Green Revolution Revisited: The Contemporary Agrarian Situation in Punjab, India

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What is This?
Green Revolution Revisited: The Contemporary Agrarian Situation in Punjab, India

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Abstract
The Green Revolution was India’s first industrial agricultural revolution that replaced the traditional farming system completely. But the adverse consequences of Green Revolution in the form of stagnation in production aggravated the problems of the farmers in the era of post-Green Revolution in 1980s and 1990s. The late 1990s witnessed an emergency of debt-driven suicides and rapid indebtedness that had taken hold of the countryside across the nation. Being the epicentre, the Green Revolution in Punjab did not sustain for a long time, as it started losing its charm and was followed by a series of ‘crises’, especially in its economy and environment. The farmers in Punjab are facing a severe problem with stagnation in production due to vast cereal-based mono cropping (mainly wheat-rice cycle) instead of multiple cropping, abandoning other crops like pulses, mustard, vegetables, and so on. Besides the practice of monoculture, the application of expensive chemicals (like fertilisers, pesticides, weedicides, and so on), over-mechanisation, labour and irrigation eventually increased the input cost of cultivation manifolds. Due to this high input costs of cultivation, farmers resorted to various formal (like banks, cooperatives, and so on) and informal (like local moneylenders or arhtiyas, who are commission agents in the grain markets) credit institutions for borrowing money. But due to repeated stagnation, the net output and subsequent profit margin reduced drastically. As a result, farmers could not repay the loan and eventually got entrapped into the vicious cycle of debt. On the other hand, after the liberalised economic policy of the government, the farmers received marginal importance and they could not cope up with the free and open market system. As a result, the incidence of indebtedness increased at an alarming rate. To get rid of indebtedness, many farmers...
across the state committed suicide. On the basis of empirical data, the present article will show the real picture of the contemporary agrarian situation in India's most-developed state, Punjab.

Keywords
Green Revolution, agrarian crisis, reverse tenancy, indebtedness, suicide

Introduction

The Green Revolution resulted in a rapid growth of food grain production with the introduction of new packages of mechanical and petrochemical inputs along with the well-developed irrigation infrastructure, especially in developing countries during the 1960s and 1970s. It was for the first time that modern capital-intensive agriculture was introduced to India, replacing the traditional one. The package consisted of high yielding grain varieties, mainly rice and wheat, heavy fertiliser and pesticide application and carefully controlled irrigation, leading to more mechanised type of farming systems. The potentiality of new grain varieties, however, could only be obtained through proper supplement of these new inputs. Without proper and controlled application of these inputs, the new varieties yielded no more and sometimes much less than the traditional strains. This new technological paradigm virtually replaced the subsistence farming system. However, the introduction of the Green Revolution was not a part of spontaneous development in rural India, as it was a deliberate attempt of several international donor agencies and the Government of India to initiate new capital-intensive agricultural development only in a few selected areas of the country. These selected areas were strategically chosen on the basis of high level of growth in productivity and higher frequency of large landholders. Punjab, with its suitable climate, soil and pre-existing canal irrigation network in the colonial period, along with a sizeable population of large landholders, was first considered to be a part of this new form of agricultural transformation.

After the introduction of the Green Revolution in the late 1960s and 1970s, Punjab experienced a remarkable agricultural growth. It had improved the general socio-economic condition of the farmers and catapulted it to the status of being called the ‘grain bowl of India’ or the ‘bread basket of India’. Since then, the agricultural production sectors in Punjab have become highly capital intensive and mechanised. According to the Commission for Agricultural Cost and Prices (CACP) report 1997, the state achieved irrigation coverage of 95 per cent of the net sown area and 98 per cent coverage of improved high yielding seed varieties. The agricultural growth rate in Punjab was highest among all the states between the 1960s and the mid-1980s. According to Goldman and Smith (1995), the wheat harvest in Punjab between 1964–65 and 1984–85 increased more than fourfold, 2.4 million metric tonnes to 10.2 million metric tonnes, contributing 44 per cent of...
the total wheat harvest in India. The rice cultivation, on the other hand, received marginal importance in the pre-Green Revolution days, which increased up to 75 per cent in the early 1970s and became one of the most important cash crops of the state.

The euphoria, however, was short lived. The momentum of the Green Revolution did not sustain for a long time, as the so called ‘grain bowl of India’ is now facing a huge crisis in its agrarian sector. The elation at this new agrotechnological revolution came to be identified with ‘disaster’, as it brought about a massive socio-economic crisis in the mid-1980s and thereafter. Nadkarni (1988) reported that by the mid-1980s, a wheat grower in Punjab was obtaining lower net returns per hectare even after incurring higher costs per hectare on modern technological inputs. On the other hand, Gandhi (1997) argued that the increase in input costs came largely from over-mechanisation, labour and irrigation costs. Because of this high input cost of cultivation, farmers resorted to various formal (banks, cooperatives, and so on) and informal (local moneylenders or arhtiyas) credit institutions for borrowing money. But after the stagnation in production, the net output and subsequent profit margin reduced drastically. As a result, farmers could not repay the loan and eventually got trapped into the vicious cycle of debt. To get rid of indebtedness, many farmers across the state committed suicide. Since the mid-1980s, suicide by the farmers in Punjab has become a public issue. The state government itself admitted that 2,116 suicides had taken place since 1986 and this could just be the ‘tip of an iceberg’, as many more cases might have gone unreported (Tribune, 2005). Gill and Singh (2006) reported that the majority of suicide victims were small and marginal farmers and one of the reasons behind the suicide was indebtedness. Besides the problem of stagnation in production and subsequent indebtedness and suicides, the Green Revolution also brought a massive social inequality in rural Punjab. The major contradiction is directly related to the unequal distribution of benefits among the small and large farmers. The medium and large farmers strengthened their economic and social position, acquiring more and more land, whereas the resource-poor small and marginal farmers started leasing out their tiny agricultural land to the large farmers due to high input cost of cultivation.

Thus, Punjab, being the ‘showcase’ of Indian agriculture, is now facing severe socio-economic crisis that is largely unforeseen and overlooked by the architects of the Green Revolution. The present study has been conducted to evaluate the contemporary agrarian situation in rural Punjab, and that eventually helps us understand the consequences of India’s first agricultural revolution.

**Study Area**

The research was conducted in the Malwa zone of southern Punjab. Punjab has traditionally been divided into four eco-cultural zones, namely, Doaba, Majha, Malwa and Powadh. Over time, each region has metamorphosed into distinct
regions, separate in their physical environment, economic structure, social organisation and cultural pattern. Therefore, each region is also called ‘folk region’. Though there exist inter-regional differences, within the region there is uniformity in geography, climate, vegetation, soil, drainage and cultural environment. The study area was located in the village of Chaina (district Faridkot) in Malwa zone. The Malwa zone was chosen as most of the cases of indebtedness and suicides were reported from this region. The district Faridkot is subdivided into three regions based on soil, topography climate and natural vegetation—Hathar-Sadiq plains (sandy plain), Uttar Dhudi plains (sandy loam) and the Jaitu region (sandy loam to loam). Chaina is located in the Jaitu region. The region is famous for cotton cultivation, due to its dry terrain, sandy soil and scanty rainfall. It is also well known for producing the best staple of cotton in North India. The market called Kotkapura Mandi and Jaitu Mandi (in district Faridkot) are considered as Asia’s biggest cotton market. The village is largely dominated by Sikhs with a negligible population of Hindus. The dominant caste in the village is the upper caste Jatts. They are mainly agriculturists and possess a large amount of land in the village. Besides Jatts, various artisan castes like Tarkhan (carpenter), Nai (barber), Sunar (goldsmith), Kumhar (potter), Brahmins (priest) and scheduled caste (especially Mazhbbhis) also live there. Wheat, paddy and cotton are mainly cultivated as major cash crops. The farmers usually practice monoculture with a single crop rotation (wheat-paddy or wheat-paddy-cotton or wheat-cotton). The main kharif crops are paddy and cotton and these are cultivated between April–May and October–November. On the other hand, wheat, being a major rabi crop is cultivated between December and April.

**Methodology**

The research was primarily based on qualitative methods, especially ethnography. It is a holistic approach that perceives human actions as a part of the whole system. In the light of this approach, I mainly focused on the local’s point of view, households, and the knowledge of the community to identify significant categories of human experiences. The fieldwork was conducted in the village of Chaina between 2007 and 2010.

During the qualitative data collection, three kinds of non-probability sampling (purposive sampling, quota sampling and snowball sampling) were employed. In purposive sampling, the respondents were chosen purposefully, who were thought to be relevant to the research topic. In case of quota sampling, the respondents were chosen from a specific group. For instance, during the data collection on farmer-labour relation, rural credit institution in pre-Green Revolution Punjab, and so on, only elder farmers were selected as key informants. On the other hand, snowball sampling was also applied in which the respondents were asked to recommend any other persons who met the criteria of the research queries. To
minimise the weakness of snowball approach, random sampling was employed, which helped in breaking linkages of snowball methods after a series of five respondents. These respondents provided information on the contemporary socio-economic condition, relationship between small and large farmers, and farmers and farm labourers, and so on. Besides qualitative sampling, the probability sampling for quantitative analysis was chosen to understand the magnitude of debt among the farmers in Chaina. A survey of 230 farm households was conducted. The samples were selected on the basis of stratified random sampling. The stratification of the farmers was done on the basis of their landholding capacity. I considered the actual amount of land that the farmers possessed and avoided leased-in and leased-out land. After getting the total number of farm households in the village, it was segregated into various classes on the basis of landholding capacity. According to the Director Agriculture, Punjab (1995–96), farmers having less than 2.5 acres are considered as marginal, 2.5 to 5 acres as small, 5 to 10 acres as semi-medium, 10 to 25 acres as medium and more than 25 acres as large farmers. The percentage of every class of farmers was calculated and the percentage was taken as a sample size of that particular group of farmers. It is known as representative sampling.

The Green Revolution and the Contemporary Agrarian Situation in Punjab

To assess the contemporary agrarian situation in Punjab, it would be essential to understand the changing pattern of system of cultivation. The system of cultivation is defined as the functioning of relationship that is based on landownership and the factors underlying various agricultural operations. It determines the position of individuals in the production process. There are two types of cultivation: (a) the self-cultivation or ‘khudkasht’ in which, farmers undertake all the agricultural operations and occasionally depend on hired labourers and (b) involving others in the cultivation in a form of labourers or sharecroppers. In the former case, workers work for their own family farm and do not hire labourers from outside. However, they seek help from their close relatives (especially from minimal lineage or Lahnas) when needed. Most of the small and marginal farmers come under this category. On the other hand, the hired labourers include a variety of contract labourers. The farmers generally employ contract labourers in two ways—the daily-wage labourers or dehari majdoor in which the form of work is not permanent in nature as they work on daily basis and receive payment at the end of the same day; second, the permanent attached labourers who work for farmers on a fixed contract basis (minimum one year). In the latter case, there are two types of employment. First, the landowner may permanently keep siri or sharecropper, who works on a fixed payment basis (one-twentieth produce after harvest). Second, the landowner may keep servant or naukar, who works on fixed
cash rent for one year. Both siri and naukar generally come from lower castes (especially the Mazhbhi caste). The minimum time period of the contract is one year and the further extension of the contract is largely based on the relationship between the farmer and the labourer.

The naukar is given a responsibility to perform major agricultural tasks (for example, ploughing, sowing, pesticide spraying, harvesting, and so on) as well as the rearing of cattle with the payment of ₹25,000–30,000 annually. There are two types of naukars available in the village—the balig (adult) and nabalig (child labour). The nabalig or child labourers receive less money from farmers (12,000–15,000 annually). They mainly do all the household works for farmers, including the rearing of cattle, growing and carrying of fodder from the field, and so on. In return, they receive meal. The rate of the naukars varies and largely depends on the availability of the labourers in the village and the market rate of the crop in that particular season. For instance, the labour charges increased from ₹25,000 (2007–08) to ₹35,000 (2009–10) as the MSP (minimum support price) of cotton increased from ₹2,500 per quintal to ₹5,000 per quintal in the last three years. On the other hand, the siri or sharecroppers are those who do farming on a sharing basis. They receive a share of the crops as their wages. The farmers keep the siri when they do not spend much time in the field. Sometimes, they give complete responsibility of the farm operations to the siri. The mode of payment is traditional Jajmani type of a system in which the relationship between the landowner and labourer plays an important role. The wife and other female members of siri work as sweepers in the house of the same landowner. Sometimes, they also do some domestic works for the landowners (like cleaning utensils, looking after the cattle, and so on). To minimise the expenditure of outside labour, the female members of the siri family take the responsibility of cotton plucking. Mr. Sandeep Singh, a Jatt farmer, said that to keep a siri, farmers consider the following factors: (a) a siri should have a good knowledge of agriculture and skills to manage the whole farm operations on behalf of the farmer, (b) he should maintain a good relationship with daily labourers, ensuring a leadership quality to conduct the field operations peacefully in the absence of the farmer, (c) he should bear the responsibility of any loss in the farm operations and (d) he should be honest and trustworthy. Besides siri, tenant farming is also very common nowadays. In this system, the landowner leases out his land to another farmer in the village where the tenant has to pay a fixed rent (annually) to the landowner.

I observed three situations pertaining to the changing pattern of system of cultivation. First, a growing trend of reverse tenancy in which the small and marginal farmers started leasing out their land to the medium and large farmers. Second, a decline in employment of siri under the traditional Jajmani system. Third, a changing nature of labour employment in which the large farmers have started employing cheap migrant labourers from Bihar and Uttar Pradesh instead of local labourers.
Problem of Reverse Tenancy

The crisis in Punjab agriculture started with the declining viability of small and marginal holdings and higher rate of rural indebtedness after the Green Revolution. The development of capital-intensive industrial agricultural technology in the 1960s jeopardised the economic condition of the small and marginal landholders in Punjab. The majority of the small and marginal farmers in Chaina could not mechanise their farming due to lack of capital and many of them leased out their land to the large landholders. This phenomenon is known as reverse tenancy. The system of reverse tenancy changed the existing pattern of system of cultivation in Punjab. In this system, the large landholders started leasing land from the small landholders on a fixed rent basis. Mr Joginder Singh, a medium farmer in the village, has 16 acres of land. In 2005, two small farmers in the village approached him for leasing their land. Due to good production of Bt cotton in 2004, he decided to lease land for cotton cultivation for the next season. Finally, he took it on a fixed rent (₹22,000 per year for each acre). He further mentioned that it has become very difficult for the small farmers to invest in new seed varieties, petro-chemical inputs, agro-machineries, and so on. Thus, farming has become an expensive option for them. Many small and marginal farmers felt that due to the expensive cost of cultivation, they could not lease land from the large farmers. Moreover, they have to pay a fixed rent for the leased land.

After the initial success of Green Revolution, the value of land in Punjab has increased. As a result, the landowners do not want to give land for sharecropping, rather they prefer to lease it on an annual rent basis. The rent of the land depends on the rate of the crop, especially on the basis of the MSP of the crop in the market. For instance, in 2007, the MSP of cotton was approximately ₹2,500 per quintal and the rent of per acre of land varied from ₹22,000–25,000 depending on the quality of the soil. But in 2010–11, the rent increased to ₹35,000 as the MSP of cotton increased to ₹5,000 per quintal.

Mearns (1999) reported that the percentage of leased-in area in Punjab increased up to 13 per cent in the 1980s as compared to 9 per cent in the 1970s. According to the Human Development Report, Punjab (2004), a rapid decrease in operational holding among the marginal farmers is noticed from 37 per cent to 26 per cent between 1970–71 and 1990–91, which further declined to 12 per cent in 2000–01. Simultaneously, operational landholding among the medium, large and extra-large farmers (Table 1) has also increased. Hence, there is a clear indication of reverse tenancy. The small and marginal farmers mentioned that after the Green Revolution, farming no longer remain as primary source of income. In the pre-Green Revolution period, they were dependent on traditional agricultural practices. However, the production was not sufficient in the traditional technology, but it did not put any economic burden because of low input cost of cultivation. After the introduction of the Green Revolution technology, they purchased expensive farm inputs (mainly fertilisers, pesticides, and so on) to intensify
the production. It eventually increased the cost of cultivation. In the pre-Green Revolution period (mainly the 1940s and 1950s), the practice of sharecropping or the employment of *siri* by the large landholders used to be a common phenomenon in the village. Moreover, to get the benefits of new technology, many small farmers in the village leased land from the large farmers. But it proved to be successful only after the proper supplement of expensive chemical inputs with assured irrigation. Due to lack of capital, they could not purchase the expensive farm inputs. Thus, it was very difficult for them to survive in this mechanisation and commercialisation of agriculture, as they could not reap the benefits out of it. Thus, without having any option, they not only returned the land but also leased out their own land to the large farmers.

### Decline in the Employment of *Siri*

In the era of post-Green, the system of tenancy has been commercialised. The mechanisation of agriculture enhanced the ability of the large landholders to operate the whole land with minimum labour employment. The large landholders have started withdrawing themselves from sharecropping. After the application of chemical inputs and irrigation, there was a significant increase in the yield and in return; the farmers also received a good price from the government. Hence, unlike small and marginal farmers and landless labourers, the large farmers could afford the high cost of cultivation and they benefited a lot. Many large farmers in Chaina mentioned that the sharecropping with poverty-stricken landless labourers or small farmers seemed to be a huge loss for them, as the commercial value of land increased invariably. To reap the benefits of modern capital-intensive farming technology, most of the large farmers in the village stopped sharecropping with the resource-poor small and marginal farmers and gave their land to those who could afford to use capital-intensive mode of production. There were very few large and medium landowners in the village who gave land for sharecropping. Interestingly, I found that none of the sharecroppers belonged to the resource-poor Mazhbhi but to the upper caste Jatt who could afford a huge investment in modern technology. Mr Sarabjit Singh, another Jatt landholder and a government officer,

### Table 1. Distribution of Operational Landholdings in Punjab

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<tr>
<td>Marginal (0–1)</td>
<td>37.63</td>
<td>19.21</td>
<td>26.50</td>
<td>18.65</td>
<td>12.34</td>
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<tr>
<td>Small (1–2)</td>
<td>18.91</td>
<td>19.41</td>
<td>18.24</td>
<td>16.78</td>
<td>17.35</td>
</tr>
<tr>
<td>Medium (2–4)</td>
<td>20.44</td>
<td>27.99</td>
<td>25.85</td>
<td>29.31</td>
<td>32.90</td>
</tr>
<tr>
<td>Large (4–10)</td>
<td>18.02</td>
<td>26.20</td>
<td>23.40</td>
<td>27.98</td>
<td>30.19</td>
</tr>
<tr>
<td>Extra-large (10+)</td>
<td>5.00</td>
<td>7.19</td>
<td>6.01</td>
<td>7.28</td>
<td>7.22</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
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Green Revolution Revisited

shared his experience regarding the employment of a siri in his land. He wanted to keep a siri, as he could not look after his land due to his government job. He owned 12 acres of land in the village. In 1995, he employed Gulab Singh, a small farmer from the village who belong to lower caste, Mazhbhi. But during the cultivation, he observed that it was very difficult for Gulab Singh to afford the high input cost of cultivation. Finally, the production was very low. Hence, after this incidence, he decided to give his land to medium and large farmers on rent basis, as they could afford the input cost of cultivation. He mentioned that after the advent of Green Revolution, the practice of sharecropping was no longer a lucrative option for the farmers. Thus, instead of crop sharing, the farmers now prefer to give land on a fixed rent basis.

Changing Nature of Labour Employment

Due to new technological innovation of various agro-machineries (like tractors, threshers, grinders, seed planters and harvesters), chemicals (like pesticides, fertilisers, weedicides, fungicides, and so on) and mechanised irrigation systems (electric tubewell and diesel pumps), a drastic reduction in the manual farm operations was noticed. Although these chemical inputs assured irrigation, and high yielding seeds increased the food grain production manifolds, these declined the labour intensity abruptly. It reduced the task of the agricultural labourers and forced them to move out of agriculture. As a result, the local farm labourers adopted some low-investment, low-earning and self-employment ventures like working in a flourmill, repair shop, construction work, grocery shop, and so on. In a report titled ‘Status of farmers who left farming in Punjab’, Singh, Singh and Kangra (2007) argued that in the last few decades, a large proportion of lower caste people were pushed out of their traditional occupation as agricultural labourer and allied activities, and dissociated themselves from the upper caste Jatt landholders.

Thus, it is important to understand the present relationship status between the landowners and the local agricultural labourers. I conducted interviews with various classes of farmers as well as local agricultural labourers. My key informants, Mr Pritpal Singh and Mr Jattha Singh, explained how the trend of employment of labour has changed since the last two decades. Mr Pritpal said that due to dry and sandy terrain, almost all the farmers in the village cultivated American cotton as a major kharif crop. They mostly employed the local labourers for various agricultural operations related to cotton and wheat cultivation. But after the massive attack of American bollworm in the 1990s, many farmers (especially the medium and large) left cotton and forcefully adopted paddy cultivation. Mr Jattha Singh mentioned that a majority of the farmers in the village did not have proper skills in paddy cultivation, as they had never cultivated it before. Thus, both the farmers and local labourers are not well equipped with paddy cultivation. Many farmers started employing migrant labourers from the states of Uttar Pradesh and Bihar.


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The migrant labourers are locally known as *bhayya* labour and their continuous presence became a common feature of the village especially after the adoption of paddy in the late 1990s.

Mr Sakattar Singh, owner of 32 acres of land, mainly employs migrant labourers for both paddy and wheat cultivation. He said that the migrant labourers live on the farm and in regular contact with the landlord, giving him detailed information pertaining to farm operations. But the local labourers live in the village and spend working hours in the farm. During irrigation, farmers need proper supervision to ensure that the amount of water he receives from the government should come to his land only. Sometimes, farmers receive water at night which needs proper surveillance. The migrant labourers are given the responsibility to supervise this operation at night on behalf of the farmers. Unlike migrant labourers, the local labourers are very reluctant to work at night. Unlike them, the migrant labourers are increasingly entrusted with many different jobs with a diversity of skills and varying levels of responsibility. Besides agricultural tasks, they also help their landlord in various household works. For a time being, they tend to become all-purpose farm and household hand for farmers. In this way, over a period of time, a regular migrant labourer moves into supervisory roles especially in handling of farm machinery, loading and unloading of the produce, harvesting and sowing of crops and, even at times, helping with the marketing of the produce. After employing the migrant labourers, the farmers not only started withdrawing themselves from most of the tasks requiring hard physical labour, but also getting more specialised even in performing supervisory function.

Hence, there has been a demand for migrant labourers instead of local labourers. As a result, many local agricultural labourers started dissociating themselves from their traditional occupations and moved to the local town/city for better jobs. Thus, the unintentional adverse impact of migrant labourers created a rapid disjunction between the landowning Jatts and local Mazbhi labourers. The farmers argued that leaving agricultural jobs could not be a good option for the local labourers, as the competition is much high in the industries. The labourers rush to the nearby town where thousands of labourers throng to get a job. Moreover, they also complained that a few debt and poverty-stricken labourers tend to display kleptomaniac tendencies and, thus, nowadays they often prefer to keep contract labourers, especially the *naukars* who are trustworthy and reliable. However, after interviewing many local labourers in the village, I came across a very different situation. Mr Goggi Singh, a contract labourer in the village said that the Jatt landholders behave like a commission agent or *arhtiya* with the Mazbhi labourers. He said that the poor labourers do not have the option to go to the *arhtiyas* or the local banks for borrowing money. For any urgent need, they immediately rush to the farmers. The farmers give money to the labourers on the conditions that they do all the agricultural works free of cost for the next one year. Many labourers said that they could borrow money but not more than ₹20,000–25,000 at a time. If the labourer agrees to work for the farmer (both domestic and agricultural works), soon he becomes a servant rather than a labourer. Besides the agricultural tasks,
he is given all the domestic chores like rearing of cattle, growing and carrying of fodder, maintenance of house, and so on. If he takes leave even for one day, he has to work extra time. These, according to the labourers, are the conditions for borrowing money from the farmers. Goggi Singh also mentioned that if a labourer refuses to work, farmers put an additional interest of 4–5 per cent. That is why many labourers mockingly remarked that the farmers are nowadays turning into arhtiyas.

Thus, the system of cultivation as completely changed in rural Punjab since after the advent of Green Revolution. Now, the question is how the changing nature of system of cultivation is responsible for an ongoing agrarian crisis. I will discuss it in the latter part this article. However, the condition became worse especially after the new economic policy of globalisation and liberalisation in the 1990s, which not only suffocated the agrarian economy but also left it to the logic of market forces. Every section of farmers, irrespective of class and caste, were badly affected by this new economic policy. The late 1990s witnessed an emergency of debt-driven suicides and rapid indebtedness that had taken hold across the countryside of Punjab and elsewhere in India.

Impact of Globalisation and Liberalisation

In the new economic policy of 1990s, science, technology and business enterprises (perhaps the combination of these three) were projected as a new paradigm of development. This new economic reform, however, paved the way for many multinational companies to enter into the Indian agricultural sector. This multinational interference eventually led to corporate control over agricultural production and the trade sector of our country. On the one hand, free trade and open market are considered the backbone of a ‘new economy’ with reduced state intervention and, on the other hand, agriculture and rural people received marginal importance. It was brought to the notice of the government and policy makers by many social scientists after the drastic reduction of agricultural growth in the share of national income, mainly in the mid-1990s. The economy of the Indian farmers are largely based on the minimum support prices provided by the government. But due to improper public distribution mechanism, the farmers were deprived proper remunerative prices. The farmers (both small and large) found it very difficult to survive in the open market system, as they were forced to sell their entire production to the market. Moreover, those in debt and the illiterate small and marginal farmers found it more difficult to bargain with the government and private procurement agents to sell their crop. Therefore, they have been suffering enormously from this new liberalised economic system, which largely undermined and marginalised the interest of the poor farmers.

After the harvest of paddy at the end of year 2000, when millions of people were in starvation across the country, the granaries in Punjab were flooded with
unwanted surplus of paddy. The farmers mentioned that the government procurement agents rejected to procure their crops, calling it inferior quality. They were unwilling to purchase it and not even ready to pay the MSP to the farmers. Meanwhile, the private traders and rice millers were ready to procure the crop at a very low cost (even much lesser than the MSP). The farmers still kept on waiting for the official agencies, but they never turned up for further procurement of the crop. The grains were stored wherever the farmers could find place—in school grounds, public parks, and so on. Hence, the unintended withdrawal of state-support from the economic sphere, especially in agriculture, leaving it to the vagaries of free market forces, proved to be deleterious and disastrous during the liberalisation stage and aftermath.

**Indebtedness and Suicide in Punjab**

Hence, due to the declining growth rates, severely weakened Public Distribution System (PDS), heavy farm investments, low level of savings and extensive crop failure, agriculture no longer remained a profitable source of income, especially for the small and marginal farmers in Punjab. As a result, many of them left agriculture due to the low income from farming, fragmentation of land and repayment of old debts. After leaving farming in distress, these farm families generally adopted lower level of activities and most of them joined the labour market.

Several studies have already been conducted by a number of agricultural economists in Punjab to estimate the extent and magnitude of indebtedness among different categories of farmers. On the recommendation of Punjab State Farmer’s Commission, three economic experts\(^5\) from Punjab Agricultural University (PAU) conducted a survey titled ‘Flow of funds to farmers and indebtedness in Punjab’. It has argued that 89 per cent of the farmers in the state are indebted and 12.8 per cent are those who have committed suicide. The worst affected area is cotton-growing southern Punjab (that is, Malwa), where 93.5 per cent cotton farmers were under debt. They also estimated that the average debt of marginal and small farmers in the cotton belt was ₹80,000. Few years back, the crisis became worse when the whole village was declared for sale by the gram panchayats (village head council) due to an outstanding debt.

To understand the magnitude of debt among various classes of farmers in Punjab, I conducted a survey in Chaina. A large number of small and marginal farmers were found to be indebted. Out of the total 230 farm households in Chaina, 189 households were highly indebted in which 100 household belonged to small and marginal farmers. However, the magnitude of debt of more than ₹20,000 was substantially higher among the semi-medium, medium, and large farmers. According to National Sample Survey Organisation (NSSO, 2005), the total amount of rural debt of Punjab was ₹24,000 crores in 2003. The report also estimated that each farmer in Punjab has an outstanding debt of ₹45,576 against the national average of ₹12,505.
During my informal visit to Malsinghwala village, Mansa district in January 2007, Mr Jasbir Singh, the sarpanch (the head) of the village revealed that each of the 290 households had an outstanding debt of ₹13,000. With a severe cotton crop failure, they had no other hope of repaying this outstanding debt and, therefore, the village had decided to sell off its property spread over 1800 acres. It did not happen only with Malsinghwala as there were several other villages in southern Punjab, who put themselves in the queue of auction such as Harkishanpura in Bhatinda district and Bhuddtal Kalan in Sangrur district.

Thus, the high input cost, practice of monoculture and stagnation in yield with low output have led farmers to borrow money from various formal and informal sources. Overborrowing of money has become a regular task that increases rural indebtedness. But Satish (2006) argued that the indebtedness is a function of availability of credit in relation to its demand, as also the ability of the recipient to service it. If properly serviced through income, generated from farm operations, debt would not turn into burden.

Moreover, the commercialisation of agriculture has created a cultural link of rural population with towns and cities. This has resulted in the acquiring of all modern luxury machines, appliances and facilities which are seen as basic necessities nowadays. To compete with the city dwellers, the farmers started spending a huge amount of money in house construction and other modern facilities. Mr Gurdarshan Singh (54), a medium farmer in Chaina, invested more than ₹15 lakhs for his house construction. He built a two-storied building furnished with modern furniture and accompanied by modern facilities, including an air conditioner, washing machine and several other expensive household appliances. And for this, he took a loan of ₹15 lakhs from the local Punjab National Bank (PNB).

I also observed that the farmers, especially the Jatts, were extremely fascinated with tractors. To enhance the social status in the village, unnecessary purchasing of new farm machineries (mainly tractors) has become a regular trend. The tractor is seen as a status symbol for many Punjabi farmers. It serves as a car but is more useful than a car. The primary use of a tractor is ploughing and it also helps carry the agricultural produce to the local market. Thus, to the farmers, the best way to assert higher status in the village is to buy tractors as well as modern agricultural implements. Even the farmers with less than five acres of land also purchased tractors to enhance their social position and status. Mr Amarjeet Sharma (59) stated that he was not eager to buy a tractor unlike his friends who bought it by taking a huge loan from the local bank. He also said that it would be matter of prestige if one does not have tractor. To buy a tractor, a farmer would always resort to local banks and cooperatives for credit. To sanction the loan quickly, many of them pay bribes to the bank officers. The cost of the tractor lies between ₹75,000 and ₹400,000. After buying a tractor, the farmer usually throws a party for friends and relatives. After this celebration, he would proudly go around the village in his tractor. It becomes very difficult for the small farmers to spend such huge amounts of money.
After the Green Revolution, there was a growing trend of overborrowing, especially from the informal sources, and use it for other purposes rather than in agriculture. Moreover, the farmers are not earning enough to meet their needs and to repay the loans due to low yields. Professor Succha Singh Gill, an economist from Punjabi University, Patiala, rightly pointed out that ‘when a farmer is unable to pay bank or cooperative loans, he resorts to borrowing from the moneylenders at an exorbitant rate of interest’. It has been found that the arhtiyas or commission agents in the grain markets are playing a dominant role to control the local credit market in Punjab. Singh, Toor, and Sharma (2005) have argued that more than 50 per cent of all outstanding debts held by the farmers were accounted for by the arhtiyas. Several other studies, like those by Gill (2000) and Kaur (2002) also argued on similar aspect confirming the dominance of arhtiyas in the local credit market. Gill (2004) also noted that the arhtiyas not only dominate the local credit market, but also filled the gap between the availability of credit from institutional sources and total demand for credit in rural Punjab. Despite all efforts at making institutional credit available by the government, the farmers still rely on this non-institutional credit market of short-term borrowing only because of lesser paper work and other hassles.

However, in pre-Green Revolution Punjab, the ‘taccavi’ loan was one of the major sources of rural credit institutions. It was functional until the bank and cooperatives actively participated in the rural credit market. With the help of revenue agencies, the government spent money on the farmers for purchasing seeds, fertilisers, and so on, in the form of short-term loans. These loans were also given in the case of severe crop failure due to flood and drought. Mr Manjit Singh, an old farmer in Chaina, shared his experiences regarding the taccavi loans. He said that unlike the modern commercial bank and cooperatives, the taccavi loans never became a burden, because in case of delayed repayment, the penal interest was also waived. Even a micro-level relief was also available in the case of the farmers who were unable to repay the loan. Sometimes, the government also extended the time of repayment.

In the latter part of the 1970s, cooperatives and commercial banks progressively entered the rural credit market and flourished after the liberalisation and globalisation in the early part of 1990s. As per the Reserve Bank of India (RBI) guidelines, the commercial bank has to reserve 40 per cent of their total lending to the priority sector, in which 18 per cent should go to agriculture. Mr Neeraj Kumar Singh, a probationary officer in the State Bank of Patiala, Jaitu, told me that the majority of agricultural loans are given to farmers to purchase agricultural machineries and only a few of them give crop loan as such. On the other hand, the cooperatives provide crop loan to farmers.

After talking to the farmers, I found that there is a lack of proper mechanism to recover the loan. Unlike with the taccavi loan system, the waiving of interest, penal interest or rescheduling of payment, and so on, are absent. In the absence of these, the lending agencies start punitive actions for recovery of loans and drive farmers to suicide. Professor Gill informed me that the lending agents used to
recover their loans by taking away animals, agricultural implements, and so on, in full public view. It is a worst kind of insult that the farmer has to bear. Some scholars were of the opinion that this social stigma could be a reason for farmer suicides in Punjab.

Hence, economic factors like declining productivity and viability of land holdings, low MSP, heavy investment on agro-machineries and social factors like fragmentation of farming classes, lack of interest in agriculture and a huge expenditure on non-agricultural purposes pushed farmers into a debt trap and forced some of them to commit suicide, especially in the view of dishonour suffered by them in the debt-recovery process. According to a report by the Institute of Development and Communication (IDC), the number of suicides in Punjab experienced a sharp increase in 1992–93, estimated 51.97 per cent, while the comparable figure for the country as a whole was only 5.11 per cent. In 1993–94, the increase was 14 per cent in Punjab as against 5.88 per cent for the country. While there was a decline in the reported cases at an all-India level, Punjab once again reported an increase in 57 per cent in 1994–95. The IDC report also recognised the fact that there was always a possibility of underreporting of suicides (IDC, 1998). In mid-1980s, the state government itself admitted that 2,116 suicides had taken place since 1986. Apart from the study by IDC, Iyer and Manick (2000) and an NGO called the Association for Democratic Rights (AFDR, 2000) also conducted an in-depth study on farmer suicides in Punjab (Table 2). Recently in 2006, a report on farmer suicides prepared for Punjab State Farmer’s Commission by IDC, Chandigarh, estimated the rate of farmer suicide in Punjab. The report shows that the suicide rate of Punjab was 0.57 per cent in 1988 and rose up to 2.04 per cent in 2001 and further declined to 1.38 per cent in 2005. However, Mr Umendra Dutt, an environmental activist in Punjab, criticised the report saying that the data did not support the true picture of suicide deaths in Punjab, as the actual suicide rate is much higher. He pointed out that most of the suicide cases in rural Punjab are not registered by the local police and shown as cases of natural death or death due to disease. The report also confirmed that higher number of suicide cases could be found in six districts, namely, Faridkot, Bhatinda, Ferozepur, Ludhina, Amritsar and Hoshiarpur. It also mentioned that a vast majority of suicide victims belonged to a category of small and marginal farmers with minimum literacy rate. Interestingly, all the studies concluded that indebtedness is one of the key factors for farmer suicides in Punjab. However, in my study village, I did not come across any suicide case but the problem of indebtedness was highly prevalent.

On 2 March 2009, the Government of Punjab announced a relief package for the families of suicide victims. The government decided to pay ₹2 lakhs to the families of farmers who had committed suicide since the previous year. A debate has already ensued on the sudden step of the government before the assembly poll, as the critics have argued that a new provision might actually prompt more suicides. They also blamed that these kinds of short-term policies of the government are neither preventive nor curative. I think that this kind of an announcement may even lead to more suicides, as farmers will start taking their lives,
Table 2. The Profile of Suicide Victims in Punjab

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<thead>
<tr>
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<tbody>
<tr>
<td>Districts Surveyed</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Village covered</td>
<td>Gurdaspur</td>
<td>Mansa</td>
<td>Patiala</td>
</tr>
<tr>
<td></td>
<td>Sangrur</td>
<td>Ludhiana</td>
<td>Mansa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sangrur</td>
<td>Bhatinda</td>
</tr>
<tr>
<td>Households covered with confirmed cases of suicides</td>
<td>53</td>
<td>75</td>
<td>79</td>
</tr>
<tr>
<td>Percentage of cultivators who committed suicide</td>
<td>55</td>
<td>66.66</td>
<td>84.80</td>
</tr>
<tr>
<td>Percentage of agriculture labour households</td>
<td>45</td>
<td>33.33</td>
<td>15.20</td>
</tr>
<tr>
<td>Percentage of small and marginal farmers</td>
<td>25</td>
<td>84</td>
<td>65.70</td>
</tr>
<tr>
<td>Percentage of illiterates</td>
<td>58.50</td>
<td>66.25</td>
<td>27.40</td>
</tr>
<tr>
<td>Percentage of married victims</td>
<td>81.10</td>
<td></td>
<td>76</td>
</tr>
<tr>
<td>Percentage of debt exclusively from commission agents</td>
<td>36.72</td>
<td>65.50</td>
<td>27.40</td>
</tr>
<tr>
<td>Percentage of debt from commission agents and other services</td>
<td></td>
<td>81.25</td>
<td>73.60</td>
</tr>
<tr>
<td>Percentage of unproductive use of loan</td>
<td>68.20</td>
<td>51.61</td>
<td>20.00</td>
</tr>
<tr>
<td>Percentage (Cause of suicides)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) multiple of which indebtedness is one</td>
<td>38</td>
<td>78.75</td>
<td>62</td>
</tr>
<tr>
<td>(ii) crop failure</td>
<td>1.05</td>
<td>10</td>
<td>5.10</td>
</tr>
</tbody>
</table>

**Source:** Gill and Singh (2006).
which would be an option for further repayment of loans by their families. Instead of paying the price of suicide to the farmers, the government should sort out the minimum support price issue and bring down the input cost of cultivation. Agriculture has become an expensive proposition in Punjab, as the farmer has to spend ₹5,000–8,000 per acre on hybrid seeds, fertilisers, pesticide, diesel and labour (both migrant and local). The PAU economist, Dr Sukhpal Singh, rightly pointed out that ‘since the Punjab government can’t seem to deal with the prospect of farmers killing themselves, it has done the next best thing: offer compensation for the suicides’.

**Conclusion**

The introduction of the Green Revolution in India was a ‘western’ endeavour and this radically new technological paradigm was promoted as a prototype and measure of social progress. True, it altered the pattern of farming technology and organisation, but equally true, none of these transformations were the part of spontaneous development in rural India. The contemporary agrarian crisis across Punjab is an adverse impact of both the Green Revolution and globalisation. This ‘agrarian crisis’ is not only about the problem of indebtedness among various classes of farmers or about those who committed suicide but it subsequently maximised social inequality in rural Punjab. The landed classes found their economic position to be more strengthened whereas the poor farmers and landless classes became more marginalised and proletarianised. The unusual phenomenon of reverse tenancy is the one of the adverse consequences of the Green Revolution. Therefore, the Green Revolution largely benefited the large farmers and squeezed the small and marginal farmers and landless agricultural labourers. It changed the existing pattern of system of cultivation. Cleaver (1972) rightly pointed out that there has been a growing effort by the landlords to acquire more land and convert their tenants into hired labourers in order to reduce their costs, thus, creating a class-based society in the Green Revolution-dominated area. With the incorporation of industrial farming, the capitalist farmers accumulated more capital in the form of mechanical equipment whereas the small and marginal farmers who wanted to participate in the Green Revolution could not do so because of lack of capital.

In a true sense, the relative success and failure of the Green Revolution is a fiercely debated issue. It involves a wide circle of actors—from small-holders and agricultural labourers to large farmers, planners, policy makers and politicians to environmentalists and activists to economists, and so on. These actors, however, have taken radically different positions to explain the pattern of progress and crisis and success and failure of the Green Revolution. However, in recent years, both the advocates and the critics of Green Revolution have shared less polarised views recognising the problem of rapid market penetration and biased development and application of petrochemical inputs and high yielding varieties (HYVs). Many
analysts have questioned the sustainability of the Green Revolution technology. The sustainable yield-enhancing potential of these mechanical and petrochemical inputs of food production are now seen sceptically.

Thus, the contemporary farm enterprises are mainly dealt with the interconnections between different sets of actors. Within this multiplicity of local-global interconnectedness, the restructuring of agriculture from small-landholders to large-scale transnational and multinational companies posed new research challenges for social scientists. Thus, they ought to explore these new research challenges in relation to the larger context and changes being experienced at the village and regional as well as local and global levels. This would probably help us raise more meaningful questions about what is happening to contemporary rural India.

Notes

1. The nabalig females do not go to the field except during the harvesting time when they assist their mother.
2. The Jajmani system is a kind of caste-base economic system in India that largely depends on the relationship between upper and lower castes.
3. The input cost of cultivation was very low. Farmers mostly used bullock-driven plough for tilling the land, local seed varieties for plantation, farm yard manure as fertiliser, and so on. Although the cultivation was largely based on rain-fed but ill-developed irrigation, facility was available to them.
4. In Bihar and Uttar Pradesh, paddy is the staple of cultivation.
5. Dr Sukhpal Singh, Dr Manjit Kaur and Dr H.S. Kingra
6. Personal communication, Punjab University, Patiala, Punjab.
7. Personal communication, Punjab Agricultural University, Ludhiana, Punjab, India.

References


