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Policy Change and Food Assurance: About Rice on Credit and NGO-Government Partnerships in Andhra Pradesh

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Abstract

Slow transformation of a developing economy gradually shifts surpluses and substantially reduces the importance of the agricultural sector of the economy. This has been recognized as a healthy characteristic of the capitalist economic development. Crisis of this transformation emerges when the surpluses are rapidly extracted but dependence of workforce remains on agriculture sector. Organization of farm production on the lines of capitalist farming reduces farmers to managers of production and increases continuously unemployment of labour. The state led green revolution in Punjab based on assured market and remunerative prices of agricultural production in the early green revolution period has considerably increased the income of the farmers irrespective of farm size. Stagnation of the green revolution technology, rise in the cost of living, lack of alternative employment opportunities and near freeze in the minimum support prices has generated a crisis of unprecedented scale. Diversification attempts of the farmers for alternative remunerative outcomes have further pushed them in deep crisis because of market failure to provide right kind of prices both of the produce and credit. Increased unemployment, mounting debt burden and lack of success in diversification attempts led the farmers to commit suicides in Punjab. Farmers' organizations, political movements and state led resistance to the agrarian crisis have not yet met with success. This raises a pertinent question as to why the resistance could not succeed. In this paper an attempt has been made to examine the agrarian crisis of Punjab with a fresh perspective to find out a viable alternative solution which not only increases income of the farmers but also absorb them into the economic transformation process for self sustained long run economic growth.



Crisis of Agrarian Capitalism, Farmers' Suicides and Response of Public Policy: Evidence, Diagnosis and Alternatives

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1. Introduction

Agricultural development in economic theory has been regarded as a prerequisite for rapid economic transformation of the capitalist economy. Surpluses both of labour and capital resources have historically been contributed by the agriculture to the modern and dynamic sectors of the economy such as industrial sector. During the process of economic transformation, agriculture sector diminishes its importance in the economy and the dynamic sector-industrial sector- plays a dominant role. Transformation of resources from agriculture sector to rest of the economy has been seen as a positive and universal phenomenon by the modern thinkers of growth theory (Lewis, 1954; Syrquin, 1988). It is a widely acknowledged and accepted fact in economic literature that a successful structural transformation is painful for the agriculture in all societies hence nearly all rich countries protect their farmers at the expense of domestic consumers and taxpayers and of foreign producers (Timmer, 1988). However, turnaround in this kind of thinking occurred in mid-seventies to strengthen rural economy through linking rural production with industry when rural economy of the less developed countries support bulk of the population, though in dilapidated conditions, with growing squeeze in rural incomes (Mellor, 1976). Suggested strategy and policy changes have a capacity not only to reduce pain of structural transformation but also capacity to substantially increase rural

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income as well and can contain population from moving to the cities-to already overflowing cities. On the contrary stagnation of technology and yields and low levels of living standards of rural population along with the 'squeeze agriculture' paradigm is a sure shot way of economic stagnation rather than growth. Agriculture sector of Punjab has not only been moving towards stagnation of yields, but also squeeze of income as well.

The state led green revolution in Punjab increased incomes of farmers irrespective of farm size and catapulted it to the status of being called the grain bowl of India. The euphoria, however, was short lived, with the tide turning against the sector that once contributed nearly 70 per cent of wheat to the national food grain pool. Lower yields, increasing cost of cultivation, mounting debt burden and dipping incomes of cultivators has plunged the sector into a crisis of unprecedented scale, the consequences of which are not just economic. Economic trauma is translating into mental trauma, and the ever adventurous, hardworking Punjabis, who have emerged stronger with each difficult period, are now being forced to admit defeat to the extent of ending their own lives. Farmers' organizations, political movements and even some state led resistance to this crisis have not met with success. Marginalization of agriculture, slowdown in industrial growth during the economic reform period has further increased the pain of rural population which has drawn the attention of policy makers, political leadership and academics alike. However, suggested policy solutions suffer from the same malaise which has already squeezed rural incomes. This paper attempts to examine the agrarian crisis, some of its consequences and alternative viable policy options which do not allow squeeze of agricultural surpluses through the desired economic transformation of the economy with what we hope will be a fresh perspective on this. The paper is organized in five sections. Section one introduces the theme of the paper. Section two examines the emergence of the crisis of the agrarian economy of Punjab. Manifestation of the crisis of the Punjab economy in terms of nature, extent and causes of suicides by the agriculturists has been presented in section three. Public policy as a remedy for this crisis, shortcomings of the public policy and possible alternative solutions have been analysed in section four. Concluding remarks are presented in the last section of the paper.

2. Growth and Structural Change in Punjab Economy

Punjab economy has grown at a rapid rate since the ushering in of the green revolution. The growth rate was nearly 5 per cent per annum of the net state domestic product during the period 1966-67 to 1998-99. Per capita income has also grown at 2.92 per cent per annum during the same period (Table 1). Punjab state's per capita income in year 2000-01 was Rs.24,111 and was ranked number one just ahead of Maharashtra with a difference of Rs.385 at current prices. Punjab state's per capita income at constant prices comes out to

Rs. 14,916 in the year 2000-01 and was ranked number two, superseded by Maharashtra with a margin of Rs.256. Punjab as a model state in terms of economic development has been widely recognized and projected as a worth emulating experience in other states of India as well in other developing countries. Economic prosperity and lead of Punjab state in terms of per capita income is, however, now history and other fast growing states are quite close in surpassing the long sustained lead. This has been due to the fact that development process in Punjab is coming to a halting stage in the post-liberalization regime. Growth rate of net state domestic product has declined to 4.7 per cent in the nineties compared to that of the eighties, which was 5.4 per cent. Major sectors of the Punjab economy showed deceleration of the growth process in the nineties compared with the eighties and the worst performance was of the agricultural sector. The rate of growth of agricultural sector dwindled from 5.15 per cent per annum during the eighties to 2.16 per cent in the nineties. Income generated by the agriculture sector from crops slid from a rate of 4.9 per cent per annum in the eighties to nearly 0.4 per cent in the nineties (Table 1). Previously, agriculture sector was the engine of growth and a major contributing sector to the per capita income of the state since the mid-sixties till the early nineties. Such a fast deceleration of the rate of growth of the agricultural sector of Punjab has far reaching consequences for the rest of the economy due to interdependence of the sectors and is a crisis of unprecedented nature for those who are dependent for their livelihood on agriculture. Wide variations noticed in the growth performance of different sectors of the Punjab economy have dramatic consequences for the economic transformation.

The character of Punjab economy at the advent of green revolution was fundamentally agrarian. Agriculture constituted 52.85 per cent of the Gross State Domestic Product in 1966-67 and increased to 54.27 per cent in 1970-71. Thereafter, the share of agriculture sector's income in GSDP started declining continuously and dwindled to 39.22 in the year 2000-01. Structural transformation process has been regarded, at least in theory, as a healthy sign of economic development (Timmer, 1988). However, growth process must be underlined by technological progress and investment of capital. This implies that the structural transformation occurring under conditions of faster rate of growth of the economy led by substantial investment and technological progress through interdependence increases the importance of dynamic sectors such as industry. It is important to mention here that the industrial sector of Punjab was not an important sector of its economy but gained importance during the faster growth of the agriculture sector and increased its share in GSDP from 7.86 in 1966-67 to 20.12 in 1995-96. Thereafter, industrial sector's share in GSDP declined and was 16.10 percent in the year 2000-01. However, tertiary sector has been emerging as the engine of growth during the structural transformation and generated 45 per cent of the GSDP in the year 2000-01 in Punjab (Table 2). The decreasing importance of agriculture (which includes livestock as well) and industrial sector and increasing importance of tertiary sector is not a healthy sign of structural transformation in the backdrop

of deceleration of growth of the productive sectors of the economy. The rate of decline in the growth rate of the overall economy due to sharp fall in growth rates of the productive sectors could not be arrested due to slow acceleration of the growth of the tertiary sector of the Punjab economy.

The other indicator of a structural transformation of the economy is changes occurring in the structure of work force engaged across sectors and over time. In Punjab, work force engaged in agriculture (cultivators and labourers) was 62.67 per cent in 1971, which declined to 58.02 per cent in 1981 (census data) - a reduction of 4.65 percentage points over a decade (Table 3). The decline from 1981 to 1991 was only 1.95 percentage points, that is, 56.07 per cent work force was engaged in agriculture. From 1991 to 2001, there is some controversy regarding the figures, because according to census data, work force engaged in agriculture declined to 39.36 per cent, that is, a dramatic straightway decline of 16.71 percentage points in a single decade. Now, this is unexplained, because if we take a look at the figures of work force engaged in industrial sector, these are 11.3 per cent in 1971, 13.5 per cent in 1981, 12.28 per cent in 1991, and 8.41 per cent in 2001 (census data). Going by census data, this means that both agriculture and industry have shed the load of work force and this work force has not found employment elsewhere also, because unemployment of both the rural and urban population has increased during this period (Gill, 2002). Further, NSSO data confirms that employment has shrunk in organized as well as unorganized tertiary sector. And if NSSO data is to be followed, work force engaged in agriculture in Punjab was still 53 per cent in 2000-01 (Planning Commission, 2003). Data controversy apart, the point that emerges is that even now a substantial percentage of work force (53 per cent according to NSSO statistics or nearly 40 per cent according to census data) is engaged in agriculture and the change (read decline) is rather slow, while the squeeze in income from agriculture has been rapid (from 40.91 per cent in 1966-67 to 26.76 per cent in 2000-01, Table 2). This is an obvious sign of a grave crisis.

Deceleration of economic growth of the Punjab economy in general and agriculture sector in particular has amazingly increased the crisis of capitalist path of economic development especially in the liberalization and globalization era. A substantial proportion of work force still dependent on agriculture for livelihood faced a serious problem to be gainfully employed elsewhere in the backdrop of squeezing share of agricultural income. Obviously, this is expected because of the fact that agricultural development on capitalist lines of production and heavy dependence on market occasionally leads to such kind of situation (Timmer, 1988). Therefore a need arises to examine the process of agrarian capitalist development of the Punjab agriculture in a historical perspective to provide a legitimate and appropriate explanation of the emergence and rise of the agrarian crisis.

The ushering in of the green revolution in Punjab began with the arrival of high yielding varieties of seeds for wheat and rice crop along with use of chemical fertilizers. The new technology was adopted by the Punjab farmers at a rapid rate which had productivity enhancing effect on two crops, that is, wheat and rice. Not only land and labour productivity increased multiple times but it also had income enhancing effect across the board. Punjab peasantry was able to reap income gains proportional to their ownership of cultivable land (Bhalla and Chadha, 1983). The peculiar characteristic of early green revolution was that it had increased the labour intensity in the agricultural processes such as sowing, weeding, and more so in harvesting and threshing. Farming chores were mainly done by labour coming from the households of small, marginal and medium sized farms as well as supplemented by the hired labour during the peak season. However, the large farmers mainly were dependent on hired labour for agricultural operations. Rise in the income of rural household has increased the capacity of the farm households to employ innovations to further exploit the potential of yield increases and further enhance income from agriculture. Thus, the new innovations of threshing, cultivation of land through tractors, and pesticides and insecticides, diesel pump sets and electric tube wells increased the use of mechanical power for tilling and harvesting operations. Also biological innovations for making crops free from weeds and pest attacks started reducing the role of family labour in farm operations. It is important to note here that the electric tube wells installed in Punjab has been increasing continuously from 1.46 lakh in 1976 to 2.83 lakh in 1981 and were more than 8.29 lakh in 2002 which is nearly six fold increase. This increase in the rate of growth of number of electric tube wells could not satisfy the demand because a substantial number of applications remained continuously pending with the state electricity board (ESO, 2002). The number of tractors in Punjab has increased to 3.87 lakh which constitutes one-fourth of the total number of tractors in India and every third farm household has a tractor keeping in view 11.17 lakh total operational holdings in Punjab (Singh, 2004). Consequences of the increase in mechanization, assured irrigation, chemical fertilizer and pesticides and insecticides, and high yielding seeds resulted into manifold rise in the land productivity and decline in the intensity of labour. The crop yield increased at a rate of 2.43 per cent per annum during the period 1967 to 1981 which constituted 40.91 per cent of the total land productivity. The contribution of crop yield further increased at a rate of 2.71 per cent per annum during the post-green revolution period (1981-1991) which was 52.52 per cent of the total land productivity. Stagnation period (1991-2001) yield growth declined to 0.26 per cent and contribution to land productivity also declined to 31.33 per cent (Singh and Sidhu, 2004). Labour use pattern has also undergone substantial change due to the intensive use of biological and mechanical technologies. Man days declined after the mid eighties in wheat crop from 52.35 to 38.9 per hectare in 1985-88 to 1998-2000, that is 25 per cent decline. It is amazing to note that labour use in paddy crop has sharply declined from 103.60 man days per hectare in 1981-84 to 56.32 man days per hectare in 1998-99. Mechanical harvesting was fundamentally responsible for the sharp

decline in intensity of labour use in predominant crops of Punjab agriculture (Sidhu and Singh, 2004).

Mechanization of harvesting of major crops and intensive use of biological technologies has not only reduced the household use of labour power but also has substantially contributed to the rise in the cost of production. Over capitalization of mechanical power such as tractors and tube wells has made available the use of tractor for hire purchase basis to the small farmers which has reduced the use of family labour as well as completely eliminated tilling of land by using bullocks even of the small and marginal farmers. This implies that farmers turned as managers of production processes of agriculture because the manual operations have been almost eliminated and the remaining tasks are being done by the migratory work force available at low level of wages.

Rising costs along with stagnant technology and near freezing in the minimum support price of wheat and paddy which turned the already adverse terms of trade from bad to worse, surely reduced returns on food grain production. The reduction of differentials between returns and cost of production, increasing uncertainty of weather as well as dependence to borrow credit at a higher rate of interest from informal lenders were the reasons responsible for increasing indebtedness among the farmers of Punjab (Shergill, 1998; Ghuman, 2001; Gill, 2004a). This has compounded problems to the extent that farmers of Punjab resorted to committing suicides (AFDR, 2000). This has happened because of the fact that market forces operated at much larger scale during the phase of liberalization and globalization and thus reduced surpluses and increased costs along with distress sale of paddy crop for nearly a five year period during Akali Dal rule in Punjab. Incidence of suicides in Punjab has increased tremendously during this period.

3. Farmers' suicides: Extent and Diagnosis

Suicides by farmers were first highlighted by the media in the states of Kerala, Karnataka, and Andhra Pradesh. These were attributed to the poor economic status of the farmers there, in view of widespread poverty. But then came the reports of suicides by farmers in the grain bowl of India-Punjab-which was perturbing and quite unexpected in such a prosperous region. So long as suicide remains an occasional and stray incident, it does not generate much public concern. But when the incidence shows an upward trend and affects a particular section of society, it becomes a public issue, to be viewed, studied and analyzed in all its seriousness. In Punjab, suicides by farmers have become a public issue since the mid-eighties. The State government itself has admitted to 2116 suicides since 1986 (Jaijee, 2005), but this could just be the 'tip of the iceberg' as many more cases might have gone unreported, if not unnoticed.

The gravity of the problem in Punjab has been highlighted by three main studies—one conducted by the Institute for Development and Communication (1998), by Iyer and Manick (1999), and by an NGO, the Association for Democratic Rights (2000). Table 4 gives the main profile of suicide victims in the study areas of the three studies.

The studies reveal that Sangrur and Mansa are the two districts which have reported more incidents of suicides. These are the relatively backward and poorer districts of Punjab. But, as noted earlier, this by no way is an implication that suicides in other districts have not taken place – the number could be much smaller and might have gone unnoticed and unreported. The table 4 also reveals that the percentage of cultivators who committed suicide is much more than agricultural labourers. And among the cultivators, it is the category of small and marginal farmers which reported the maximum number of suicides. Most of the suicides victims were illiterate. The causes of suicides, of which indebtedness figured prominently, were multiple. The other factors included economic distress, crop failure, alcoholism, marital and domestic discord, drug addiction, etc. All these causes, in one way or the other, pointed towards the poor economic status of the victims which manifested in various ways. Indebtedness was more towards non-institutional sources of finance, in which commission agents figured prominently. This fact has been established earlier also in the studies of Shergill (1998); Gill (2000); and Gill and Kaur (2004). Also, according to the table 4, most of the loans (from institutional as well as non-institutional sources) were used for purposes that are traditionally classified as unproductive – social ceremonies, illness, house construction, etc.

The twin aspects of indebtedness (mostly to informal lenders) and the ‘unproductive’ use of loans need to be studied simultaneously in greater detail in an attempt to analyse the true reasons behind suicides. One side of the picture is that with the ushering in of the green revolution, the incomes of all classes of farmers increased initially, which set off the aspirations of cultivators to lead a better life in terms of living conditions and consumption. Always one to be on the ostentatious side of life, the Punjabi farmers, especially in the Malwa region (Bathinda, Faridkot, Sagrur, Mansa, Patiala, and Ludhiana) now freely gave vent to their longings and started spending lavishly on social ceremonies. Dowry in marriages invariably began to include a car, among other things. If there was a paucity of funds, there was always the informal lender, willing to give loans in substantial amounts. Or even a tractor loan from institutional sources could be used to buy a ‘maruti’ to be given as dowry. The beginning and deepening of economic crisis in agriculture shrunk the incomes of peasantry, but not their aspirations and the by now firmly entrenched social norms. Failure to pay back loans indebted them further, entrapping them in a debt trap. Harassment by lenders, threat of arrest, and then the public shame accompanying the impending compulsion to forsake their most prized asset – land, proved to be the last nail in their coffins.

The above picture is true, very true, but it is still only one side of the picture. There is another, less noted and thought of, albeit equally true side of the picture also. A much less reported fact is that not all loans, even informal loans are misused, yet majority of the peasantry (and landless workers) are in a grave economic situation. It has been established by micro-empirical studies that majority of borrowings of cultivators are used for productive—short term and long term—purposes. Gill (2000); Gill and Kaur (2004) have established that nearly 63 per cent and 57 per cent respectively of informal credit was utilized for productive purposes (Table 5). It was only in the case of landless workers who utilized a greater percentage of loans for consumption or repayment of old debts.

The productive purposes for which informal loans are utilized is for repair, fuel, maintenance and hiring of machinery, tube wells and pump sets. Expenditure on these cannot be postponed during peak seasons, and it is only the informal loans which are immediately available. Institutional loans, on the other hand, usually have a credit limit (set on the basis of owned, not cultivated land), and is readily available only after the first loan is repaid. Hence cultivators have no option but to turn to informal lenders, where red tapism and lengthy paper work seldom exists, unlike institutional loans. Moreover, formal credit is not able to fulfill the entire credit demands of cultivators. Table 6 bears ample proof of this. For most categories, supply of formal credit is not even 50 per cent of demand for credit.

Another aspect of the problem is the so-called unproductive use of loans, mostly informal loans. The question is how do we define the term ‘unproductive’? Recalling the crisis in agriculture once again, the spending of loans for survival—essential consumption, for medical expenses, and for building a roof over one’s head is not justifiably unproductive. Spending for maintaining/enhancing one’s productive capacity has now been recognized as very productive expenditures (Strauss and Thomas, 1995).

If an in-depth disaggregative analysis of the loan use is made instead of just the two broad conventional categories, then a substantial proportion of the loan use classified as unproductive could possibly be deducted away. Expenditure on marriages and other social ceremonies are safely classified as unproductive. But then, why is only one section of society singled out and chastised for spending on marriages when the entire set up of the Punjab State is under the influence of this social evil. Farmers cannot be studied and analyzed in isolation from what is happening in society at large, because they are not autonomous from the social structure, and their actions will be influenced largely by the society in general. The problem is that farmers, unlike most other sections of society, do not have regular, assured incomes; and whatever they earn is shrinking by the day. Suicides due to drug abuse, alcohol and domestic or marital discord are just reflections of this malaise of economic crisis with grave social consequences.

The whole situation, thus, has to be viewed in a broader macro framework of the needs of farmers and the set up to fulfill these needs rather than on limiting ourselves to studying just the profile of suicide victims, so that the menace can be checked before assuming gigantic proportions. In the agricultural set up, borrowing is a necessity-it is neither objectionable nor a sign of weakness. It is the failure of the institutional set up in supplying credit commensurate with demand that is mainly responsible for the crisis and its manifestation in the form of suicides. Commission agents are thriving as informal lenders because they have chosen crop, rather than land, as collateral, and entice farmers into interlinked contracts- pledge of sale of crop in return for loan (Gill, 2000; Bell and Srinivasan, 1989). Crop is not under valued as land, but the rates of interest are kept exorbitantly high (Gill, 2000), while keeping paper work to a minimum. Land grab is only in extreme cases, and that too in case of big landlords turned commission agents. But harassment, threats, fear of arrest and the public shame is enough to drive the borrowers to suicide, even though the loan might not have been used 'unproductively'. Hence, suicides as a manifestation of indebtedness in particular and agrarian crisis in general have to be viewed and analyzed in a broad macro economic framework. It has to be realized that the root cause of the problem lies not just under the cursory heading of indebtedness; it has to be traced back to the entire credit set up and then the crisis within the agricultural sector.

4. Hope and Suggested Policy Measures

Despite the grave situation in which the Punjab peasantry is engulfed, there is still a ray of hope. Since in the previous section, an attempt was made to diagnose the problem, suitable alternatives can now be suggested as remedial measures, in the light of the efforts already made at the level of the state. Since the agrarian crisis has manifested itself in suicides, the problem needs to be tackled at various levels, beginning from immediate relief measures to the families of suicide victims, to long term policy decisions covering the entire agricultural sector.

As a part of the immediate relief package for the families of suicide victims, there is a need to provide monetary assistance as compensation so that the aggrieved family can meet its physical survival needs. This is all the more important in cases where the victim was the only earning member of the family. Proper identification of such families by a non- partisan organization must precede such financial compensation. Additional financial compensation can also be provided by voluntary organizations and NGOs. Since most of the suicides are directly or indirectly related to indebtedness and economic distress (not necessarily in this order), it is proposed that a moratorium on the debt of the victim be implemented. Also the rate of interest and the loan installments be substantially lowered thereafter. In case the victim was the sole earning member, waiving off the entire loan-formal or informal-would be highly recommendable.¹

{NOTE 1: It needs to be pointed out at this stage that the Punjab Planning Department had announced a compensation of Rs. 2.5 lakh in its Annual Plan of 2001-02, but this promise has yet to be fulfilled, unlike the case of Andhra Pradesh. In fact, highly moved by the state's apathy, a petition has been filed by the Movement Against State Repression (MASR) in the Punjab and Haryana High Court seeking instructions to the Punjab Government and the Government of India to compensate and rehabilitate families of farmers who committed suicide in the state (The Hindustan Times, January 21, 2005).}

Again, taking a cue from the relief measures provided to suicide victims in Andhra, a pension scheme to the next of kin (especially if he/she is aged and/or a non-earner) be implemented. As part of longer term relief measures, it is suggested that provision for cost free skill oriented education be made for the minor children. Older children could be provided suitable employment to rehabilitate the family. This would also ensure that the victim's family is made capable of paying off the debt and live a life of honour, having washed off the stigma of being a suicide victim's kin.

Apart from this, since the farmers cannot escape certain expenditure on consumption, health and even social ceremonies, efforts can be made to set up a pool of separate funds, with matching contributions from the farmers and the government, which can then be used to give interest free loans specifically for such expenses as mentioned above. This pooling can be done at the village level, by the Panchayats or some such organizations. Funds can be loaned out to member farmers on a rotational, need based or lottery basis if the fund pool is small. The idea can be roughly similar to the chit funds or nidhis operating in urban areas. However, the success of such a scheme will depend purely on the farmers and the honesty with which they operate the scheme. If such schemes can be successfully implemented, then farmers would not need to 'misuse' the borrowings from institutions or avail of informal loans for 'unproductive' purposes.

Since it has already been argued that despite using a major portion of the borrowings for 'productive' purposes, farmers are falling into a debt trap, steps need also be taken to address the entire credit needs of farmers and the very set up of credit providing agencies-formal, as well as informal.

The growing agricultural crisis and its manifestations have not gone entirely unnoticed, with the Punjab government appointing a committee as early as in 1985 under the chairmanship of S.S. Johl to diagnose the problem and suggest remedial measures. The committee put forward the idea of diversification of agriculture from the existing wheat-paddy cropping pattern (Government of Punjab, 1986). It was argued that this diversification from cereals to fruits, vegetables and pulses will not only increase income of farmers but also reduce environmental degradation for long-term sustainability of Punjab's agricul-

ture. It may be recalled that this agriculture diversification based rural industrialization growth strategy has met with success in the early 80s in a number of Southeast Asian countries. The Punjab government recently tried to promote diversification of agriculture by taking on the path of contract farming, between farmers and the agribusiness firms (Singh, 2004). However, the very design and implementation of contract farming left the small sized farmers at the mercy of the private firms which secured monopoly situation in the market. Such profit considerations and market orientation, in the absence of enforcement agency, acted against the farmers and they have been left with no choice but for continuing the wheat-paddy cropping pattern (Gill, 2004b).

Diversification of agriculture of Punjab is, no doubt, a desired goal for transformation of the economy into an industrialized one, but so long as the processing activities of agriculture production take place away from the farm gates, agriculture sector will have the potential of exploitation and continue to face decline in rural incomes (Timmer, 1988; Singh, 2005). Southeast Asian countries in general, and Taiwan in particular have been success stories because agriculture produce was processed on the farm gates and surpluses were ploughed back to expand rural industrial activities and raise levels of living of the rural population. The farmers' association of Taiwan successfully by passed exploitative intermediary agency. The state too played its role by providing essential institutional infrastructure and investment.

The organization of production, thus has to be changed from individual to cooperative-not the bureaucratic state controlled cooperative but modern cooperatives based on member owned and controlled cooperatives. Amul in our own country is an example of one such cooperative. Farmers' cooperative in Junnar taluka in Maharashtra for industrialization of grape cultivation is another success story. The government of Punjab, too, needs to offer a strategy which is not purely private and market based, but which leads farmers to organize themselves to carry out production, processing and marketing by them. For this, suitable institutional and infrastructural arrangements and elimination of middle man has to be provided.

Specifically addressing the problem of credit, there are no two views that once again, it is the middleman-the commission agent- which is exploiting the farmers the maximum and confining them to a debt trap. The remedy lies in the provision of institutional credit at cheaper rates of interest and, more important, at levels commensurate with the demand for credit. Although the recommendations of the Narasimham Committee Report (1991) regarding lowering of priority sector (of which agriculture is a very important part) target of bank credit from 40 percent to 10 per cent was not approved by the political masters in our country, the monitoring and fulfillment of targets have began to be taken much less seriously. This is not desirable in view of the grave economic situation of agriculture. To

aggravate the situation, the priority sector list is being regularly revised to the detriment of small and marginal farmers (Dasgupta, 2002). For instance, in the category of direct advances to agriculture, acquisition of jeeps, pick up vans etc. have been included-vehicles that are minimally made use of by small and marginal farmers. Again, the target of 18 per cent of direct advance is now being fulfilled by including a certain percentage in the form of indirect credit (EPW Research Foundation, Special Statistics, 2003; TNS, 2003). That the supply of institutional credit is much less than demand has already been mentioned earlier in this paper. The Punjab government's recent measure to revise the 1997 vintage land rates taken into account by cooperative banks for lending purposes has enhanced the loan availing capacity of farmers is a step in the right direction, but the element of land ownership as a basis of loan and that too with considerable red tape and delays are still a lacuna. A lower rate of interest is of no avail if the loan is not adequate, timely and without the additional costs of procuring it. These additional costs involve cost of frequent visits to the institution, fee, submission of documents (requiring payment to some 'munshi' who can do the paper work for the illiterate farmers) etc. These expenses, if added in the rate of interest, make formal borrowings quite expensive.

On the other side are the informal lenders- mainly commission agents- who charge exorbitant rates of interest but provide easy finance, commensurate with demand, while linking sale of crop to loan amounts. These practices are highly exploitative, but the farmers are forced, not willing, to borrow from them out of sheer necessity. Suicides by farmers are just one manifestation of the grave situation that agriculture is facing. To serve the rural credit needs, the experiences of Indonesian rural financial institutions, where organizations provide credit services locally, with character-based lending (Chaves and Gonzalez, 1996), or Grameen Bank of Bangladesh can be recalled and adapted to Indian needs. And most important is the delinking of politics from credit, which turn loans into grants with every election, making the task of credit institutions difficult. The solution to indebtedness will go a long way in solving the problem of the entire agrarian crisis. Among other measures, it is suggested that formal institutions would do well to shift to crop as collateral, instead of insisting on land ownership, especially for long term loans. This would ensure that the credit is need-based. Farmers should also be provided crop insurance at par with what is available to industry, as agriculture is the most vulnerable sector to the vagaries of nature. Failure of crops almost always renders the farmers incapable of paying back the loan installment, and if crops fail in two or more consecutive seasons, farmers invariably find themselves in a debt trap. This is exactly what is happening in some parts of Punjab, where the fury of Ghaggar river (in Malwa region where maximum suicides have been reported) during monsoons wreaks havoc year after year.

It is also necessary that the government starts thinking in terms of setting up some sort of cooperative organization to hire out agricultural machinery-tractors, threshers, and har-

vest combines- on subsidised rates. This will save a lot of expenditure of the farmers. Even for irrigation, it should not be necessary that every farmer spends on installation of tube wells and pump sets individually. Government installed tube wells, collectively operated by farmers can serve the purpose. In view of the declining water table in Punjab, submersible pump sets (deep tube wells) need to be installed, the installation cost of which cannot be borne by small/marginal farmers. If such pump sets are installed by the government, water use would be more equitably distributed, in addition to saving of costs.

5. Concluding Remarks

Structural transformation of an economy involves the reducing importance of the agrarian sector that is reduction of work force dependence on agriculture while shifting surpluses to the more dynamic sector of the economy that is industry. Punjab economy is undergoing a transformation which has evolved into a grave crisis, instead of becoming a healthy sign of capitalist economic development. This is because while the surpluses are being rapidly extracted, dependence of work force on agriculture is still very heavy. The situation is aggravated due to declining productivity and income in this sector. The onset of green revolution had given a tremendous boost to the economy by bringing sharp increases in incomes, production and productivity for all classes of agriculturists. However, the boost was short lived-with productivity declining over a period of time, income dipping due to increased costs of production but near freeze in minimum support prices, and with large numbers rendered unemployed due to mechanization of agricultural operations and lack of alternative employment opportunities. Near stagnation in the agricultural sector, and non-descript development of the other sectors of the economy saw the beginning of a crisis which has reached an unprecedented gravity, to the extent that cultivators were forced to take their own lives rather than live a life of extreme poverty, mounting debt burden and the agony of not being able to pay back the debts.

This manifestation of agrarian crisis in the form of suicides has reached dangerous levels in the Punjab state. Intensive field surveys carried out to gauge the gravity of the problem as well as its causes pointed out that most of the suicide victims were cultivators and belong to the category of small and marginal farmers. Suicide was attributed to a number of reasons, ranging from poverty to crop failure, indebtedness, marital discord and alcoholism, but in our view it was mainly due to the economic crisis that the peasantry, in general, in Punjab are facing and which has led them to borrow heavily. The heat has been felt more by the small and marginal farmers, since they are at a disadvantageous position so far as borrowing from institutional sources is concerned, and land ownership is a criteria for borrowing. Hence non-institutional sources, particularly the commission agents, have come to occupy a dominant position, as they lend on the basis of crop as collateral, and with minimum paper work. Although, contrary to popular belief, much of the borrowings (from both sources) are used for what are traditionally known as productive purposes,

yet peasantry at large is under debt pressure because incomes from agricultural crops is not enough to meet survival needs as well as repayment of loan installments. In this regard, it is also pertinent to question the relevance of the terms 'productive' and 'unproductive' use of loans- a loan taken for survival or essential consumption or health needs or even for a bit of social expenditure need not be classified as unproductive.

The above argument apart, the fact remains that it is mainly indebtedness which has led to suicides. If other reasons are given, they are just essential links in the chain of economic difficulty leading to borrowing and indebtedness, and then the pressure-of family, of lenders, even mental pressure- of returning the loan or face public shame and humiliation, not to speak of threats of land grab.

Remedies thus have to be found not only in terms of short term or immediate solutions to suicides, but also long term solutions to end the agrarian crisis itself. While immediate measures could include relief, mainly financial relief, to the families of suicide victims, and attempts at their rehabilitation, the long term measures to 'nip the evil in the bud' should comprise of attempts at rural industrialization. This could be done on the lines of how and what has been undertaken in East Asian countries especially in Taiwan. Farmers' cooperatives, sans middlemen, to produce, process and market output on the farm gates can be a way out. This would not only provide the agricultural sector with a much needed diversification from the wheat-paddy rotation, but also prove to be remunerative in terms of incomes and employment. Farmers' organizations must engage themselves to start collectively processing and marketing enterprises rather than purely depending on agitations for more remunerative prices. Asking for rights along with engaging in industrial activities has a capacity to eliminate the middlemen who thrive on surpluses generated through processing and marketing activities. State government apart from supporting and extending cooperation must become innovative to articulate policies in the fast globalizing world to prod farmers' organizations to initiate those activities which integrate the processing and marketing activities on the farm gates. This also underlines that the state and state-run financial institutions would have to alter their system of lending-loans would have to be made adequate, timely, cheap, and commensurate with demand. The red tape and additional costs involved, which makes institutional loans so unattractive, would also have to be cut drastically.

Agrarian distress and its manifestation in the form of suicides has to be dealt with in all seriousness, beginning from soothing broken-both mentally and financially-families to longer term remedies of correcting the crisis itself. There can be no short cuts, only patient, persistent efforts by learning, adapting, adopting and implementing.

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Table 1: Sectoral Rates of Economic Growth in Punjab (at 1980-81 prices)

Sector	Growth rate per cent per annum			
	1966-67 to 1998-99	1966-67 to 1979-80	1980-81 to 1990-91	1991-92 to 1998-99
Agriculture and livestock	4.29	3.79	5.15	2.16
(a) Agriculture	3.68	3.18	4.87	0.37
(b) Livestock	5.68	6.10	5.70	5.10
Forestry and logging	5.03	12.48	-0.11	5.10
Fishing	11.44	4.17	15.30	18.54
Mining and quarrying	2.18	-0.51	9.60	-40.07
Manufacturing	8.64	8.22	9.12	8.49
Electricity, gas and water supply	9.78	8.12	11.96	6.32
Construction	2.52	10.06	0.46	6.19
Trade, hotel and restaurants	2.11	7.56	2.93	4.31
Transport, storage and communication	7.05	7.55	6.92	11.64
Banking and insurance	10.11	9.04	12.04	10.50
Real estate ownership of dwellings and business services	2.64	1.03	2.86	0.65
Public administration	8.27	6.21	7.60	8.11
Other services	3.25	4.92	2.39	2.55
Net state domestic product(NSDP)	4.98	4.56	5.36	4.68
Per capita income (PCI)	2.92	2.39	3.42	2.72

Source: Singh, Lakhwinder and Sukhpal Singh (2002).

Table 2: Sectoral Distribution of State Domestic Product

Sectors	1966-67	1970-71	1975-76	1980-81	1985-86	1990-91	1995-96	2000-01
Agriculture and livestock	52.85	54.27	51.73	48.46	50.32	47.63	44.21	39.22
(a) Agriculture	40.91	38.51	35.88	32.22	34.37	30.69	26.54	26.76
(b) Livestock	10.71	15.76	15.85	16.24	15.95	18.94	17.67	12.46
Forestry and logging	00.38	00.76	00.62	00.99	00.78	00.59	00.50	00.14
Fishing	00.04	00.03	00.03	00.03	00.03	00.09	00.17	00.38
Mining and quarrying	00.01	00.05	00.01	00.02	00.01	00.02	00.02	00.00
Manufacturing	07.86	08.04	10.07	11.00	14.00	16.27	20.12	16.10
Electricity, gas and water supply	00.71	00.84	01.09	01.31	01.51	02.45	02.46	02.42
Construction	03.50	09.21	07.82	06.15	04.49	03.74	03.83	04.97
Trade, hotel and restaurants	10.36	10.96	10.07	14.58	12.47	11.33	11.12	12.73
Transport, storage and communication	01.45	01.73	01.87	02.05	02.17	02.32	02.58	05.67
Banking and insurance	01.43	01.80	01.78	02.55	03.11	04.67	05.48	05.23
Real estate ownership of dwellings and business services	05.78	04.79	04.14	04.26	03.73	03.20	02.62	04.22
Public administration	01.52	01.79	01.61	02.81	02.48	03.28	03.26	04.60
Other services	06.13	05.72	06.14	05.76	04.89	04.32	03.89	04.07

Source: Govt. of Punjab, Statistical Abstract, Various issues.

Table 3: Structure of Work force in Punjab

Year	Cultivators	Agriculture labour	Industrial workers	Other workers	Total workers
2001	2099330 (22.96)	1498976 (16.40)	769047 (8.41)	4774407 (52.23)	9141760 (100.00)
1991	1917210 (31.44)	1502123 (24.63)	749136 (12.28)	1929905 (31.65)	6098374 (100.00)
1981	1767286 (35.86)	1092225 (22.16)	665442 (13.50)	1402806 (28.47)	4927759 (100.00)
1971	1665153 (42.56)	786705 (20.11)	442070 (11.3)	1018664 (26.03)	3912592 (100.00)

Source: As in Table 2.

Table 4: Profile of Suicide Victims

Study by Characteristics	IDC (1998)	Iyer and Manick (1999)	AFDR (2000)
1. Districts surveyed	Gurdaspur, Sangrur Mansa, Ludhiana	Sangrur	Patiala, Mansa, Sangrur, Bathinda
2. Villages covered	14	11	29
3. Households covered with confirmed cases of suicides	53	75	79
4. Percentage of cultivators who committed suicide	55	66.66	84.80
5. Percentage of agriculture labour households	45	33.33	15.20
6. Percentage of small and marginal farmers	25	84.00	65.70
7. Percentage of illiterates	58.5	66.25	75.00
8. Percentage of married victims	81.10	-	76.00
9. Causes of suicides:			
(i) Multiple of which indebtedness is one	38	78.75	62
(ii) Crop failure	1.05	10.00	5.10
10. Debt exclusively from commission agents(per cent)	36.72	67.50	27.4
11. Debt from commission agents and other sources	-	81.25	73.60
12. Unproductive use of loan (per cent)	68.20	51.61	20.00*

Notes: 1.*- Comprises percentage of victims who could not repay back loan due to reasons like expenditure on social ceremonies, excess consumption and illness, which are conventionally regarded as unproductive expenditures.

Table 5: Utilization of Informal Credit by Sample Households (Percent)

Size-group of owned holding (Acres	Productive Purpose		Consumption Purposes	
	Patiala	Amritsar	Patiala	Amritsar
Landless	4.28	49.64	64.11	50.36
Upto 2.5	70.23	47.29	29.77	52.71
2.51 – 5.00	51.41	48.74	45.92	51.26
5.01 – 10.00	50.66	81.50	48.26	18.50
Above 10	68.95	71.18	29.29	28.82
Total	63.03	57.14	36.36	42.86

Note : The percentages for production and consumption in case of Patiala may not add upto 100, because it excludes utilization of credit for repayment of old debt of cooperative societies.

Source: Calculated from field survey.

Table 6: Supply of Formal Credit as Percentage of Demand for Credit

Size-group of owned holding (Acres	Patiala	Amritsar
Landless	10.77	14.58
Upton 2.5	27.12	61.93
2.51 – 5.00	49.51	41.43
5.01 – 10.00	24.96	40.07
Above 10	75.11	67.75
Total	47.85	43.67

Source: Calculated from field survey