members of a household increases and more so if the deceased happens to be one of the major income earners. In fact, it would be appropriate to provide help to all suicide case households. Preference may be given under existing welfare schemes that provide some regular income earning opportunities for the other members (particularly, spouse). Older family member may be considered for receiving pension. Children of the household should be admitted to government run boarding schools to ensure schooling till at least 14 years of age.