



Farmers' Suicides : Some Grass Root Level Reflections and Policy Options

KEYWORDS

Farmers' Suicide, Terms of Trade, Inclusive growth of agriculture

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ABSTRACT *The broad contours of the paper are, in first section made an attempt to define what is suicide and causes of it with a focus on farmers. In the second section, attempted examine the difference between fact and truth about the favorable terms of trade to agriculture in India. In the third section, suggested measures not only to prevent farmers' suicide but also aiming at inclusive growth of agriculture. The study revealed that the following factors in the descending order of significance come in the way of farmers' inclusive growth to the benefits of favorable terms of trade to agriculture at macro level which include market imperfections in buyers' market, followed by no match between consumers' price and producers' price, the burden of other financial obligations, limited role of the state, high cost of production, trader is the ultimate beneficiary, inter state restriction the movement of farm produce, distress sale, poor extension services, inadequate warehousing, commodity exchange loans are less advantageous and low minimum support prices. It is suggested to ensure the inclusion of farmers into the stream of benefits of favorable terms of trade to agriculture so as to enjoy the fruits of favorable terms of trade to agriculture and avoid unfortunate and undesirable consequences including suicides by the farmers include; food processing industry must be developed, high end cold storage and warehousing must be made accessible to all sizes of farmers, commodity exchange loans must be made accessible to all sizes of farmers and agriculturists' development should be given equal weight age on par with agriculture development.*

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Section-I

Suicide is defined as the intentional taking of one's own life. In the social climate of the early 2000s, suicidal behavior is most commonly regarded and responded to as a psychiatric emergency. Suicide is considered as a major public health problem around the world as well as a personal tragedy.

Suicide is a complex act that represents the end result of a combination of factors in any individual. These factors include biological vulnerabilities, life history, occupation, present social circumstances, and the availability of means for committing suicide. While, these factors don't cause suicide in the strict sense, some people are at greater risk of self-harm than others.

RISK FACTORS FOR SUICIDE

1. Recent stressful events include
 1. Separation or divorce
 2. Job loss
 3. Bankruptcy
 4. Upsetting medical diagnosis
 5. Death of spouse
 6. Medical illness
 7. High stress occupations
 8. Presence of firearms in the house
 9. Alcohol or substance abuse
 10. Presence of psychiatric illness.

Neurobiological factors may also influence a person's risk

of suicide. Post- mortem suicides of the brains of suicide victims indicate that the part of the brain associated with aggression and other impulsive behavior has a significantly lower level of serotonin. Low serotonin levels are correlated with major depression. In addition, suicide victims have higher than normal levels of cortisol, a hormone produced in stressful situations, in the tissues of their central nervous system. There may be a genetic susceptibility to both suicidal ideation and suicide attempts which can not be explained by inheritance common psychiatric disorders. Some times it is said that suicide is a murder in the 180th degree, that is, the suicidal person really wants to kill someone else, but turns the anger against the self instead.

Recently I have conducted a survey on farmers' suicides in Warangal district, Andhra Pradesh covering certain crop growers including cotton and chillies and certain NPA holders in both commercial and cooperative banks. The diagnosis of suicidal factors indicated primarily due to

1. Crop failure.
2. Heavy losses (due to a drastic fall in price of the crop).
3. Capacity to raise the fresh loan is zero (Excess borrowed in the past compounded by crop failure and heavy losses).

Today, I focus my attention on the second point as it can be addressed with certain policies and programs. The first point that is an exogenous factor beyond the means of both farmers and researchers and the third point is topic of conference by virtue of its size, scope and content. Hence, I speak now at length about price situation of the farm produce, i.e. intersectoral terms of trade and its implications for farming community and finally relating to farmers' suicides.

Section-II

The true economic position of the farming community can be studied only by the ratio of prices received and prices

paid which is technically called as purchasing power parity or terms of trade between farming and non farming sectors, which is true for other sectors also. A movement in domestic terms of trade profoundly influences the process of income distribution between different sectors, and within the same sector between different classes, such as between affluent farmer and the poor peasants in the agricultural sector, finding concrete expression in the fixation of rents and farm wages, the conditions of tenancy and share cropping, between the bourgeoisie capitalists and the working class in the industrial sector as reflected in the movement of industrial wages and profits, and between different regions or sub regions as revealed by outflow and inflow of resources.

The movement of purchasing power parity indices or domestic terms of trade affects the relative profitability of and incentives for production in various sectors of the economy and thereby powerfully affects the flow of resources from one sector to another. Particularly in a developing economy where the flow of resources to different sectors held much importance from a balanced and integrated point of view, the role of domestic terms of trade is of much significance.

INTERSECTORAL TERMS OF TRADE: SOME REFLECTIONS

For the purpose of analysis, the data relating to intersectoral terms of trade between agriculture and industry in India, Net domestic product from agriculture and gross capital formation in agriculture have considered for a period of 40 years covering 1970-71 to 2009-10. Apart from the secondary sources of the data, the primary data are also used in the form of information collected from the households of the farmers who committed suicide by administering a pre tested questionnaire/ schedule.

FINDINGS OF THE STUDY

1. Intersectoral terms of trade has favored agriculture sector over the period. It is further observed that both net domestic product and gross capital formation in agriculture have registered phenomenal growth over period. It is observed that mean of the intersectoral terms of trade is 107.34, mean of the net domestic product from agriculture is Rs 223673.88 crores and mean of the gross capital formation is Rs 29020 crores.

2. It is found that the correlation between index of intersectoral terms of trade and net domestic product from agriculture is found to be positive and significant (r= 0.570) at 0.01 level (2-tailed). It is found that the correlation between index of intersectoral terms of trade and gross capital formation in agriculture is found to be positive and significant(r=0.390) at 0.05 level (2-tailed). Thus, it can be inferred that the intersectoral terms of trade has got positive impact on agriculture development in terms of net domestic product and gross capital formation in agriculture in India.

3. In order to estimate the relationship between intersectoral terms of trade and its impact on net domestic product from agriculture sector in India, simple regression equation is used and the equation is specified as follows;

Y= a+bX
 Y= Net domestic product from agriculture.
 X= Index of terms of trade between agriculture and industrial prices.
 a and b are regression coefficients

Y= -1061376.04+ 11972.05X
 equation-1
 (302185.2) (2801.6)
 T= (-3.512) (4.273)
 F ratio= 18.26
 R square= 0.325
 Adjusted R square= 0.307

Note: Figures in the brackets are standard errors

It is observed that the impact of intersectoral terms of trade in India on net domestic product from agriculture is found to be significant at 0.01level of significance. The variations in net domestic product from agriculture could be explained by variations in intersectoral terms of trade to the extent of 32.5 percent.

4. In order to estimate the relationship between intersectoral terms of trade and its impact on gross capital formation in agriculture sector in India, simple regression equation is used and the equation is specified as follows;

Y= a+bX
 Y= Gross capital formation in agriculture
 X= Index of terms of trade between agriculture and industrial prices
 a and b are regression coefficients
 Y= -130418.54+ 1485.4X
 (equation-2)
 (61298.6) (568.3)
 T= (-2.128) (2.614)
 F ratio= 6.832
 R square= 0.152
 Adjusted R square= 0.130

Note: Figures in the brackets are standard errors

It is observed that the impact of intersectoral terms of trade in India on gross capital formation in agriculture is found to be significant at 0.05 level of significance. The gross capital formation in agriculture could be explained by variations in intersectoral terms of trade to the extent of 15.2percent.

5. It is found that the correlations between time on the one hand and actual intersectoral terms of trade and terms of trade with dummy variable are found to be significant at 0.01 level (2-tailed) but high degree of correlation between time and terms of trade with dummy variable is observed. Thus, it can be inferred that liberalization policy implemented in India has got a positive bearing on the intersectoral terms of trade in India favoring agriculture.

Table-1

Correlations				
		Time	Actual TOT	TOT with dummy variable
Time	Pearson Correlation	1.000	.711(**)	.854(**)
	Sig. (2-tailed)	.	.000	.000
	N	41	40	40
Actual TOT	Pearson Correlation	.711(**)	1.000	.670(**)
	Sig. (2-tailed)	.000	.	.000
	N	40	40	40
TOT with dummy variable	Pearson Correlation	.854(**)	.670(**)	1.000
	Sig. (2-tailed)	.000	.000	.
	N	40	40	40

** Correlation is significant at the 0.01 level (2-tailed).

6. In order to estimate the impact of liberalization policy on terms of trade, simple regression with dummy variable analysis is used. The equation is specified as follows;

$$Y = b + mX$$

Where

Y= Terms of trade between agriculture and industrial prices

X= time with values 0 for pre liberalization period and 1 for

Post liberalization period.

b and m are regression coefficients

$$Y = -8386.56 + 4.241X \quad (\text{equation-3})$$

(832.891) (0.419)

$$T = (-10.07) (10.13)$$

$$F \text{ ratio} = 102.646$$

$$R \text{ square} = 0.730$$

$$\text{Adjusted R square} = 0.723$$

Note: Figures in the brackets are standard errors

The estimated regression equation (3) can be understood as follows: It is observed that the liberalization policy as part of structural adjustment program (SAP) has got a positive impact on the intersect oral terms of trade in India. The positive value of the coefficient of time itself indicates that the time period of liberalization has got positive impact on domestic terms of trade favoring agriculture. Further, it is observed that the impact of liberalization on terms of trade is found to be significant at 0.01 levels. Regression equation as a whole is also found to be significant as F ratio indicated. 73 percent of variations in terms of trade could be attributed to the liberalization policy implemented in India from 1991 as R square value indicated.

At macro level the favorable terms of trade to agriculture presents a rosy picture favoring the farmers. The grass root level realities are in diametrically opposite direction. Let us capture the truth which is different from the fact by taking into consideration of two fast moving consumer products for examination.

Table-2
OBSTACLES ENCOUNTERED BY THE FARMERS FOR THE ENTITLEMENT OF BENEFITS ATTRIBUTABLE TO FAVORABLE TERMS OF TRADE TO AGRICULTURE (Number of respondents)

Sl.No	Obstacles	Response		Total
		Yes	No	
1	No match between Consumer's price and producer's price	107	43	150
2	Distress sale	96	54	150
3	Trader is the ultimate beneficiary	98	52	150
4	Low minimum support price	90	60	150
5	The burden of other financial obligations	106	44	150
6	Inter state restrictions on the movement of farm produce	98	52	150

7	Inadequate warehousing	94	56	150
8	Commodity exchange loans are less advantageous	93	57	150
9	High cost of production	101	49	150
10	Limited role of state	105	45	150
11	Market imperfections in buyers market	113	37	150
12	Poor extension services	95	55	150

Table-2 revealed that the following factors in the descending order of significance come in the way of farmers' inclusive growth to the benefits of favorable terms of trade to agriculture at macro level which include market imperfections in buyers' market, followed by no match between consumers' price and producers' price, the burden of other financial obligations, limited role of the state, high cost of production, trader is the ultimate beneficiary, inter state restriction the movement of farm produce, distress sale, poor extension services, inadequate warehousing, commodity exchange loans are less advantageous and low minimum support prices.

SUGGESTIONS

The following measures are suggested to ensure the inclusion of farmers into the stream of benefits of favorable terms of trade to agriculture so as to enjoy the fruits of favorable terms of trade to agriculture and avoid unfortunate and undesirable consequences including suicides by the farmers. They include:

- The marketing of agricultural production through channel-1 must be operated.
- Expand physical capacity of marketing system commensurate with increased production.
- Increase the efficiency of resource use.
- Technology component in marketing should be increased.
- Agricultural marketing must be made competitive in terms of low price and high equality.
- Restrictions on the movement of agriculture produce must be removed.
- Supply chain management systems must be effectively implemented.
- Food processing industry must be well developed.
- High end cold storage and warehousing must be well developed.
- Commodity exchange loans must be made accessible to all sizes of farmers.
- Capacity building programs must be conducted to aim at their personality development and for effective crop management.
- Agriculturists' development should be given equal weight on par with agriculture development.
- Farm NPAs must be settled in a manner of rescheduling the loan amounts, enlarging the EMIs, and removal of penal interests.
- It is also advised to follow the guidelines given by the national institute of mental health (NIMH) to prevent suicides of farmers which include
 - a) make sure that someone is with the farmers at all times and don't leave the farmers even for a short period of time especially when they are subjected to stress and strain with reference to crop failure, pressure from bankers and money lenders to repay the loans,
 - b) Persuade them to join nearest hospital emergency room and
 - c) Keep the farmer away from firearms, drugs, pesticides and other
- Potential means of suicide.

REFERENCE

1. Census of India (2001): Primary Census Abstract-Total population: Series-1; India, register general & Census commissioner, India, New Delhi. | 2. Durkheim, Emile (1897/1979): Suicide: A Study on Sociology; Routledge and Kegan Paul, London and Henley. | 3. National Crime Records Bureau: Accidental deaths and Suicides in India, Annual publications for the years 1997-2006, Ministry of Home Affairs, Govt. of India. | 4. National Sample Survey, (2005): Some aspects of farming; January-December 2003, NSS 59th Round. | 5. Assadi, Muzaffar. 1996. Karnataka's New Agricultural policy: Making way for Corporate Landlordism, Economic and Political weekly, December 5, 3340-43. | 6. Balagopal, K. 1988. Rich Peasant, Poor peasants, seminar, 352:19-23. | 7. Bose, Pradeep. 1981. "Farmer's Agitation", seminar 257: 58-62. | 8. GOK. 2002. Farmers' Suicide in Karnataka- A Scientific study. Bangalore: Government of Karnataka. | 9. Reddy, V. Ratna, and S. Galab. 2006, "Agrarian Crisis: Looking beyond the Debt trap", Economic and Political weekly, XLI (19): 1838-41. | 10. Rudra, Ashok. 1982. Indian Agricultural Economics: myths and Reality. New Delhi: Allied. | 11. Sharma, Devinder. 2004. 'India's Agrarian Crisis, No end to Farmers Suicide, Net, June. | 12. Shiva, Vandana, 2006. Seeds of suicide: The Ecological and Human Costs of Seed monopolies and Globalization of Agriculture, New Delhi: Navadanya. | 13. Shiva, Vandana and Kunwar, Jalees, 2006, Farmers' Suicide in India. New Delhi: Research foundation for Science, Technology and Ecology. | 14. Vasavi, A. R. 1999, Agrarian Distress in Bidar Bangalore: National Institute of advanced Studies.