Chapter- II

THE CONCEPTS OF COST
Cost of production is one of the main considerations for APC in the fixation of agricultural prices. To begin with, therefore, we will have a detailed examination of the estimates of costs which APC could make use of while giving thought to advising the Government on the producers' price of agricultural commodities. In this chapter we will discuss certain conceptual questions of cost estimates in the overall perspective of India's agricultural economy and their relevance to agricultural price fixation.

In 1965, when APC entered the market for farm products, the data on cost of cultivation which was available to it was the estimates thrown up in various reports on Farm Management Surveys (FMS). From the early seventies APC started getting cost data from another source, known as the Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops (CS). Both these are official estimates, sponsored by Directorate of Economics and Statistics, Government of India — the former through various agro-economic research centres, and the latter mostly through the State agricultural universities, except for the States of Gujarat, Rajasthan,
West Bengal and Jammu and Kashmir. FMS, which were originally started in the early fifties, were discontinued in the seventies, when CS was taken up. Even though FMS have produced and published a large number of reports relating to different regions for the periods ranging from 1954-55 to 1972-73, CS reports as such are not given out for public consumption, though some final results are published through the official publication, known as 'Agricultural in Brief' and the reports of APC.

APC, from the very beginning was not in favour of using FMS costs as, in its view, there were certain shortcomings in those estimates. In its first report on price policy for Kharif cereals for 1965-66 season it observed: "The Commission would have liked to use estimated costs of cultivation as a guiding criterion for determining the minimum price, but there are many gaps in the available farm cost data. The Commission would

1. In the States of Gujarat, Kerala, Rajasthan and West Bengal the basic survey is carried out, for Directorate of Economic and Statistics, by the respective Economic Departments of Sardar Patel University, University of Kerala, University of Udaipur, and University of Kalyani. In Jammu and Kashmir, the State's Directorate of Economics and Statistics is entrusted with the collection of primary data.
like to emphasise that it is essential that immediate steps are taken to collect reliable and comprehensive cost data so that scientific guidance for determining the minimum prices becomes available as quickly as possible." Later a Standing Technical Committee attached to the Ministry of Agriculture, and the National Commission on Agriculture also raised similar objections against the use of FMS costs in the fixation of agricultural prices. The objections raised by these official bodies can be summarised as follows:

Firstly, the aspects of farm economy which are investigated in FMS are very wide and beyond the requirement of agricultural price fixation. In 1954-55, when these studies were designed for investigation, the question of procurement price fixation was not an immediate objective before the government. At that time, the government was more interested in the popularisation of improved agricultural practices through "extension

2. See, First Report of the Standing Technical Committee on Indices of Input Costs, (Government of India, 1967);

work" and in the enhancement of the production of food-grains and agro-based industrial raw-materials in the shortest possible time. In order to draw up these schemes the government required certain broad indications about some of the overall features of the rural economy. FMS, therefore, confined their investigations in a few selected regions comprising, in each survey, one or two districts of a state. If we go through any of these reports we can see that, to begin with, it presents the general economic and geographic features of the selected region, such as, the nature of the soil, availability of rainfall, irrigation potential, ownership and operational holdings, cropping pattern, conventional and modern methods of cultivation adopted in different plots of land, asset distribution of farm households, the types of workforce available in the region, viz., male and female labour, attached labour, family labour, and so on. After looking into these overall characteristics of the area under study, a detailed investigation of the 'economics of farm business' is undertaken with reference to input-output ratios, profit and loss positions of different farm operations, etc. It is in this latter
connection that FMS took up the study of different aspects of cost of cultivation. The analysis of cost data available in different reports do not provide answer to specific issues relevant for taking decisions on agricultural price policy. For example, not all FMS reports present data on the frequency distribution of farms by categories of costs. Similarly, the estimates of cash expenses actually incurred on cultivation are not available in all studies.

Secondly, the FMS cost data cannot be considered as representative of the cost of cultivation of the farmers of the State to which a particular survey relates. As we know even though the price policy for agricultural commodities is announced on an all-India basis, its actual implementation has to be done at state levels. In the initial years of its inception APC itself used to recommend variety-wise and state-wise procurement prices for major cereals. Afterwards, when APC started recommending a uniform price for a particular cereal throughout the country, the respective State governments made marginal adjustments to the declared procurement price,
in order to suit their local requirements. But FMS cost data could not be used as a guideline for making such marginal adjustment on a realistic basis because of the limited coverage of the holdings in each study. While selecting a region for investigation, the criterion adopted by FMS was that the region should more or less represent the soil crop complex of the State to which it belongs and also that four to six regions selected for study in a particular year should represent the entire cropping pattern of the country. However, it will be difficult to believe that, say for example, Ahmednagar represents the entire soil crop complex of Maharashtra, or Cuddapah represents that of Andhra Pradesh, Deoria, that of U.P, Nowgong, that of Assam — to cite a few of these reports.

Thirdly, FMS, was carried out on a sample of cultivating households selected from a given region for a period of three years at a stretch. After that, the region was given up and some other region was selected for the survey. Since Government announces agricultural prices every year, the cost data required for the fixation
of these prices should be available on a time series basis. FMS could not serve this purpose.

Lastly, the sampling design adopted in FMS is not suitable for the fixation of agricultural prices because the emphasis given in these reports is mostly to relatively small size groups of holdings, rather than to all classes of cultivating households. To elaborate: the cost estimates are presented in FMS according to five size-groups of holdings. In almost all these reports, except those for Punjab and Gujarat, the holdings presented up to the fourth size-group in the frequency distribution of farmers are those belonging to 5 hectares and below, while the above 5 hectare holdings are all compressed into the fifth or the last size-group of the frequency distribution. These small holdings which are given more weightage in FMS have, in the words of the Standing Technical Committee attached to the Ministry of Agriculture, "relatively limited importance in so far as marketable surplus is concerned"; such data might have been useful for drawing up agricultural development programmes like CD, IADP, IAAP, HYV, etc., but it would not be sufficient enough for determining the procurement prices. In other words, FMS costs would
have been acceptable to APC as a guideline for procurement price fixation, provided the holdings above 5 hectares in FMS, samples had also been split up into different size-groups and the costs and other related data had been given accordingly so that APC could have obtained an idea from these data about the levels of costs of those cultivating households who have marketable surplus with them.

In addition to the points noted above, there is yet another criticism also against the FMS costs. In the 1950s, when the FMS reports were first published, a large number of debates took place (some of which are still now continuing, and we will mention about them in due course) on different aspects of India's agrarian economy as revealed by these reports. Out of it, the most widely debated point was the one relating to the so called efficiency of the small farmers (known as the 'family labour farmers' or the 'peasant farmers') vis-a-vis the capitalist farmers, in the sense that the results obtained from almost all FMS reports (1954-57)
showed that the value of output per acre, both gross and net, becomes smaller as the size of the holdings increases. That is, to put in other words, the productivity of the peasant farms in India is higher than the productivity of the capitalist farms. However, in spite of the higher value of output, the computed net profit per acre of these small holdings is found to be negative because, according to some of the participants in these debate, especially Amartya Sen, the methodology adopted in farm costing is questionable; that is, in terms of FMS reports, the family labour based farmer in India are found to run on losses on account of "imputing to family labour the market wage rate as shadow labour cost".


It appears to us from what have been pointed out above that there are at least two criticisms, against the methods adopted for cost estimates in FMS, which require closer look. These are (i) the criticism relating to the relative unimportance given in most of the FMS reports for the holdings above 5 hectares, and (ii) the objections raised against the methods adopted for valuation of family labour charges at the prevailing market wage rates. These criticisms in their essential aspects are analogous to the peculiar system of thought developed in Russia by the Neo-Warodniki or Neo-Populist, especially A.V. Chayanov, that agrarian economy of the pre-revolution Russia, or any other country having identical agricultural conditions, is characterised by undifferentiated and homogeneous peasant farmers.6

In fact, in Russia, at the close of the 19th century, a large number of economists, statisticians, sociologists and agricultural experts were engaged in a debate over the analysis of what is known as the zemstvo statistics of

agricultural data collected from different Gubernias of Russia and published in more than 4,000 volumes, from the period 1870s to World War I. Using these data, while V.I. Lenin argued that the agrarian economy of the pre-revolution Russia, as revealed by the zemstvo house-to-house census statistics, was characterised by a "process" of class differentiation of the peasantry, a few other Russian writers, the prominent among them being Kablukov, Kosinskii, Chelinstev, Studenskii, etc., attempted to formulate a theory of the "family farm" economy quite opposite to what Lenin formulated. Later, from 1919 to 1930, Alexander Vassilevich Chayanov synthesised the theoretical concepts of these writers and put forward his theory of the peasant economy, which is probably the most noted writings of the Neo-Populists available to readers outside Russia.8

Eventhough these controversies which developed in the Russian context between the Populists and Neo-Populists


on the one hand and V.I. Lenin on the other have no direct relevance to the concepts of costs that we propose to examine in this chapter, acquaintance with some of the principal ideas contained in these two opposing views would be useful for us in having a proper understanding of the problems involved in the formulation of agricultural price policy in India. Moreover, it was through the analyses of FMS data on costs and returns that these ideas entered into the debates on India's agrarian question. Therefore, it may not be out of place to have a temporary digression from the main theme of our discussion and to sketch out the principal points contained in these debates.

2. Theory of the Peasant Economy

Vs.

Theory of the Differentiated Peasantry

2.1 Chayanov's Theory of the Peasant Farm:

The essential idea in Chayanov's theory, which is of interest to us, is his explanation of the functioning of a peasant economy through a basic micro-economic unit, called family labour farm. A family labour farm can be defined as a plot of land owned, rented, or held through commune, by
a family and cultivated with family labour and means of production available with it: that is, a family labour farm does not hire outside labour. And, the purpose of cultivation is to meet the consumption requirements of the family. Sometimes production may be carried on not only for family consumption but for "export" also, but still it may be called a 'family labour farm', provided production is undertaken without hired labour. Chayanov found that 90 to 95 per cent of the farms in Russia in the first quarter of the twentieth century belonged to the category of 'family labour farm'.

The production conditions of all family labour farms according to Chayanov are identical. Therefore, the peasant economy, which is Chayanov's marco-economic agricultural unit, is made up of innumerable family labour farms, having economically identical or homogeneous characteristics. The production condition being same, the laws of a capitalist agricultural economy would not apply to a peasant economy: while a capitalist farmer cultivates principally by hired
labour, with the intention of obtaining profit, a peasant farmer cultivates his land by family labour, mainly for meeting the family consumption requirements. Since the family labour farm does not apply hired labour for cultivation, the question of labour market or wage does not arise in the study of the economics of the peasant farm. While studying this type of an economy, what is required, according to Chayanov, is to keep in mind that a family farm always sets a gross output, or gross income, target which is determined by what is called the "labour-consumer balance", that is, the intervention of the forces of diminishing subjective utility of family labour product on the one hand and the increasing drudgery or irksomeness of labour on the other. As regards the subjective utility of family labour product, it is determined by the consumption requirement of the family. Chayanov states that a peasant family, while applying its labour on a given farm, takes into consideration the gross income or gross output that it would produce at the end of a given year. Out of this subjectively determined gross income or output certain expenses towards seeds, fodder, repair:
replacement of expired livestock and worn out equipment etc. are deducted. The net income or output left over is the return to the family labour. This net amount is then divided between the family budget for consumption and the capital formation for raising the production potential of the family farm.

While applying labour input on the farm for realizing a given level of output, the labour is subject to what is called drudgery or irksomeness. Chayanov is of the view that, just like the utility of the family labour product, drudgery is subjectively given. It is dependent on (i) the labour input required to produce a certain amount of output at the given level of technology, and (ii) the number of adult units available for work in the family labour farm. When the amount of labour applied to achieve a desired level of output, which Chayanov calls the "degree of self-exploitation", is increased there is a corresponding increase in the extent of drudgery or irksomeness of labour. If the peasant family wants to reduce drudgery and increase the family labour product, one way out, according to Chayanov, is for the
peasant family to acquire higher technology. We can illustrate this by the following diagrams:

Diagram - I

Diagram - II

The abscissae in the diagrams indicate the earnings of the peasant family, and the ordinates, the diminishing marginal utility of income and the drudgery of labour.
associated with the size of the family as well as the ratio of the consumers to workers in the family. In Diagram-I, AB indicates the drudgery of labour attached to the increasing output of labour. To elaborate, suppose the composition of the farm family is such that there are 3 non-workers (say, children or old aged) and 2 workers, thus comprising 5 consumer units. Since the ratio of consumers to workers in this hypothetical family is very high (i.e., 2 workers to meet the consumption requirements of 5 members) as compared to, say, another farm family whose all family members are workers and therefore the ratio of consumers to workers is unity, it has to put in more labour-effort, defined as standard labour-days per worker per year, in order to produce the output required to meet the family budget for consumption, over and above what is required for seeds, fodder, repairs, replacement of worn out machinery and expired livestock as well as additional capital formation for raising the production potential of the family farm. Thus with every increase in the marginal unit of output, under given technical conditions of production and family labour unit, there is
an increase in the drudgery of labour. This is indicated
by the curve AB, which slopes upward to the right. The
curve CD indicates marginal utility of income to the farm
family. If we abstract any change in price during the
period under consideration, so also the quantities required
for seed, feed, capital formation etc., (just as we
abstracted change in technical conditions of production
and labour units in the family) then, the net family
income per year is analogous to the net output per year of
the farm family. Thus when more and more family consumption
income is obtained by increased labour intensity, the
marginal utility of each additional unit of income will be
decreasing. This is shown by the curve CD. At point x,
the drudgery of labour attached to given units of marginal
output and the marginal utility of earnings of the peasant
family are in equilibrium. At this point where AB and
CD intersect, the equilibrium output, Y, of the peasant
family will be determined.

Diagram-II explains how the equilibrium output
of the family labour farm increases along with a reduction
in drudgery, say, by the availability of cheap or interest-
free credit, with which the peasant family is able to
acquire advanced labour saving technology. CD, AB, X and Y
indicate the original position that we explained in Diagram-I. Acquisition of an advanced technology now brings down the degree of drudgery from the level AB to level AB', so that CD intersects it at a later point X and the equilibrium output goes up from Y to Y'.

Chayanov states that the equilibrium output of the peasant family is arrived at not by any objective criteria, but by a mixture of intuition and experience of the farm family over many years. The output so obtained at the subjectively determined point of interaction between the drudgery of family labour and the marginal utility of family income is a gross annual output for the entire family household. This output is divided between family budget and capital formation by the peasant family, after keeping apart a portion for the onfarm expenditures already incurred.

Chayanov held the view that the peasant family has greater competitive power than the capitalist farmers, as it is in a position to work more hours and more intensively and to adjust its consumption expenditure and output in such a way as to tide over a crisis. Thus in conditions
where the capitalist farmers would go bankrupt, the peasant family, being more efficient than the capitalist farmers, would work longer hours, sell at lower prices, obtain no net surplus, and still would manage to carry on with farming operation year after year.

2.2 Amartya Sen's Interpretation of FMS Data:

As we stated earlier, many writers who interpreted the results obtained from FMS, especially the results relating to the inverse relationship between farm size and productivity, argued, just as Chayanov argued with the help of zemstvo statistics, that small farmers in India are more efficient than the larger farmers. Of the writings we will briefly outline the arguments of Prof. Amartya Sen⁹, as they are, in our view, more fundamental in approach and more representative of all other writings on this line.

Prof. Sen states that, though a large number of peasant families and capitalist farmers coexist side by side with one another in varying proportions in various

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parts of the rural countryside, the entire agricultural production unit can be treated as one production unit, applying a uniform production function. Therefore, according to Prof. Sen, while analysing the behaviour of such an agrarian economy, we have to use a model that assumes "a community of identical peasants having a given stock of land and capital", even though the peasants cultivate their farms with family labour, while capitalists cultivate their farms with hired labour.

As an analytical starting point, Prof. Sen begins with the hypothesis that every member of the peasant family has a personal utility function related to his individual income and a personal disutility function related to his individual labour. He assumes that in a peasant family 'work is equally divided between the working members of the family' so that the personal utility for individual income and the personal disutility for individual labour are same for all members of the peasant family. Further, since the marginal utility of income is diminishing and the marginal disutility of labour is increasing, the peasant family applies its labour on agriculture production, to quote Prof. Sen, "upto the point where the marginal product equals the real cost of labour".
Regarding the real labour cost, Prof. Sen argues that, the family labour being not paid at the market wage rates, it would be lower for the peasant farms than for the capitalist farms. Accordingly, the marginal labour product for the peasant farms would be lower than the marginal labour product for the capitalist farms. As it is known that when the 'marginal product' is the lowest, the corresponding 'total product' is the highest, Prof. Sen concludes that the output of the family labour farms would be higher than the output of the capitalist farms.

The FMS reports for 1954-57, which Sen uses to substantiate his theoretical proposition, shows the following three characteristics of Indian agriculture that suits his arguments. Firstly, the value of output per acre, both gross and net, becomes smaller as the size of holdings increases. Secondly, the use of capital per acre is higher for smaller farms than for the larger ones. Thirdly, the smaller farms are inherently more fertile than the bigger farms. These features, according to Sen, implies the superiority of the peasant farms (small farms) over the capitalist farms. And he offers a "natural explanation"
to this as follows:

Firstly, the cost of borrowing capital being relatively high, a peasant agriculturist cannot afford to apply purchased capital goods in his farm and obtain relatively higher output over his capitalist counterpart. However, he has cheap family labour with him; "the cost of cheaper labour may act indirectly to increase the amount of capital used per acre for smaller farms". This may happen because "a lower price of one factor will tend to increase the use of its complementary factor". In other words, the lower labour cost of family labour helps its complementary factor, viz., capital, to be used as intensively as the former. Sen's explanation is that, family labour is cheaper because it is not to be paid at market wage rate; it can also be cheaper because 'the cream of the labour force' being hired out for market wage, only the remaining labour force is available for family labour farm. However, this cheap labour available with the peasant farms would help to develop certain types of capital, such as livestock, within the farm itself, which can be intensively used by them, reflecting itself in a higher output per acre for small farms.

Secondly, the smaller holdings have higher output as these holdings should be naturally more fertile than the
larger holdings. There is an economic reason for this:

"If there is a tendency for higher income to lead to a larger size of family (say, due to greater ability of the members of the family to survive famines and other crises), then there will be a tendency for the more fertile farms of a certain size to sustain bigger families than less fertile farms of the same size. Subdivision through inheritance will, therefore, be faster on the former, and a correlation will thus be established between natural fertility and smallness of the holdings."

In spite of the superiority of the small holdings over the larger ones, it has been found in the FMS reports that most of these small farms are running on loss. Prof. Sen argues that this loss is a mere 'mythical loss' or a 'fictitious loss' and this has happened on account of the questionable methodology adopted in farm costing — i.e., the family labour which the peasant farms apply on their farms is imputed by FMS at market wage rates, so that the total unit cost of production becomes higher than the market price per unit of output. Prof. Sen is opposed to the imputation of family labour at market wage rates
because, "if the family based farmers did have to pay the market wage rate for their labour, they would not have applied that much labour". They applied their owned labour beyond the point where the marginal product of labour equals the market wage rate as they faced a lower real labour cost. That is why, in spite of their inability to have access to economies of large scale production, or advanced technical know-how, they apply their family labour more intensively and obtain relatively more output per unit of labour.

2.3 Lenin's class Categorisation of the Peasantry:

Quite opposite from what have been presented at (2.1) and (2.2) above, where the agrarian economy of the developing countries, like the pre-revolution Russia or the post-independence India prior to the mid-sixties, is looked upon as a predominantly homogeneous and undifferentiated class of peasant farmers which allocates resources (family labour and capital) under assumed competitive market conditions and obtain higher output than under capitalist
production, Lenin's analysis of the peasant question provides an alternative analysis of the agrarian structure and helps us to look at it both at a point of time and its evolution over time. Lenin had explained the agrarian question on several occasions, and the way in which he analysed it differed in details, depending upon the context under which it was presented at each occasion. For example, the peasant question that he explained in his classic work, "The Development of Capitalism in Russia", which he completed in 1898, is not the same as he presented in the popular pamphlet that he wrote in 1903 for the Russian peasants about the agrarian programme of the Social-Democrats; or in his Preliminary Draft, "Theses of the Agrarian Question" which he discussed, in the context of European capitalist countries, in 1920. However, the analysis of the agrarian question as contained in the 'Development of Capitalism in Russia' can be regarded as the basis of his all other writings on this subject.


Thus, in contrast to the type of arguments that we have seen at (2.1) and (2.2) above, Lenin argued in his 'Development of Capitalism in Russia' which he wrote after a massive research on the zemstvo statistics, that there are a large number of hierarchical categories among the peasant communities, which can however to broadly classified as (i) the rural bourgeoisie or the well-to-do peasants; (ii) the rural proletariat and (iii) an intermediary link between (i) and (ii), called the middle peasants.

The rural bourgeoisie or the well-to-do peasants are a small minority of independent farmers, and owners of commerce and industry who take up agriculture on commercial lines. The farm size available with them is so big that, in order to cultivate it, they should have labour force larger than their family can provide. The sum total of the means of production owned by them and the quantity of output produced on their land are very large so that, in spite of their numerical minority, they become economically predominant in the rural country side. The sale of their output in the market fetches them spare cash.
which is generally directed towards commercial operations, usury, purchase of land, farm improvements etc. In subsequent writings (especially of 1920 that we mentioned above) Lenin classified the rural bourgeoisie, on the basis of the way they operate the farm and divert the cash, as (a) the big landowners who, directly or through their tenant farmers, systematically exploit wage labour and small and middle peasantry, and (b) the big peasants and capitalist entrepreneurs who, in general, undertake cultivation by employing hired labourers. However, for our present purpose, it is enough to know that this is the economically predominant class in the rural sector which either cultivates land with advanced inputs and technology and principally hired labour, or exploits the small peasants by leasing out land for cultivation.

If the rural bourgeoisie or the well-to-do peasantry belongs to the upper end of the rural agricultural hierarchy, then, at the lower end of it lies the numerically predominant, economically poor rural proletariat. While the majority of them may be eking out their livelihood by working on others lands, such as, to quote from the
'Development of Capitalism in Russia', "the allotment holding farm labourer, day labourer, unskilled labourer, building worker, or other allotment holding worker, some others among them may be operating small patches of land, either owned by them or taken on rent. But the size of the land available with this particular class among the peasantry will be so tiny that they are not in a position to make use of their full labour power on such land and earn their subsistence. They have, therefore, to sell a part of the labour time available with them to others. That is why, while explaining the economic character of a rural proletariat, Lenin, stated that "he (the rural proletariat) is everlastingly compelled to divide his time between seeking employment and cultivating his plot of land." According to Lenin, "the existence of a small peasantry in every capitalist society is due not to the technical superiority of small production in agriculture but to the fact that the small peasants reduce the level of their requirements below that of the wage earners and tax their energies far more than the latter do".

The middle peasants, just as the term indicates, lie between the rural bourgeoisie and the rural proletariat
The land and other resources available with the middle peasants are just sufficient for producing subsistence with the help of family labour. Since they stand between the rich peasants and the rural proletariats, their economic condition swings between the rich peasants and the rural proletariats. In the pamphlet for the rural poor (Lenin 1903, about which we mentioned at the beginning of this section) there is a clear exposition of this section of the peasantry as follows: "In a good year he makes ends meet on his farm, but poverty is always knocking at the door. He has either very few savings or none at all. That is why his farm is in a precarious position. He finds it hard to get money; only very seldom can he make as much money out of his farm as he needs, and if he does, it is just barely enough. To go out for earnings would mean neglecting the farm and every- thing would go to rack and ruin. Nevertheless many of the middle peasants cannot get along with earnings: they, too, have to hire themselves to others; want compels them to go into bondage to the landlord, to fall into debt, and once in debt the middle peasant is hardly ever able to get out of it, for unlike the rich peasant he has no
steady income. Therefore, once he falls into debt it is as if he has put his neck in a halter. He remains a debtor until he is utterly ruined. It is chiefly the middle peasant who falls into bondage to the landlord, because for work paid on a job basis the landlord needs a peasant who is not ruined, one who owns a pair of horses and all implements required in farming. It is not easy for the middle peasant to go elsewhere for earnings, so he goes into bondage to the landlord in return for grain, permission to use pasture land, the lease of the cut-off lands, and money advances during the winter. The middle peasant is hard pressed, not only by the landlord and the kulak, but also by his rich neighbour, who is always one jump ahead when he wants to acquire more land and never misses an opportunity to squeeze him in some way or other. Such is the life of the middle peasant; he is neither fish nor fowl. He can be neither a real master nor a worker. All the middle peasants strive to become masters; they want to be property-owners, but very few succeed. There are a few, a very few, who even hire farm hands or day labourers, try to become rich on the labour of others, to rise to wealth on the backs of others. But most middle peasants have no money to hire labourers - in fact, they have to hire themselves out.
Thus, the system of socio-economic relations existing among the peasantry, according to Lenin, is characterised by all sorts of contradictions, viz., "competition, struggle for economic independence, the grabbing of land (purchaseable and rentable), the concentration of production in the hands of a minority, the forcing of the majority into the ranks of the proletariat, their exploitation by a minority through the medium of merchants' capital, and the hiring of farm labourers". The sum total of these contradictions creates class differentiation within the peasantry. This class differentiation, to Lenin, is not "the break-up of the peasantry simply as the emergence of property inequality", but it is the result of what he calls "a depeasantising process" which signifies the dissolution of the old peasantry and the creation, in its place, of a large majority of rural proletariat on the one hand and a numerically small but economically strong rural bourgeoisie on the other. This 'depeasantising process', the sum total of which Lenin called 'the class differentia-

12. V.I. Lenin, "The Development of Capitalism in Russia", op.cit.
tion within the peasantry' takes place in every agrarian economy, according to him, due to its evolution into a commodity economy, in what 'the peasant is completely subordinated to the market, on which he is dependent as regards both his personal consumption and his farming'.

In short, as against those writers on the agrarian economies of the developing countries, like, the pre-revolution Russia or the pre-1965 India, who regarded that these agrarian systems are characterised by a class of undifferentiated and homogeneous peasant farms which are technically superior to the capitalist farms, Lenin regarded that such economies (especially of the pre-revolution Russia as revealed through zemstvo statistics, and the European capitalism of the early 20th century) are characterised by a continuous process of depeasantising, which starts from the initial conditions of property inequality, and then leads to the dissolution and disappearance of the old system of the peasantry and the emergence of a new class of commodity producers on the one side and another class of agricultural wage workers on the other.
3. Empirical Classification of the Peasantry

Lenin made the class categorisation of the peasantry, as we explained above, on the basis of principally three indexes that he took from zemstvo statistics, viz., the land sown, the horses owned and the number of households. While doing so he had himself stated that he could not make use of some other indexes, like, capital and machinery, on account of the difficulty in satisfactorily estimating the values of those items from the data available with him.

Therefore, in the class differentiation debate in Russia, attempts were made by subsequent economists to arrive at empirically meaningful classification of the peasantry by using the indexes, including those which were not available for Lenin to apply in his analysis. One such study, which Theodor Shanin introduced recently to the students of economics in India, was made by V.S. Nemchinov. 13

According to Shanin, the method adopted by Nemchinov was to estimate the values of land, fixed capital, circulating capital and labour used by selected cultivating households, and to group these households, on the basis of the source and use of these items, into three broad categories, viz., entrepreneurial peasants, dependent peasants and independent peasants, which would correspond to Lenin's categorisation of the peasantry as rich peasants, poor peasants and middle peasants.14

In the Indian context, an attempt to empirically differentiate the peasantry and, then, to identify each empirical category with the rural economic classes, was made by Utsa Patnaik,15 with reference to the criteria for demarcating peasant classes derived from Lenin's "Preliminary Draft Theses on Agrarian Question" and Mao Zedong's "How to Differentiate the Classes in the Rural Areas". The data relating to household ownership

14. For details, see Theodore Shanin, op.cit.

and operational holdings and ownership of non-land agricultural resources like livestock, implements and other means of production (as available in NSS and FMS reports for the early 1950s as well as the 1971 Census of operational holdings) showed that a numerical minority of households have with them relatively large area of land and other resources so that they cannot cultivate the land with their family labour alone, but have to rely on the labour of others. At the same time, a numerical majority of households have with them relatively small area of land and other resources so that the family labour available with them is more than what they can make use of in their farms and earn their consumption requirements; they have to, therefore, work for others. This implies that, on account of the existence of property differentiation in rural countryside, a section of the peasantry has to use, over and above its own labour, the labour of others in its farm, while another section of the peasantry has excess labour power with it, in relation to land and other resources under its command, so that it is obliged to work on the farms of others. Therefore, the information about the extent of a households' use of its own labour, or
outside labour in its farm, or its dependence on others' farms for work, would provide a fair indication about the class status of that household. According to this hypothesis, Utsa Patnaik suggested that "the use of outside labour relative to the use of family labour would be the most reliable single index for categorising the peasantry".

This index of 'the use of outside labour relative to the use of family labour', the author calls as 'the labour exploitation ratio'. The outside labour can be used in the following ways: (i) by directly hiring the labour of others, and (ii) by indirectly appropriating the labour of others through the rent received for the land leased out. Both these involve exploitation of other's labour by a cultivating household. Similarly, the same household may be exploited by others in the following two ways: (i) directly hiring out the family labour, and (ii) indirectly being exploited through the payment of rent for the leased-in land.
Now suppose that, in a given holding, $A$ and $B$ are, respectively, the net labour days hired in and the net labour days taken through rent. Then,

$$A = a_1 - a_2,$$
$$B = b_1 - b_2$$

where $a_1$ is the labour-days hired-in and $a_2$ is the labour-days hired out, and $b_1$ is the labour days taken through rent and $b_2$ is the labour days given through rent. Suppose further that the total exploitation of our hypothetical holding can be denoted by $x$. Then,

$$x = A + B = (a_1 - a_2) + (b_1 - b_2)$$

However, to quote Utsa Patnaik, "knowledge of absolute value of $x$, i.e., the extent of exploiting or being exploited, is not enough to draw the exact dividing line between classes. For this, the value of $x$ has to be looked at in relation to the extent of self-employment".

If we denote 'the extent of self-employment', that is, the family labour days applied in our hypothetical holding, as $y$, then the ratio $x/y$ will give us the extent of
exploitation in the holding. It is this ratio of \( x/y \) which is called the labour-exploitation ratio that is applied to empirically differentiate the peasantry, and the empirical characteristics of the economic classes within the peasantry as identified by this ratio are reproduced in Table 2.1 and 2.2.\(^\text{16}\)

\[\text{16. It may be seen from the Tables that at the highest stratum of the peasant classes lies the landlords, who have their } x \text{ positive and very high, but } y \text{ is almost zero. Among the landlord class itself if } A = B, \text{ i.e., labour hiring is greater than rent, they belong to the capitalist class, whereas if } A = B, \text{ i.e., labour hiring at most as high as appropriation through rent for the land leased out, they belong to the landlord class.}

Just below the landlord class, or the class of capitalist farmers and feudal landlords, lies the rich peasants, who while exploiting the outside labour through labour hiring and rent extraction, apply their own family labour also in cultivation. Therefore, just as their } x \text{ will be positive and high, their } y \text{ will also be positive. And, depending upon the relative importance of } A \text{ or } B, \text{ the rich peasants can again be sub-categorised as proto-bourgeois (A B) or proto-feudal (A B).}

The third category, namely, the middle peasantry, is characterised by the labour exploitation ratio, \( E \), which lies within \((+1)\) and \((-1)\). If \( E \) is positive and greater than zero, that means, the peasantry belongs to the upper end of the middle stratum, by virtue of his } x \text{ positive, though less than } y. \text{ But if } E \text{ is less than zero and negative, the peasantry’s outside use of labour through } A \text{ and } B \text{ will be very}
The classification of the peasantry into different economic categories on the basis of the criterion developed above, as can be seen from the Tables, synthesises the empirical and economic classes, and permits us to pick up the sub-classes within the broad classes, as distinguished by both Lenin and Mao Zedong\(^{17}\) (though, on strictly trivial, and hence would lie at the lower end of the middle stratum.

Still further below lies the category of poor peasants, who have a high negative \(E\) value, as the labour days hired out by them are far higher than the labour days, if at all, hired-in, and the rent paid for the leased-in land exceeds the rent received, if any. Moreover, they are a class of peasants whose land holdings are cultivated mainly by family labour.

Those among the village community who are not included in the above four classes are categorised as full-time labourers, whose \(E = (\) , because their \(y = 0; b = 0;\) and \(a = 0\). They are dependent on hiring-out labour for wages in order to obtain their subsistence.

Table 2.1: Economic Classes Within the Peasantry as Identified by the Use of Labour Exploitation Ratio

<table>
<thead>
<tr>
<th>Economic class</th>
<th>Empirical Defining Characteristic</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Landlord</td>
<td>$E \to \infty$</td>
<td>$x$ positive and very high, $y$ zero.</td>
</tr>
<tr>
<td>(2) Rich Peasant</td>
<td>$E \geq 1$</td>
<td>$x$ positive and high, $y$ positive, $x &gt; y$</td>
</tr>
<tr>
<td>(3) Middle Peasant</td>
<td>$-1 &gt; E &gt; -1$</td>
<td>$x$ positive but small, $y$ positive, $\frac{x}{y}$</td>
</tr>
<tr>
<td>i) Upper Middle</td>
<td>$0 &gt; E &gt; 0$</td>
<td>$x$ zero or negative but small, $y$ positive, $</td>
</tr>
<tr>
<td>ii) Lower Middle</td>
<td>$0 \geq E &gt; -1$</td>
<td></td>
</tr>
<tr>
<td>(4) Poor Peasant</td>
<td>$E \leq -1$</td>
<td>$x$ negative and high, $y$ positive, $</td>
</tr>
<tr>
<td>(5) Full time labour</td>
<td>$E \to -\infty$</td>
<td>$x$ negative and very high, $y$ zero.</td>
</tr>
</tbody>
</table>

Note: $E$ stands for the labour exploitation ratio

Source: Utsa Patnaik, "Class Differentiation Within the Peasantry", op. cit.
Table: 2.2 : **EMPIRICAL CHARACTERISTICS OF THE PEASANT CLASSES**

<table>
<thead>
<tr>
<th>Empirical categories</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Landlord</td>
<td></td>
</tr>
<tr>
<td>(a) Capitalist</td>
<td>$a &gt; b$</td>
</tr>
<tr>
<td>(b) Feudal</td>
<td>$a \leq b$</td>
</tr>
<tr>
<td>(2) Rich Peasant</td>
<td></td>
</tr>
<tr>
<td>(a) Proto-bourgeois</td>
<td>$a &gt; b$</td>
</tr>
<tr>
<td>(b) Proto-feudal</td>
<td>$a \leq b$</td>
</tr>
<tr>
<td>(3) Poor Peasant</td>
<td></td>
</tr>
<tr>
<td>(a) Agricultural</td>
<td>$</td>
</tr>
<tr>
<td>labourer operating land</td>
<td></td>
</tr>
<tr>
<td>(b) Petty tenant</td>
<td>$</td>
</tr>
<tr>
<td>(4) Full time</td>
<td>$b = 0$</td>
</tr>
<tr>
<td>labourer</td>
<td></td>
</tr>
</tbody>
</table>

Source: Utsa Patnaik, "Class Differentiation Within the Peasantry", *op.cit.*
theoretical grounds some minor modifications might be required to clarify the above formulation in terms of the 'theory of surplus value' which is the underlying principle behind the class differentiation debate.\textsuperscript{18}

To illustrate this, Utsa Patnaik applies this criterion on the data available in FMS (1956-57) for West Bengal with respect to operational holding-wise labour-days hired-in and hired-out. This gives one of the two indexes, namely 'A', required for working out the value of \( x \). For the estimates of 'B', the labour-day-equivalent of rent, received for the land leased out and paid for land leased in should be required. Since these values are not available, the labour exploitation ratio is estimated by assuming that \( x = a_1 - a_2 \). The estimated results are reproduced by us at Table 2.3, which shows that the exploitation ratio, \( x/y \), moves according to the expected pattern, "being negative and greater than unity (in absolute value) for the smallest holdings, decreasing in absolute value and

---

Table 2.3: The Exploitation Ratio for West Bengal Agriculture

<table>
<thead>
<tr>
<th>Operated holdings (acres)</th>
<th>Labour Days hired-in ( (a_1) )</th>
<th>Labour Days hired-out ( (a_2) )</th>
<th>Net Labour Days hired-in ( x = (a_1 - a_2) )</th>
<th>Family Labour</th>
<th>Exploitation Ratio ( E = x/y )</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01-1.25</td>
<td>10.37</td>
<td>101.07</td>
<td>-90.70</td>
<td>57.33</td>
<td>-1.57</td>
</tr>
<tr>
<td>1.26-2.50</td>
<td>37.48</td>
<td>84.42</td>
<td>-46.94</td>
<td>92.66</td>
<td>-0.51</td>
</tr>
<tr>
<td>2.51-3.75</td>
<td>53.56</td>
<td>74.15</td>
<td>-20.59</td>
<td>151.50</td>
<td>-0.14</td>
</tr>
<tr>
<td>3.76-5.00</td>
<td>86.10</td>
<td>89.50</td>
<td>-3.40</td>
<td>160.65</td>
<td>-0.02</td>
</tr>
<tr>
<td>5.01-7.50</td>
<td>131.26</td>
<td>91.67</td>
<td>+39.59</td>
<td>253.61</td>
<td>+0.16</td>
</tr>
<tr>
<td>7.51-10.00</td>
<td>118.49</td>
<td>11.58</td>
<td>+106.91</td>
<td>306.60</td>
<td>+0.35</td>
</tr>
<tr>
<td>10.01-15.00</td>
<td>478.80</td>
<td>0.50</td>
<td>+478.30</td>
<td>171.33</td>
<td>+2.79</td>
</tr>
<tr>
<td>Above 15</td>
<td>823.28</td>
<td></td>
<td></td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: Utsa Patnaik, "Class Differentiation Within the Peasantry, op. cit."
crossing zero just below 5-acre level, then becoming positive and steadily increasing with increasing farm size, crossing unity somewhere around the 10-acre level". When the values of these exploitation ratios were plotted against the mid-points of the relevant acreage groups, the class differentiation within the peasantry, in the context of West Bengal during the mid-1950s, is obtained as follows: the peasants who operated, on an average, 1.60 acres and less hired out more labour days than they hired in and hence, their labour exploitation ratio being less than unity, they can be categorised as belonging to the class of 'poor peasants'. The peasants who operated, on an average, between 1.61 and 9.80 acres, having a labour exploitation ratio between less than one but greater than minus one, can be regarded as belonging to the class of middle peasants. Those who operated above 9.80 acres belong to rich peasants, capitalists and landlords, as the labour exploitation ratio in their case is positive and greater than unity.

The West Bengal data for the mid-1950s gave a clear picture of the class differentiation within the peasantry,
despite the absence of a major index, namely D, in the estimate of the labour exploitation ratio, on account of the non-existence, in large measure, of the heterogeneity in the technical conditions of production across the holdings of similar physical areas. Wherever similar holding sizes show lack of homogeneity in the technical conditions of production, it may be difficult to 'pick up' class differentiation from the grouped data. This does not mean that class differentiation and the attendant internal contradictions do not exist within the peasant households in those areas; the grouped data available in FMS for such regions conceal the class differentiation, as the holdings belonging to the well-to-do peasants and the poor peasants, in all probability, are mixed up by virtue of their same acreage classes.

To summarise the main points that we discussed in sections 2 and 3 above: while there are some who hold the view that the cost estimates available in FMS cannot be used for fixation of procurement prices, as these estimates give more weightage to relatively small farmers, who do not have much marketable surplus to part with,
there are some others who argue, on the basis of the observed increase relation between farm size and productivity, that the small farmers, who cultivate principally with their family labour, are more efficient than the larger farmers. Those who hold the latter view further point out that, despite the superior efficiency of the small farmers, FMS data show that these cultivating households are undergoing loss; this according to them, has happened because FMS - has adopted a questionable methodology in farm costing by imputing market wage rate to family labour. In contrast to this view, that the small farmers are more efficient than the large farmers, there is yet another view that the higher productivity in small farms has been misinterpreted as technical superiority of the farmers who operate such farms; in fact the small farmers who want to eke out their living reduce the level of their requirements and work harder on the farms. Even after doing so, as they are not able to obtain their minimum subsistence, they divide their labour power between seeking employment elsewhere and working on their own farms. We will now examine these opposing views a little more in detail so as to get to know the conceptual
questions associated with the estimates of costs of production in the context of procurement price fixation.

4. Farm Size, Productivity and Marketable Surplus

4.1 The Question of Efficiency of Small Farmers:

The main objective to the use of FMS costs in the fixation of procurement prices was that, while presenting cost data and other related information, FMS reports gave importance mostly to plots of land belonging to 5 hectares and below. In this respect, it has to be remembered that the size-groups of holdings given in these reports are expressed in terms of physical size of farms. In other words, these size groups of holdings are not 'corrected' for irrigation, fertility etc., which together with the composition of the family of the cultivating households and the level of technological development would determine the farm productivity and marketable surplus. To illustrate, a 5 hectare plot cultivated under rain-fed condition and low application of labour and fertilizer may not yield even the output required for family consumption.
throughout the year. At the same time, another 5-hectare plot which is highly fertile and cultivated intensively by using advanced inputs and technology may be left with a sizeable marketable surplus after meeting the wage bill, family consumption requirements etc.

Regarding the contribution to output marketed as such by different cultivating households. It is well known that we do not have any reliable information about this on a time series basis or for a fairly recent period. Whatever information in this regard is available is the estimates of 'marketable surplus' made by Dharm Narain for 1950-51 and by Utsa Patnaik for 1960-61 (which include, as we saw in the previous chapter, the 'marketed surplus' plus 'buy-back'). These two estimates are not strictly comparable not only because they belong to two different points of time but also because the methodology

adopted for arriving at the figures by the two authors are slightly different. Still, both these estimates being 'marketable surplus' (defined as marketed surplus plus buy-back) we can at least use these figures to look at how these authors interpret the results. Thus, Dharm Narain, who estimated marketable surplus for 1950-51 by using the yield data available according to different size-level of holdings in FMS reports for 1954-55, found that, just as the per hectare yield is higher for the smaller holdings, the output marketed by cultivating households operating less than 10 acre holdings is higher than the output marketed by those operating above 10 acre holdings. On the other hand, Utsa Patnaik, who estimated the marketable surplus for 1960-61 by applying the yield index worked out from the average figures for three years available in FMS reports from 1954-55 to 1956-57, found that, even though the per hectare yield is higher for the small farms, and it decreases along with an increase in the size-level of holdings, the per centage of output marketed is smaller
for the small holdings and it increases along with the increase in the holdings size. Moreover, according to 1960-61 estimate, in contrast to the estimate for 1950-51, the importance of small holdings below 10 acres in contributing to total marketable surplus is considerably less than the importance of 'medium and large' holdings above 10 acres. Attributing economic importance to small peasantry in the contribution of marketed output, argued Utsa Patnaik, arises from looking at the peasantry as a homogeneous class of family farmers having superior 'viability' over the capitalist farmers.

It has been widely accepted that, at least in the traditional agricultural areas, the productivity of agriculture is found to be decreasing along with an increase in the farm size, though there are some who argue that such inverse relationship between farm size and productivity does not appear in Indian agriculture.21

21. We have already noted the earlier writings on this issue. Regarding the subsequent and latest discussion, see, (i) Ashok Rudra, "Farm Size and Yield Per Acre", *Economic and Political Weekly* (Special Number), July 1968; (ii) Ashok Rudra, "More on Returns to Scale in Indian Agriculture", *Economic and Political Weekly* (Review of Agriculture), October 26, 1968; (iii) C.R. Saini, "Holding Size, Productivity and Some
In fact, the small farmers who operate tiny plots of land may be getting higher per hectare yield, as they intensively apply the family labour available with them. But they need not necessarily have any 'surplus' left with them, after meeting the 'farm retention' requirements because (i) the size of the population that has to be supported by the small holdings is relatively large, and (ii) a substantial share of the output of the small farmers has to be given away as 'kind-rent' to the landlords from whom they lease-in land or as 'kind-interest' to the indigeneous money lenders from whom they borrow money for production and consumption purposes. After meeting all these payments some of the small farmers may be left with output just to meet their consumptions during the year or only a part of the year. Still they sell a portion of their output in

the market in order to meet the expenses incurred or being incurred by them on non-farm consumption goods, or to repay credit (in terms of money) they borrowed in the beginning of the season.

To cite an example for the sake of clarification, a survey conducted on 132 cultivating households in two villages of Tamil Nadu by Shivalakumar 22 shows: "In all, 33 landless peasants households and 55 petty peasant households sell their output, although, what they produce is equal to only 3 to 9 months of consumption. In other words, 88 households of petty and landless peasants (out of a total of 132 cultivating households) sell over 25 per cent of their output although they can ill-afford to do so". Such sales being made out of 'distress' 'the market sentiments' also is adverse to them; that is, they have to sell their output at the lowest and the most disadvantageous price of the season. After disposing off a portion of the output in the initial part of the

marketing season, they 'buy-back' (when their self-consumption needs arise in the later part of the season) at a higher price than what they obtained at the time of selling.

To be precise, the 'marketed surplus', which is a quantity equal to output minus farm retention, is available with large farmers who predominate the peasants community in terms of control over cultivated area and other means of production. It is 'marketable surplus', which includes 'marketed surplus' plus 'buy back' that is identified mostly with the small farmers.

The use of FMS costs for the fixation of procurement prices has been objected to, on the ground that FMS reports give more weightage to relatively small farmers who have rather limited importance in the generation of 'marketed surplus' (to use the terminology of Dharm Narain). In other words, those who object to the use of FMS costs in the procurement price fixation perhaps hold the view that the price offered by Government for agricultural commodities like cereals and pulses should be determined on
the basis of the cost of production data pertaining to the cultivating households who possess actual surplus over farm retention, that is, the households who possess larger areas of land and other non-land resources, employ wage labour and cost-reducing techniques, and generate 'surplus' for sales after meeting all their consumption requirements.

In this context it may be re-emphasised that the households who do not employ wage labour and cost reducing techniques, but cultivate mainly with family labour, may be producing higher output per unit area. Still they will not be having 'surplus' to part with, on account of the reasons cited by us a little while ago. As regards the unit cost of production of this category of farmers, it should be higher than that of the farmers who employ wage labour for cultivation. This is because, under conditions of 'land hunger', lack of enough employment opportunities either in agriculture or outside agriculture, and persistence of sub-human conditions of life which leads the small-scale tillers into usurer's clutches, they
work overtime on their farms, so that the number of 'standard labour-days' per unit of land worked becomes larger than the number of 'standard labour-days' per unit of land employed on the 'wage-labour' farms. Those who hold the view that these 'family labour farms' are superior in efficiency and 'viability', as compared to the 'capitalist farms', just because gross output per unit of land is higher on the former, argue, as we pointed out earlier, that it is conceptually wrong to impute market wage rate to family labour. We shall now examine this point.

4.2 The Question of Imputation of Family Labour at Market Wage Rate:

Those who do not favour imputing of market wage rates to family labour have a general way of looking at what itnes of owned factors of production can be valued at market prices. Their arguments can be presented in the following way: A cultivating household may not be purchasing or hiring


for current use a few factors of production which are already available with him. Had he not owned these factors he would have obtained them from the open market at the time of cultivation, on payment of the prevailing market price. Similarly, had he owned the factors, but had no use in his field, he would have rented them out and received a price at "market rate" from those who use them for cultivation. In other words, when the farmer himself is using the factors owned by him, some others are deprived of the chances of using those factors. The use of owned inputs and services in cultivation, thus, involves a 'sacrifice', either for those who could have applied them in their enterprises or for those who could have obtained a payment from renting the factors out. The value of owned factors of production, therefore, is equal to the 'sacrifice' or the 'lost opportunity' somewhere else. Some of these factors may have more than one alternative use; for example, owned seeds can be used as seeds itself, or as cattle feed, or foodgrains. In such cases, the cost of that owned factor to the cultivating household is the payment that he could have obtained from the most profitable alternative available for its application. That is, according to this
criterion, the value of owned inputs and services should be imputed in the estimates of cost of cultivation by what is determined by the principle of opportunity cost, that is, the cost of the factor measured in terms of its foregone alternatives.

The idea of opportunity cost of owned factors in agriculture implied that (i) these factors are scarce in supply, and (ii) they have a market value. Judged by these criteria, the factors of production, like, land, farm buildings, farm structures, seeds, manures, and other physical resources which the cultivator owns and applies in cultivation possess established market prices and, therefore, have opportunity costs, whereas the family labour, under the prevailing conditions of subsistence farming, under-employment in agriculture and general unemployment, does not have any opportunity cost. Therefore, according to this view, consideration of family labour as a component in the estimates of cost is unrealistic.

However, the weakness of this argument is not difficult to understand. A peasant who owns or leases-in a plot of land puts in the labour of himself and his
family for the cultivation of that land on the expectation that the output received from it would cover, after meeting the expenses incurred on cultivation, at least their means of subsistence. If he is aware that he would not get the means of subsistence from the efforts he need not have to drag himself and his family to work on the farm. It is, therefore, reasonable to argue that, since family labour is applied in cultivation by the household with the expectation that it would fetch at least the means of subsistence, it can be given a value equal to the value of the means of subsistence of the household's family labour. Once it is known as to what constitutes the means of subsistence of the farm family, its valuation for inclusion in the estimates of cost does not become difficult. It was Marx who introduced this idea as a consistent part of his theory of value. According to Marx, "in a given country, at a given period, the average quantity of the means of subsistence necessary for the labourer is practically known". When a labourer works, he spends his labour-power so that an amount of his energy is wasted. If he has to

work again in next day the lost energy has to be recouped, for which a given amount of goods and services is required. The value of these goods and services necessary to restore the 'wasted energy' and 'to maintain his normal state as a labouring individual' is the value of the means of subsistence of the labourer. This value is determined partly by the biological requirement of the worker and partly by other factors, such as, the climatic and other physical conditions of the country in which he works, his habits, the degree of comforts available to the labouring class, the historical development, and the civilization of the country. In other words, according to Marx, the means of subsistence includes, apart from the labourer's biological requirement, 'a historical and moral element' in it.

To elaborate this point: the preservation of commodity production and capitalism presupposes availability of labour-power in the market. Since the labour-power is mortal the work force which is withdrawn from the labour market by 'wear and tear and death' has to be replaced by fresh labour-power. Hence the means of subsistence must include the means necessary for the labourer's
substitute, his children. This adds one more factor in the Marxian sense of subsistence. Just like food, clothing, fuel, housing and other historically determined goods and services, the wages should cover the expenses required for upbringing the children by imparting a certain degree of education necessary to acquire the skill of work, the expenses for health care services, etc.

From what is explained above, it is clear that when the labour power is available in the market to a buyer who is prepared to pay the historically determined minimum subsistence of the working class, the family labour working on the cultivating household's own field can also claim, if we apply the same norm, an imputed wage equal to the minimum subsistence historically determined in the rural countryside. In other words, if it can be regarded that the market wage rate prevailing at a particular point of time for the hired labour equals the minimum subsistence of the hired labour, then the family labour applied in the cultivating household's own farming operation can also be imputed a value equal to the market wage rate.
5. The Concepts Used in the Official Estimates of Costs

The official estimates of cost of production do not go into the controversies relating to what are the items of inputs which are to be included in cost, and what items are not to be included, apparently because, these controversies are mostly technical in nature. FMS and CS include in cost estimates all items of 'paid out costs' and all 'purchaseable physical inputs' which are used for cultivation. Some other off farm expenses incurred by the farmers, which are not necessarily costs, but are incurred in the 'pursuit of cultivation', such as, land revenue, cesses and other taxes, payment to artisans, etc., are also included as components of costs in these estimates. The official estimates are, therefore, known as 'full-cost estimates'; they take into account the value of physical inputs (both owned and purchased), imputed rental value of owned land and interest on owned fixed capital, and the wages for family labour.

Taking into consideration the different purposes for which the cost estimates are made use of the data on cost
of cultivation are presented according to different concepts. FMS adopted mainly three concepts of costs: (i) the bulk-line cost (ii) the cost-C, and (iii) the operational costs and fixed costs. CS does not estimates the bulk-line cost. It regularly publishes cost-C and its components. We will present below in brief what these concepts stand for.

5.1 The Bulk-line Cost:

The bulk-line cost is defined in FMS as the unit cost of production of a 'stated per centage' of the total output of a given crop. The 'bulk-line' is drawn at 85 per cent of the total output. From the indications available in some of the FMS reports, we can narrate the method of estimating the bulk-line cost as follows: arrange various farms selected for investigation in ascending order of the unit cost of production, so that the farm with the lowest cost will be on the top and the farm with the highest cost on the bottom of the array. Write the output produced by each of these farms against the respective farms in the next column of the table. Taking the total outputs of all the selected farms as 100, we can now work out the per centage contribution of output of each
farm to the total output. If we estimate the cumulative total of these outputs and relate it to the farms arranged in ascending order of costs, we can find out what is the unit cost of production that falls against the 85th unit of the total output. This is defined as the bulk-line cost. This is also termed in FMS as the marginal cost of producing the 85th unit of output.

It is claimed that, for the purpose of fixing procurement prices, the bulk-line cost is a better indicator than the average cost. The following reasons have been given as the advantages of bulk-line cost in the price fixation. Firstly, if the price is determined on the basis of the average cost, a large number of farmers whose costs lie above the average will be adversely affected. This is especially so when a scatter diagram drawn from the unit cost of production, in respect of different farms selected for survey exhibits very wide dispersion. It has been observed that the scatter of costs among different farms in Indian agriculture is very wide. To take an example, the National Commission on

Agriculture which analysed the first results obtained from the CS observed that "an average cost of Rs. 61.04 per quintal in 1970-71 leaves out more than 52 per cent of farms and almost 50 per cent of area and nearly 38 per cent of output of wheat in Punjab. Similarly, in 1971-72, an average cost of Rs. 59.71 per quintal does not cover about 54 per cent of farms, 49 per cent of areas and 40 per cent of output in the same. This is the extent of dispersion of costs around the average in a state like Punjab, where small farmers have the capacity to apply better methods of cultivation along with the big farmers. In other States where the economic disparity between the small and big farmers is very wide the dispersion of costs of individual farms around the average cost should be still wider. This makes the average cost an undependable guide for the fixation of farm price. On the other hand, the bulk-line cost does not leave out from its coverage such a large number of farms, area, or output, as the average cost does. At 85th per cent of output the unit cost it leaves uncovered is only negligible. Bulk-line cost is,

27. CCA, Report, op. cit.
therefore, claimed to be a better concept than the average cost in the determination of procurement price.

Secondly, the concept of bulk-line cost is said to be statistically more accurate an estimate than the average cost. When extreme values are present in a sample of observations, the average value computed from these observations will be 'atypical' of the observations. It is stated that what is intended in the estimate of bulk-line cost is, in effect, to remove the extreme values from the holding-wise costs to make the cost more representative. Thus the cost at 85 per cent of the cumulative total of output of the farms arranged in ascending order of costs, is regarded as more representative of the total holdings in the sample, than the average cost of all holdings taken together.28

However, several objections can be raised against the reliability of the bulk-line cost for the fixation of procurement prices. Firstly, FMS which introduced this concept in some of its reports in the sixties does not

clarify as to why the bulk-line is drawn at 85 per cent of the cumulative total of outputs, rather than, say, at 95 per cent or 75 per cent.

Secondly, in order to estimate the bulk-line cost the holdings have to be arranged, as we noted, in ascending order of the unit of cost of cultivations, and then the levels of costs in each of the holdings with the respective outputs of the holdings have to be compared. The usual procedure in this method is to apply the past outputs against the current costs. This procedure is based on the assumption that the farmers maintain the same relative position in respect of costs and yields over the years. The technological advancement which is not evenly distributed among different classes of agricultural producers belies this assumption and, therefore, the reliability of the cost that is estimated on the basis of this assumption.

Thirdly, if the higher levels of unit costs appearing on the lower side of the array belong to the holdings of the poor peasants, the number of cultivators and the farms left out of the bulk-line cost, even after the 85th unit of output, will be very large. Conversely,
if the higher unit costs left out after the 85th per cent of the output belong to the big farmers, such as absentee landlords, the area of land under cultivation that is left out from bulk-line cost will be sizeable.

5.2 The Cost-C:

The Cost-C is known as the 'full cost'. It includes in it the values of all items of cash and kind expenses incurred for cultivation as also some other expenses incurred outside agricultural production which however are necessary in the pursuit of agricultural operations. In addition, it includes the values imputed for factors owned by the farm family, such as, land and fixed capital, and for the services rendered by the family labour. In order to distinguish the various components of costs and their share in total cost, the Cost-C is subdivided into Cost-A₁, Cost-A₂, Cost-B and, then, Cost-C.

Cost-A₁ stands for cash and kind expenses of an owner-operator. The items included under this category are (i) value of hired human labour; (ii) value of owned
and hired bullock labour; (iii) value of owned machine labour; (iv) hired machinery charges; (v) value of farm-produced and purchased seeds; (vi) value of insecticides and pesticides; (vii) value of owned and purchased manure; (viii) value of fertilizers; (ix) depreciation of implements; machinery and farm buildings; (x) irrigation charges; (xi) land revenue, cesses and other taxes; (xii) interest on working capital; and (xiii) miscellaneous expenses like payment to artisans, repair charges, etc.

Though Cost-$\lambda_1$, is termed as "cash and kind expenses" in official publications, the items enumerated against it show that it is not cash and kind expenses on current inputs alone. There are in it off-farm expenses, like, payment of land revenue, cesses and other local taxes, repair charges and artisan's payments, as well as depreciation of implements, machinery and farm buildings. Cost-$\lambda_1$ can, therefore, be considered as 'out of pocket expenses' involved in the cultivation of a plot of land owned by the peasant.

Just like owner-operators, the cultivators who operate tenancy holdings incur some additional expenses
over and above what the owner-operators incur. Tenancy cultivation is widely prevalent in all parts of the rural countryside. About one-tenth of the total operated area in Indian agriculture is accounted for what is called 'open tenancies', having records in village office. But most of the tenancies are 'concealed' or not registered, for example, share-cropping tenancies. It is estimated that another ten per cent of the total operated area falls under this category. A tenant leases-in a plot of land to increase his net return from farm operations, while a landlord leases out his land to the tenant with a view to having an assured income from it, whatever happens to production. FMS reports have cited that in areas where rainfall is unstable, landlords rent out their lands so that in the event of a crop failure the returns to them will not be affected, as the lease contract provides for a given amount of rent. This payment may be a fixed amount of money, a fixed amount of the produce of land, or an agreed share of the produce.

Even though rent is a post-harvest payment and, therefore, does not strictly enter into cost of production, the economic rationale of tenancy cultivation implies that the cost incurred by the tenant farmer on the cultivation of leased-in land should be covered in the sale value of the net output that he obtains after the payment of rent. The only way to protect the cost of production of the tenant farmer, while fixing the procurement price, is to include his rent payment in the cost of production. The estimates of costs available in FMS and CS have introduced the concept of Cost-A₂ to represent the tenant farmer's cost. When the rent paid to leased-in land is added to Cost-A, we obtain what is represented by Cost-A₂.

Similarly, rental value of owned land and interest on owned fixed capital is added to Cost-A₂ so as to obtain Cost-B. If wage imputed to family labour is added to Cost-B, it becomes Cost-C.

5.3 Operational Costs and Fixed Costs:

Cost-C is again divided as operational or variable cost, and overhead or fixed cost. FMS and CS do not give any separate estimates of costs according to these concepts.
While giving detailed break-ups of Cost-C, these sources only indicate what items, out of the break-ups constitute the operational costs and fixed costs.

A note on the concepts and procedures for evaluation of costs provided by Directorate of Economics and Statistics to APC shows how the individual cost items included in Cost-C is regrouped into operational cost and fixed cost. Accordingly, operational cost consists of all items in Cost-A less depreciation on implements, machinery and farm buildings, interest paid on crop loans, and land revenue, cesses and other taxes plus the value of family labour. When the items removed from Cost-A are added to the remaining components in Cost-C, i.e., rent paid for leased-in land, and rental value of owned land and interest on owned fixed capital, it becomes fixed cost.

Concluding remarks: The conceptual questions relating to the estimates of the costs of production of agricultural commodities, as we saw in this chapter, are closely linked with the discussions on agrarian question. Those who hold the view that, while computing the costs
of production of the cultivating households belonging to
the agrarian economies characterised mainly by the
existence of 'peasant farms', it is conceptually wrong
to impute market wage rates to family labour because,
by doing so, unit costs of production of the 'peasant
farmers' would become higher than the unit costs of
production of the capitalist farmers. It is also
argued by some that in such economies where there are
large-scale unemployment and underemployment, the family
labour does not have 'opportunity cost' and, therefore,
there is an additional justification for not to impute
market wage rate to the family labour.

The 'subsistence argument', which runs counter
to the above view, holds that a peasant who cultivates
(with the help of his family labour) a plot of land
either owned by him or leased-in from others, expects
that he would receive from cultivation at least the means
of subsistence for himself and his family. It is
therefore reasonable to impute market wage rate to family
labour, as it is fairly reasonable to assume that in a
competitive labour market the wage for hired labour
would be equal to the worker's minimum subsistence.

FMS and CS include in the estimates of costs all items of 'paid-out costs' and 'purchaseable physical inputs', off-farm expenses like taxes, cesses, payments to artisans etc. incurred by the farmer in the 'pursuit of cultivation', as also the imputed values of rent for owned land, interest on owned fixed capital and wages for family labour. However, in the context of agricultural price fixation, the relevance of these cost estimates seem yet to be examined in detail. Our preliminary view in this regard is that the procurement price fixed on the basis of the average cost of cultivation, which even if includes imputed wages for family labour, need not necessarily cover the costs of production of the small farmers. This is because, in an agrarian economy characterised by the existence of 'differentiated peasantry', a section of the cultivating households applies cost reducing superior technique of production whereas the other section applies family labour and traditional methods of cultivation which leads to higher unit cost of cultivation to the latter. The average cost of cultivation arrived
at from a randomly selected sample of cultivating households belonging to these different sections of the peasantry would therefore suppress the level of cost below that of the small farmers, so that the procurement price offered on the basis of the average cost would leave uncovered a portion of their costs.

Just as there is a controversy regarding the imputation of family labour at market wage, there is yet another controversy regarding the imputation of the rental value of owned land and interest on owned fixed capital, and its inclusion in the cost estimates. We will examine this aspect in the next chapter.