CHAPTER-2
THEORETICAL AND CONCEPTUAL BACKGROUND

2.1 Agrarian Structure and Agrarian Relations

The term 'Agrarian Structure' in a broader sense, denotes all of the existing and lasting production and living conditions found in a rural region and covers all the structural conditions for production in agriculture and for the livelihood and social situation of the rural population. It comprises of social, technological and economic elements and determines the achievable productivity, income and its distribution and the rural population’s social situation. It also includes, conceptually, the system of land tenure (social agrarian structure) and the system of land management (technical and economic agrarian structure) (Kuhnen, 1995).

‘Agrarian Structure’ should cover two aspects: one relating to the distribution pattern of land owned and operated according to the size of holdings and the second relating to the agrarian relationships. The agrarian relationships are largely determined by the structure of land ownership, but they also reflect several historical, political and social factors (Dantwala, 1986). According to Kuhnen (1995) the system of land tenure (social agrarian structure) and land management (technical and economic agrarian structure) determine agrarian relations.

‘Agrarian Structure’ and ‘Agrarian Relations’ are greatly interrelated. The system of land tenure and land management determine ‘agrarian relations’ (Kuhnen, 1995). The agrarian structure prevailing in an economy at a point of time has a close bearing on its agricultural production and development and hence on the overall development of the economy (Grewal and Rangi, 1989). Similarly the agrarian relations existing at a point of time reflect the influence of historical, political, social and economic factors (Singh, 2006). Much of the human history is dominated by the relationship of man to land. A sense of well being and security is inherent in the ownership of land. The ownership of land and the pattern of its distribution have a direct bearing on distribution (Pandey and Singh, 1977).

Thus, agrarian structure is dependent upon the structure of land use and cropping, the pattern of tenurial relationships, size distribution of operational holdings
and lastly upon non-agrarian structure. Variation in any one of these constituent structures thus causes variation in the agrarian structure, thereby resulting in variation in agricultural productivity (Pal and Pal, 1989). Hence, number of ownership and operational holdings and area operated along with the incidence and extent of tenancy reflect an agrarian structure prevailing in an economy.

Agrarian relations are the mutual relations among men as a class who exchange their activities in the process of production and exchange. In the sphere of production who owns land and agricultural implements and in the sphere of distribution and exchange, the objective of production, i.e. production for use value or for exchange value determine the type of agrarian relations. However, it is very difficult to identify the pure nature of agrarian relations because in this sphere relations of productions change slowly almost imperceptibly, coalescing and even merging with old forms (Bhakta, 1977). Though interest in the analysis of agrarian economic relations goes back to the classic doctrines of political economy of the eighteenth and nineteenth centuries, it is arguable that it is in the last two decades that some of the most rapid advances in this field occurred (Basu, 1994).

Basu (1994) says----

“If Adam Smith came to life in the 1960s, he would find that he could follow most of the writings on agrarian structure. He may have needed a little bit of brushing up here and there (depending on how we presume he had been spending his time since 1790) in order to read some of the papers in journals but, by and large, I believe my claim would be valid. If, on the other hand, he came to life only a little later, say in 1990, the same would not be true. He would have great difficulty with the literature, which has moved on rapidly in these last years, creating new insights into share tenancy, rural credit institutions, and technological progress” (Basu, 1994:1).

There are two reasons for this. The advances in pure economic theory in recent years have been such as to be applicable to down-to-earth areas, such as agrarian economics. Secondly, detailed empirical researches by both economists and anthropologists have brought to light a variety of institutional and factual details of rural life in less developed economies. Explaining these has created intellectual
challenges and these, in turn, have provoked research. One of the most striking features of the earlier writings in this field is the extent to which these were ‘fact-proof’. This was especially true when it came to Third World Rural Economics. Alfred Marshall, who was usually very well-versed in the facts of economic life in industrialized nations, never focused too much when it came to making observations on economic life in the Third World. This was true of many others (Basu, 1994).

A characteristic feature of most agrarian economies is a high degree of concentration in the ownership of land. This reflects not only inequality in the distribution of wealth but also the fact that it is the main form in which wealth is desired to be held in these economies. Depreciation being negligible, the costs of holding land is low; it generally maintains its capital value over time and offers more security than most other assets; and if leased out it also yields a rent. In societies exposed to various kinds of risks, and with few means of insurance open to them, land is an attractive asset to hold even if the pecuniary rate of return on the investment happens to be low. There is no reason however why the unit in which production is organized should correspond in size to the ownership holdings. The optimal size of the operational holding (i.e. the actual units of production and management) will depend on the other factor endowments and the technical conditions of production. One would expect those who have holdings above this size to lease out land, the others to lease in, and the pattern of operational holdings to be correspondingly different from that of ownership. The difference should be particularly marked in economies in which land is scarce relatively to labour and in which the capital equipment used in agriculture does not offer significant economies of scale due to indivisibilities. The need to use land intensively as well as the problems of management of labour—which usually grow more than proportionately with size—ought to favour the relatively small holdings and promote transfer of land in this direction (Raj, 1990a).

Agriculture is an important segment of traditional (feudal) economy, the transformation from feudalism to capitalism necessarily implies a transformation of agriculture. Schultz (1964) stated that traditional agriculture, the oldest production activity of the society is niggardly and transformation problem is basically an
investment problem; it is not a problem of supply of capital but to determine the forms of investment in agriculture which will make it more profitable. His approach treats agriculture as a source of economic growth.

In an agricultural society, people make their living by means of two important inputs i.e. land and labour and these two inputs are the important assets in the economy and different people presumably own different amounts of these assets. In most cases agriculture is a giant informal sector in itself. How much output a farmer produces, they cannot prove it. The primary occupation in agriculture is, of course, farming. The staples, such as wheat and rice, are farmed both for self-consumption and market sales. A variety of other crops are produced, and the degree of self consumption varies with the nature of the crop. Cash crops, such as cotton, sugar, and luxury varieties of rice, are the most market oriented and are produced largely for market sale.

Production is organized in many ways. There are family farmers that farm their own land, often largely for self-consumption. There is large owner-cultivation or capitalist farms that produce crops using modern techniques and large quantities of hired labour. There are tenant farmers who lease-in land from other non farming (or partially farming) land owners and pay rents to these landowners. Finally, there are labourers who work for wages or a commission on the land of others. Labourers may be casual employees (e.g. hired just for the duration of the current harvest) or long-term permanent employee.

The notion of risk and uncertainty is central to the concept of agricultural organization in developing countries where agriculture is dependent on rainfall, primitive technology and labour-intensive cultivation, poor infrastructure, and often extreme population pressure on the land (Ray; 2008). To farmers, a good harvest means a high income in a given year, but the next year could be totally different. The weather also affects the incomes of agricultural labourers, even if they do not farm their own land, because the scale of agricultural employment is weather-dependent. Thus agricultural uncertainty is a fundamental fact of life that plays a key role in the development process.
2.2 Real world situation of land and labour and risk and uncertainty

In rural areas the most important means of production is land, and the only way to ensure access to it is to own it. Yet in many underdeveloped countries the majority of rural inhabitants either owns no land or possess less than one hectare each. Often a major reason for this is the high density of population per unit of land. If we think of a land distribution, typically, it may be unequal: large plots of land are often concentrated in the hands of a few, whereas a majority of individuals may have little or no land at all. Similarly, there is also a distribution of labour endowments. The labour market is typically functional with large farmers who hire labour of those with little or no land for a wage. Under this scenario, the agricultural market clears by allocating labour from those households who have little land to those who have a lot and this hired labour is monitored by hired supervisors or the owner(s) of the farm. Likewise, the land (rental) market typically works with tracts of land leased from landlords to tenants in exchange for rent or perhaps a share of the crop. Under this scenario, the end result is a relatively equal operational distribution of land with many tenants. Thus, in almost all agrarian societies, we can observe a fair amount of land rentals and activity in the labour market as well and the economy can react to an unequal distribution of land in a variety of ways. The land market can open up with plots rented out or sold from landowners to those with a relative abundance of labour or other inputs of production. Alternatively, the labour market can become active with hired labour working on the larger plots of land. In this way, an evolving agrarian structure reveals the distribution pattern of land ownership and its operations as well as the composition of operational holdings which are the dominant features of an agrarian structure. Size distribution of land holdings or the distribution of ownership holdings gets modified due to tenancy arrangement of leasing in and leasing out of land which evolves over time and is a certain aspect of agrarian relationships. It gets reflected in the occupational distribution of labour force and has analytical significance at different points of time (Ray, 1998).

A more promising explanation of the difference in the size of operational holdings in agrarian economies, and of the resulting pattern of allocation of resource
endowments, begins to emerge however once the assumption of perfect certainty is dropped. For there are risks associated not only with agricultural production but with institutional arrangement like leasing of land and the capacity to bear risks and in the willingness to bear them. The choices open to different households and the risks associated with them can be stated simply. The land-owning households with relatively large holdings have mainly three alternatives to choose i.e. cultivation of land with own labour, organizing cultivation with hired labour, and leasing out the land to the first are attached the usual risks associated with production, such as variability of output and fluctuations in product prices; the second carries with it additionally the risks of hiring labour, such as non-availability of labour in the busy seasons and labour disputes; the third makes it possible to avoid carrying both the risks of production and the risks of hiring labour but involves bearing the risks of leasing out land, more particularly default of rent and the possibility of not being able to regain possession of the land. But the choice for the landless households as well as households owning very little land is essentially only between leasing in land and hiring out labour, the former carrying with it the risks of organizing production (the same as for the landowning households) and the latter the risks of unemployment.

However, in a traditional agrarian society, there are risks in leasing out land. For one thing, leasing out can only shift from the leaser to the leasee the risks associated with the variance of production and prices, and they could be shifted back in part by default of rent. But these risks apart, greater the probability of default of rent would be, the lower the income accruing to tenant families (after payment of rent) relatively to their maintenance requirements. Landowning households therefore find it advantageous to lease out land in larger parcels, or to those who have already some land of their own, though this might require a reduction in the average rent. If the reduction in the average rent requirement to eliminate these risks is larger, they might even find it worthwhile to cultivate a part of the land themselves with hired labour. In either case significant differences in the size of the operational holdings would ensure. What is more, these two courses could be mutually supporting since preference for the more substantial tenants might result in some landless households
not being able to secure any land at all on lease and they could be the source of wage labour for both the landowning households and the larger tenants. The main point to note is that the risks attached to leasing out land to small tenants and to the employment of hired labour could make the size of operational holdings very different from what one might expect to find in absence of such risks. We have so far assumed competitive markets in both land and labour. The competition is of course not perfect since there is uncertainty.

Thus, if the assumption of perfectly competitive market is dropped, then the more realistic situation is that output from land is uncertain. The operation of a single land (rental) market will not be able to realize the increasing returns to scale in some efficient way over the population of landowners and labours. If the output from the land were perfectly certain, the land-owner could raise the rent until the money value of what the tenant was receiving from the owner of the land was equal to his opportunity cost. Under these circumstances, this sort of fixed rent arrangement would be efficient. But, if the tenant is poor and risk-averse and output from the land is uncertain, then it will have a cost in addition to the opportunity cost of the tenant. This is an inefficiency that could have been avoided if insurance markets were perfect, so that the uncertainty, in effect, is taken away. If the owners of the land will have to compensate the tenant for this cost, he could do this in many ways. The owner could lower the rent charged on the tenant. This extra reduction, to compensate for the tenant’s risk aversion, typifies a transaction cost in the rental market for land (Ray, 1998)

2.3 Tenancy and resource use efficiency

Tenancy as a mode of cultivation has a deep rooted historical background (Cheung, 1969). The historical tenacity and pervasiveness of agricultural land tenancy have been recorded in the literature with the conflicting projection of its origin and development. In the rural economy tenancy has been recognized as a commonplace agrarian institution, which has evolved within the land tenure system in many parts of the world. However, the historical data provide no indication of its extent and dominance in any particular period of time. In fact, the precise early origin of the
institution of tenancy has not yet been known because of the non-availability of systematic records of land tenure in different parts of the world. Historically, tenancy, particularly the institution of sharecropping was pervasive in ancient Greece, Rome, India and China (Byres, 1983). Its operation has been of considerable prominence in diverse parts of the world, for example, in Europe, Asia, Latin America and Africa with diverse economic conditions and systems, it exists in polar economies like that of USA.

An understanding of the phenomenon of tenancy is essential to have an idea about the agrarian relations in rural areas. Tenancy and its terms and conditions reflect the demand and supply position of land in agriculture. A larger proportion of tenants among the farmers indicate higher extent of dependence of rural population on agriculture and lower avenues of outside employment. The prevalence of high land rent is indicative of rack renting. The distribution of ownership holdings gets modified due to tenancy arrangement of leasing–in and leasing-out of land. This is clear from the variation between the size distribution of operational holdings and the ownership holdings.

In general, tenancy itself appears to grow only with commercialization of agriculture, and so in the earlier stages of commercialization the scale of leasing is often very limited (Smith, 1959). Even when tenancy develops on a more extensive scale the ability of agricultural households to lease in land seems to be not infrequently related to the area of land they own already, the totally landless being often able to lease in no land at all or only smallholdings. While the small and medium–sized holders of land might be able to increase somewhat the area under their operation by leasing in land, and the large holders to diminish correspondingly the size of their holdings if they wish to, the extent of the redistribution brought about might be therefore marginal (Raj, 1990b).

Thus, agricultural land tenancy is, in fact, an important production arrangement in many countries of the world. The quest for explanations of tenurial contracts in agriculture has been the source of voluminous literature with contributions from economists, historians, geographers and anthropologists. It has been found that sharecropping and fixed rent tenancy is the two major forms of tenurial contract in
agriculture. The modus operandi of the traditional system of sharecropping was that the tenant (the actual cultivator) cultivates land at his own expense and renders to the landlord (the owner of land) a fixed portion of the produce as rent which could be as much as or even more than the half of the produce. The situation can, however, be altered if the landlord is made to share with the tenant at least the cost of the purchased inputs. The output share usually then varies with the share of the cost of production (Ellis, 1988). Share tenancy contract differs from fixed rent contract in that the tenant pays a stipulated fraction of the harvest to the landlord instead of a fixed rent per acre. In a fixed rent contract the landlord is assumed of a fixed income as long as the tenant does not default his income in a share contract and depends on the productive efficiency of the tenant cultivator. In both the systems there is partnership between two parties in which the landlord is generally a passive partner, the tenant being actively engaged in production.

The literature on the institution of tenancy particularly on the issues pertaining to relative efficiency of different tenurial arrangements, has proliferated during the last few decades (Marshall, 1966; Johnson, 1950; Cheung, 1969; Bardhan and Srinivasan, 1971; Stiglitz, 1974; Lucas, 1979). The conclusion drawn is that with cost sharing, input enforcement and appropriate supervision, share tenancy is as efficient in resource use as owner cultivation and fixed rent tenancy. Recently, the existence of tenancy has been explained in terms of risk and uncertainty, cropping patterns, managerial skills and factor market imperfections (Rao, 1971; Bardhan, 1977; Pant, 1981; Bliss and Stern, 1982, Bhalla, 1983: Eswaran and Kotwal, 1985; Nabi, 1985).

If the resource use efficiency in tenancy cultivation is at par with owner cultivation, then why have tenancies? It is argued that in a world where markets for inputs and outputs function perfectly (all inputs are divisible) and there is no uncertainty, households have identical production functions and constant returns to scale operate, there is no need for tenancies (Newbery, 1976; Bliss and Stern, 1982). But the real world situation is quite different. The markets function imperfectly, inputs are indivisible, uncertainty prevails and the managerial skills vary across the
individuals. All these factors, separately or collectively, are responsible for the emergence of a land-lease market.

2.4 Land –lease market and agrarian set-up: situation from sharecropping

The existence of sharecropping has been explained on the basis of a combination of more than one factor which include risk-sharing, incentive effects, and asymmetric information and transaction costs. The question of changes in the form of tenancy i.e. from crop-sharing to fixed rents-in-kind or cash rents, which is central to classical analysis of tenancy, is not considered in detail in most neo-classical theories. Marxist treatment of rent give considerable attention to the evolution of forms of rent. The emergence of fixed cash rents, which transfer production risk to the tenant but allow the tenant to treat the surplus, net of the fixed rent as profit, is considered to be more compatible with the development of capitalism in agriculture.

Generally, sharecropping and fixed-rent contracts are the two main forms of land rental contracts. There is a long tradition in economics that argues that sharecropping is essentially an inferior system to that of fixed-rent tenancy. The argument is not new and can be traced back to Adam Smith. A clear statement can be found in Alfred Marshall’s principles. The traditional literature on contractual relations or tenancy is influenced mostly by Marshall and is usually referred to as the Marshallian approach. Marshall is closely connected with the assertion that sharecropping is an inferior contractual system and this argument is often referred to as Marshallian inefficiency. It is based fundamentally on the appropriate provision of incentives (Ray, 1998). A fixed rent contract has the property that the tenant pays a fixed sum to the landlord no matter how much output is produced. In nature, it is like a fixed cost and does not enter the marginal calculations in the optimization of the output of the tenant farmer. Another way of saying the something is that the tenant retains 100% of any extra output that is produced. In choosing his optimal quantity of effort on land he equates marginal product of his effort to his marginal cost, and consequently the economic surplus is maximized. In contrast, sharecropping effectively leaves the tenant with some fraction of any additional output depending on the exact form of the contract, because under the sharecropping contract, part of the output
produced by him gets siphoned off to the landlord. The sharecropper gets to retain only a part, usually half of what he produces. Hence, in equilibrium he equates half of the marginal product of his effort to his marginal cost and thus stops supplying efforts at a point when marginal product still exceeds marginal cost. Hence, the economic surplus is not maximized. Thus, if the effort of the tenant cannot be monitored and controlled by the landlord, the tenant has an incentive to undersupply his effort. Thus, according to Marshall (1956) a landlord should usually prefer fixed-rent to sharecropping because economic surplus gets maximized under this type of contract. This line of argument is based on the presumption that the effort of the tenants is unobservable or cost of monitoring tenant’s effort is high.

Although the above arguments are pretty compelling, it is not the whole argument. The use of contracts other than a fixed-rent contract leads to a distortion of the tenant’s input supply away from the efficient level. In particular, Ray (1998) analyses that i) sharecropping leads to under supply of the tenant’s inputs and ii) a rational landowner trying to maximize the earnings from land lease will always prefer a suitable fixed-rent contract to any share contract. This line of argument has been criticized by many scholars that give rise to the famous Marshallian puzzle of sharecropping. They raise a question that if a fixed-rent system is demonstratively superior to a sharecropping arrangement, not only from a social efficiency angle, but also from the point of view of the landlord’s individual rationality, then why does sharecropping enjoy such enduring popularity in real world practice? So, it is to be understood intuitively that contracts are in reality more diverse than theory predicts. At any rate, the theory needs to be augmented by a fuller description of reality. We can understand other situations where the theory of incentives is also important. If sharecropping exists despite the production losses that it appears to generate, it suggests that there may be other compensating factors that necessitate such an arrangement. It is, therefore, implied that if these factors can be corrected by appropriate policy, the resulting inefficiencies will decline with the resulting decline in sharecropping. Moreover, these contractual relationships may have implications for other kinds of landlord and tenant behaviour, such as the provision of credit to the
tenant, the tendency to evict tenants and the incentives to make long-run improvements on the land. Many scholars have talked about a few particular important factors responsible for the inefficiency involved in sharecropping. Some of them are as follows:

1) Monitoring of the tenant’s effort: The argument for the inefficiency of sharecropping relies on the assumption that the application of inputs by the tenant such as labour, cannot be perfectly monitored and enforced by the landlord. If perfect monitoring were possible, the form of the tenancy contract would be irrelevant for our understanding of productive efficiency, because the efficient use of labour would be dictated by the landlord, irrespective of the particular choice of contract. Shaban’s (1987) study is one of the careful contributions in this area and his empirical work shaded light on the issue that if the levels of labour and other inputs chosen by the tenant be costlessly monitored and enforced by the landlord. It is not enough to simply check whether there are differences in yield per acre across sharecropped land and other forms of land use. Several other factors must be controlled that systematically vary with the form of tenancy.

2) Risk: If the tenant is risk-averse, he should prefer the share-cropping contract over the fixed-rent contract. The landlord can play on this preference by cutting the tenant’s share a bit more, but not too much, so that the tenant still prefers the sharecropping contract. Here, the landlord, who is a risk-neutral, enjoys a large expected payoff, so he should switch from fixed-rent to sharecropping. Thus, sharecropping emerges as a way to share, not just the output of productive activity, but the risk that is associated with it as well.

3) Uncertainty: A tenant who pays fixed rent is forced to bear entire uncertainty of production.

4) Double incentive problem: There may be cases where both the landlord and the tenant are required to apply efforts. In this situation, both are involved in the family activities such as crop grown, its method of cultivation, inputs used etc. But the problem arises from the observation that if the tenant does not get to keep the entire marginal output resulting from production, he will have an incentive to undersupply
effort. But, if the tenant gets to keep the entire marginal output from the land, the landlord keeps none of it. The tenant will then work very hard, but the landlord will have no incentive to put in effort on the leased land. On the other hand, in the case of wage labour, if the landlord gets to keep the entire marginal output from the land, but the tenant keeps none of it, then the landlord will have all the incentive to put in effort and the tenant labourer will have none. Thus it is a double bind, the Marshallian argument applies in both directions and we can no longer say that fixed-rent tenancy does better than sharecropping. Sharecropping emerges as a compromise solution to this double incentive problem.

5) **Cost sharing of inputs:** Sharecropping may be the preferred contract when input costs are shared between landlord and the tenant. But, if there are many inputs of production—some observable and some are not, then Marshallian inefficiency still applies to the inputs that are unobservable. If the tenant is risk-neutral, it is better to lease out the land on fixed rent tenancy, but if the tenant is risk-averse, there are advantages to sharecropping as mentioned earlier.

6) **Limited liability:** If a tenant is poor and his output is uncertain, then quite apart from considerations of risk aversion, there may be states of the world in which the tenant will not be able to pay a fixed-rent. This constraint is the limited liability. The problem with this arrangement is that it creates an incentive for the tenant to over invest in risky methods of production. Thus, landlord who charges fixed rent will know that such rent cannot always be paid. If the tenant is poor and the harvest fails, the rent will have to be forgiven. Sharecropping is said to be an inefficient and exploitative institution.

### 2.5 Summing Up

In an agrarian structure, agriculture is niggardly which is a source of growth. Agriculture transformation is basically an investment problem. In a traditional agrarian society, the distribution of landholdings is far more unequal than the distribution of labour endowments. Land rental market typically works with tracts of land leased from landlords to tenants in exchange for rent or perhaps a share of the crop. Thus, in almost all agrarian societies, we can observe a fair amount of land rentals and activity
in the labour market as well and the economy can react to an unequal distribution of land in a variety of ways. The size distribution of land holdings or the distribution of ownership holdings gets modified due to tenancy arrangement of leasing-in and leasing-out of land and evolves over time. It is an important aspect of agrarian relationships. The notion of risk and uncertainty is central to the concept of agricultural organization in developing countries. The two fundamental resource flows from agriculture lie at the heart of the structural transformation that occur in most developing countries. Agrarian structure is dependent upon the structure of land use and cropping, the pattern of tenurial relationship, size distribution of operational holdings and lastly upon non-agrarian structure. Variation in any one of these constituents causes variation in the agrarian structure, thereby resulting in variation in agricultural productivity. Thus an agrarian structure prevailing in a country at a point of time has a close bearing on its agricultural development and hence on the overall development of the economy. Factor markets are highly imperfect in rural areas. In fact, there may be multiplicity of markets within a locality for a single factor of production. This market structure affects the allocation of resources within agriculture, the methods of production and the uses of agricultural inputs. Since the market is imperfect, inputs are indivisible, uncertainty prevails and the managerial skills vary across the individuals, so there may emerge a land-lease market. Sharecropping which is said to be inefficient but prevails because of market imperfection, uncertainty and non-sharing of cost of cultivation. Thus, agrarian structure being an important determinant of farm efficiency plays an important role towards agricultural development in an economy.