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NEO-LIBERAL ECONOMIC POLICY AND PEASANT CLASSES:
The question of farm profitability and indebtedness in
Indian agriculture

ARINDAM BANERJEE

Centre for Economic Studies and Planning
Jawaharlal Nehru University, New Delhi

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The central question of Indian agriculture since independence has been the land question and the prevalent mode of production. The mode of production and subsequent peasant-classes that has emerged over the years had significant implications for the trajectory of growth of agriculture in our country. A correct identification of the mode of production is fundamentally important for determining the potentialities of capitalist development of agriculture, ascertaining the different peasant-classes and most importantly to analyze the impact any economic policy on the organizational basis of agriculture in our country.

Under the neo-liberal economic policies, the agricultural sector has slumped into a situation of crisis. Since the mid-nineties, the country has witnessed a new phenomenon of farmer suicides primarily driven by rising household indebtedness. A spate of farmer suicides has occurred, the number running into thousands, spread across several major states like Andhra Pradesh, Maharashtra, Kerala, Punjab and Karnataka. In this paper, we undertake the task of identifying the peasant classes, which are most vulnerable and being severely affected by the problem of accumulating debts or whether this malady is an overwhelming phenomenon not confined to particular classes. The paper is divided into four sections. In Section I, we make a brief assessment of the impact of macroeconomic policies on agriculture and especially the processes in the post-liberalization era that have adversely affected the sector. In Section II, we try to comprehend the characteristics of the peasant classes and size-classes especially in terms of their interaction with the labour market and land-lease market. In Section III, we look into the connection of rising household indebtedness with the economic position of the households, their viability of cultivation, access to institutional credit and other factors. In Section IV, we summarize our findings and thereby suggest pertinent policy measures that may help in arresting such trends.

Section I

Agriculture under a deflationary regime:

In post-independence India, a class of capitalist farmers started emerging, although thin in magnitude and not always in the purest sense of the category. In spite of the fact that the pre-capitalist practices like employing farm-servants (bonded by some extra-economic means) continued to prevail, a definite transformation of production relations was initiated from around mid-sixties. The introduction of the Green Revolution technology along with the government undertaking large five-year plans created growing incentives to invest in agriculture for small groups of large cultivators across the country. The industrialization process going on in the country enhanced demand for raw materials and food grains causing subsequent rise in agricultural prices. Also, the Green Revolution technology further increased the profitability in agriculture. This was accompanied by a rise of investment, both public and private, in the sphere of agriculture improving its irrigational and market infrastructures as well as helped further technological advances. These processes permitted a gradual capital accumulation and development of capitalist production relations in Indian agriculture. The higher level of profitability in agriculture that was generated and maintained up to the early 90s served as an engine of capitalist

development in Indian agriculture although it has been characterized by crop-specificity and regional bias.

Given this background, the Indian agriculture since the year 1991 has been facing an entirely new policy regime comprising of a set of deflationary, neo-liberal economic policies. With the opening up of the food and other crop markets, the Indian farmers were exposed to the volatility of the world prices. Since 1995, the world prices of almost all primary products have experienced a significant fall. This price fall has been largely due to a crunch of demand in the world market brought about by various policies of income-deflation like fiscal deficit controls, control of wages, curbs in social security measures, etc. To add to this, reduction of subsidies from several farm inputs like seeds, fertilizers, etc in the pursuit of the goal of reducing public expenditure has triggered a subsequent rise of input prices. In Table 1, we have presented the prices of some of the commonly used fertilizers. The percentage increase of fertilizer prices in the decontrolled era post-1992 has been enormous compared to the period between 1981 and 1991-92. While the prices of urea and DAP has increased by 75 and 99.8 percent in the liberalized era, the price rise of the NPK fertilizers has been even more drastic. A steep increase of this order in fertilizer prices, along with other input prices, has adversely affected the cost structure of cultivation under the neo-liberal regime. The lack of sufficient public investment in irrigation and infrastructure in rural areas in this period also has prevented any complementary reduction in the cost structure of agricultural production. A rising cost of cultivation coupled by a downward slide of output prices has had a severe dampening effect on the profitability in agricultural production and caused a further decrease in both public and private investment.

Table 1: Comparison of Fertilizer Prices under controlled and decontrolled regimes

Urea		DAP		NPK			
				17:17:17		10:26:26	
Year	Price	Year	Price	Year	Price	Year	Price
1981	2350	1981	3600	1981	2600	1981	2950
1992	2760	1991	4680	1991	3380	1991	3840
2003	4830	2003	9350	2003	8100	2003	8360
Percentage increase during controlled regime							
1981-92	17.5	1981-91	30.0	1981-91	30.0	1981-91	30.2
Percentage increase during decontrolled regime							
1992-2003	75.0	1991-2003	99.8	1991-2003	139.6	1991-2003	117.7

Source: Fertilizer association of India.

All prices are in Rs. per tonne of product and denote the MRP exclusive of VAT/Sate sales tax or local taxes

It therefore becomes necessary to study the differential impact of these deflationary economic policies on the peasant classes in rural India especially in relation to the viability of cultivation and level of household indebtedness. The fact that the peasantry is being increasingly clasped between falling output prices and rising input prices has the clear potential of asset losses, especially land-loss and livestock-loss, a greater land and capital concentration in agriculture and reversal of land reforms in certain areas. An examination of secondary NSS data reveals the trends in the distribution of operated

holdings and landlessness in rural India over the last decade or so. Landlessness has registered a steep rise between 1991-92 and 2002-03 in rural India. There has been a significant rise in the percentage of landless rural households for all the fourteen major states except Orissa during this period. The all-India percentage of landless households has increased strikingly from 19.78 percent in 1991-92 to 31.18 percent in 2002-03 (NSSO Reports 408 and 493), which hints at the loss of land and livelihood over this period.

The current situation in agriculture as drawn out above makes adequate storage facilities and access to institutional credit mandatory if a farmer is to avoid losses due to volatile price movements of the market. A small-scale cultivator is often forced to sell his crop at a loss in a situation of price-fall due to lack of storage facilities. The regular cuts in rural development expenditure over the last one and a half decades have made it all the more difficult for small and poor peasants to gain access to such facilities. The dwindling returns to agricultural activity and a simultaneous decline in the availability of institutional credit in rural areas over this period have generated and are continually aggravating the problem of indebtedness among the peasantry.

Table 2: Trends in number of branches, credits and deposits of SCBs in rural India.

Year	No. of bank branches		Credit advanced		Deposits		Credit-Deposit ratio (%)	
	Rural (number)	% to total	Rural (in Rs. crores)	% to total	Rural (in Rs. crores)	% to total	Rural	All areas
1981	19453	51.2	3600	11.9	5939	13.4	60.6	68.1
1991	35216	58.1	19688	14.7	33163	15.1	59.4	60.9
2000	32673	48.7	48753	10.6	120539	14.7	40.0	56.0
2001	32640	48.3	54431	10.1	139431	14.7	39.0	56.7
2002	32443	47.8	66682	10.2	159423	14.2	41.8	58.4
2003	32283	47.4	77153	10.2	176502	13.8	43.7	59.2
2004	32107	46.8	85021	9.7	195082	12.9	43.6	58.2
2005	31967	45.7	109976	9.5	213104	12.2	51.6	66.0

Sources: Ramachandran and Swaminathan (2002) for the figures pertaining to 1981, 1991 and 2000 and Banking Statistics: Basic Statistical Returns for 2001-2005.

A look at the banking indicators for Scheduled Commercial banks (SCBs) reveals a gradual trend of shrinking of the institutional banking sector in the rural areas (Table 2). The percentage of rural branches to total branches started decreasing post-1991; the decline during the nineties not only offset the increase during the decade of eighties but went further below the level of 1981. In the fifteen years between 1991 and 2005, this percentage came down from 58.1 to 45.7, a reduction of more than 12 percentage points. The percentage of rural credit to total credit advanced in rural areas exhibit a similar trend. This figure increased from 11.9 to 14.7 percent between 1981 and 1991 and has fallen sharply to 9.5 percent by 2005. While the Credit-Deposit ratio remained more or less unchanged in the decade of eighties, it came down sharply in the next decade from 59.4 percent in 1991 to 39 percent in 2001 as a result of financial sector reforms. After 2001, this ratio shows a steep increase and rises to 51.6 percent by 2005. Unfortunately, this offers no solace as it is due to a situation where finally the percentage of rural deposits has started falling at an even higher rate than bank credit for SCBs in rural India,

which is a joint outcome of aggressive financial reforms and the precipitating agrarian crisis. From these figures, it is adequately clear that the banking sector has been gradually but steadily curbing its operations in the rural credit market in the face of a crunch in the rural economy. The vulnerability of cultivator households to local moneylenders in such a situation of scant access to institutional credit has increased manifold in several parts of the country.

Section II

Peasant Classes and their Interaction in Labour and Land-lease markets:

The study is based on primary data of 254 households collected through a stratified rural household sample survey. The survey has been conducted in four villages in Bardhaman district, West Bengal and five villages in Anantapur and Karimnagar districts, Andhra Pradesh. West Bengal has experienced a continuous growth in agriculture over the last three decades and Bardhaman is one of the agriculturally advanced districts in the state with a multi-crop soil characteristic and an irrigated area of 71.98 percent (District Statistical Handbook, Bureau of Applied Economics and Statistics, GoWB). Rice and Potato are the main crops cultivated in the district. The yield rate of rice in the district stood at 3063 kg/ha in 2003-04 and compared favourably with the average yield for West Bengal, which was 2504 kg/ha (DSH, BAE&S, GoWB) during the same year. The enhanced agricultural activity in the district actually absorbs seasonal labour supply from other districts of the state and occasionally from outside the state as well. It would be interesting to examine the impact of neo-liberal economic policies on the household debt situations in such an agriculturally prosperous area.

On the other hand, Andhra Pradesh is one of first states that saw the precipitation of the agricultural crisis in the country. The phenomenon of rising indebtedness and farmer suicides were almost synonymous with cotton farming, especially the BT cotton variety in the mid-nineties when it started. Gradually, the crisis has spread to encompass regions growing other crops and other states as well. The districts in our study, namely Karimnagar is such a cotton growing region while Anantapur is a primarily groundnut growing region and has also been gravely affected by incidents of farmer suicides due to high rates of indebtedness. Karimnagar, a black-soil region, lies in the Telengana region of the state and has an irrigated area of 49.77 percent (District Census Handbook, 2001). The yield of the primary crop, cotton in the district has been volatile at 261, 373 and 212 Kg/ha in the years 2002-03, 2003-04 and 2004-05 respectively (DSH, 2004-05, Karimnagar) indicating a certain degree of instability in cultivation. Anantapur, one of the driest districts in the country with only 11.85 percent irrigated land (DCH, 2001) is comparatively a backward region in agriculture. It is primarily a groundnut-growing region, a crop that was protected at least in the initial years of liberalization through comparatively higher tariff rates. However, over the years both these districts have experienced a high incidence of suicides in rural households. Between 1998 and 2002, the number of farmer suicides was 1297 for Karimnagar (Patnaik, 2005) and more than 2000 for Anantapur (Sainath, 2004c).

Selection of regions-

A two-tier selection process was adopted to identify an economically advanced and backward region, primarily in terms of agriculture, in each of the states. While in West Bengal, the advanced and the backward regions have been selected from the same district, in case of Andhra Pradesh; we have chosen the advanced region from the cotton growing district of Karimnagar and the backward region from the Anantapur district. We have used the block level data published in the District Census Handbook, 2001 to calculate certain variables and used the latter to rank the blocks and select them.

In the first tier of the selection process for West Bengal, five most advanced blocks and five most backward blocks from Bardhaman district were identified based on four variables namely, percentage of cultivated area to total area, percentage of irrigated area to total cultivable area, number of educational institutions per 1000 persons and number of medical care centers per 1000 population. The first rank is assigned to the best performing block for each variable such that each block has four ranks for the four variables. To calculate an aggregate rank for each block, we take the sum of the four ranks for each block and then normalize the sum on a scale of 1 for the 29 blocks in this district. We call this 'First Tier Gross Rank on scale of 1' denoted by R1.

In the second tier of the selection process, the most advanced and most backward blocks out of these ten blocks are determined. This is done using six variables calculated from the data in the District Statistical Handbook, Bardhaman, 2004, Govt. of West Bengal. The variables that have been used are number of fertilizer depots per 1000 population, number of seed stores per 1000 population, number of livestock per 1000 population, number of banks per 1000 population, number of PACS per 1000 population and number of fair price shops per 1000 population. Using the same ranking method as in the first tier, we derived the 'Second Tier Gross Rank on a scale of 1' denoted by R2. A 'Final Gross Rank' denoted by R was arrived at for each block by taking a simple average of the two ranks R1 and R2. The block with the lowest 'R', Raina-2 is selected as the most advanced block and that with the highest 'R', Salanpur as the most backward one.

Using the same two-tier selection process in the case of Andhra Pradesh, the advanced block is taken from the Karimnagar district, namely Saidapur. Anantapur (rural) block is selected as the backward block from Anantapur district. While the same variables (as used for West Bengal) have been used in the first tier of selection, in the second tier, the number of fertilizer depots per 1000 population and number of seed stores per 1000 population have been replaced by the number of pump sets per 1000 persons and number of tractors and power tillers per 1000 persons. The data sources used for this purpose was District Census Handbook, 2001 and District Statistical Handbook, 2004, Govt. of Andhra Pradesh for Karimnagar and Anantapur district.

Design of the Sample-

The field enquiry comprised of a survey of 254 households in the two states, 132 in West Bengal and 122 in Andhra Pradesh. The data has been collected between February, 2006

and August, 2006. The enquiry covered nine villages across the two states- *Deno* and *Adampur* (Raina-2), *Kalishanko* and *Seakulberia* (Salanpur), *Ramchandrapur*, *Ghanpur* and *Bommakal* (Saidapur) and *Katiganikalva* and *Mannila* (Anantapur-rural). A stratified random sampling methodology has been used for this household survey. The stratification is done on the basis of operated area in order to include samples from the groups with large land-holdings, which due to their thinness always have the possibility of being left out when a simple random sampling method is employed. In West Bengal, the stratification is defined by households between 0 and 5 acres of operated area and those above 5 acres. In the case of Andhra Pradesh, the same is determined by households below and above 12 acres. The precise reason for using different definitions for stratification for the two states is due to the significant difference in average size of holding. In fact, these definitions have been arrived at after analyzing the house listing data and marking the acreage size above which existed the top 10 per cent households.

The households have been classified according to two criteria, specifically operated area size-class and economic classes. The classification of the households into economic classes has been done on the basis of hired-labour use and land lease relations by employing Patnaik's Labour Exploitation Criterion, which will be discussed shortly. The application of this criterion resulted in 3 households being classified as *petty employers* while another 3 are found to be unclassifiable (See Patnaik, 1976). As we have excluded these households from our structure of analysis, the sample size of our analysis stands at 248, 128 in West Bengal and 120 in Andhra Pradesh. The break-up of the sample is given in the following Table 3.

Table 3: Sample Design¹

State	Type of region	District	Block	Villages	Sample Households	Population Households
West Bengal	Advanced	Bardhaman	Raina-2	Deno	24	209
				Adampur	53	446
	Backward	Bardhaman	Salanpur	Kalishanko	32	173
				Seakulberia	19	75
Andhra Pradesh	Advanced	Karimnagar	Saidapur	Ramchandrapur	28	291
				Ghanpur	13	489
				Bommakal	19	637
	Backward	Anantapur	Anantapur (rural)	Katiganikalva	27	272
				Mannila	33	397

Cross-classification of the Households and their market interactions-

As mentioned earlier, the households have been cross-classified in a matrix framework using the twin criterion of economic classes and size-classes. The classification of the households into peasant classes has been done by calculation the Labour Exploitation Index (E) considering both direct labour exploitation through hiring-in and hiring-out as

¹ Except for Table 4, all tables in Section II and III are based on the Primary Household Survey.

well as indirect exploitation of labour through leasing-out and leasing-in of land. The Labour Exploitation Index is

$$E = X/F = [(H_i - H_o) + (L_o - L_i)]/F$$

where, H_i , H_o are labour days hired in and out respectively, L_o , L_i are the total labour days on land leased out and land leased in respectively and F is the family labour in self-employment. Although leasing-out of land is not very significant in our sample but leasing-in plays an important role in determining the class positions of the households, more of which we shall discuss later. The households have been grouped into six size-classes starting with zero or nil operated area up to the size-class operating more than 10 acres. The economic classes into which the households have been classified are rural labour (RL), poor peasant (PP), small peasant (SP), middle peasant (MP), rich peasant (RP) and landlords (LLD), each class determined by the actual value of E (See Table 4). The poor and small peasants are the labour hiring out classes and we differentiate between them by the quantum of labour they hire out relative to their family labour. On the other hand, the middle and rich peasants are the labour hiring in classes. The rural labour and the Landlord class both have zero family labour as the former is not able to cultivate mostly due to landlessness and the latter does not toil in the fields. The rural labour hires out large quantum of labour while the landlords employs large amount of hired labour for cultivation on his fields or leases out land to tenants in exchange of ground rent.

Table 4: Details of Economic Classification

Economic Class	Value of E	Comments
Rural labour	$E = -\infty$	$X < 0$ and $ X $ is very large, $F = 0$.
Poor Peasant	$E \leq -1$	$X < 0$, $F > 0$, $ X $ is large and $ X \geq F$.
Small Peasant	$0 \geq E > -1$	$X \leq 0$, $F > 0$ and $ X < F$.
Middle Peasant	$1 > E > 0$	$X > 0$, $F > 0$ and $X < F$.
Rich Peasant	$E \geq 1$	$X > 0$, $F > 0$, X is large and $X \geq F$.
Landlord	$E = \infty$	$X > 0$ and X is very large, $F = 0$.

Source: Adopted from Patnaik (1976)

The classification according to operated area size-class is a straightforward exercise based on the primary data collected on *Owned Area*, *Land Leased in* and *Land Leased out*. The *Operated Area* is derived as the sum of *Owned Area* and the *Net Land Leased in*. The cross-classification of the household for the entire sample as well as for the different regions is given in Tables 5.1.a to 5.5.c. As is evident from the Table 5.1.c, the rural labour forms 7.26 percent of the total sample. The poor peasant class is the broadest strata in the sample constituting 32.26 percent of all households. The small peasant and the middle peasant classes respectively comprise 19.35 and 18.95 percent of the entire sample. The rich peasant class forms 20.97 percent of the sample while the landlord class is found to be the thinnest strata of the sample with a size of only 1.21 percent. Alternatively, we can also state that, not considering the rural labour and the landlord

class, 51.61 percent of the sample are lower economic class households, cultivators who are net hirer-out of labour, while 39.92 percent of the same are higher class cultivators who are net hirer-in of labour.

Table 5.1a: Number of households by size-class and peasant class: All region

	RL	PP	SP	MP	RP	LLD	Total
0	13	0	0	0	0	0	13
0.01-1.0	1	32	13	11	6	0	63
1.01-2.5	4	20	14	10	15	0	63
2.51-5.0	0	20	13	16	11	0	60
5.1-10.0	0	6	7	6	7	1	27
10.1 & above	0	2	1	4	13	2	22
Total	18	80	48	47	52	3	248

Table 5.1b: Percentage of households by size-class: All region

	RL	PP	SP	MP	RP	LLD	Total
0	72.2	0.0	0.0	0.0	0.0	0.0	5.2
0.01-1.0	5.6	40.0	27.1	23.4	11.5	0.0	25.4
1.01-2.5	22.2	25.0	29.2	21.3	28.8	0.0	25.4
2.51-5.0	0.0	25.0	27.1	34.0	21.2	0.0	24.2
5.1-10.0	0.0	7.5	14.6	12.8	13.5	33.3	10.9
10.1 & above	0.0	2.5	2.1	8.5	25.0	66.7	8.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 5.1 c: Percentage of households by peasant class: All region

	RL	PP	SP	MP	RP	LLD	Total
0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
0.01-1.0	1.6	50.8	20.6	17.5	9.5	0.0	100.0
1.01-2.5	6.3	31.7	22.2	15.9	23.8	0.0	100.0
2.51-5.0	0.0	33.3	21.7	26.7	18.3	0.0	100.0
5.1-10.0	0.0	22.2	25.9	22.2	25.9	3.7	100.0
10.1 & above	0.0	9.1	4.5	18.2	59.1	9.1	100.0
Total	7.26	32.26	19.35	18.95	20.97	1.21	100.0

On the other hand, 5.2 percent of the sample has nil operated area but it should be noted that this size-class does cover the entire rural labour class, as there are another 5 rural labour households in different regions, which has positive operated area but showed characteristics of rural labour due to the fact that these lands are not cultivated and left fallow for the entire year. The size-classes between 0.01 to 5.0 acres covers 75 percent of the sample almost equally divided between the three groups of cultivators- marginal, small and semi-medium. 10.9 percent of the sample lies in the bracket of 5.1 to 10 acres and 8.9 percent of the households are operating more than 10 acres. The percentage of small and marginal farmers consisted slightly higher than half the sample at 50.8 percent.

In the advanced region of West Bengal i.e. Raina-2 block, a significant feature of the sample is the small size of land holdings. The marginal and small farmers constitute 77.9 percent of the households and another 11.7 percent of the households are operating land between 2.51 and 5.0 acres. This indicates the lesser variation or inequality of land

distribution that have emerged due to the land struggles and land reforms programme that West Bengal has experienced. The other very striking feature of this region is that the rich peasant class forms the largest economic class, close to around 39 percent and comparatively higher than the other region. The field investigations revealed the high levels of demand for labour in this region due to cultivation of two to three crops in a year, which is not sufficed by local supply of labour and depends on migration of labour from other parts of the state. This high level of net hiring in of labour is obviously a major reason for a large rich peasant class. In fact, the higher peasant classes (RP and MP) constitute a much higher percentage (59.74 percent) of the sample households than the lower ones (SP and PP, 37.66 percent). More interestingly, while 96 percent of the poor peasant households are concentrated in the lowest size-class (0.01 to 1.00 acres), the rich peasant households are distributed between all the size-classes, indicating that higher demand for labour is being generated not only from the larger land-holdings rather from that of all sizes.

Table 5.2a: Number of households by size-class and peasant class: West Bengal advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	2	0	0	0	0	0	2
0.01-1.0	0	24	2	11	4	0	41
1.01-2.5	0	1	2	3	13	0	19
2.51-5.0	0	0	0	2	7	0	9
5.1-10.0	0	0	0	0	3	0	3
10.1 & above	0	0	0	0	3	0	3
Total	2	25	4	16	30	0	77

Table 5.2b: Percentage of households by size-class: West Bengal advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	100.0	0.0	0.0	0.0	0.0	0.0	2.6
0.01-1.0	0.0	96.0	50.0	68.8	13.3	0.0	53.2
1.01-2.5	0.0	4.0	50.0	18.8	43.3	0.0	24.7
2.51-5.0	0.0	0.0	0.0	12.5	23.3	0.0	11.7
5.1-10.0	0.0	0.0	0.0	0.0	10.0	0.0	3.9
10.1 & above	0.0	0.0	0.0	0.0	10.0	0.0	3.9
Total	100.0	100.0	100.0	100.0	100.0	0.0	100.0

Table 5.2c: Percentage of households by peasant class: West Bengal advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
0.01-1.0	0.0	58.5	4.9	26.8	9.8	0.0	100.0
1.01-2.5	0.0	5.3	10.5	15.8	68.4	0.0	100.0
2.51-5.0	0.0	0.0	0.0	22.2	77.8	0.0	100.0
5.1-10.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0
10.1 & above	0.0	0.0	0.0	0.0	100.0	0.0	100.0
Total	2.60	32.47	5.19	20.78	38.96	0.00	100.0

In the advanced region of Andhra Pradesh, the cotton growing region, the distribution of the households across land size-classes is more spread out compared to that of West

Bengal. The percentage of households operating 5 acres and above in this region was 25 percent, which is significantly higher than the 7.8 percent in the advanced region in West Bengal. The rural labour class comprises 11.67 percent of the households, which is also higher than the average for the entire sample. The small peasant class, the largest class in the region, is 41.67 percent. It is also spread out among the four size-classes between 0.01 and 10 acres with its percentage share in each class falling as we move up along towards the higher size-classes. Unlike the advanced region of West Bengal, the rich peasant class is not only thinner at 13.33 percent but is also confined to the two highest size-class brackets (5 acres and above). The small peasant and the middle peasant classes jointly comprise more than sixty percent of the households. This indicates that in spite of being a region primarily growing commercial crop, the use of family labour is at least as important as hired labour for a significant number of households or interactions in the land-lease market is significant in this region; an issue that we shall probe into later.

Table 5.3a: Number of households by size-class and peasant class: Andhra Pradesh advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	6	0	0	0	0	0	6
0.01-1.0	0	3	8	0	0	0	11
1.01-2.5	1	1	6	2	0	0	10
2.51-5.0	0	3	9	6	0	0	18
5.1-10.0	0	0	2	4	4	0	10
10.1 & above	0	0	0	0	4	1	5
Total	7	7	25	12	8	1	60

Table 5.3b: Percentage of households by size-class: Andhra Pradesh advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	85.7	0.0	0.0	0.0	0.0	0.0	10.0
0.01-1.0	0.0	42.9	32.0	0.0	0.0	0.0	18.3
1.01-2.5	14.3	14.3	24.0	16.7	0.0	0.0	16.7
2.51-5.0	0.0	42.9	36.0	50.0	0.0	0.0	30.0
5.1-10.0	0.0	0.0	8.0	33.3	50.0	0.0	16.7
10.1 & above	0.0	0.0	0.0	0.0	50.0	100.0	8.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 5.3 c: Percentage of households by peasant class: Andhra Pradesh advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
0.01-1.0	0.0	27.3	72.7	0.0	0.0	0.0	100.0
1.01-2.5	10.0	10.0	60.0	20.0	0.0	0.0	100.0
2.51-5.0	0.0	16.7	50.0	33.3	0.0	0.0	100.0
5.1-10.0	0.0	0.0	20.0	40.0	40.0	0.0	100.0
10.1 & above	0.0	0.0	0.0	0.0	80.0	20.0	100.0
Total	11.67	11.67	41.67	20.00	13.33	1.67	100.0

Salanpur, the backward region in West Bengal exhibits stark differences with the advanced region of the same state. With subsistence farming playing a predominant role in this region and hiring out of labour to non-agricultural activities being equally

important, the rural labour and poor peasant classes comprise close to sixty percent of the households. The rich peasant and middle peasant classes i.e. the net labour hiring-in classes are much smaller in size compared to the net labour hiring-out classes. In fact, the size of the higher peasant classes in this region is also smaller compared to that of these classes for the entire sample. Typical to the character of West Bengal, in this region also the land holdings are small to the extent that we find only one household operating more than 5 acres. In other words, 9.8 percent of the households are landless and another 88.2 percent is found in the size-classes between 0.01 to 5 acres.

Table 5.4a: Number of households by size-class and peasant class: West Bengal backward region

	RL	PP	SP	MP	RP	LLD	Total
0	5	0	0	0	0	0	5
0.01-1.0	1	4	3	0	2	0	10
1.01-2.5	1	10	5	3	2	0	21
2.51-5.0	0	8	1	4	1	0	14
5.1-10.0	0	1	0	0	0	0	1
10.1 & above	0	0	0	0	0	0	0
Total	7	23	9	7	5	0	51

Table 5.4b: Percentage of households by size-class: West Bengal backward region

	RL	PP	SP	MP	RP	LLD	Total
0	71.4	0.0	0.0	0.0	0.0	0.0	9.8
0.01-1.0	14.3	17.4	33.3	0.0	40.0	0.0	19.6
1.01-2.5	14.3	43.5	55.6	42.9	40.0	0.0	41.2
2.51-5.0	0.0	34.8	11.1	57.1	20.0	0.0	27.5
5.1-10.0	0.0	4.3	0.0	0.0	0.0	0.0	2.0
10.1 & above	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	0.0	100.0

Table 5.4 c: Percentage of households by peasant class: West Bengal backward region

	RL	PP	SP	MP	RP	LLD	Total
0	100.0	0.0	0.0	0.0	0.0	0.0	100.0
0.01-1.0	10.0	40.0	30.0	0.0	20.0	0.0	100.0
1.01-2.5	4.8	47.6	23.8	14.3	9.5	0.0	100.0
2.51-5.0	0.0	57.1	7.1	28.6	7.1	0.0	100.0
5.1-10.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
10.1 & above	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	13.73	45.10	17.65	13.73	9.80	0.00	100.0

Anantapur (rural), the backward region surveyed in Andhra Pradesh clearly reveals the points of difference with the advanced region in the state. The poor peasant and small peasant classes are 41.67 and 16.67 percent of the households respectively. This at once indicates the higher levels of hiring out of labour in this region compared to the advanced region of the state. The rich peasant and the middle peasant classes together account for 35 percent of the households. The rich peasant and the landlord households are found to be concentrated only in the higher size-classes. Unlike the backward region of West Bengal, the average land holdings are larger. In fact, around 45 percent of the households

are operating 5 acres or above. This corresponding figure for the West Bengal backward region is only 2 percent.

Table 5.5a: Number of households by size-class and peasant class: Andhra Pradesh backward region

	RL	PP	SP	MP	RP	LLD	Total
0	0	0	0	0	0	0	0
0.01-1.0	0	1	0	0	0	0	1
1.01-2.5	2	8	1	2	0	0	13
2.51-5.0	0	9	3	4	3	0	19
5.1-10.0	0	5	5	2	0	1	13
10.1 & above	0	2	1	4	6	1	14
Total	2	25	10	12	9	2	60

Table 5.5b: Percentage of households by size-class: Andhra Pradesh backward region

	RL	PP	SP	MP	RP	LLD	Total
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.01-1.0	0.0	4.0	0.0	0.0	0.0	0.0	1.7
1.01-2.5	100.0	32.0	10.0	16.7	0.0	0.0	21.7
2.51-5.0	0.0	36.0	30.0	33.3	33.3	0.0	31.7
5.1-10.0	0.0	20.0	50.0	16.7	0.0	50.0	21.7
10.1 & above	0.0	8.0	10.0	33.3	66.7	50.0	23.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 5.5 c: Percentage of households by peasant class: Andhra Pradesh backward region

	RL	PP	SP	MP	RP	LLD	Total
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.01-1.0	0.0	100.0	0.0	0.0	0.0	0.0	100.0
1.01-2.5	15.4	61.5	7.7	15.4	0.0	0.0	100.0
2.51-5.0	0.0	47.4	15.8	21.1	15.8	0.0	100.0
5.1-10.0	0.0	38.5	38.5	15.4	0.0	7.7	100.0
10.1 & above	0.0	14.3	7.1	28.6	42.9	7.1	100.0
Total	3.33	41.67	16.67	20.00	15.00	3.33	100.0

In Table 6.1 to 6.4, we have presented the net labour days hired-in per household for the four regions. We can see from these results how the net hiring-in of labour-days increases from the lower economic classes to the higher ones and turns positive for the middle peasants, rich peasants and landlords. The net hiring-in of labour days also increases across the size-classes. In the advanced region in West Bengal (Table 6.1), only the two lowest size-classes are hiring out labour in the net while the others are hiring in. We also observe that the poor peasants are hiring out their labour at a quantum slightly more than the rural or agricultural labour. This implies that a significant number of households in the poor peasant class actually bear the characteristics of rural proletariat cultivating small plots of land, which gives them food security to an extent and also classifies them as poor peasants. A majority of these small plots of land has been acquired by this class as *pattas* through the process of Operation Barga implemented in West Bengal in the last three decades. The other noteworthy feature of this region is the high level of net labour hiring-in by the rich peasants at around 437.41 labour-days per holding. In fact, the net

labour-days hired in by the rich peasants starts from 72.55 labour-days per holding for the lowest size-class, increases upwards and is as high as 1693.67 labour-days per holding for those households operating more than 10 acres. This illustrates the fact that a high level of demand for labour is generated from all size-classes of operated area in this region. On the whole, the households in this region are net labour hiring-in with 114.12 net labour-days hired in per holding in the reference year.

The advanced area in Andhra Pradesh is also a net labour hiring in region. The households are annually hiring in 67.65 labour-days per holding in the net. Unlike the advanced region of West Bengal, only the highest two size-classes are hiring in labour in the net while the rest are hiring out. The reason for this of course is the concentration of the rich peasants and the landlords, who have demand for large quantum of hired labour in their land, in the two highest size-classes. An important observation in this region is the significantly low net hired-out labour among the poor peasants, which suggest that a number of households in this class is leasing in land from others to cultivate allowing an indirect exploitation of their labour through rent payments as they are unable to sell their labour power directly in the labour market. In fact, the uppermost size-classes for both the poor peasant and the small peasant are hiring in labour in the net indicating the relative importance of the land-lease market interactions by the peasant classes in this region. While the poor peasant class in the West Bengal advanced area has a characteristic more of a rural proletariat, the same class in this region is more proximate to petty tenants in their market behaviour.

Table 6.1: Net Labour-days hired in per holding by size-class and by peasant class:
West Bengal advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	-190.00	0.00	0.00	0.00	0.00	0.00	-190.00
0.01-1.0	0.00	-205.67	-48.75	53.50	72.55	0.00	-101.34
1.01-2.5	0.00	-59.00	-83.73	80.50	187.38	0.00	129.00
2.51-5.0	0.00	0.00	0.00	237.50	448.21	0.00	401.39
5.1-10.0	0.00	0.00	0.00	0.00	725.83	0.00	725.83
10.1 & above	0.00	0.00	0.00	0.00	1693.67	0.00	1693.67
Total	-190.00	-199.80	-66.24	81.56	437.41	0.00	114.12

Table 6.2: Net Labour-days hired in per holding by size-class and by peasant class:
Andhra Pradesh advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	-241.67	0.00	0.00	0.00	0.00	0.00	-241.67
0.01-1.0	0.00	-176.00	-128.63	0.00	0.00	0.00	-141.55
1.01-2.5	-360.00	-185.00	-105.75	50.00	0.00	0.00	-107.95
2.51-5.0	0.00	9.67	-117.00	109.67	0.00	0.00	-20.33
5.1-10.0	0.00	0.00	231.50	305.38	371.75	0.00	317.15
10.1 & above	0.00	0.00	0.00	0.00	855.28	1919.00	1068.02
Total	-258.57	-97.71	-90.14	164.96	613.51	1919.00	67.65

Table 6.3: Net Labour-days hired in per holding by size-class and by peasant class:
West Bengal backward region

	RL	PP	SP	MP	RP	LLD	Total
0	-318.00	0.00	0.00	0.00	0.00	0.00	-318.00
0.01-1.0	-240.00	-352.50	3.33	0.00	32.25	0.00	-157.55
1.01-2.5	-140.00	-183.50	-69.20	15.50	119.25	0.00	-96.95
2.51-5.0	0.00	-251.00	-34.00	90.74	280.00	0.00	-99.93
5.1-10.0	0.00	-67.50	0.00	0.00	0.00	0.00	-67.50
10.1 & above	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	-281.43	-231.33	-41.11	58.50	116.60	0.00	-130.75

Table 6.4: Net Labour-days hired in per holding by size-class and by peasant class:
Andhra Pradesh backward region

	RL	PP	SP	MP	RP	LLD	Total
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01-1.0	0.00	-387.00	0.00	0.00	0.00	0.00	-387.00
1.01-2.5	-375.00	-338.56	-89.00	59.00	0.00	0.00	-263.81
2.51-5.0	0.00	-409.17	-94.33	51.38	189.00	0.00	-168.05
5.1-10.0	0.00	-240.70	43.30	99.50	0.00	1830.00	80.15
10.1 & above	0.00	-100.25	-58.00	245.13	467.25	1091.00	329.75
Total	-375.00	-327.28	-21.35	125.25	374.50	1460.50	-22.52

The backward region in West Bengal due to the lower absorption of labour in its near subsistence level agricultural activities is a predominantly labour hiring out region. On the whole, the households in this region are hiring out 130.75 labour-days per holding in the year. The quantum of net labour days hired-out by the rural labour and poor peasant classes are high enough not to be offset by the moderate hiring in by the middle and rich peasants in agricultural activity. In fact, this is the only region where all the size-classes are net labour hiring-out classes, hiring out labour both in the agricultural and non-agricultural labour market.

In the backward region of Andhra Pradesh, the hiring in of labour by the middle peasant, rich peasant and the landlords is moderately high but so is the hiring out of labour days by the rural labour and poor peasant classes and the region emerges as a marginally labour hiring out region. The households in this region in the net analysis are hiring out around 22.52 labour days per holding yearly. Unlike the advanced region of Andhra Pradesh, the poor peasant, the largest class in this region resorts to large hiring out of labour in a typical rural proletarian fashion. However, we cannot mark this class as identical with the poor peasants of West Bengal, advanced region as the households in this class is not confined to marginal and small operated areas in this region but are also found in the size-classes operating between 5 and 10 acres or more than 10 acres.

The region shows similarity with the advanced region of the state in the fact that here also we find evidences of households (not finding enough employment on their owned land) preferring to interact with the land-lease market instead of the labour market. The households in the 5 to 10 acre bracket in the small peasant class are actually hiring in net 43.3 labour days per holding annually. The only reason for such households to be

classified as small peasant is that they are indirectly allowing the exploitation of their labour through leasing in land from others for cultivation. In fact, there is evidence of interaction with the land-lease market among the other economic classes also². This phenomenon where cultivators are exploited indirectly due to lack of sufficient employment opportunities in the labour market and also dearth of owned land is quite prevailing in both the regions of Andhra Pradesh precisely due to the absence of any meaningful and adequate degree of land reforms in the state. This is not the case for West Bengal where land reforms have been implemented in a significant manner.

Section III

Indebtedness among Peasant Classes and the underlying factors:

In this section, we shall examine the problem of indebtedness in the framework of the twin classification that we have presented and discussed in the previous section. As mentioned earlier, the survey of the households has been executed between the month of February and August in 2006 and the reference year for the level of indebtedness of the households and all other related data is the year preceding this period. Of the four regions that has been covered in the survey, the credit question is completely different in the West Bengal backward region i.e. Salanpur as compared to the other regions. In this region, the farm households lacked any significant access to credit. This is partially due to the subsistence nature of the cultivation practices that is predominant in this region, which does not generate any momentous demand for credit. However, on the other hand, the vegetable-growing households that comprise roughly 23 percent of the sample in this region has no access to credit in spite of a buoyant demand for it. The households that have received crop loans (that too for the first time in the year 2006) constituted only 5.9 percent of our sample. Due to this reason, we have confined our analysis of household indebtedness and its underlying causes to the other three regions.

The debt situation of the households in the three regions is presented in the Tables 7.1 to 7.3. It is evident that the outstanding debt per household (the sum of the outstanding principle and outstanding interest) is much higher in both the regions in Andhra Pradesh compared to West Bengal. The outstanding debt per household is Rs. 60699 and Rs. 67546 in the advanced and backward region in Andhra Pradesh while the same is Rs. 30873 in the advanced region in West Bengal. The high magnitude of the problem of farm indebtedness that has been reported from rural Andhra Pradesh for more than a decade now is portrayed by these figures. A further inter-regional comparison of the Debt-Assets ratio and the Interest-GVO³ ratio gives a stronger illustration of the disparity in the debt situation between the regions. The debt-assets ratio is the highest for the

² The fact is that among different classes (all regions), both economic and size-class, there are evidences of leasing in of land by cultivators. This can be checked by comparing the value of net labour days hired-in or out per holding with X per holding. X, as you will recall, is the numerator of the Labour Exploitation Index (E) and captures the indirect exploitation of labour through the land-lease market apart from the direct exploitation of labour. The X per holding values for all classes for all regions is provided in the Appendix.

³ Assets comprise of buildings, livestock, means of production and transport and consumer durables of the households. GVO is Gross Value of Output of the households. We have calculated GVO as the sum of crop output, by-product and livestock product.

advanced region in Andhra Pradesh at 0.66, which is quite high by any standard. This clearly reflects the persisting crisis that the cotton-growing regions of the state as well as the country have been reeling under in the post-liberalization period. These ratios are 0.38 and 0.22 respectively in the backward region, Andhra Pradesh and the advanced region, West Bengal indicating the lower level of indebtedness in the latter region compared to the other two. The similar aspect is revealed by the interest-GVO ratios. The ratio is 0.074 for the advanced region in West Bengal while it is as high as 0.240 and 0.227 for the advanced and backward region respectively in Andhra Pradesh.

In the advanced region in West Bengal, we have already noted the lower level of indebtedness compared to the other regions. However, an intra-class analysis reveals that the small peasant and rich peasant classes have a higher than average outstanding debt at Rs. 44669 and Rs. 58225 respectively. For the rich peasant class, the debt per acre, debt-assets ratio and interest-GVO ratio are all slightly less than the average for the region indicating that the class is carrying a debt burden that is commensurate with its assets and production. However, the small peasant class bears a figure greater than the region average for both the ratios we have used in our analysis. This class although quite thin in size at 5.19 percent of the households in this region is definitely ailing from a high level of accumulated debts. From the size-class classification, we find that the marginal farmers (0.01 to 1.0 acres), the majority in the region, have a high interest-GVO ratio of 0.213 implying that interest has a demand of around 21 percent on the GVO for this class. Although the figures in Table 7.1 do not reveal the presence of any acute indebtedness problem in this region, there are definitely traces of vulnerability due to accumulating debts among the marginal cultivators and the small peasants.

Table 7.1: Household Debt Situation by Economic classes and size-classes: West Bengal advanced region

Class	Outstanding Debt per household	Outstanding Debt per acre	Debt-Assets Ratio	Interest-GVO Ratio
RL	8400	0	0.70	0.103
PP	5484	11312	0.15	0.105
SP	44669	38016	1.25	0.297
MP	18564	15279	0.30	0.064
RP	58255	15756	0.21	0.067
LLD	0	0	0.00	0.000
Total	30873	16152	0.22	0.074
0	8400	0	0.70	0.103
0.01-1.0	13547	23456	0.34	0.213
1.01-2.5	26274	16922	0.34	0.063
2.51-5.0	49899	12905	0.34	0.054
5.1-10.0	42694	6158	0.09	0.014
10.1 & above	242872	18974	0.16	0.041
Total	30873	16152	0.22	0.074

In the advanced region in Andhra Pradesh, we come across an entirely different story from that in West Bengal. The interest-GVO ratio is significantly high for lower economic classes like poor peasants as well as for higher classes like middle and rich peasants (Table 7.2). We can also observe that debts as a percentage of assets exceeded 60 percent for these three classes. The small peasants which constitutes the broadest class

in this region appears to be living in a relatively better debt situation but definitely cannot be said to be free of indebtedness given a debt-asset ratio and interest-GVO ratio of 0.53 and 0.141 respectively. The small and marginal cultivators in terms of operated area also appear in an extreme debt situation in this region. The interest-GVO ratio is also incredibly high at 0.853 and 0.460 for the marginal and small farmers respectively. In a nutshell, we can conclude that more or less all peasant classes are affected by the problem of indebtedness in this region with certain classes (not necessarily the poorer classes) experiencing acute conditions.

Table 7.2: Household Debt Situation by Economic classes and size-classes: Andhra Pradesh advanced region

Class	Outstanding Debt per household	Outstanding Debt per acre	Debt-Assets Ratio	Interest-GVO Ratio
RL	18479	86233	1.06	0.000
PP	22020	9342	0.61	0.203
SP	26434	9863	0.53	0.141
MP	69014	14922	0.70	0.211
RP	185181	17429	0.81	0.323
LLD	388000	14923	0.43	0.064
Total	60699	14481	0.66	0.240
0	20833	0	3.16	0.000
0.01-1.0	14769	17101	0.38	0.853
1.01-2.5	30039	16688	0.50	0.460
2.51-5.0	38892	10938	0.71	0.100
5.1-10.0	77195	10293	0.60	0.126
10.1 & above	316420	18613	0.72	0.285
Total	60699	14481	0.66	0.240

Table 7.3: Household Debt Situation by Economic classes and size-classes: Andhra Pradesh backward region

Class	Outstanding Debt per household	Outstanding Debt per acre	Debt-Assets Ratio	Interest-GVO Ratio
RL	6600	3511	0.14	0.000
PP	50738	10971	0.87	0.575
SP	45663	6740	0.32	0.071
MP	69345	8747	0.33	0.183
RP	119123	8446	0.42	0.217
LLD	205100	4942	0.16	0.086
Total	67546	8234	0.38	0.227
0	0	0	0.00	0.000
0.01-1.0	198080	282971	198.08	48.453
1.01-2.5	38240	18981	0.61	0.903
2.51-5.0	34625	8241	0.42	0.113
5.1-10.0	69730	9540	0.25	0.079
10.1 & above	128083	6174	0.38	0.242
Total	67546	8234	0.38	0.227

A more or less similar picture emerges for the backward region in Andhra Pradesh. However, the poor peasant class, which is the biggest class in this region, is in a considerably more vulnerable debt situation compared to the same class in the advanced region. This class seems to be deep in debt with a remarkably high debt-assets ratio and interest-GVO ratio at 0.87 and 0.575 respectively. The rich peasants and the middle

peasants are also found to have moderately high indicators of indebtedness although their situation is better compared to the poor peasants; whether it is also relatively better than the rich and middle peasants of the advanced region, we shall discuss below. The unusually high figure for the only marginal cultivator household (0.01 to 1.0 acres) is due to the non-repayment of loans taken from private sources, the settlement of which is currently done by payment through labour services. This household however is not the only one in this region where evidences of bonded labour are found. The small cultivators of this region are also living under acute indebtedness with interest-GVO ratios as high as 0.903 (Table 7.3). The moderately high interest-GVO ratio of the cultivators with large operated area (more than 10 acres) at 0.242 is not really surprising given that around 21 percent of these households are classified in the lower economic classes.

The interest-GVO ratio is a crucial variable in our analysis. The general practice that is prevalent in the credit market, especially in case of institutional credit, is to repay the interests annually on a loan and renew the loan for the next year. The failure of a household to clear the interest annually forces it to take new loans from newer sources (often from private ones) with the objective of both carrying on production as well as to make an effort to clear the old debts. A repeated failure of this nature for a few years leads to the accumulation of debts for the household to an extent such that the annual interest costs become unmanageably large. In such a situation, unless there is a marked jump in the returns to production, the interest costs eat into a larger share of the output every year. However, while this is true, we must also keep in our mind that without considering the share of input cost and labour costs in the GVO, we will only get partial picture of the debt situation and viability of cultivation. For this reason, we will compare the annual interest costs and the Farm Labour Income for the reference year at a later stage of our analysis.

In order to achieve a more comprehensive insight into the debt situation of the different economic and size-classes, we have decomposed the outstanding debt per household (presented in tables 7.1 to 7.3) into the principal and interest component. A comparison of the percentage of the interest component of outstanding debt with the average interest rate of all loans taken in the three regions throws light on the accrual of interest costs above the normal rate. We have also calculated the average rate of interest on the loans taken by our sample households in the three regions. The average interest rate is extremely high at 19.73 percent for the advanced region in Andhra Pradesh compared to the other two regions (see Table 8). This is primarily due to higher share of non-institutional loans among all loans in this region. The average rate of interest shows a direct correspondence with the share of non-institutional loans in total loans. The higher interest rate in this region vis-à-vis the other regions reflect the interest rate gap that exists between the institutional and non-institutional credit market. The minimum interest rate on loans from private sources in all the regions were found to be 24 percent per annum, which in certain cases are as high as 60 percent p.a. On the other hand, the interest rate on institutional loans hovered between 9 and 12 percent p.a. for different sources in the three regions.

Table 8: Number of loans and average interest rate region wise

	West Bengal advanced	Andhra Pradesh advanced	Andhra Pradesh backward
No. of loans, of which	92	71	104
Institutional	75	27	78
Non-institutional	17	44	26
Average interest rate	14.64	19.73	13.82

As already noted in our analysis, the advanced region in West Bengal is relatively less affected by the problem of indebtedness compared to the other regions. From Tables 8 and 9, we observe that the overall interest component of the outstanding household debt in this region at 16.18 percent is marginally higher than the average rate of interest (14.64 percent) of this region. This clearly indicates that a drastic build up of household interest costs over a time-period is absent in this region. The contrary is, of course true for both the regions in Andhra Pradesh. The percentage of outstanding interest in the total accumulated debt exceeds the average interest rate by 7.75 percentage points and 8.47 percentage points for the advanced and backward region respectively; an unambiguous evidence of the high rates of failure on part of the households to clear their interest commitments yearly.

Table 9: Composition of debt by economic class and size-class

Class	West Bengal advanced		Andhra Pradesh advanced		Andhra Pradesh backward	
	Principal	Interest	Principal	Interest	Principal	Interest
RL	95.24	4.76	60.30	39.70	45.45	54.55
PP	76.95	23.05	75.26	24.74	69.42	30.58
SP	80.59	19.41	83.53	16.47	92.31	7.69
MP	83.76	16.24	81.51	18.49	81.82	18.18
RP	84.59	15.41	58.73	41.27	76.55	23.45
LLD	0.00	0.00	90.21	9.79	82.89	17.11
Total	83.82	16.18	72.52	27.48	77.71	22.29
0	95.24	4.76	60.00	40.00	0.00	0.00
0.01-1.0	68.11	31.89	62.78	37.22	22.21	77.79
1.01-2.5	83.33	16.67	75.90	24.10	65.88	34.12
2.51-5.0	86.17	13.83	89.14	10.86	85.84	14.16
5.1-10.0	92.91	7.09	83.17	16.83	87.76	12.24
10.1 & above	92.81	7.19	61.31	38.69	79.07	20.93
Total	83.82	16.18	72.52	27.48	77.71	22.29

The debt composition figures for the different classes presented in Table 9 provide us with a more comprehensive knowledge of the debt situation in the different regions. The lower economic classes like the poor peasants and small peasants in the advanced region, West Bengal, bear definite evidences of accumulated debts. Their outstanding interest shares are significantly greater than the average interest rate. In fact, the marginal cultivators, which we may recall is a predominant group in this region, are in a more acute debt situation with a high 31.89 percent of their outstanding debt being interest obligations. Although the region is not facing the problem of indebtedness in the overall sense, the potential vulnerability of the lower economic classes and groups cannot be assumed away.

We have already noted the high level of indebtedness that exists in the two regions in Andhra Pradesh and also the fact that the lower economic and smaller size-classes are not the only ones affected by this infirmity. In the advanced region in Andhra Pradesh, where the average interest rate itself is quite high at 19.73 percent (table 8), the poor peasant as well as the rich peasant class clearly defaults in its interest repayment. The interest share in outstanding debt for the rich peasants is at an outrageously high rate of 41.27 percent. The lower access to institutional credit in this region has actually rendered the rich peasant class into an equally bad debt situation, if not more, as the poor peasants. The backward region also reveals a grim picture where almost all economic classes are in distress due to indebtedness (the interest component of debt exceeds the average interest rate for the region for all classes except the small peasants). However, in this region, the higher economic classes are comparatively better positioned than the poor peasants (see table 9). The greater access to bank or cooperative credit allows the higher classes of cultivators to be relatively better-placed vis-à-vis the lower classes in terms of their debt situation.

An important aspect to be noted in both the regions in Andhra Pradesh is the high indicator of indebtedness for the rural labour classes. The percentage of interest in their outstanding debt is as high as 39.7 and 54.55 for the advanced and backward region respectively. This class generally resorts to taking loans for consumption purposes at high interest rates (compared to peasant households) from private sources and rarely has access to institutional credit. In spite of this, such high figures definitely indicate the lack of adequate employment or low wages for hired-out labour. The failure of this class in both regions to cover their consumption expenditure has led to such high accumulation of debts.

Table 10: Outstanding Interest and Farm Labour Income per household by economic class and size-class

Class	West Bengal advanced		Andhra Pradesh advanced		Andhra Pradesh backward	
	Interest	FLI	Interest	FLI	Interest	FLI
RL	400	400	7336	-65	3600	-2900
PP	1264	1253	5449	8330	15518	4041
SP	8669	-4146	4354	2776	3513	8122
MP	3014	12990	12764	10411	12608	2411
RP	8980	28964	76431	106968	27934	32278
LLD	0	0	38000	246497	35100	28697
Total	4996	14186	16683	22574	15053	9221
0	400	400	8333	-76	0	0
0.01-1.0	4320	3787	5496	-1340	154080	390
1.01-2.5	4379	15759	7239	-2158	13047	2871
2.51-5.0	6899	23151	4225	7698	4904	13897
5.1-10.0	3027	55056	12995	14397	8538	19292
10.1 & above	17456	87765	122420	221736	26809	52
Total	4996	14186	16683	22574	15053	9221

A comparison of the outstanding interest per household and the Farm Labour Income⁴ (FLI) per household for the reference year of our survey explicitly illustrates the extent of debt-driven vulnerability of the different classes where they are unable to meet their interest compulsions. An inter-regional comparison (see Table 10) reveals the near absence of vulnerability due to indebtedness in the advanced area, West Bengal while the same is much higher for the regions in Andhra Pradesh. In fact, the debt situation in the backward region, Andhra Pradesh seems terribly fragile with the interest commitment exceeding the FLI by more than around 60 percent. The situation in the advanced region in Andhra Pradesh is also quite uncomfortable with interest obligations being almost as high as 75 percent of FLI. In comparison to the region in West Bengal where this figure is only around 35 percent, the outstanding debt liability of the other two regions seems to be quite escalated.

We can also observe from Table 10 that the small peasants in the advanced region, West Bengal and the marginal and small group of cultivators in the advanced region, Andhra Pradesh are actually making losses from their agricultural activities and have a negative FLI. These classes or groups are therefore in no position to make interest payments, no matter of whatever size, in the reference year and are rendered vulnerable in the credit market. As already identified in our analysis, these particular classes and groups bear the characteristics of heavy indebtedness. Apart from the small peasants in West Bengal, which are conclusively in a vulnerable position due to indebtedness, the poor peasants also appear to be in a precarious situation with their annual interest cost slightly greater than their annual income, denoted by FLI. On the other hand, the marginal cultivators operating between 0 and 1 acre also exhibit amply clear signs of weakness in meeting debt obligations, as their annual interest cost is moderately higher than their FLI. The remaining peasant classes and size-groups in this region do not display any stress in their interaction with the credit market.

In the advanced area, Andhra Pradesh, the small peasants and the middle peasants are unable to cover their interest through their incomes from agricultural activities. While we have noted earlier that the small and middle peasant classes in this region have not defaulted in their interest payment and successfully restricted the interest component of their outstanding debt below the average interest rate for the region, they are nonetheless potentially vulnerable in the credit market with regard to yearly interest payments. The debt situation of the poor peasant and the rich peasant class is not as susceptible as the former but is definitely serious with their yearly interest costs adding up to somewhere between 65 to 75 percent of their annual FLI. The landlord class seems to be the only class that is at ease in the credit market. While the small and marginal farmers are making losses in this region, none of the other size-groups are in a well-placed debt situation with their interest liabilities equaling at least around 55 percent of their FLI. The higher interest rate structure that exists in largely informal credit market of this region plays an important role in rendering almost all classes into a fragile debt situation.

⁴ The Farm Labour Income has been calculated for each household and the classes by deducting input costs and paid-out wage labour costs from the GVO. The input costs comprise of cost of market inputs, cost of farm produce inputs, cost of livestock maintenance (milch and non-milch) and amortization cost of means of production. The wage labour costs take into account wages paid in both cash and kind.

We have already noted the high level of indebtedness among peasant classes in the backward region in Andhra Pradesh except the small peasants. Our investigation for vulnerability in making annual interest payments from the yearly income reveals similar results. The interest obligations for the poor and middle peasants are stunningly high at 4 to 5 times their FLI pointing towards the acute distress due to indebtedness and depressed returns to agricultural activity that these classes are experiencing. The landlords in this region also have their FLI exceeded by their interest costs for the reference year although moderately while the interest liability of rich peasants amount to more than 85 percent of the FLI. In a nutshell, none of the classes except for the small peasant, the only class for whom interest costs demand less than 50 percent of the FLI, are having smooth transactions in the credit market. This portrays an important fact that moderately high access to institutional credit is not alone capable to shield the peasant classes from vulnerability in the credit market and high returns to agricultural investment and activity are equally important. The erratic fluctuations of output prices and high cost structures of cultivation are equally crucial in creating vulnerable debt situations.

Table 11: Percentage distribution of debt by source by economic class and size-class

Class	West Bengal advanced		Andhra Pradesh advanced		Andhra Pradesh backward	
	Institutional	Non-institutional	Institutional	Non-institutional	Institutional	Non-institutional
RL	100.00	0.00	3.36	96.64	100.00	0.00
PP	82.13	17.87	4.24	95.76	44.55	55.45
SP	69.20	30.80	18.13	81.87	46.21	53.79
MP	65.86	34.14	12.02	87.98	76.47	23.53
RP	74.06	25.94	20.67	79.33	74.44	25.56
LLD	0.00	0.00	83.51	16.49	100.00	0.00
Total	73.32	26.68	23.63	76.37	64.99	35.01
0	100.00	0.00	0.00	100.00	0.00	0.00
0.01-1.0	50.90	49.10	0.00	100.00	2.26	97.74
1.01-2.5	80.15	19.85	35.02	64.98	63.59	36.41
2.51-5.0	97.88	2.12	14.73	85.27	68.87	31.13
5.1-10.0	77.33	22.67	9.50	90.50	59.79	40.21
10.1 & above	69.26	30.74	36.59	63.41	73.52	26.48
Total	73.32	26.68	23.63	76.37	64.99	35.01

We shall now turn our attention to the underlying causes and processes that are responsible for the diverse conditions existing in the three regions. The percentage break-up of outstanding household debt for each class by source of credit presented in Table 11 helps us in examining the structure of credit markets in the three regions. The access to institutional credit market in the advanced region in Andhra Pradesh emerges to be abysmally low not only relative to the other two regions but also in absolute terms. The percentage of total debt owed by the households to institutional sources is only 23.63 percent. It is fruitful to recall that the average rate of interest in this region is as high as 19.73 percent precisely due to this predominance of the credit market by private moneylenders. The region has a moderately high average FLI of Rs. 22574 and yet has interest costs amounting to around 74 percent of the FLI. While the income is still somewhere below the expected income given that the region predominantly grows cotton and fruits (cultivated by the rich peasants who have access to water) on a commercial

basis, a lower interest rate structure comparable with the other two regions would have significantly reduced the yearly liability of interest costs on the annual income of the households.

This region, which comes in the Telengana, has been one of the earliest casualties of the process of liberalization. The volatile cotton prices in the world market adversely affected the cultivators in the early nineties. This was compounded by the entry of MNCs, especially Monsanto, in the seed market post 1998, which started supplying genetically modified cotton seeds that had germination rates of only 65 percent compared to the earlier 90 percent of government provided seeds (Sainath, 2004a). The cost structure of cultivation also escalated with drastic rise in the fertilizer prices under the post-1992 decontrolled regime. The subsequent cotton crop failures and losses in agricultural production due to these factors converted the Telengana region into a zone of debt-driven farmer suicides in the latter half of the nineties. The net fallout of this situation was the high default rates of the cultivators in clearing their debt commitments consequent to which, the banks stopped giving credit to farmers from 1998 (Sainath, 2004b). This is exactly the situation that is depicted by our results, where access to institutional credit is awfully low for farmers and dependence on private moneylenders charging higher interest rates is excessive. The high level of household indebtedness for this region that our results reveal is primarily due to the drastic reduction in the access to institutional credit consequent to the early crisis that cotton cultivation had plunged into.

While the advanced region has high levels of debt-driven vulnerability in spite of moderately high FLI primarily due to dominance of private moneylenders in the credit market and high interest rate structure, the picture is starkly opposite in the backward region. In this region, the vulnerability of peasant classes is more acute and fundamentally due to plummeting farm incomes and is spread across classes irrespective of whether they have access to institutional credit or not. This region, being close to the district headquarters, obviously had greater access to bank and cooperative societies and the higher economic classes are accessing around three-fourth of their credit from institutional sources (see Table 11). The lower classes, on the other hand, owe more than half of their debts to private lenders. However, this factor is not the prime reason for default in interest payments, instead the excessively low returns to agricultural investment and production are rendering the peasantry, across classes, into susceptible debt situations in this region.

This major crop in the region is groundnut following the shift to commercial agriculture in the late eighties. Groundnuts, and in general oilseeds, are an exception in the sense that they were not exposed to world market competition following the liberalization of the economy in 1991 and were protected through import duties. Although this region did not immerse into a crisis immediately after liberalization, the deflationary regime took its toll on its economy in the long run. According to reports, in the late eighties and early nineties, a number of factories and mills were closed down in Anantapur throwing a significant workforce out of job (Sainath 2004d). This led to a consequent dwindling of the domestic demand for groundnut and a majority of the oil mills, which absorbed the supply of groundnuts from the farmers, were closed down. This pushed down the prices

of groundnuts to lower levels and adversely affected the profitability of its cultivation. In our survey, the average prices that the farmers are receiving is around Rs. 1460 per quintal (certain cultivators are found to be selling their crop for as low as Rs. 800 or Rs.1000 per quintal) which is clearly insufficient for covering all the costs, especially due to the high cost of seed and fertilizers that prevails in the market for groundnuts. This situation was further worsened post 2000 by repeated crop failures due to insufficient rainfall and lack of adequate groundwater. A few big farmers have monopolized the groundwater in this area. This monopoly has helped them to further diversify their cultivation by growing fruits like oranges and papaya and make large profits. The decline of rural development expenditure and lack of any government support to resolve the issue of water led to indiscriminate investment in digging bore wells, most of which did not yield any water. The returns to such investments have been atrociously low and a major characteristic of this region identified during the survey is the high proportion of production assets, which has zero or extremely low productivity and lies idle. The frequent crop failures, low prices, high cost structures and paltry returns to private investments in irrigation are factors which together has piled up debts for the households leading to an extremely fragile situation as depicted by our results.

The acute vulnerability of peasant classes that is evident in both the region in Andhra Pradesh is largely absent in the advanced region of West Bengal. The adverse effects of world price volatility, particularly for the commercial crops, has not reached this region due to the fact that the region has remained a primarily rice growing region even in the post-liberalization period and not experienced indiscriminate diversification of cultivation in favour of commercial crops for export purpose. However, the prices of potatoes, the other crop grown in this region does show a certain degree of fluctuation in certain years. In 2003, the price that the households received for a quintal of potato was only Rs. 100. In the two subsequent years, the prices recovered to Rs. 300 and Rs. 400 per quintal. The cost of irrigation in this region is also higher than normal due to use of diesel pumps in the process. The price of diesel has increased rapidly in recent years and the use of electricity for irrigation will reduce the cultivation costs significantly. In this region, it is this volatility of prices compounded with rise in input costs that drives certain peasant classes into unmanageable debt situations as we can see from our results.

An intra-class analysis from Table 11 points out that the small peasants, which we have already identified as suffering from serious vulnerability in the credit market, owe around 30 percent of their debts to private sources. This may be higher compared to the other classes of this region but definitely much lesser than the debt-afflicted classes in Andhra Pradesh. The poor peasant class, who also has a debt situation demanding that their entire farm income be paid out as annual interest payments, also has a strikingly low share of private debts in their total debts (as low as 17.87 percent). Except for the marginal cultivators, who have almost half its debts owed to non-institutional sources, we can say that high input costs and fluctuating prices are responsible for the poor debt situation for some classes. In fact, the high access to institutional credit in this region has not only shielded majority of the classes in this region from debt-driven vulnerability but also ensures that the classes not being able to meet their annual interest obligations are

considerably less vulnerable than such classes in Andhra Pradesh where private moneylenders largely dominate the credit market,

The low dependence of cultivators in this region on private moneylenders is due to the existence of well-functioning primary agricultural cooperative society called the Adampur Cooperative Society. This cooperative society provides service to four villages including the two covered in our study. The society was started long back in 1962 and currently has a membership of 1018. The total credit disbursed currently primarily in form of crop loans amounted to a large figure of around Rs. 1 crore. Apart from giving crop loans to the farmers, the society has also helped to form and has given loans to 39 SHGs targeted towards generating self-employment for women. The cooperative society also buys rice and potato from the cultivators from time to time and supplies them to the State Cooperative Rice mills and BENFED respectively. Although the society has its own minor problems, which it has to continuously tackle, it can be definitely concluded that it has a primary role in ensuring that the cultivator households do not show signs of vulnerability in the credit market in the face of volatile prices and rising cost structures of cultivation.

Thus, in our analysis, we can identify varying degrees of indebtedness among rural households in the three regions. The more important aspect to be noted is the distinctly different process that is operating in the different regions to cause this variation in the economic situation of cultivators. It is therefore immensely important to take into account the regional specificities into account at the time of policy recommendations, especially for the agricultural sector, which possesses a significant diversity in production conditions across regions and classes.

Section IV

Policy Measures to tackle the problem of Indebtedness:

One of the important factors behind the dissimilarity in the economic situations in the different regions is the variable extent to which diversification of agriculture has taken place in the different regions in the post liberalization period. This has determined the asymmetrical exposure of farmers to price volatility in the output markets with higher price fluctuations for cash crops like cotton and groundnut. The other fundamentally important factor deciding whether cultivators will slide into vulnerable situations or not under adverse output market conditions is the access to institutional credit. We have seen that the dominance of private moneylenders in the credit market can lead to debt-traps for the cultivators in spite of moderately decent production and output performance. The other issue that adversely affects the farmers across regions and classes is the rise in input prices, especially seeds and fertilizers, with a gradual withdrawal of subsidies. The divergent conditions in the input, output and credit markets directly determine the extent of vulnerability of the peasantry in the three rural regions of our study.

As far as the impact of neo-liberal policies on the peasantry is concerned, the immediate policy that should be adopted in regions with high and enormous indebtedness is that of

debt-relief. It is necessary to relieve the large number of households that are wilting under the huge debt burdens in the crisis-hit areas in order to allow them to continue agricultural production. The absence of such an intervention on part of the government, especially in regions where the debts have soared high enough for the cultivators so that they are not able to meet them even in a few years, will lead to grave socio-economic problems in the rural countryside. In fact, we have already witnessed such problems where farmers are resorting to the extreme step of committing suicide. A proper debt-relief policy will be able to arrest these trends and the simultaneous debt-driven pauperization of the peasantry that is taking place in such regions.

The measures of debt-relief, of course, must be accompanied by a policy of enhancing the access to institutional credit in the rural areas. The retrogression of commercial banking in rural India post-1991 has led to the dominance of private moneylenders in the credit market in certain rural areas. This is a crucial factor for agriculture due to two reasons. The control of the credit market by private moneylenders lead to the rise in the cost of credit and pushes the interest rate structure to a higher level. The other important reason for increasing the access to institutional credit in rural areas is to protect the farmers from the predatory activities of the private moneylenders, which often leads the former to resign to one's fate and commit suicide. A policy of this nature can ensure that there is more scope for government interventions in case of acute household debt situations.

The other reason for the persisting problem of indebtedness is the low farm income, which leads the farmers to defaults in their interest payments. Although we have not engaged into a detailed analysis of the causes for low farm incomes within the scope of this paper, we can nevertheless identify the broad reasons behind it. The drastic rise in the input prices under the neo-liberal regime that was not accompanied by any commensurate and consistent rise in the output prices has led to the gradual erosion of farm incomes. In order to tackle such a situation, it is essential that the government intervene to control the upward spiral of input prices, especially for the essential farm inputs. Another important measure that the government needs to adopt in order to ensure a consistent and decent level of farm profitability is the provision of proper extension services and training to the farmers. This is more required in regions where diversification of cultivation has occurred to a significant extent. It is also important that such services are provided independent of the interest of private seed companies or retail companies. This will enable the farmers to take independent economic decisions based on scientific principles and not subject to the interests of private business interest.

A set of such policies will ensure the scope for suitable government interventions, as and when required, to deal with situations of agricultural crisis. It is necessary that the government plays an important role in the input, output and credit markets and restricts the role of the private players in these markets. This will also enable it to make necessary adjustments in order to prevent a situation like the current one where agriculture in certain regions has plunged into profound crisis.

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APPENDIX:

Table A-1: Net X per holding by size-class and by peasant class: West Bengal advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	-190.00	0.00	0.00	0.00	0.00	0.00	-190.00
0.01-1.0	0.00	-207.54	-48.75	44.23	95.05	0.00	-102.73
1.01-2.5	0.00	-141.00	-121.23	61.83	184.00	0.00	115.48
2.51-5.0	0.00	0.00	0.00	140.00	423.36	0.00	360.39
5.1-10.0	0.00	0.00	0.00	0.00	632.50	0.00	632.50
10.1 & above	0.00	0.00	0.00	0.00	1693.67	0.00	1693.67
Total	-190.00	-204.88	-84.99	59.50	423.81	0.00	101.61

Table A-2: Net X per holding by size-class and by peasant class: Andhra Pradesh advanced region

	RL	PP	SP	MP	RP	LLD	Total
0	-241.67	0.00	0.00	0.00	0.00	0.00	-241.67
0.01-1.0	0.00	-176.00	-128.63	0.00	0.00	0.00	-141.55
1.01-2.5	-360.00	-401.00	-105.75	50.00	0.00	0.00	-129.55
2.51-5.0	0.00	-253.67	-217.22	90.83	0.00	0.00	-120.61
5.1-10.0	0.00	0.00	-117.50	131.13	371.75	0.00	177.65
10.1 & above	0.00	0.00	0.00	0.00	770.03	1565.00	929.02
Total	-258.57	-241.43	-154.14	97.46	570.89	1565.00	-0.86

Table A-3: Net X per holding by size-class and by peasant class: West Bengal backward region

	RL	PP	SP	MP	RP	LLD	Total
0	-292.40	0.00	0.00	0.00	0.00	0.00	-292.40
0.01-1.0	-240.00	-420.00	-11.00	0.00	142.25	0.00	-166.85
1.01-2.5	-125.00	-289.20	-69.20	15.50	119.25	0.00	-146.57
2.51-5.0	0.00	-379.38	-34.00	61.99	280.00	0.00	-181.50
5.1-10.0	0.00	-321.50	0.00	0.00	0.00	0.00	-321.50
10.1 & above	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	-261.00	-344.72	-45.89	42.07	160.60	0.00	-177.86

Table A-4: Net X per holding by size-class and by peasant class: Andhra Pradesh backward region

	RL	PP	SP	MP	RP	LLD	Total
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01-1.0	0.00	-387.00	0.00	0.00	0.00	0.00	-387.00
1.01-2.5	-375.00	-338.56	-89.00	59.00	0.00	0.00	-263.81
2.51-5.0	0.00	-409.17	-94.33	51.38	189.00	0.00	-168.05
5.1-10.0	0.00	-336.90	-82.30	99.50	0.00	1830.00	-5.15
10.1 & above	0.00	-270.75	-58.00	160.63	467.25	1009.00	275.39
Total	-375.00	-360.16	-84.15	97.08	374.50	1419.50	-53.68