While summarizing the results of our study in the concluding chapter, we will focus mainly on the aspect of capitalist accumulation in agriculture and how it is linked with the surplus generated across classes and regions from agricultural activity. The analysis that we have done in our framework of economic classes has helped to identify the feasibility of capital accumulation by the different peasant classes under the varying production conditions in the four regions of our study. Along with surplus generation, the cross-sectional trends in assets structures, costs of cultivation and indebtedness further complement our findings in this regard. The problems of accumulation, which we identify, help in formulating the policy measures that are required to further the capitalist development of agriculture.

The study of the assets structure and its concentration across peasant classes identifies those classes who exert a greater control over productive assets and are capable to drive the process of surplus generation and capital accumulation in agriculture. The structure of assets, especially the productive assets, shows a varying degree of relation with the economic classes across regions. In both the regions in Andhra Pradesh, the labour-hiring and land renting-out upper classes have a larger share of productive assets in their total assets compared to the self-employed lower peasantry. Again within the upper classes, there is an overwhelming concentration of livestock and machinery and implements in the hands of the rich peasant and the Landlord class; these classes have been primarily driving the process of capital accumulation in these two regions.

In the advanced region of West Bengal, the share of productive assets in total assets is high for the small peasant class as well as for the labour-exploiting peasant
classes. The upper classes have a greater ownership of storage facilities in this region. The overall asset ownership is heavily concentrated with the middle and rich peasants indicating that in this region too, it is actually the upper peasantry that plays a major role in capital accumulation. The important difference between the regions in Andhra Pradesh and this region in West Bengal is that the upper peasantry classes in the latter region include the majority of households. In contrast, the rich peasants and landlords in the regions in Andhra Pradesh are thin classes. This implies that the accumulation of capital in the advanced region, West Bengal has been relatively more broad-based compared to the regions in Andhra Pradesh.

However, the normal process of assets concentration that occurs under a market-based capitalist development of agriculture is largely absent in the backward region, West Bengal. The agriculture in this region is dominated by a subsistence mode of production. The high concentration of productive assets ownership observed in the other regions is absent here. The fact that the upper peasant classes have not led the process of accumulation and concentration of productive capital assets has left the region with an incredibly low level of productive assets. This is due to the greater dependence of these classes on self-employment activities and regular salaried employment in the non-agricultural sector. On the other hand, the poorer peasant classes, who are predominantly dependent on cultivation due to lesser opportunities of self-employment and salaried employment, are not capable of driving the process of accumulation due to their inability to generate sufficient economic surplus. An absence of a vibrant peasant class has kept agriculture in this region at a level of subsistence mode of production.

The input costs incurred in cultivation also reflect the differential asset positions of the peasant classes. The large rich peasant class in the advanced region, West Bengal, has the lowest input cost per acre compared to the other classes. A higher control and ownership of farm implements and machinery of the rich peasant class helps them to save on account of the livestock maintenance cost and the service charges incurred for hiring farm machinery. With this advantage, they also spend a greater share of their total input costs on fertilizers and pesticides i.e. the chemical inputs, compared to the other classes. Charges paid for irrigation is also markedly lower for the upper peasantry classes compared to those from the lower peasantry. Although, the advantages for the topmost classes due to a better asset ownership can be observed in the regions in Andhra Pradesh, the nature of advantages differ due to
varying production conditions. In contrast, the labour costs per acre rise more or less secularly from the lower to the higher peasant classes. This indicates the higher capacity of the labour-exploiting peasant classes to mobilize and employ labour on their farms.

Keeping this differential scenario in mind, we have examined the situation of surplus generation by the peasant classes across regions. This has helped us in identifying the impact of the larger economic policies on the different modes of production prevalent in agriculture. The overall farm income and economic surplus generated on the average in agriculture is different across regions primarily due to the varying nature of cultivation. From an inspection of the Farm Labour Income (FLI), we find that the commercial cotton cultivation in the advanced region in Andhra Pradesh entails a relatively higher income generation. The cultivation of cash crop, especially for supply in high value commodity chains, both domestically and for export, like in the case of cotton, generally requires use of advanced technology with an associated high value-addition. In contrast, the advanced region in West Bengal grows cereals, primarily paddy (Aman) with relatively lower value-addition. However, the secondary crop (potato) in this region with a high yield makes the overall FLI much higher than the backward regions.

In comparison to the advanced regions, the farm incomes generated in the backward regions are much lower. The FLI generated in the backward region, West Bengal, which is characterized by subsistence cultivation, is much lower and not comparable with incomes in the advanced regions. Comparatively, the backward region in Andhra Pradesh, primarily cultivating groundnut on a commercial basis generates a higher income, although lower than that of the advanced regions.

Given this variation in FLI generation across regions, the inter-class variation in surplus generation in each region is of more importance from the point of view of this study. In the advanced region in West Bengal, the FLI generated in a year by the middle and rich peasants are much higher than that of the lower peasantry classes. The poor and the small peasant classes, mainly resorting to small-scale production, generate a paltry income from cultivation or even make losses. On the other hand, the upper peasantry, comprising of the majority households in this region, uses more modern cultivation techniques and generates much higher average surpluses from their farms.
Although the same pattern can be observed in the advanced region in Andhra Pradesh, the significant difference is that the FLI of the middle peasant class is quite low and of a magnitude comparable with the lower peasant classes. It is much lower than that produced by the rich peasants and the landlord household. The latter have large FLIs primarily from commercial cotton cultivation. The mode of production employed by these thin classes has the capacity to generate surpluses, a part of which can be reinvested in agriculture. In the backward region, Andhra Pradesh, it is again only the rich peasants and the landlords at the top of the peasant class hierarchy, who generate a reasonably high income from agricultural activity. In this region also, we find that the FLI of the middle peasants is abysmally low, even lower than that of the poor and small peasants.

In a situation where there is a gradual increase in the costs of cultivation relative to the output prices, it is more likely that the lower peasant classes which employs cultivation methods entailing lower value-addition will be more adversely affected compared to the upper peasantry and may even reach a situation where production is no more viable. However, in the realm of commercial cultivation in a trade-liberalized economy, highly volatile prices can often lead to a situation where households from any peasant class can make a loss leading to default in payment of crop loans, rising indebtedness and a consequent exclusion from the institutional credit market. In such a critical situation in commercial agriculture, it is always possible that a higher peasant class (even a household belonging to the rich peasant or landlord class) undertaking a larger scale of investment and production than a lower one can be worse-affected and have their production capacity depleted to a larger extent.

The backward region in West Bengal has a completely different situation of farm income given that the agriculture here is dominated by a subsistence mode of production. None of the classes in this region generate large farm incomes from which there can be some possibility of reinvestment and accumulation in agriculture. In fact, the class position of a household in this region is more dominated and shaped by the non-farm employment opportunities faced by them rather than the dynamics of labour-exploitation within agriculture. This also reduces the usefulness of our classification criterion as there is no scope of capturing the differentiation within a peasantry when the mode of production is largely homogeneous i.e. such a differentiation is actually non-existent.
The FLI is the income generated by a peasant household by employing capital and labour and precludes the payment of rent and interest that arises out of the land and credit relations respectively. In a situation where there is no monopoly over land and credit, the FLI would also be the households' disposable income that they can use for consumption and investment. Such a situation can be envisaged under a more socialistic organization of agriculture like collective or cooperative farming. The FLI situation has revealed that the middle peasant and rich peasant classes in the advanced region, West Bengal, and the rich peasant and Landlord classes in both the advanced and backward region in Andhra Pradesh generate reasonably large FLIs from which farm investments can be undertaken. However, in the existing economic situation, where monopoly over both land and credit is operational, we must examine the Farm Disposable Income (FDI). The disposable income of a peasant household after deducting the rent and interest payments from the FLI will actually determine the amount of surplus that it eventually retains for consumption and reinvestment into the farm.

A look at the FDI situation in the different regions actually helps to identify the different nature of problems faced vis-à-vis surplus retention and investment in agriculture under the current neo-liberal regime. In the advanced region, West Bengal, the lower peasantry classes end up with a negative FDI mainly on account of proportionally high interest payments but also because of the low FLI generated from their small-scale production. These classes fail in even a simple reproduction (with zero surplus) of their peasant production. A negative FDI for a household also implies that it is unable to clear off its interest or rent payments or both before entering a new production cycle in the next agricultural season.

The upper classes enjoy a better situation so far as interest costs are concerned. In that sense, the problem of indebtedness is relatively less in this region. The rent component is proportionately low in this region across classes and does not emerge as a major constraint to retention of surplus by the producers of any class. This is largely due to the land and tenancy reforms that have been implemented by the state government. The FDI of the upper peasantry classes is also higher than the imputed value of their farm labour indicating that they generate a higher return for their family labour from cultivation than that they would have accrued in the labour market. While these classes generate a disposable surplus over and above a simple reproduction, the portion of their FDI that will be available for farm investment is determined only after
fulfilling their actual consumption requirements. The backward region in this state does not have negative FDI for any class but given the already low FLI generated from subsistence nature of cultivation, the FDI for none of the classes could cover the imputed cost of the family labour itself. This automatically rules out the possibility of any investments in agriculture being undertaken. In this context, we note that the process of capital accumulation in agriculture has historically not occurred in this region.

The high levels of interest costs form a major problem for almost all peasant classes, including those from the upper peasantry, in both the advanced and the backward region in Andhra Pradesh. The cotton-growing advanced region ends up with a meagre FDI, in spite of producing the highest FLI per household among all the regions. This occurs mainly due to a high rate of depletion of the FLI primarily by interest payments and to a lesser extent by ground rent.

The class analysis reveals that the labour hiring-out classes are equally plagued by rent payments also in addition to the accumulated interest payments. The much lower access to owned land for the poor and small peasants in this region causes ground rent to also be a major constraint to surplus retention. Unlike the advanced region in West Bengal, in these regions, the inability of peasant classes to successfully undertake simple reproduction is not confined to the lower peasantry only. The middle peasant class in both these regions and even the Landlord class in the backward region suffer from this problem. For all these three classes, the entire average FLI that they generate is drained by accumulated interest payments alone. The small peasants in the backward region do generate a positive FDI but the fact that it is even less than one-fifth the imputed value of their family labour means that they are forced to rule out any possible or required farm investments.

The rich peasant class in the advanced region retain only one-fourth of their FLI after making interest payments; rent payments are negligible for this class. The only landlord household has a large FDI, which was more than 80 percent of the FLI generated. Among the upper peasantry classes in the backward region, only the rich peasants have a positive FDI but this again due to exorbitantly high interest payments, is much less than the imputed value of the family labour that they put into cultivation. The situation that emerge from our study is that amongst all the peasant classes across the four regions, only the middle and rich peasant classes in the advanced region in West Bengal; and the rich peasant class and the only landlord household in the
advanced region in Andhra Pradesh, retain some meaningful surplus from agricultural production from which investments can be subsequently made. For all the other peasant classes, the income that is generated from cultivation falls short of fulfilling even the consumption requirements of the households. These findings corroborate that agriculture is currently in a deep depression and this must be a major reason for the low level of incomes from cultivation and allied activities, even for those peasant classes which are normally expected to be viable, namely the middle peasants.

The situation is better in the advanced region, West Bengal, compared to Andhra Pradesh as the classes retaining surplus include majority of the sample households unlike the advanced region, Andhra Pradesh. The fact that the households in West Bengal, primarily resort to food crop cultivation, entailing a relatively lower price risk, ensures that a larger proportion (middle and rich peasant class together included 59.7 percent of the households) of the producers retain surpluses that can be used for farm investments. Although the average volume of surpluses retained from cotton cultivation in Andhra Pradesh is much larger than that from paddy cultivation in West Bengal, the proportion of households (rich peasant class and landlords in this region include only 15 percent of the households), which actually retain such surpluses is much lower here.

The other point worth noting is that the average household in even those classes appropriating a surplus from cultivation lived under the poverty line expenditure based on a standard nutrition norm of per capita per diem calorie intake of 2200 Kcal. This is true for the middle and rich peasant class in the advanced region, West Bengal as well as for the rich peasant class in the advanced region, Andhra Pradesh. Within the rich peasants in West Bengal, only the top 20 percent households comes in the non-poor category when we compare their total household incomes with the calorie-based poverty line expenditure. In Andhra Pradesh, only the sole Landlord household and half of the thin rich peasant class were living above the poverty line. This implies that even within these classes that retain surpluses, only a few households are in a position to actually undertake farm investments.

One can argue that since the average household in these classes has retained surplus after covering the cost of family labour imputed at the wage rate, put into cultivation, there should be no reason why they should not invest that surplus in agriculture. We should be careful while making this deduction as the imputed value of family labour is not exactly the consumption requirement of the family. The number
of family labour days employed by a household in their own farm for the full agricultural season may be well short of what is required to attain the standard consumption level. An average household in the middle or rich peasant class in West Bengal employed a little more than 100 labour days in a year while in Andhra Pradesh, it is slightly more than 260 labour-days. The income generated from such a small number of labour-days may not be enough to meet the consumption requirements of the family for the full year.

Also the fact that the imputed value of family labour was covered by the FDI is possible partially due to a suppression of wages in agriculture. This is possible in an overall situation of income deflation in agriculture, where the wages are suppressed to levels lower than what is required to attain the poverty line nutritional standard. Between the two states, this phenomenon will be more prominent for Andhra Pradesh, where the average daily wage for casual labour was found to be only Rs. 39, and that for female labour being even lesser. In comparison, the wage rate of Rs. 60 prevailing in West Bengal and the absence of any prominent gender wage gap in agriculture would require lowering of nutritional norms to a lesser extent. What we are trying to argue is that although it may actually happen that a household consumes a portion of their surplus that is as small as the imputed value of their family labour and use the remaining surplus for investments, it is then doing so by compromising their consumption requirements. In reality, if the average household in these classes is actually undertaking some important and unavoidable farm investments, it is possible for them to do so only at the cost of suppressing their nutritional intakes to a level below the standard norms of nutrition. Such a divergence between the required consumption and actual consumption is forcibly made possible only in a situation where the agricultural sector has been subjected to a long and sustained income deflationary process.

Two distinct phenomena in agricultural production emerge from our study. For majority of the classes undertaking cultivation, including some from the upper peasantry, it is difficult to carry out even a simple reproduction of the peasant economy. On the other hand, for majority of the households belonging to the handful of classes that do retain some agricultural surplus with the help of modern and capitalist modes of production, it is difficult to undertake investments and upgrade their cultivation techniques without cutting down their consumption requirements to a certain extent. While rent payments also have some role in the first phenomenon,
especially for lower peasantry classes in Andhra Pradesh, accumulated interest payments or farm indebtedness playing a primary role in causing both these phenomena are observed. These largely explain the stagnation in investment and growth that the agricultural sector has witnessed in the post-liberalization period.

While the problem of indebtedness poses a serious obstacle to appropriation of surplus by producers in the advanced region in Andhra Pradesh, in the backward region, high and unpaid debts actually lead to an immiserisation of the peasantry and crippling of agricultural production over consequent production cycles. The advanced region has high levels of debt-driven vulnerability primarily due to abysmally low access to institutional credit and a dominance of private moneylenders in the credit market. In the backward region however, the vulnerability of peasant classes despite a higher access to institutional credit, is more due to plummeting farm incomes.

Moreover, though the presence of a well-functional cooperative society in the advanced region, West Bengal, prevents the triggering of a debt crisis for majority of the households, vulnerability of the lower peasantry classes in the credit markets could still be observed, mainly caused by inadequate output prices and rising costs of cultivation. Still, they are less vulnerable than their counterparts in Andhra Pradesh due to the relatively less exposure to private, usurious credit. It is important to take note of these specificities across different regions with varying production conditions from the point of view of formulating policies to tackle the problem of farm indebtedness.

Finally, the higher technology-led increase in profitability and investment in agriculture that was prevalent in the Green revolution period has been substituted by a disappearance or non-retention of agricultural surplus by producers and simultaneous increases in farm indebtedness under the post-1991 neo-liberal regime. The development of agriculture in the capitalist trajectory that occurred in the seventies gradually slowed down in the eighties and has been replaced by the emergence of an agrarian crisis in the nineties and thereafter. To redeem this crisis, a paradigm shift in policies is required in general and particularly for agriculture.

So far as the problem of rising farm indebtedness is concerned, the immediate policy that should be adopted is that of constituting a debt-relief commission. A simple debt-waiver may not be a suitable measure owing to the complexities of the problem that we noted in our field study. The commission should be empowered to deal with rural household debt on a case by case basis for not only institutional loans
but also the private debts which cause far greater vulnerability of peasant households. It is also required to cover all households in this exercise and not restrict it to lower classes or groups as the indebtedness problem is seen to be also persisting among both higher economic classes and higher size-classes. A well implemented debt-relief exercise will grant a fresh lease of life to the agricultural production which has been wilting under the burden of indebtedness, especially in dryland areas cultivating commercial crops.

The measures of debt-relief, of course, must be accompanied by a policy of enhancing 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 many parts of the countryside. The control of the credit market by private moneylenders pushes the interest rate structure to a higher level, depleting agricultural surplus on a much larger scale. 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 to loss of land and other assets and drives the peasants towards committing suicide.

The major reason for the emergence and persistence of farm indebtedness are the large farm losses, which leads to farmers defaulting in their interest payments. It is difficult for petty producers in developing countries like India to shield themselves from large and erratic price fluctuations that occur in the world market. In order to tackle the price fluctuations, an effective price stabilization policy is required for the food grains (as India’s trade in food grains, both export and import has increased in recent years) and in particular for commercially cultivated export crops. This can be done by strengthening and expanding the operations of food grains procurement and distribution as well as a simultaneous strengthening of the existing commodity-specific marketing boards for commercial crops, reviving their market intervention operations and placing appropriate checks and balances on operations by private players. The creation of price stabilization funds is also an option for protecting domestic producers from adverse price movements.

While a higher and effective public expenditure on agricultural research can provide a boost to productivity in the agricultural sector, simply reinstating the government training and extension services for farmers, which has gradually withdrawn or become defunct, can ensure that farmers do not lose their farm incomes due to misplaced advice of self-serving input dealers. This will also put a check on the
profit-seeking MNCs, which operate through their nexus with local input dealers, unaccounted at all levels. It is often the case (like we found for cotton cultivation) that the farmers accumulate losses and debts even as the profits of these MNCs, supplying seed or other inputs, keep soaring. The public extension services are more required in regions where diversification of cultivation has occurred to a significant extent over the last decade or so. Such services will enable the farmers to take independent economic decisions based on scientific principles and not subject to the interests of private business.

To summarise, a set of the above-mentioned policies can ensure that the Indian agricultural sector, which is currently in a situation of profound crisis, can recover and register growth in the future. However, in order to implement such measures, there has to be a fundamental shift from the neo-liberal economic doctrine of the 'free market' and minimal government intervention, by which the current government policies are influenced. Unless the government plays an important role in the input, output and credit markets and restricts the unbridled domination of these markets by private players, it will be virtually impossible to regenerate agricultural surpluses and increase the rate of investment in the sector. An effort to carry out a capitalist development of agriculture by providing incentives to large private companies and MNCs will only serve to intensify the secondary relations of exploitation for the producers and further impede the process of capitalist accumulation. Thus, a strong bulwark of public policy is required for agriculture not only to further develop it into a modern and capitalist sector but also to protect and enhance the productive forces of the vast Indian peasantry.