Farmers’ suicide in India is a cause of concern and government figures, though conservative, predict an impending epidemic. Various measures to curb this calamity are being made in a piecemeal manner. Considering it as an issue of social and mental health concern, this article attempts to evaluate the situation based on the tenet that health and illness are the result of a complex interplay between biological, psychological, social, environmental, economic and political factors. Thus in India the agrarian crisis, among other causes, has been largely debated as the major reason for the current state of farmers. It is important that (psychiatric) epidemiology and public mental health try to evolve mechanisms to understand and implement measures, and take this into consideration when attempting health promotion and prevention.

Key words: farmers’ suicide, agrarian crisis, social determinants, public mental health, health promotion and prevention

Introduction

The current spate of farmers’ suicide and the increased attention that the media and the government are compelled to give it creates an environment for the mental health professionals to focus on it and deal with it as an issue of public mental health, to pool their views and learn from the experience. Reports of farmers’ suicide by the media are not a recent phenomenon and have been taking place since the mid-1990s. It took on epidemic proportions with advancing years, which was made evident by the regular reporting (since 1995) of farm data by the National Crime Records Bureau (NCRB) in its various issues of Accidental Deaths and Suicides in India.

The public health importance of suicide in India lies in premature mortality of an age group most productive in their life. In the case of farmers’ suicide, it is usually the most productive male worker of the family who is also the main breadwinner. In the general population, South India is distinguished as the region with the world’s largest number of suicides by young men and women (Aaron et al., 2004). Though it is debatable how much of suicide is constituted by diagnosable mental disorders, and not restricting ourselves in the categorical view of mental ailments, suicide can still be assumed to be an indicator of the status of mental health of the community, which has been looming large in the present time (as suggested by the World Health Report, 2001). A contradictory view would be that suicide does not equate with mental disorders, yet it can be considered a mental
health consequence in a broader way. Moreover, reports vary with the prevalence of mental health problems in suicide extending up to 90% (Vijayakumar et al., 2005).

FARMERS’ SUICIDE: CURRENT STATE

A recent study based on the NCRB data conducted by Professor K. Nagaraj of the Madras Institute of Development Studies (Sainath, 2007a) reveals the progressively increasing nature of suicide in farmers (Table 1). A total of 1.5 lakh (150,000) farmers committed suicide between 1997 and 2005. Nearly two thirds was contributed by the Indian states of Maharashtra, Andhra Pradesh, Karnataka and Madhya Pradesh (including Chhattisgarh). An additional finding of the data is that suicide in the general population has also shot up. The number of Indians committing suicide each year rose from around 96,000 in 1997 to roughly 1.14 lakh (114,000) in 2005. A clear national ‘farm suicide rate’ can be derived only for the year 2001, using the 2001 census of India to inform about the total number of farmers in the country that year. Thus in 2001 the general population suicide rate was 10.6 per 100,000 population while the farmers’ suicide rate was 12.9 per 100,000 farmers (Sainath, 2007b).

Though it cannot be said that the NCRB data gives a full picture, general trends indicate an impending public health problem. Various research shows that the suicide statistics in the general population are grossly under-reported due to legal and social consequences, varying standards in certification and lax record-keeping by the government marred by biases and corruption. Thus incidence figures in government records (where the national annual average stands around 11 per 100,000 population) are much lower than recent community-based verbal autopsy studies. Such studies conducted in rural South India report average annual suicide rates of about 92.1 (Prasad et al., 2006) and 95 (Joseph et al., 2003) per 100,000 population. Though it is noted that the incidence figures in South India are higher than the national average, the vast disparity between the two figures can be attributed to under-reporting in the government records. Similar disparity in findings is noted in reports from Tamil Nadu when compared to police records (Gajalakshmi & Peto, 2007). Moreover, suicide rates in farmers depend on the definition of ‘farmer’ and have the potential to leave out tenant (landless) farmers and, particularly, women farmers (Sainath, 2007a). This is evident from the skewed distribution of data of victims of suicide, predominated by male landholding farmers, who head the family. On the other hand, media reports bear example to the fact that a large proportion are women (Menon, 2001). Thus the figures presented from NCRB data can be considered to be a conservative estimate (Table 1).

Literature dealing with farmers’ suicide describes suicide in the general population either as total suicide rate or suicide mortality rate. The increasing trend of suicide by farmers compared to that of the total suicides can be seen from the NCRB data (Table 1), while the percentage of suicides due to pesticide poisoning (a proxy for avoiding reporting bias) far exceeds that of the reported suicides in farmers.

FACTORS ATTRIBUTING TO FARMERS’ SUICIDE

Most of the suicides by farmers have been attributed to a combination of factors affecting the victims by virtue of being a part of a group and at the individual level. Field studies in western
Vidarbha (Mishra, 2006), and various districts of Vidharbha, Marathwada and Khandesh regions (Tata Institute of Social Sciences, 2005) (in the state of Maharashtra) have evaluated the factors. In descending order of frequency they are: indebtedness (93%–87%); economic downfall (74%); conflict in family (55%); crop failure (41%); dent in social status (36%); daughter's/sister's marriage (34%); suicide in the neighborhood or in the family (32%); addiction (28%); and health problems (including problems of mental health) (21%). The addiction factor is higher in the state of Kerala (alcohol addiction 43%) as reported in field studies (Shreyas, 2007). The less-frequent factors mentioned in the above studies are: lack of income from subsidiary occupations; comparatively weak co-operative movement; unwillingness of landed farmers to go for Employment Guarantee Scheme work; illness of self or somebody else in the family; and family disputes.

However, these studies have been criticized due to their inability to conceptualize the factors of the agrarian crisis and attributing the reasons for suicide to socio-behavioural practices of farmers. Moreover, these studies did not take a ‘non-suicidal’ or ‘non-farmer’ control group as a comparison. What is more unique to the Indian setting is, unlike in the West, suicides are often related to pre-existing chronic socioeconomic stress, interpersonal, social and cultural conflicts (Prasad et al., 2006).

### WHAT IS THE AGRARIAN CRISIS?

The current bone of contention is the claim that farmers’ suicide is symptomatic of a larger crisis in the agricultural sector in India. Related factors for this crisis have been enumerated and have been part of public discourse since the late 1990s (The Hindu, 2001; Menon, 2001):

1. Vagaries of nature, pest infestation, spurious quality of inputs and associated factors influencing returns from cultivation, and lack of protection of farmers from acute calamities.
2. Increasing cost of and dependence on inputs (electricity, high-yielding variety seeds, fertilizers, energy and transportation) from the market by the farmers resulting in greater dependence on credit, added to the cuts in subsidies and privatization on such inputs (Sainath, 2001).

<table>
<thead>
<tr>
<th>Year</th>
<th>Total suicide</th>
<th>Total suicide rate (per 100,000 pop.)</th>
<th>Farmers’ suicide (% of total suicide)</th>
<th>Pesticide suicide (% of total suicide)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>95,829</td>
<td>10.0</td>
<td>14.2</td>
<td>19.1</td>
</tr>
<tr>
<td>1998</td>
<td>104,713</td>
<td>10.8</td>
<td>15.3</td>
<td>15.3</td>
</tr>
<tr>
<td>1999</td>
<td>110,587</td>
<td>11.2</td>
<td>14.5</td>
<td>18.3</td>
</tr>
<tr>
<td>2000</td>
<td>108,593</td>
<td>10.6</td>
<td>15.3</td>
<td>20.1</td>
</tr>
<tr>
<td>2001</td>
<td>108,506</td>
<td>10.6</td>
<td>15.1</td>
<td>19.8</td>
</tr>
<tr>
<td>2002</td>
<td>110,417</td>
<td>10.5</td>
<td>16.3</td>
<td>19.4</td>
</tr>
<tr>
<td>2003</td>
<td>110,851</td>
<td>10.4</td>
<td>15.5</td>
<td>20.8</td>
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<tr>
<td>2004</td>
<td>113,697</td>
<td>10.5</td>
<td>16.0</td>
<td>20.5</td>
</tr>
<tr>
<td>2005</td>
<td>113,914</td>
<td>10.3</td>
<td>15.0</td>
<td>19.6</td>
</tr>
</tbody>
</table>

Source: Various issues of Accidental Deaths and Suicide in India, National Crime Records Bureau (adapted from Sainath, 2007a).
3. Decreasing price and greater price volatility of agricultural output due to integration with the global market (Chowdhury, 2001).
4. Poor availability of credit from the formal sector and dependence on the informal sector at higher interest rates (e.g. national average of credits from moneylenders account for 25.7% compared to 36% from banks (National Sample Survey Organization (NSSO), 2006a).
5. Declining public investment in agriculture (Vaidyanathan, 2006) and in rural development (Patnaik, 2005).

Such factors are an important concern for the government as well, but it has been unable to see through other factors that have also affected farmers adversely, such as agricultural trade liberalization and the influence of World Trade Organization (WTO) (Patnaik, 1999), without any safety nets and restructuring programme to improve export competitiveness. In addition, all these events have occurred in the climate of a certain set of macroeconomic policies forcefully employed from the 1990s. (Patnaik, 2002; 2005). As demonstrated in the case study of Kerala, a decline in exports, rise in imports and a consequent drop in prices, coupled with frequent droughts, stagnant production and productivity, caused farm income to decline drastically and increased the indebtedness of farmers (Jeromi, 2007).

POLICY ACTIONS TO MEET THE AGRARIAN CRISIS

The government has actioned various policies to curb the agrarian crisis, some of which have been introduced in bits and pieces:

1. Expert groups have recommended the institution of agricultural insurance to address yield risks. A National Crop Insurance Scheme was started from 1999–2000. The risk is shared between central government, the state governments and the General Insurance Corporation. Various states have joined this central scheme (e.g. Kerala, Andra Pradesh, Tamil Nadu). Yet the bureaucratic hurdles of making claims are often tedious (The Hindu, 2008) and it has been noted that it is unable to provide effective insurance cover (Chairman of the Task Force on Agriculture, Government of India, 2001).

2. Facilitate the crop surveillance mechanism by making using of remote sensing data, providing minimum support prices (MSP) across major crops and for severe calamities as suggested by the Report of the Expert Group on Agricultural Indebtedness to the central government. A National Calamity Contingency Fund has been created for this. During such times, the government also considers rescheduling existing loans, issuing fresh loans and waiving interest (Government of India, 2007). MSP has been introduced but it has often been reported to come into force with delay and below the expectations of the farmers (Vydhianathan, 2007) or that the procurement through MSP is inadequate (Menon, 2001).

3. Improve water supplies and introduce irrigation development projects, reducing ground water stress and income diversification. Though irrigation projects on surface irrigation have taken place, they have been said to have taken a long time to complete, whereas some investment in water conservation in rain-fed areas have been marred by flaws in the programme due to its fragmented nature and lack of participatory planning and implementation (Vaidyanathan, 2006).
4. Formalize the credit system (and ban illegal money lending) and reduce interest rates on agricultural credits by revamping the rural financial architecture. An expert group headed by R. Radhakrishna has recommended an expansion of the rural banking network, credit counselling, mobile banking, integrating microfinance with banking, and reforming the lead bank scheme (The Hindu, 2007). But until now the government has only waived off farm loans and done little in the way of revamping the rural credit system.

5. The Situation Assessment Survey 2003 (59th round) by the NSSO shows a poor level of awareness of farmers to institutional structures that affect their lives (at all-India level, 40% of farmer households accessed various sources of information for Modern Technology for Farming) (NSSO, 2006b). Thus it is recommended that the policies and benefits thereof be disbursed through local panchayats effectively (Lochan & Lochan, 2006).

6. Propositions have been made to set up a helpline for farmers and to form a self-help and support group with counselling facilities. It is also significant that the National Farmers Commission also identified the need for mental health interventions to address the growing problem of farmers’ suicides (National Commission on Farmers, 2006).

Moreover, it has been suggested that the management of the agrarian crisis has to go beyond credit to larger issues. The correction of imbalances in trade due to the opening up of the market and ruled by terms and conditions laid down by the WTO needs to be reassessed. In addition, it is necessary to assess the economic and rural development model, the impact of neo-liberal policies and globalization (Hebbar, 2007) on agriculture and the well-being of the deprived population and the nation as a whole.

SOCIAL CAUSATION? NATIONAL ECONOMIC AND SOCIAL POLICIES AND MENTAL HEALTH

In recent times a lot has been discussed about the neurobiological and genetic causal factors of states and events related to mental ill health. In fact in the depiction of the sociopolitical history of the field in the global arena for last 40 years (Prilleltensky, 1990; 1999), a progression from an asocial approach, to an understanding of microsocial elements, to an increased realization of macrosocial variables has occurred. The medical model, in its psychodynamic/psychological version and the organic model, captures the essence of the asocial stage. Interpersonal and transactional theories having components of labelling and family therapy are representative of the microsocial phase. The macrosocial (and political) paradigm is reflected in the community psychology, prevention, and the ecological approach. With the progressive broadening of the perspective, a conservative interpretation is avoided resulting in addressing the ideological and political context having the potential to effect social reform. However, in recent times a resurgence of the biological paradigm is forcing its importance by way of compelling arguments; it would be rather regressive from a public health viewpoint. It is necessary to place these findings in a macrosocial perspective, or what Raphael (2006) has argued as the ‘master conceptual scheme’, to understand the holistic picture and plan a rational model of public health and policy intervention.

Social epidemiology: Epidemiologists have laid down theories and models of social epidemiology to capture this paradigm to understand the macrosocial (structural) and ecological aspect of health and disease, including biological and individual factors. In her review Krieger (2001) classified
such theories as ‘ecosocial theories and related multi-level dynamic framework’. Such theories have variously been conceptualized as ecosocial (Krieger, 1994), eco-epidemiology (Susser & Susser, 1996) or a social-ecological systems perspective (McMichael, 1999). These theories try to evaluate quantifiable dimensions from the level of individual(s) to population, organized into nested hierarchies operating in a dynamic manner and projecting synthetic models for better understanding of specific and general processes. Thus an attempt to integrate social and biological reasoning and capture their dynamic interaction helps to portray the holistic mechanism of health and disease.

**Social determinants**: As an example, if one evaluates the social determinants of suicide in the general population from the data in India, high rates of suicide in the unemployed, marginalized and those subject to rapid and significant social change are noted (Vijayakumar *et al.*, 2005). Though some are mentioned as stressors, these can also be considered as social factors, such as financial hardship, lower education and unfulfilled expectations at work (Manoranjitham *et al.*, 2005). In China, researchers suggest that social changes (including individuals facing rising occurrence of major economic losses, increased costs of healthcare, weakened family ties, migration to urban areas for temporary or seasonal work, and income inequalities) may result in rising suicide rates, partly because of their influence on rising rates of depressive disorders that are mostly untreated (Phillips *et al.*, 1999).

Similarly, poverty has been correlated with common mental disorders (CMD) (depression and anxiety) in developing countries (Patel & Kleinman, 2003). Among women in poverty, there is support for a significant association between economic hardship and reports of CMD (Patel *et al.*, 2006) and psychological distress due to such issues as being the sole childrearing adult in a household, multiple roles, unequal power relations with men, and a sense of powerlessness (Patel *et al.*, 1999).

These findings are akin to what has been described as individual-oriented materialistic approaches to social determinants of health, whereby the existing body of work shows linkages of material conditions of living to general health status; while a neomaterialistic approach links the health-determining living conditions to social infrastructure and how society decides to redistribute resources (Raphael, 2006). At this juncture the author would like to point out the political economy of health perspective that attempts to include into analysis the social and public policies and their ideological underpinnings in terms of health achievements and social development. On the other hand, the medical anthropology perspective (most importantly its critical and interpretive forms) allows viewing the ‘sufferer experience’ alongside the multiple layers of lived experiences, the embodiment of oppression and discrimination at the societal level, and the power play in the control of individual bodies (Schepet-Hughes & Lock, 1987; Kleinman *et al.*, 1997) set within the political and economic context (Singer & Baer, 1995). Following the above discussion, it is obvious that the abovementioned studies are an attempt to analyze the social factors, although they are short of taking into consideration the ecological issues for e.g. social environment, economic policy, development models of the region and the nation, imbalances of power between social groups, and the cultural context.

**Social and public policy implications**: The implications are clear, the lesser the concern with and for societal variables (and ecological aspects), the greater the likelihood that the political message will be a conservative one, simply because social adversities such as poverty, unemployment, crime etc. are likely to be attributed to personal—as opposed to structural—deficiencies and state institutions and their practices that impinge on the rights of the marginalized. This results in the process of victim-blaming in terms of biological or psychological inferiority. Conversely, as the concern with and for societal variables increases, and its analyses use all the multiple hierarchical character of individual social to structural macrosococial factors, the likelihood is the political message will
be a progressive one (that message implying social reform on the terms of social justice, equity in access to resources and health in general) (e.g. Wineman, 1984).

Seen from a different point of view, because the latter approach has significant political implications biased against it is represented in the individual approach. Thus psychiatry and epidemiology can be used as a tool to mute important issues that underlie social suffering. An example of this effect is the recent India Government’s initiative to find genetic determinants of farmer suicides (Arya, 2007; Aggarwal, 2008).

FARMERS’ SUICIDE: A MENTAL HEALTH CONSEQUENCE OF NATIONAL POLICY

The entity of farmers’ suicide can also be seen the other way round. If the epidemic of farmers’ suicide can be seen as an entity of mental health consequence by itself, then it can also be said that this impending epidemic helps us understand the impact of broad social and economic policies and the consequences of the inability to deliver the fruits of development in the spirit of social justice, in an egalitarian manner to distinct social groups (Banerji, 1978). In fact, a study in Indonesia described rates of CMD according to levels of economic development in villages and changes in these levels in the 1980s. Development was rated according to attributes such as means of subsistence, education, community co-operation and participation, and transportation (the more developed villages having better amenities). Those villages that achieved an improvement in development status and those that were already at the highest level of development had the lowest rates of mental disorders (Bahar et al., 1992).

IMPLICATIONS FOR PUBLIC MENTAL HEALTH

The estimates of farmers’ suicide in India are conservative, yet the trends are ominous. Government-sponsored field studies to track the causes has limited its conceptualization to individual-level factors. Especially when a large group or population is to be addressed one needs to consider the doctrines of methodological holism, whereby one studies macro-determinants that influence large categories that in turn shape and guide the microcosm. This article is an attempt not only to put into perspective the method to study and intervene into farmers’ suicide, but to put it forward as an example to study issues of public mental health as well.

The above discussion does not undermine the importance of a community mental health programme with components of community participation, supervision and surveillance making appropriate modifications, and the integration with other national health programmes (Murthy, 2007). It is an attempt to emphasize that mental health prevention and promotion also requires understanding the coherent whole and evolves beyond the myopic view of proximate factors to more upstream issues that determine health outcome. In addition, such an approach can evolve beyond addressing in fragmentary way issues of mental health (as has been happening in the case of farmers’ suicide), allowing linkages to complex systemic aspects. A concern in the current debates is that health promotion can be brought about by addressing the fundamental inequalities of power structure (Butler & Friel, 2006) and social policies that are premised on redistributive justice so that individuals have more control over, and can improve, their own health.
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