

KERALA'S BUILDING INDUSTRY IN TRANSITION
A Study of the Organisation of Production and Labour Process

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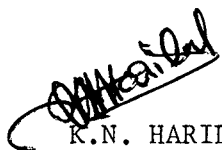
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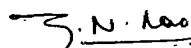
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I hereby affirm that the research for this dissertation titled "Kerala's Building Industry in Transition - A Study of the Organisation of Production and Labour Process" being submitted to the Jawaharlal Nehru University for the award of the Degree of Master of Philosophy was carried out entirely by me at the Centre for Development Studies, Trivandrum

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Certified that this dissertation is the bonafide work of Sri K.N. Harilal and has not been considered for the award of any other degree by any other University. The dissertation may be forwarded for evaluation.


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Chapter 1

INTRODUCTION

Shelter is one of the primary necessities of human beings and shelter making may be considered as old as human history itself. As history progressed, human shelters also improved; from the archaic caves to the modern buildings and skyscrapers. While the products improved the process of their production also underwent changes. Materials and instruments of labour as well as human skills and accumulated knowledge on building shelters progressed over time. Further, the social organisation of building process also witnessed significant changes.

The present study on the labour process in the building industry in Kerala does not attempt to trace its evolution over the ages. Our attempt is more modest; it is to bring out some salient features of the contemporary labour process in the building industry. They are shown to be characteristic features of the transition of building industry from the pre-capitalist to the capitalist mode of production.

This chapter forms a brief introduction to some of the theoretical concepts that are used in the study. In Section 1, we shall consider

the concept of the labour process at an abstract level and in Section 2 we shall go on to examine the features of the labour process under capitalist mode of production. The latter discussion following the classical pattern is mainly in relation to the manufacturing industry. The specific features of the building industry and its implications for the development of capitalism and the labour process are highlighted in Section 3. It is followed by a review of literature on the studies on construction industry in India that unmistakably point out the steady advance of capitalist relations in the industry. The chapter concludes with a statement of objectives and methodology.

Section 1

The Labour Process in General

At an abstract level, independent of the particular forms it assumes under given social conditions, labour process may be defined as an interaction between human-beings and nature. Thus defined, there are three elements to the labour process:

- a. the purposeful^{1/} activity of man, i.e., labour itself
- b. the subject of that labour and
- c. the instruments of labour^{2/}

Thus, in a labour process the object of labour is transformed in a pre-determined way by the workers using the instruments of labour.

Labour process considered at the level of man-nature interaction is "the everlasting nature imposed condition of human existence, or rather is common to every such phase"^{3/}. But, in any concrete stage of history the labour process is also a social process endowed with characteristic features, of that historical stage. "On entering production relations, persons and productive forces receive the imprint of the form those relations constitute; a Negro becomes a slave, a machine becomes a portion of constant capital".^{4/} In other words the social aspect of labour process will depend on the mode of production within which that labour process is situated. Further, even in a given mode of production the social aspect of labour process can undergo a process of evolution as we shall see in the case of capitalism.

The same production process, however, could also be viewed as a natural or material process, stripped of its social form. Productive forces comprise its 'material content'. A machinery or, say, means of production used in the labour process need not be capital always. Similarly, a Negro on work need not always be a slave. Further, a Negro and a white man can co-operate in production without entering into slave-master relationship. Thus, even the work relations in which men enter while at work, could be seen as having its material aspect distinguishable from the social forms. One may also characterise the material aspect of labour process as asocial and without historical character. The same machinery and technology could be used with different social relations of production, say, in capitalism as well as socialism. Similarly, physical movements involved in carrying an

object could remain unchanged despite changing social relations among people involved in that act.

But it should be noted that the material content of the production process, at any point of history will have a social form; the content cannot exist without its form. A Negro, everywhere and at any point of time is a human being. But at the same time he is also a slave, or slave-master, or a hired labourer or a capitalist and so on.

The social form and material content of the production process co-exist and interact. The dominant tendency in the literature has been to accord primacy to the material content.^{5/} However, it must be emphasised that the social form also can influence and transform the material content. For example, the capitalist relations would influence, the technology used in production as well as even the material relations among people engaged in production. Though the content and form of production are distinguishable, their separation is only an abstraction. We shall now turn our attention to the labour process under a specific mode of production viz., capitalism.

Section 2

Labour Process under Capitalism

What distinguishes the capitalist production process from others is the "immediate unity of the labour process and the valorisation

process".^{6/} Labour process in capitalism is also a process of production of value and surplus value. In the valorisation process commodities including labour power are used to produce other commodities, the value of which is greater than the input commodities. In other words though labour process in general is a process for creating use-values, now it has also become a process for expansion of capital through creation of profit; i.e., the labour process under capitalism is directed towards the production of surplus-value.

Purchase and sale of labour is the differentia specifica of capitalist mode of production. Individual workers are endowed with the ability to alienate their capacity for labour (labour-power) for a limited period of time in exchange with the capitalist for money. It is with this agreement to sell the labour-power to the capitalist, that the activity in the 'hidden abode' of production begins.

Labour-power, like any other commodity will be bought at a price which is equal to its value-judged by the socially necessary labour to reproduce it. But labour power as a use-value has got a peculiar capacity to produce surplus-value; value in excess and above its own value. Therefore, the exchange value of the product at the end of the labour process will be higher than the exchange value of all constituent commodities including the labour-power ($M-C-M'$, where $M' > M$). Thus, labour process in capitalism becomes inseparable from the process of creation of value, - the valorisation

process.

At this point, it is important to distinguish between the principle with which the labour process is organised and the aim to which it is directed. So far we discussed the objectives with which labour process is organised under capitalism and concluded that the labour process under it is directed towards the production of surplus-value. But it should be borne in mind that the same organisation of labour process, for example, simple co-operation or complex co-operation, could be directed towards different aims.

"In simple co-operation, there is a juxtaposition of labourers and operations. 'Numerous labourers work together side by side whether in one and the same process or in different but connected processes'. This form of co-operation is still found, particularly in agriculture. In the workshop of the guild master, the labour of the journeymen is usually performed in simple co-operation. The same is true of the primitive forms of manufacture, which consist simply in gathering the artisans into a single place of work".¹⁷

In short, the same principle of organisation of labour process may be used in different modes of production. However, despite the fact that the same principle of organisation of labour process can be used for different aims, the direction of the production process or its objectives would have important implications for the organisation of labour-process. For instance, when co-operation as a principle of organisation of labour-process is directed towards extraction of surplus-value,

it intensifies the need for control and management of the labour process.

All social labour processes organised on the principle of co-operation require a directing authority to ensure co-ordination among the activities of co-operating individuals. But when the social labour process is directed to serve the needs of capital, the need for control and management of workers and the labour process becomes all the more acute. Thus, the need for co-ordination and control of labour process under capitalist production, emerges for two reasons. Firstly, since it is a co-operative labour process it requires a co-ordinating mechanism. And secondly because it is also a labour process under capitalism which is directed to serve the needs of capital.

Let us try to explain the special significance of control and management of labour process under capitalism. The capitalist can buy only the potential to labour (labour-power) and therefore, realisation of labour is not ensured by the contract of exchange of labour-power. "What he buys is infinite in potential but in its realisation it is limited by the subjective state of the workers, by their previous history, by the general social conditions under which they work as well as the particular condition of enterprise and by the technical setting of their labour".^{8/}

Once the capacity to labour, or labour-power is sold, it is in the interest of the capitalist to extract maximum labour out of it. Workers get 'alienated' or loose interest in the labour process with the very act of the selling of the labour-power. On the other hand, capitalist, whose very existence lies in the expansion of capital takes every means to increase the output of labour power he has purchased. It is this mutually contradictory interests of the participants, that makes the capitalist labour process a 'contested terrain'. This conflict in the work-place in its turn makes it imperative and necessary for the capitalist to control and manage the labourers and the labour process.

The resistance of the workers to the capitalist domination or the class struggle at the workplace is an important factor influencing the evolution of organisation of production and work arrangements. At any given technology there is always a wide spectrum of organisational choices possible. And the choice of the management is moulded through class struggle at the work place.^{2/} This aspect is all the more important under capitalist mode of production characterised by free wage labour unfettered by traditions and customs.

Evolution of Labour Process under Capitalism: Formal and Real Subsumption of Labour

Initially, the subordination of labour process to capital

does not affect the actual form of production. At first,

"Capital subsumes the labour process as it finds it, that is to say, it takes over an existing labour process, developed by different and more archaic modes of production. The work may become more intensive, its duration may be extended, it may become more continuous or orderly under the eyes of interested capitalist but in themselves these changes do not affect the character of actual labour process, the mode of working" 10/

Formally the capitalist may not even employ the workers. This is typical of the capitalist domestic industry where wage labour relations have not yet crystallised and the technological base of production continues to be traditional. Thus, in the early stages of capitalist production, organisation of production continues to depend on handicraft traditions and worker's skills. Hence it tends to be subjective in nature. Marx refers to this stage as the phase of "formal subsumption of labour under capital" In this phase, the valorisation of capital takes place through the appropriation of absolute surplus - value; that is through lengthening the working day, lowering wages and intensification of work.

"But when surplus-value has to be produced by conversion of necessary labour into surplus labour it by no means suffices for capital to take over the labour process in the form under which it has been historically handed down, and then simply to prolong the duration of that process. The technical and social conditions of the process and consequently the very mode of production must be revolutionised before the productiveness of labour can be increased" 11/

This era of 'real subordination of labour' and relative surplus-value starts with the advent of large scale factory production and deployment of machinery. Here, in order to increase the surplus labour, the necessary labour is shortened by raising the productivity of labour whereby the equivalent of value of labour power is produced in less time. "The production of absolute value turns exclusively upon the length of the working day; the production of relative surplus-value revolutionises out and out the technical process of labour, and composition of society".^{12/}

One of the important aspects of the above change from formal to real subsumption of labour under capital is the transformation of organisation of labour process. Under the latter stage the subjective principles of organisation of work based on handi-craft - skill of workers is replaced by objective organisation of work based on machines. The above change will also have implications for control of capital over labour process. Simple control strategies adopted by the management would be transformed into more advanced systems of control like technological and bureaucratic control systems.^{13/}

In the early stages of capitalist production control may be effected directly by the employer or his close associates through their personal involvement in the labour process. Here, the control

system is informal and could be referred to as simple or entrepreneurial control. But with mechanisation and automation, control mechanism could be embedded in the technique used in production or say in the technological structure of the firm, such as in the case of an assembly line system.^{14/} Here, the principles of control gets objectified in the machinery and therefore, attains an impersonal character. The nature and the pace of the work is no more dependent on the subjective state of the workers or even the personal or direct interference of the entrepreneur or his managers. Further, management can introduce scientific management techniques to control the workers.^{15/} Here, management through systematic examination and study of the labour process, using modern techniques like 'time and motion study', plan and instruct workers in advance, all details on his part of the work and time allotted. Each operation or say movement of the worker is guided by the rules or work charts provide^d and enforced by the management rather than traditions of any crafts or discretion and will of workers. Thus, the work rationalisation removes, significantly the arbitrariness and uncertainty over operations and movements by fixed rules and norms of the firm. Under such conditions the control system could be seen as becoming more bureaucratic in nature characterised by the introduction and enforcement of rules. At a point of time or in a firm there could be a mix of different control systems operating.

Co-operation and Manufacture:

The stages of simple co-operation and manufacture may correspond

broadly to the period of formal subsumption of labour. These stages are prior to the advent of large-scale industry, the latter being the period of real subsumption or say specifically capitalist mode of production.

But for a relative increase in the number of workers under a capitalist, the stage of simple co-operation is hardly distinguishable from the earlier stages of production like artisanal or petty commodity production. However, simple co-operation is only a prelude to the advent of manufacture which is characterised by detailed division of labour.

There are two important ways in which manufacture arises out of handicrafts.

"On the one hand, it arises from the union of various independent handicrafts, which become stripped of their independence and specialised to such an extent as to be reduced to supplementary, partial processes in the production of one particular commodity. On the other hand, it arises from the co-operation of artificers of one handicraft; it splits up that particular handicraft into its very detailed operations, isolating and making these operations independent of one another, up to the point where each becomes the exclusive function of a particular labourer".^{16/}

The end-result of both ways is that the commodity becomes a collective product of different artisans; the product of collective labourer. Here, one should make a distinction between social division of labour and manufacturing division of labour. Social division of labour divides the society into occupation and crafts. Whereas detailed

division of labour divides occupations and individual crafts into component operations, and attaches the worker to the analysed parts. Thus, it renders useless the labour-power in the production of a 'whole commodity' unless it is sold to capital. Detailed division of labour and destruction of all-round skill of workers in manufacture makes co-operation a technical necessity. "If at first, the workman sells his labour-power to capital because the material means of producing a commodity fail him, now his very labour-power refuses its services unless it has been sold to capital"^{17/}. The ultimate effect of detailed division of labour under manufacturing is cheapening of labour power itself. "Translated into market terms this means that the labour-power capable of performing the process may be purchased more cheaply as dissociated elements than as capacity integrated in a single worker"^{18/}

Contrastingly cheapening of the labour-power and deficiencies of the detailed labourer becomes perfections of collective labourer. However, the benefits of collective effort and division of labour appear to be the virtue of capital since it is capital that brings workers together. Therefore, capitalist becomes an unavoidable part of the production process. In the process, the capitalist grabs the benefits of co-operative labour and division of labour, thus satisfying its inner urge for self-expansion. Under simple co-operation and manufacture the organisation of production undergoes significant change with the introduction of co-operation among wage labourers and division

of labour at the work place. However, in both these stages technical base of production continues to be handicraft. Only under modern factories, where the machine becomes the technical base of production, does the production break away from its traditional moorings and assume a specifically capitalist character. Thus, it is at the stage of machinery and large scale factory production that capitalism puts an end to the skill based resistance of workers.

Section 3

Development of Capitalism and Labour Process in Building Industry

We have largely followed the analysis made by Karl Marx in Volume 1 of Capital in our discussions in the previous sections. Surprisingly, there has been but little continuing body of work in the Marxist tradition on the capitalist labour process since the publication of Capital. The interest of scholars in this line of investigation was revived by the monumental work of Harry Braverman, Labour and Monopoly Capital in 1974. The book sparked of a lively debate as well as a large number of detailed case studies.^{19/}

Without going into a survey of this literature we wish to identify two major gaps in the existing literature on labour process.

(a) Most of the studies deal with the impact of the contemporary technological changes in the developed capitalist countries on the

labour process. There has been hardly any study on the evolution of labour process in the underdeveloped countries that are in the process of transition to capitalism.^{20/} (b) Most of these studies deal with the manufacturing sector of the economy. The evolution of labour process in the other sectors such as agriculture, forestry, mining, construction, etc., are yet to receive sufficient attention.

Among these neglected sectors, it must be admitted, that there is a growing interest on the specificities of development of capitalism in agriculture and its consequence for the labour process. Classical marxist writings themselves have analysed these problems to a great extent.^{21/} They were sought to be developed further by several writers recently.^{22/} Here, we shall try to delineate certain specific features of the construction industry that should be borne in mind while analysing the development of capitalism and the consequence for the labour process in the building industry.

Firstly, building industry has been characterised by a widespread use of co-operative labour that predates the advent of capitalism. This was particularly true in the case of monumental construction in ancient times. In this connection, Marx cites the gigantic structures of the ancient Asiatics, Egyptians, Etruseans, etc., where colossal effects of simple co-operation could be seen.^{23/}

Buildings, especially the larger ones, have always been a complex and sequential process which demands combination of a wide variety of

materials, skills and labour over a period of time. In building, people with different skills work with different instruments on a variety of materials, over a period time, to produce a final product.

This co-operative and sequential nature of the labour process in building has got several implications for its organisation . At first, since each stage is literally built on earlier stages it requires prior planning to time-phase different activities or at least an accepted or customary order in which different activities can proceed. Secondly, like in any other co-operative labour process, building also presupposes effective co-ordination among co-operating workers, so that all the workers could work simultaneously and uninterruptedly to contribute to the final product.

However, co-operative labour process as it existed in building activity in more archaic societies was not made possible by any capitalist co-ordination and control of the labour process. Here the conceptual distinction that we made regarding the aim with which the labour process is directed and the principle with which that process is organised becomes useful. Capitalist production universally makes use of co-operation as the principle for organising labour processes. But co-operative labour process is not specific only to the capitalist epoch. What is specific to capitalist mode, is universal commodity production characterised by the "immediate unity of labour process and valorisation process". Contrastingly, in pre-capitalist societies

production is not for market or profit. Further, in these societies it is not the free wage labourer but the slaves or the artisans who are bound by the traditions and customs or extra economic compulsions that participate in the co-operative labour.^{24/}

Secondly, with the erosion of customary laws the owners/ customers may employ the artisans for wages and a labour market for building workers may also develop. But this alone cannot be considered as an index of development of capitalism in building industry. The aim of the labour process is not yet generation of surplus value but the creation of a use value for the owner. The owner, without any special knowledge of the building process would continue to be totally dependent upon the craft and skill of the artisans who continue to be masters of their labour process. These artisans even when they work on wages are more akin to independent petty producers with direct links to the customers.

Thirdly, as we shall see later, even under capitalism building continues to be a highly customer oriented activity characterised by direct involvement of the consumer in production decisions. In other words, the owner or the ultimate consumer himself makes the important production decisions such as what type of building to be built, materials to be used, their quality and finish, and so on. Thus, the evolution of materials and building types have relative autonomy and is directly influenced by the changing tastes and attitudes of the consumers.

The involvement of owner in the production process, even under capitalist production, may be explained, in one respect, in terms of the nature of buildings itself. Building is one of the bulkiest, heaviest, costliest and long lasting of the human products.^{25/} The costly and long lasting nature of it makes the production decisions very important for the owning economic units. Since it is long lasting, decisions on the nature of buildings, are taken virtually for years and decades to come. Most often, the decisions taken at present may bind even the coming generations. And since it is costly, decisions once made are not easily reversed. Often it involves substantial proportion of the life time savings of the owner.

Fourthly, the commodity production of buildings i.e., development of speculative construction whereby buildings are produced by capitalist expecting a future market emerges and becomes universal only in highly developed capitalist economies. For speculative building to come up, the social division of labour should develop to such an extent that it becomes inconvenient for the consumers to involve in the production process as they do under contractual system.

Further, apart from the constraints imposed by consumers, the speculative building presupposes a very high concentration and risk taking capacity of capital in the society. Building being a costly commodity, the capitalist should invest huge amounts to construct it and bear the risk of speculation on future demand. These conditions may not be satisfied in the initial stages.

Finally, given these specific features of the building industry, capital can penetrate the building process only through the profit seeking intermediaries between the customer and the actual workers. Thus, we argue that the contract system is the specific form of the early stage of development of capitalism in building industry. Contractor constructs the building for customers by employing wage labourers and organising the labour process. But, unlike in the case of many other commodities, here the act of selling occurs before production. Building is first sold and then produced. The contract is the agreement by which the selling takes place. The owner or the customer specifies all the important details on the building to be constructed and the contractor agrees to construct it at a price acceptable to the owner. Thus, the owner actively continues to participate in making important production decisions.

However, the owner no longer directly employs the workers. They are employed by the contractor either directly or through subcontractors. The aim of the contractor is profit. The compulsions of the profit motive would have serious implications for the control and management of the labour process.

As we have seen in the case of capitalist production in general, the contract system may not, at first, change the technological base of building process. For instance, it may take over the building process, as handed down by the artisanal production, which is hand

based and skill dependent. However, even at this level of technological development, the contractor is able to control the labour process so as to generate profit. He may employ different management strategies like strict supervision of work, intensification and speeding-up of work, lengthening of the working day, more systematic time-phasing of different activities and so on. All these tactics transform the building process into a contested terrain.

Eventually, with the change in the technological base of building process, the hand based and skill dependent production would become more mechanised and science based. There can be a tendency towards pre-fabrication of building components and even buildings. Buildings, thus, may become a commodity produced in factories on a large scale by using machines. Mechanisation may take place on the site constructions as well. Different operations performed on site can be brought under mechanisation. However, this transition to the specifically capitalist mode of production, for reasons we have pointed out earlier, tends to be long drawn out in the building industry.^{26/}

Section 4

Building Industry in India

Construction activity is taken as a basic component of development programme for stimulating growth in less developed



countries.^{27/} In these countries presently it accounts for between 3 to 8 per cent of the gross domestic product (GDP)^{28/}. The construction sector consists of two categories of products viz., buildings and civil works. The category of buildings comprises of housing, offices, hospitals, factories, etc. Civil works include the infrastructure for water supply, transport, irrigation, power generation and so on. However, both in the developed and developing countries the building component forms about 70 per cent of the construction market.

The economic significance of the construction activity in India can be gauged from the following empirical evidence. As can be seen from Table 1.1 construction sector enjoys a fairly large share in the

Table 1.1: Percentage Share of Construction in National Aggregates 1970-71 to 1980-81 (current prices)

Period	Share of construction sector in		
	Gross domestic product at factor cost	Gross domestic fixed capital formation (by type of assets)	Total employment
1960-61	4.6	62.01	1.09
1970-71	5.3	62.79	1.23
1980-81	5.0	50.98	-

Source: Government of India, Ministry of Planning, National Accounts Statistics 1976, 1985, Central Statistical Organisation, New Delhi. Guha, Thakurtha, S.N., (1980), p.13

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total employment, gross domestic product and capital formation in India.

In spite of its importance, the construction industry in India could attract only a few studies by scholars. As far as Kerala is concerned not even a single study has been made so far.

The available studies on other regions do provide valuable insights into various aspects of the industry. Among them mention may be made of studies by Johri and Pandey for Delhi (1967), Guha Thukurtha for Tripura (1967), Rao and Deo for Poona (1977) and Subrahmanian et.al for Ahmedabad (1977).^{29/} Apart from these studies, two early surveys on construction workers (1954 and 1957-61) conducted by labour Bureau, Simla were also useful in discerning a broad picture on the industry.^{30/}

All these studies, including the Labour Bureau Surveys were primarily concerned with the socio-economic origins of building workers, their working and living conditions, and finally the nature and functioning of construction labour markets. As pioneering efforts, these studies were able to bring out for the first time several interesting and often neglected aspects and information on the above issues. And naturally they could also attract attention from interested parties and particularly governments. Above all, together they constitute valuable data base for policy purpose in the field of labour legislations.

Predominance of Contract System and Wage Labour

Further, a careful reading of these studies, despite their primary focus being elsewhere, would give us an understanding on the nature of work and organisation of production in the industry. For instance, through direct and indirect discussion and scattered references, they provide ample evidences to demonstrate the existence and growth of contractual organisation of production and wage labour relations in the industry. Our attempt^{is} to bring together these scattered observations to facilitate an overview.

The studies cited above were based mainly on the primary data collected from respective regions. Labour Bureau Surveys, however, covered all important centres of India and nearly all sectors of the industry. The Bureau's efforts to generate data on construction workers were based exclusively on information provided by contractors. Similarly, the Tripura study was limited to contract labour in public sector road and building construction. The very fact that some of these studies chose to limit their scope only to the contract labour indicates the significance of contractual organisation of production in the industry.

Studies conducted in Poona and Ahmedabad in their sample of workers, included workers belonging to all types of construction sites. The Delhi study, however, excluded the private housing sites.

Discussion in these studies, on work organisation, recruitment of labour and supervision of work on the selected sites, undoubtedly gives the impression that the contractual system is predominant form of organising building activities. Therefore, it may not be risky to conclude that in these study areas, the profit-motivated contractor had well established his intermediary role.

An analysis of the composition and nature of work force in the industry, reinforces our contention on the organisation of production. All the above studies, though they may differ in details, bring-out a comparable picture on the functioning of labour markets in the respective regions. The existence of a market for labour, itself suggests the significance of wage labour relations and the practice of buying and selling of labour-power.

Workers in the present day industry do not at all resemble the traditional custom-bound artisans who used to work for a narrow circle of familiar clients. According to these studies, workers in the industry are mostly migrants who travel very long distances, even crossing state boundaries, in search of jobs (See Table No.1.2) As such, they work in unfamiliar circumstances and most often for unknown clients.

Most of these workers are landless labourers, forced out of their traditional occupations in their native villages (See table No.1.2). Thus, one may argue that these labourers are a part

Table 1.2: Composition of Work Force

Origin	Delhi (1967)	Poona (1977)	Ahmedabad (1977)
1	2	3	4
Percentage of workers who are Migrants	96	77	70
Percentage of workers who are of rural origin	90	63	90
Percentage of workers from other states	90	25	27
Percentage of migrants who are landless	N.A	58	73
Percentage of migrants whose occupation was other than construction during the pre-migration period	N.A	91	85

N.A denotes Not Available

Source: Johri and Pandey op.cit.,
Rao and Deo op.cit., and
Subrahmanian K.K op.cit.

of the deprived sections of the society who have nothing else but their labour-power to live on.

Further, it is significant to note that only a minority of the migrants were working in the building industry during the pre-migration period. Unlike the traditional artisans, most of these workers are new

entrants with practically no prior experience in the industry. They are not traditional building workers.

The caste and religious composition of workers also point to the same fact. We have people from a variety of castes and religions working in the industry including forward communities like Brahmins.^{31/} This, it may be argued, shows the weakening of rigid occupational specification along caste lines which existed in the past in many parts of India.

Thus, the existing studies show the predominance of contractual system and, as a corollary to it, the wage-labour relations in the industry.

Organisation of Work

Now the question remains as to how the contractor organises and controls the labour process to achieve his goal of making a profit.

Here, first of all, all the existing studies point out the fact that despite the continued existence of contract system it did not bring about substantial changes in the technological base of building process; mechanisation and mass production technology had not made any significant progress. On-the-site construction practices are also caught up in the traditional technological moorings. The production continues to be more or less hand based and places greater reliance on the use of skill.

As a result of the persistence of labour intensive technology by which contractors use only relatively simpler capital equipments, building industry is characterised by a preponderance of small firms.^{33/}

Secondly the studies have stressed the highly fluctuating and scattered nature of building activity. Seasonal and economic fluctuations are the two important sources of this instability. Further, product of the industry being immobile, building has to be a mobile activity shifting from one work site to the other. However, it is claimed, that the industry has immense potential and flexibility to adjust itself to the requirements. The key to this adaptability is the casual nature of employment.

Regardless of the type of building and organisation of work, the workers are employed temporarily and most often on a task basis. They are never given a permanent status. Industry recruits and retrenches them according to its requirements.

This raises two important questions. Firstly, how are the recruitment-retrenchment operations carried out without straining the employer-employee relations? And secondly, how does the industry ensure a timely supply of workers?

The nature and functioning of labour market and the specificities of contractual relationship in the industry, it is argued, would answer the above questions. In the supply and recruitment of

labourers, the jobber or labour subcontractor plays a crucial role. Building contractors or general contractors rarely employ workers directly. In Ahmedabad, "the analysis of information collected from sampled workers showed that 97 per cent of them (had) secured employment through labour contractors and 3 per cent had been employed by building contractors directly".^{33/} In Delhi, while 42 per cent of the workers got job information through mistri/jamadars and only 11 per cent from the general contractors.^{34/}

All the studies have noted that the construction workers are relatively unorganised. Eventhough trade unions of construction workers have emerged in various parts of the country, they have by and large failed to achieve even the implementation of the few existing labour welfare legislations. A significant proportion of workers, are not even paid the statutory minimum wage rates.^{35/}

Section 5

The Objectives, Methodology and Limitations of the study

The existing literature we have surveyed provides important insights into various aspects of contemporary labour process in the building industry. These studies bring out high incidence of the contract system and wage labour in the industry. However, their primary focus being on the labour market, organisation of production and the nature of work in the industry have not received serious

attention in these studies. Another drawback of these studies is the failure to integrate their analyses to any conceptual framework of industrial evolution.

On the other hand, we attempt to analyse the characteristic features of the building process in Kerala within the framework of development of capitalism. As we have noted earlier, we view the spread of contract system as a manifestation of the penetration of capital into the building industry. With this perspective, we attempt to analyse the organisation of production and nature of work in the contemporary building industry.

What was the nature of building process and its organisation in the traditional Kerala society? What were the factors which influenced the emergence of contract system? What is the background of the rapid spread of contract system even into the household sector building activities in the recent period? These are the questions that we attempt to answer in Chapter 2. However, it should be cautioned that our study, on the traditional building process and the evolution of modern building process and contract system is brief and sketchy. Rather than studying the traditional building process in depth, our intention is to appreciate its broad contours so as to contrast them with the production organisation and labour process in the contemporary building industry.

Capitalist development in building industry involves emergence

of intermediaries between the owner-customers and the workers. The objective of Chapter 3 is to identify and study the nature of these intermediaries. However, the incidence and the functions of the intermediaries, we hypothesise, vary according to the nature of buildings and their ownership. Therefore, we shall discuss in detail the functions and role of these intermediaries -- design team, contract managers, general contractors, and activity contractors -- in the context of different types of buildings.

From the analysis of the social organisation of contemporary building process in Kerala, in Chapter 4 we move on to the analysis of nature of work in the industry. Here we shall discuss the impact of modern building materials and processes over the craft-skills, division of labour and composition of workforce in the industry. Another important issue that is addressed in this chapter is the problem of control and management of workers in the context of absence of significant technological change and survival of craft skills. In this connection we recognise the supervisory and managerial role of activity contractors. This is a distinguishing feature of our analysis of the nature of work since most of the existing studies stress only the supply and recruitment functions of the activity contractors.

Wage labour relations and capitalist control over the labour process makes the work area a 'contested terrain'. At the same time, caste based craft skills would imply survival of caste influences

among workers. How does the interplay of caste and class factors manifest in the consciousness and organisation of workers? Keeping these question in mind, in Chapter 5, we shall briefly discuss the evolution of modern trade unions in the industry and evaluate their performance in terms of redressing the numerous grievances of the workers. In this connection we underline the objective limitations imposed by the organisation of production in the industry on the development and spread of trade union movement.

Methodology

In pursuing this study a variety of methodological tools were employed ranging from close observation of work in progress to a survey of sixty building sites and interviews with workers, contractors, contract managers, trade union leaders and labour department officials.

First of all, the nature of the present study necessitated an understanding, though brief and sketchy, of the traditional building process in Kerala. For this purpose, we depended on a number of scattered secondary materials and interviews with old artisans and other senior people who could give us reliable information. Time bound nature of the present study coupled with the absence of any systematic documentation of traditional building process forced us to make several compromises. However as noted earlier, it was not our objective to study the traditional building process in Kerala in depth.

Organisation of the Survey

As the building activity remains highly unorganised and scattered, the secondary materials and data are found to be inadequate to make a detailed study. Therefore, we have decided to supplement the secondary information with primary data. Considering the time constraint, it was decided to confine our primary data collection only to a geographically limited region -- the Trivandrum city Corporation area. The choice of Trivandrum was purposeful. Firstly, the accessibility and the author's experience in the city made it a convenient option. Secondly, as one of the highly urbanised areas in the state, the incidence of the contract system in the building industry in Trivandrum is more prominent than the other regions in the state.

Selection of Building Sites

Our survey of building sites was confined to the construction of new buildings. In other words, addition, alteration and improvement to existing buildings were not considered.

To prepare a total frame or the population of all building sites, from which a sample could be drawn, we had two options -- either to undertake an actual census of the building sites or to collect the information from the city Corporation of Trivandrum. While the first option was found to be physically not feasible for a single individual to undertake the data from City Corporation was found inadequate for

the purpose. The Corporation list consists of works sanctioned, many of which were yet to be started.

Consequently, it was decided to select a few wards of the city corporation giving adequate representation to both central and peripheral areas of the city. Accordingly, Medical College ward (Ward No.1) Pattom (Ward No.2) and Kesavadasapuram (Ward No.3) from the north-west boundary area and Palayam (Ward No.14) Vazhuthacaud (Ward No.15) and Thampamur (Ward No.25) from the central area were selected. The next step was a quick enumeration of all the building sites in these wards. From a total list of 132, we have selected, on the basis of a two-way classification, 60 work sites as our sample. These sixty sites cover all the three components of building industry viz., household sector, private corporate sector, and public sector.^{36/} Secondly, the sample also represents buildings of different typology -- defined in terms of plinth area and purpose of construction, viz., residential and non-residential. Table 1.3 presents some of the important details of the building sites selected for the sample.

In the present study it was the building site which formed the basic unit of the sample survey. Information on size and utility of the buildings and construction organization of the same was collected from persons in charge of the overall coordination of the work. Besides, we had also interviewed all the general contractors (7) and contract managers (14), 40 Activity Contractors and 60 workers selected from the

sample work sites.

The study, however, is not free from a few limitations. Firstly, as it is confined only to the Trivandrum city, it throws much less light

Table 1.3: The Sample

Type of building and the sector to which it belongs	Plinth area in square metres		Sample Size
	Range	Average	
1	2		3
1. Household Sector:			
(i) Small Residential (with tiled, thatched or rein- forced concrete roof)	25- 80	65	18
(ii) Large Residential (with reinforced cement concrete roof)	100-400	285	10
(iii) Small Non Residential (with reinforced cement concrete roof)	20-150	70	10
(iv) Large Non-Residential (with reinforced cement concrete roof and beam and pillar frames)	350-3400	840	12
2. Private Corporate Sector			
Large Non-residential	600-2800	1300	5
3. Public Sector			
Large Non Residential	420-3600	1250	5
Total			60

on the building activities of the semi-urban and rural areas of the state. However, the results of the survey may not be totally irrelevant to the non-urban areas of the state where the distinction between urban and semi urban if not rural areas, is not as sharp as it is in other states. Secondly, due to the very nature of construction activity which tends to be scattered, discontinuous and non-perennial, drawing up of a sample of work sites on a strictly scientific basis become difficult.^{37/} Notwithstanding these limitations, the justification for the study emanates from our modest objective of understanding the transition in building industry - a phenomenon which has so far escaped the attention of the social scientists. If we can demarcate the broad contours of this transition and situate the same in a larger theoretical context, we feel our endeavours are amply rewarded.

Notes and References

1. Marx refers to animal activities as instinctual rather than purposeful. "But what distinguishes the worst architect from the best of bees is this, that the architect raises his structure in imagination before he erects it in reality". Marx, Karl., (1978): Capital, Vol.1, Progress Publishers, Moscow P.174.
2. Ibid., p.174
3. Ibid., p.179
4. Cohan, G.A., (1982): Karl Marx's Theory of History -- A Defence, Oxford University Press New York, p.89.
5. For a concise and elegant discussion of the relationship between technology and work organisation, See Marglin.A. Stephen., (1976): 'What do bosses do? -- The origins and functions of Hierarchy in Capitalist Production' in Gorz, Andre., (1976); The Division of Labour: The Labour process and Class-struggle in Modern Capitalism Harvester Press, Sussex.

For technologically deterministic explanation of work organisation, See, Kerr, Klark, Dulop, John, T, Harbison, Frederick and Myres, C.A., (1973): Industrialism and Industrial Man, Penguin Books, Harnordsworth
6. Marx, Karl., (1976): Capital Vol.1, Penguin Books, England, p.991.
7. Balibar, Etienne., (1979): 'The Basic concepts of Historical Materialism', quoted in Bharath, Bhushan., (1982): Technology and Work organisation in the Indian Electrical Engineering Industry, Ph.D Dissertation, University of London.
8. Braverman Harry., (1979): Labour and Monopoly Capital -- The Degradation of work in the twentieth century, Social Scientist Press, Trivandrum, p.54.

9. For a detailed study and documentation of the interaction between class struggle and organisation of production See Thomas Isaac, T.M., (1984): Class Struggle and Industrial Structure — A study of Coir Weaving Industry in Kerala (1859-1980), Ph.D dissertation, Centre for Development Studies, Trivandrum.
10. Marx, Karl., (1976): op.cit., p.1021
11. Marx, Karl., (1978): op.cit., pp.298-9
12. Ibid., p.477
13. For a discussion on the evolution of control system under capitalist production, See Edwards, Richards., (1979): Contested Terrain — The Transformation of the workplace in the Twentieth Century, Basic Books, New York, pp.1-162. See also Friedman L. Andrew., (1977): Industry and Labour, Macmillan, London.
14. Gartman, David., (1979): 'Origins of the Assembly Line and Capitalist Control of Work at Ford', in Zimbalist Andrew (ed.) Case Studies on the Labour Process, Monthly Review Press, New York, pp.193-205.
15. For an exhaustive critique of scientific management techniques, See Braverman, Harry., (1979): op.cit.,
16. Marx, Karl., (1978): op.cit., p.320
17. Ibid., p.340
18. Braverman, Harry., op.cit., p.80
19. For reviews on Braverman's book see
 - (i) Elger, Tony., (1979): 'Valorisation and Deskillling A Critique of Braverman', Capital and Class Spring, 1979.
 - (ii) Aronowitz, S., (1978): 'Marx, Braverman and the Logic of Capital' Insurgent Sociologist, 8(2 and 3), pp.126-46.

(iii) Coombs, R., (1978): 'Labour and Monopoly Capital' New Left Review, No.107 pp.74-95. For a survey of labour process studies in U.S.A.,

(iv) Brecher, Jeremy, and the Work Relations Group., (1979): 'Uncovering the Hidden History of the American Workplace' Review of Radical Political Economics, 10, No.4.

Further, for case studies on Labour process, See

(v) Zimbalist Andrew., (ed.): op.cit.

(vi) Wood, Stephen (ed.).., (1982): The Degradation of Work? Skill, Deskillng and the Labour process. Hutchinson and Co.Ltd., London.

(vii) Nicholes, Theo (ed.).., (1980): Capital and Labour -- Studies in the Capitalist Labour Process, Fontana, England.

20. Here, two studies carried out in the context of underdeveloped countries may be mentioned

(i) Cooper, Eugene., (1980): The Wood Carvers of Hong Kong -- Craft production in World capitalist periphery, Cambridge University Press, Cambridge.

(ii) Bharath, Bhushan., (1982): op.cit.

21. Lenin, V.I., (1972): Vol.III, Collected Works, Progress Publishers, Moscow.

Kautsky, K., (1976): The Agrarian Question -- (translated into English by Banaji, J. for Economy and Society, Vol.5, No.1, 1976.)

22. Banaji J., (1977): "Capitalist Domination and the Small Peasantry, Deccan Districts in the Late Nineteenth Century", Economic and Political Weekly, Special Number, August 1977

Shah, Mihir., (1980): "On the Development of Capitalism in Agriculture", Working Paper Number 107, Centre for Development Studies, Trivandrum.

23. Marx, Karl., (1978): op.cit., p.315

24. "The sporadic application of co-operation on a large scale in ancient times, in the middle ages, and in modern colonies, reposes on relations of dominion and servitude, principally on slavery", Ibid.p.316.
25. Richardson, W. Harry and Aldcroft.H. Derek., (1968): Building in the British Economy between the wars, George Allen and Unwin, London pp.21-22.
26. For instance, industrialisation of buildings through factory production of building components and buildings presupposes that
1. the customers are ready to accept highly standardised buildings and components
 2. that the demand for buildings is sufficiently high and consistent enough to reap economies of scale by pre-fabricating units and
 3. that the transport and communication network is well developed and so on.

See United Nations., (1970): Trends in the Industrialisation of Buildings. U.N Publications, New York.

Developing countries, however, cannot expect to satisfy these conditions for the buildings remains to be 'custom' built and dependent on the tastes and preferences of the consumers. Similarly, demand may not be high and consistent enough to facilitate "industrialisation of buildings". This is evident from the following table.

Instability in Annual Growth Rates (Coefficient of Variation) of Value added in construction and NSDP at Current Prices and Constant Prices (Kerala)

	C.V of annual growth rates 1960-61 to 1981-82 Current Prices	C.V of annual growth rates 1960-61 to 1969-70 Constant (1960-61 prices)	C.V of annual growth rates 1970-71 to 1979-80 constant (1970-71 prices)
Value-added in Construction	1.3043	3.7901	3.2363
NSDP	0.5551	0.4781	1.2883

Source: Various issues of statistics for planning, Directorate of Economics and Statistics, Government of Kerala

27. Moavenzadeh, Fred., (1978): "Construction Industry in Developing Countries" World Development, Vol.6, No.1, pp.97-116.
28. World Bank., (1984): The Construction Industry -- Issues and Strategies in Developing Countries, World Bank, Washington D.C., p.3.
29. Johri, C.K and S.M. Pandey (1972), Employment Relationship in the Building Industry: A Study in Delhi, Shri Ram Centre for Industrial Relations and Human Resources, New Delhi.
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- Rao, G.N and Deo, K.P (1979): Labour Conditions and Industrial Relations in the Building Industry -- A Study in Poona, Gokhale Institute of Politics and Economics, Poona (mimeo).
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30. Labour Bureau., (1954); Labour Conditions in the Building and Construction Industry in India, Manager of Publications, Delhi
 Labour Bureau (1961); Contract Labour - A Survey of Selected Industries, Manager of publications, Delhi.
31. Johri and Pandey., op.cit., pp.30-31
 Rao and Deo., op.cit., pp.17-20
 Subrahmanian, et.al., op.cit., pp.47-48.
32. Subrahmanian, et.al., op.cit., pp.22-32.
 Guha, Thakurtha, S.N. op.cit. pp.8-11.
33. Subrahmanian K.K et.al., op.cit., p.76
34. Johri and Pandey., op.cit., p.53
35. Ibid. pp.102-104
 Subrahmanian, K.K et.al. op.cit., p.111
 Rao and Deo, op.cit., p.70
36. We have followed the CSO definition of economic sectors. Central Statistical Organisation, (1980): National Accounts Statistics Sources and Methods, New Delhi.

37. "This difficulty in drawing up a sample seems to have cropped up in studies made in other developing countries also"
Rao, G.N and Deo, K.P., (1979): op.cit. p.7

Chapter 2

THE BUILDING INDUSTRY IN TRANSITION

In this Chapter, we shall present the historical context of the emergence and spread of the contract system in building industry in Kerala. However, no exhaustive historical documentation is attempted.

We begin with a brief discussion of the traditional organisation of building process in Kerala which is characterised by direct employment of tradition-bound artisans by the owner-customers (Section 1). The emergence of contract system may be traced to the turn of the present century when the government of Travancore started employing contractors in its public Works Department ^{1/}(Section 2). Initially, the contract system was confined to the public sector building works. The 'building boom' that the state of Kerala has experienced since 1970 hastened its spread to private sector and particularly to the household sector building activities (Section 3).

Building process in Kerala also underwent significant changes in terms of the composition of construction materials, instruments of labour

and technology in general. We conclude the chapter with a discussion on the modern building process and its implications for organisation of production (Section 4)

Section 1

Traditional Organisation of Building Activity

Even before the colonial period, Kerala had developed a stratified tribute-paying society characterised by a very high degree of social division of labour. While religion gave an ideological base, caste-system provided the frame work for occupational division of labour in the society.

Building activity had developed into a highly professional activity controlled by skilled artisans in the traditional Kerala society. The kammalans or viswakarnas formed the artisan caste which included six groups — the marasaris (carpenters), kallasaris (masons), the kollans (black smiths), the moosaris (bell-founders), the thattans (jewellers) and the tokollans (tanners). Among them marasaris and kallasaris were the major participants of the building process. Another caste group called thachans were experts in felling trees and sawing them into required sizes.^{2/}

Social Hierarchy and the Building Process

The houses or huts of the lower castes were built either by

family labour or by exchange labour. It was in the construction of upper caste houses and other structures that the specialist artisans were employed.

Rigid customs and practices of the caste-based hierarchical society had their influence on building process in its various dimensions. The saying that 'buildings reflect culture' appears to be true in the case of traditional Kerala. Prevailing social structure, in many ways, manifested itself in the type of buildings, composition of materials used in construction, technology, nature of work and even relationship among people involved in the building process.

Only katcha materials were allowed in the construction of lower caste houses.^{3/} Further, the building specialists or the artisans did not have much of a role in their construction^{4/}. Houses belonging to the members of each caste used to have a common name of identification, also implying their typical appearance, common materials used in their construction and so on.^{5/} Thus, for each caste, there were separate customs and traditions to be followed.

Here it is interesting to note that the use of certain materials for the building purposes and particularly for residential construction was prohibited in Kerala. For instance, use of tiles for roofing was allowed only in the case of temples and palaces. Thus, for example, the Collector of Calicut wrote:

"The walls are generally of laterite bricks set in mud, for lime is expensive and scarce, and till recent years the roof was invariably of thatch. This custom of the country was strictly observed and it was not till after the Honourable English East India Company had settlements on the coast for nearly a century that they were at last permitted, as a special favour in 1759 to put tiles on their factory in Calicut. Palaces and temples alone were tiled in former days"^{6/}.

Artisans and Unskilled Workers

Construction of upper caste houses, temples and other public buildings involved the services of experienced artisans like carpenters and masons. However, since wood was the most extensively used building material, among artisans, the carpenter appeared to have enjoyed a major share of work involved.^{7/} Besides, design of building was the responsibility of carpenters. Apprentices of senior craftsmen did most of the unskilled activities - related to particular crafts. For other unskilled tasks, like digging the soil for laying the foundations, agricultural labourers were used.

The workers were either bound by chains of servitude or were restricted by rigid customs and practices of a feudal character. Further payment of remuneration was mostly in kind. The position of the unskilled workers from agricultural labour class was the worst. They were virtually agrestic slaves. Even in the case of construction works by government, unfree labour was used. Forced labour for government was mainly through the system of uriyam.^{8/} The viruthi system of land tenure was also used to get handicrafts and other provisions for the government.^{9/}

Skilled workers, the viswakarmas in general enjoyed a higher status in the social hierarchy compared to the agricultural labourers. Still, they were not free wage labourers in the modern sense of the term. An artisan by his birth in a particular caste was obliged to offer his skilled service to the society. "The carpenter is held to his trade not only by the caste rules, but because of his entire economic, social and religious life centres in the group; and were he to disobey any of its rules, the result would be not merely the economic sanctions but the social ostracism of himself and his family".^{10/}

The above statement of Buchanan on carpenters in India was especially true of the artisans in Kerala. The artisans used to work for a narrow circle of familiar clients. In addition to his involvement in the construction and repair of buildings he used to make and repair agricultural and household implements for the people in the locality. In return, the society had reciprocal obligations to the craftsmen. Remuneration to the skilled services of the artisans was not unidimensional in the form of wages. For instance, the artisans were mostly tenants or hutment dwellers of the village land lords.^{11/}

Building process was based on handicraft principles in which artisans were the authorities. For each type of buildings, for each member of that structure, there was certain craft rules to be followed in their construction. Further, there was a customary and traditional order in which different operations in the building process followed.

Thus, artisan was bound by craft rules. Similar was the case of relations among artisans. Caste and craft practices, including the system of training and apprenticeship, fashioned their interaction. The above issues which are related to the nature of work and work-practices in the industry shall be taken-up, in more detail, in the 4th chapter.

Here we wish to stress the salient feature of organisation of building activity in traditional Kerala society — the direct employment of caste and custom bound artisans and unskilled labourers by customers. It sharply differs from the present organisation of the industry which is characterised by free wage labour and increasing presence of contractors between the customers and the workers.

Section 2

Emergence of the Contract System

The emergence of the contract system in the building industry may be traced to the turn of the present century when the government of Travancore began to employ contractors in the Public Works Department. The contract system became essential for the efficient management of public works. The emergence of this system should be viewed as a part of the larger social changes — often described as a modernisation process — that the Travancore society witnessed from mid-19th century.^{12/}

The commercialisation of the economy, spread of education and the various social reform movements gradually removed the restrictions imposed by a caste based traditional society, paving the way for occupational mobility. It facilitated the emergence of casual labour force. The evolution of modern agricultural labourers, from attached/servile class to modern casual wage labourers, has been analysed in detail, by A.V. Jose.^{13/}

Eventhough it would be an extremely fruitful enquiry we have desisted the temptation of attempting to document the evolution of casual workers in the building industry in Kerala. Such an enquiry will have to be set in the background of the melieu of socio economic changes in the state and more specifically the social reform movement among viswakarnas and avarna communities in general,^{14/} as well as the evolution of the building process and technology in Kerala. By the turn of the century social restrictions on building materials and caste specifications on houses had declined to a large extent and the tiles made significant headway into building construction. Slavery was formally abolished before 1860.^{15/} 1860's also saw the government giving up the system of forced labour, uriyam.^{16/} The viruthi tenants also were relieved from their conventional obligations as tenants.^{17/} In building activity the extra-economic links between the artisans and customers had also got weakened enabling them to be free from social and craft obligations. These conditions favoured the crystallisation of wage labour in construction activities.

The abolition of uriyam and the consequent shortage of workers coincided with the remarkable expansion in public works.^{18/} As a result, the department found it extremely difficult to ensure timely and adequate supply of labour. This is clear from the following remarks of the then chief engineer, Barton.

"Another case of serious difficulty has been the sudden cessation of the system of forced labour, which from time immemorial was the rule in Travancore and was maintained till recently. Coolies refused to work and bandies (carts) to ply for hire, in the belief that they are prohibited by sirkar orders, or, often times simply to demonstrate the power of their new position".^{19/}

To overcome these problems and ensure a regular supply of workers the Department had to offer more in terms of wages and other facilities.^{20/} Thus, by 1865-66, nearly, 10,000, Ezhava and other lower caste 'coolies' were working on daily wages with the Public Works Department.^{21/}

However, supply of workers was not the only problem faced by the Department. The direct employment of large number of casual labourers posed serious managerial problems to the Department as there was no effective mechanism of control and management of workers and the labour processes.

"The entire absence of contractors, not only for the construction of any portion of the works but even for the supply of the most ordinary materials required by the Department make the labour extremely hard. We have had to make our own bricks, quarry the stone, dive for the shells and burn lime, and even to fell the timber required for our works".^{22/}

Thus, the Department undertook most of the works by employing the workers directly. Here, it should be mentioned that the newly emerged casual workers were free from extra-economic compulsions and traditional obligations. Direct employment of these workers, necessitated a large number of supervisory staff involving huge expenditure for the government. Further, the system of large scale mustrolling was prone to corruption.^{23/} As a result, the Department appear to have followed a policy of encouraging contractors.

Though direct employment of workers continued, by the turn of the present century, contract system had established itself in the public sector construction works. And at present direct execution of works by the Department is very rare. According to the PWD Manual (1970), as of now, "building works are undertaken departmentally, by employing daily labour, only if no contractor is available or if it is found more suitable."^{24/}

But the contract system was almost entirely confined to the government and corporate sector buildings. In the last two decades, it has spread even to the household sector building activities. As can be seen from Table 2.1, eventhough in majority of the household sector buildings, the owner continues to take up the responsibility of construction by employing the workers directly, the contract system has become an important way of organising construction.

Nearly 11 per cent of the new buildings in the household sector in urban areas in the state were constructed completely under contract

Table 2.1: Percentage Distribution of Construction Works
by construction responsibility (1980-81)

Nature of construction		Owner with House- hold labour	Owner with paid labour	Fully under contra- ctor	Mixed cate- gory	Of the (5) partly under contractor	Total
1		2	3	4	5	6	7
1. New buildings	Rural	4.12	27.95	2.45	65.48	(7.43)	100
	Urban	2.04	32.01	10.91	55.04	(13.93)	100
	Total	3.88	28.40	3.37	64.35	(9.24)	100
2. Addition, alternation, or improvement	Rural	5.03	32.55	10.45	51.97	(2.24)	100
	Urban	1.16	35.57	15.15	48.12	(5.41)	100
	Total	4.68	32.82	10.87	51.63	(2.53)	100

Source: Report on the Survey of household construction activities in Kerala 1980-81. Department of Economics and Statistics, Government of Kerala.

system. In another 14 per cent of the new buildings the contractor was involved at least partially.^{25/} Interestingly, in the urban areas of Trivandrum district about 30 per cent of the new building works were fully under the contractors.^{26/}

Further, in the case of alteration, addition and improvement to the existing buildings, the percentage of buildings under contractors is higher than in the case of new buildings. There is also a significant rural urban difference in the influence of contract system.

Section 3'Building Boom' and The Spread of Contractual System

The building boom in Kerala since the 'sixties is the background of the spread of contract system in the household sector building activities. We shall therefore, attempt, to briefly discuss this building boom and some of its important features that have contributed to the spread of contract system.

As can be seen from the Table 2.2 there has been an acceleration in the rate of growth of construction in the 'Seventies compared to the

Table 2.2: Compound Growth Rates of Value Added in Construction and Net State Domestic Product

(At factor cost)

Period	Current prices			Constant prices	
	1960-61 to 1981-82	1960-61 to 1970-71	1970-71 to 1980-81	(1960-61 prices) 1960-61 to 1969-70	(1970-71 prices) 1970-71 to 1981-82
1	2	3	4	5	6
Industry					
Construction	11.7232	10.6212	13.8174	2.0242	6.2114
NSDP	10.6886	11.1967	10.5651	3.6938	1.6604

Source: Statistics for Planning, Government of Kerala, The Directorate of Economics and Statistics, various issues.

'Sixties. Further, during the 'Seventies the value-added in the construction sector had increased faster than the State Domestic Product. These conclusions emerge sharper when the rates of growth are considered at constant prices. As a result, the contribution of construction sector to net state domestic product at factor cost (1970-71 prices) increased from 2.91 per cent in 1970-71 to 3.51 per cent in 1980-81 and 3.71 per cent in 1981-82.

There has also been a significant increase in the number of construction workers. The share of construction in the workforce in Kerala, increased from 1.26 per cent in 1961 to 1.73 per cent in 1971.^{27/} It is estimated to have further increased to about 2.5 per cent by 1981.^{28/}

Expansion of the Building Sector

We do not have disaggregate data to study the growth of building construction activity separately. However, the available evidence seems to indicate that building construction has been an extremely important component of the expansion of the construction activity.

Number of occupied residential houses in Kerala registered a sharp increase after 1951 (See Table 2.3). The decadal growth was highest between 1951 to 1961 in the present century. But if we take decadal addition to the stock of occupied residential houses, it was

Table 2.3: Growth of Occupied Residential Houses and Census Houses in Kerala

Period	Number of occupied Residential houses	Decadal addition	Percentage increase	Number of census houses	Percentage increase
1	2	3	4	5	6
1901	11,70,164	-	-	-	-
1911	13,11,931	1,41,767	12.20	-	-
1922	14,51,833	1,39,902	10.6	-	-
1931	16,96,978	2,45,145	16.89	-	-
1941	19,63,334	2,66,356	15.70	-	-
1951	22,01,227	2,37,893	12.12	-	-
1961	28,03,533	6,02,306	27.36	33,80,464	-
1971	34,18,244	6,14,711	21.93	45,61,185	34.93
1981	42,97,322	8,79,078	25.72	58,81,075	28.94

Note: Census houses include residential and non-residential buildings. Figures on the number of census houses correspond to 1960, 1970 and 1980.

Source: 1. Census of India 1981, Series 10, Kerala, Paper 3, Final Population Totals, p.6.

2. Census of India 1981, Series 10, Kerala, Part VII, 'Houses and Disabled Persons', pp.10-11.

the highest during the last decade (1971-1981). Of the 42,97,322 houses enumerated in the 1981 census 8,79,078 (20.46 per cent) were added during 1971-81. Similarly, the number of census houses, which includes both residential and non-residential buildings grew by 34.93 per cent from 1960 to 1970 and by 28.93 per cent between 1970 and 1980. Here, of the 58,81,075 census houses listed in 1980, 13,19,890 (22.44 per cent) were added between 1970 and 1980.

It should be cautioned that the above data (Table 2.3) do not include the replacement of the existing buildings or improvements thereon. Therefore, the data on age structure of houses (Table 2.4) would give a

Table 2.4: Age Structure of Houses in Kerala (1980)

Districts	Total	Percentage of houses		
		Below 2 years	2-30 years	Above 30 years
1	2	3	4	5
Trivandrum	4,44,573	11.3	60.99	21.81
Quilon	4,79,513	10.4	74.26	15.34
Alleppey	4,05,020	13.0	68.24	18.76
Kottayam	2,74,179	11.2	68.00	20.80
Idukki	1,67,739	13.7	76.75	9.55
Ernakulam	4,01,457	11.2	71.70	17.10
Trichur	3,93,439	11.4	66.64	21.96
Palghat	3,40,139	7.5	66.81	25.64
Malappuram	3,40,291	9.8	67.25	22.95
Kozhikode	3,89,933	10.4	69.95	19.65
Cannanore	4,29,580	9.9	68.75	21.35
State	40,65,863	10.8	69.33	19.87

Source: Report of the Survey on Housing and Employment in Kerala (1980). Directorate of Economics and Statistics, Government of Kerala.

better picture of the building activity in the State. According to the Survey on Housing and Employment in Kerala (1980), out of 40,65,863 houses listed, 4,39,508 (10.8 per cent) houses were not older than two years. A major proportion of these new houses might have come in the place of old houses i.e. replacing the old stock.

The building boom in Kerala is usually attributed to the large scale migration of workers from the state to the Middle East and the consequent increase in remittances as well as its investment in residential construction. Substantial increase in migration from Kerala to the Gulf countries in the post-1970 period and the remittances thereof are well established facts.^{29/} Further, the studies show that a significant proportion of the remittances are utilised to invest in residential construction.^{30/} Therefore, though there could be other possible reasons, the 'Gulf boom' may be considered as one of the important sources of the increase in building activity.

Now we shall examine some of the characteristic features of the building boom in Kerala and draw out their implications for the organisation of building activity.

Supply and management of workers

Traditionally, as we have seen, the craftsman used to work for local clientele with whom he was bound by a net-work of customary relations and traditions. Clients and craftsmen were usually known to each other.

However, the relatively greater regional concentration of building activity in the recent decades have tended to disrupt the direct links between the owner customer and the workers. Firstly, as can be seen from Table 2.5 the growth of buildings in the urban areas was higher than that of rural areas. As a result, the proportion of urban census

Table 2.5: Rural Urban Difference in the Growth Rates of Number of Census Households and Census Houses

Period	Growth in these Number of census households			Growth in the number of census houses		
	All Kerala	Rural	Urban	All Kerala	Rural	Urban
1	2	3	4	5	6	7
1921-1931	16.8	16.18	25.16	-	-	-
1931-1941	15.67	14.10	33.14	-	-	-
1941-1951	12.12	9.51	36.46	-	-	-
1951-1961	27.36	24.68	47.48	-	-	-
1961-1971	22.46	20.52	34.81	34.93	32.96	46.06
1971-1981	24.92	20.14	52.08	28.94	25.41	47.14

Source: (i) Brochure on Housing Statistics, 1982, Directorate of Economics and Statistics, Government of Kerala, p.3.

(ii) Census of India, 1981, Series 10, Kerala, Part VII Houses and Disabled Persons

houses in the total has increased from 15 per cent in 1960 to 18.5 per cent in 1980. Secondly, the construction boom as a result of the gulf migration has been relatively localised in certain pockets.^{31/} These migration centres are regions of hectic construction activity drawing workers from all over the State as also from the neighbouring States. In fact, 1970s witnessed large scale in-migration of Tamil Workers into Kerala's construction industry. And this continues even now.^{32/}

The situation has been further complicated by the relative scarcity of building workers in Kerala today. It has been primarily created by the migration of construction workers from Kerala to the gulf countries.^{33/} The scarcity of building workers due to the large scale out-migration and simultaneous increase in domestic demand, naturally got reflected in the wage rates of building workers which marked substantial increase in the seventies.^{34/}

The scarcity of workers would make the timely and the adequate supply of workers a difficult problem for the owner. With increasing social division of labour, customers normally may not have the time and proper connections to mobilise workers from far away places. In other words, the flow of information on job opportunities, under the above circumstances, becomes difficult without the help of an intermediary. This is particularly so in the case of building industry where alternative labour market institutions are practically absent.

Further, under conditions of labour scarcity, mobilising workers, bargaining with them on wages and working conditions, making them work and co-ordinate their work etc. are all tasks which might have, over time, become difficult for individual owners to perform. The labour power sold, without the conventional obligations and traditions of the craft attached to it, necessarily transfers the responsibility of its use, at whatever efficiency, to the buyer. In other words, management of labourers, and their work becomes the responsibility of the buyer

of labour-power. Individual owners are not specialists in the industry to successfully take up the above functions nor can they afford to spend time on the building process beyond a point. This may be particularly true of migrant elites who construct their houses back home in Kerala.

Thus the role of a specialist (contractor) to recruit, supply and supervise workers, bargain with and control them, co-ordinate their activities etc., is becoming unavoidable in the building industry. The responsibility to organise and manage labour process could be seen to be taken up by the contractor with his motive for and necessity of making profit through different ways including better management of workers and their work.

Section 4

Emergence of Modern Building Process

The quantitative increase in building activity in Kerala had also a qualitative dimension to it. Nature of buildings, uses to which they are put, composition of building materials and building technology in general had changed considerably over time. As a result, the modern building process hardly resembles its traditional version.

Changing Demand for Buildings

Emergence of modern building process, in a sense, reflects a change in demand or requirements of the society for buildings over time. One of the important aspects of this change in demand was a shift in

Table 2.6: Census Houses by Different Uses 1960-1980 (Kerala)

Uses to which census houses are put	Number of census houses 1960(% to total)	Number of census Houses 1970 (% total houses)	Decadal % variation 1960-1970	Number of census houses in 1980 (% of total houses)	Percentage decadal variation (1970-80)
1	2	3	4	5	6
1. All uses	33,80,469(100)	45,61,185(100)	34.93	58,81,075(100)	28.94
2. Residences	27,39,867(81.05)	33,32,515(73.06)	221.63	40,59,540(64.02)	21.82
3. Shop-cum residences	10,527(.31)	8,78,390(.19)	-20.30	27,485(.47)	227.59
4. Workshop-cum-residences	3,789(.11)	20,975(.46)	453.58	1,08,290(1.84)	416.28
5. Hotels, saras, dharmasalas tourist homes and inspection houses	2,604(.08)	6,220(.14)	138.86	7,805(.13)	25.48
6. Shops excluding eating houses	1,41,682(4.15)	2,03,045(4.45)	43.31	2,63,175(4.48)	29.61
7. Business houses and offices	21,299(.63)	35,575(.78)	67.03	56,050(.95)	57.55
8. Factories, workshops and worksales	54,576(1.61)	91,185(2.00)	67.08	1,52,260(2.59)	66.98
9. Restaurants, sweetmeat shops and eating places	61,753(1.83)	82,670(1.81)	33.87	88,155(1.50)	6.63
10. Places of entertainment and community gathering	2,261(.07)	10,645(.23)	370.81	18,650(.32)	75.20

Source: Census of India, 1981, Series 10, Kerala, Part VII, Houses and Disabled persons pp.10-11.

favour of non-residential buildings. As can be seen from Table 2.6 construction of non-residential buildings including factories, workshops, work-sheds, hotels, shops, business houses, offices, restaurants, etc., had grown at a faster pace between 1960 and 1980, as compared to the census residential houses. It was noted that, "in respect of restaurants, sweet-meat shops and eating places, Kerala has a unique position with 88,155 census houses followed by Uttar Pradesh (70,185), Tamil Nadu (57,620) and Maharashtra (51,185). Though Kerala is a small state, in absolute numbers Kerala ranks third in the country in places of entertainment and community gathering".

As a result of the above shift in demand the proportion of census houses used exclusively as residences to total census houses declined from 81 per cent in 1960 to 73 per cent in 1970 and 69 per cent in 1980.

This shift in demand in favour of non-residential buildings and particularly high rising buildings implies wide-spread use of modern construction materials and techniques. For instance, without the introduction of cement, steel, reinforced cement concrete (hereafter R.C.C) and beam and pillar frames, construction of the so called 'sky-scrapers' would not have been possible.^{36/}

Change in the nature of demand however, was not limited to the shift in favour of non-residential buildings alone. Residential construction in Kerala had also undergone a significant transformation during the last two decades, particularly since 1970. It was a period

of transition from conventional houses to modern ones, often referred to as 'western type' houses.

Thus, a significant change in demand in favour of houses built with modern construction materials and techniques is obvious. Given the limited scope of our study, we shall not enter into the controversial area of reasons for this change. Consideration of cost economies, convenience, comfort and even luxury might have induced such a change. For instance, relative increase in the price of traditional materials like wood and increase in the wages of carpenters might have made the modern materials a cheaper alternative. Similarly, wiring and electrification, plumbing, use of modern sanitary wares, etc., could be justified on the grounds of consumers' comfort.

But the consumer's rationality does not explain all the changes in demand. It is well known that some of the changes in architectural practices in favour of modern materials and techniques are not at all cost-effective.^{37/} This may be particularly true when we account for social costs.^{38/} It may also be noted that building mode using cheaper materials and capital saving techniques, though available, have proved unattractive for the general public.^{39/} Therefore, we would tend to hold that the changes in consumer tastes generated by the demonstration effects and distorted notions of modernisation also might have contributed to the shift in demand for houses.

Diffusion of Modern Construction Materials

Increasing demand for non-residential buildings and modern residential houses had resulted in wide-spread use of modern construction materials. Traditional building technology in Kerala was mainly based on locally available materials like wood, bamboo, leaves, straw, cane, laterite, mud, unburnt bricks, etc. This is evident from table 2.7 which indicates that, in Travancore upto 1891, only a negligible proportion of houses had either terraced or even tiled roofs. Even as later as in 1941, only 12 per cent of the houses in Travancore had terraced or tiled roofs. Similarly, in 1941, 42 per cent of the houses had mud walls while 9 per cent of the houses had wood as the

Table 2.7: Particulars of Roofing proportion to 1000 Houses,
Travancore

	1875	1881	1891	1941
Terraced	.07	.10	.00	1.00
Tiles	4.24	4.96	7.47	110.00
Thatched (1) Cadjan	783.73	765.46	832.64	774.00
(2) Straw	201.17	224.13	158.42	N.A
Other materials and houses under construction	10.84	5.35	1.47	115.00
Total	1000.00	1000.00	1000.00	1000.00

N.A indicates Not Available

Sources: (i) Census of India, 1891, Travancore, Part 1 p.268

(ii) Census of India, 1941, Travancore, Part 1 and 2 p.30

Table 2.8: Material of wall, Travancore, 1941

Material	Proportion to 1000 houses
Cadjan	190
Mud	421
Laterite	184
Brick	32
Wood	90
Other Materials including Unspecified	83
Total	1000

Source: Census of India, 1941, Travancore,
Part 1 and 2 p.30.

basic wall material. In another 19 per cent of the houses, walls were built of cadjan leaves. Therefore, one may safely conclude that upto 1941, even tiles and burnt bricks, not to speak about cement and steel, were sparsely used for building. The second half of the present century, as shown in the tables 2.9 and 2.10 marked dramatic changes in the situation. By 1960 tiles became popular and as many as 24.7 per cent of the census households had tiled roofs. However, other modern materials like cement, iron and steel, plumbing materials, asbestos sheets, aluminium, mosaic chips, glass, modern sanitary wares, etc., seem to have taken more time for their diffusion. Though the above materials were sparsely used even earlier, it was the last two decades and particularly the 1970s which marked diffusion of modern materials all over Kerala.

Table 2.9: Distribution of 1000 Residential Census Houses by
Predominant Material of Roof 1960 and 1970, Kerala

Material	Period	1960			1970		
		Total	Rural	Urban	Total	Rural	Urban
A	Grass, leaves, reeds, bamboo, thatch, mud burnt bricks, or wood	741	769	567	620	653	434
B	Tiles, slate, shingle corrugated iron, zinc or other metal sheets, asbestos cement sheets, brick and lime concrete and stone and all other materials	259	231	433	380	347	566
B ₁	tiles, slate shingle	248	219	427	N.A	N.A	N.A
B ₂	Corrugated iron zinc or other metal sheets	5	6	1	N.A	N.A	N.A
B ₃	Asbestos cement sheets	4	5	N	N.A	N.A	N.A
B ₄	Brick and lime	N	N	N	N.A	N.A	N.A
B ₅	Concrete and stone	1	N	5	N.A	N.A	N.A
B ₆	All other materials	N	N	N	N.A	N.A	N.A
C	Total	1000	1000	1000	1000	1000	1000

Note: N indicates negligible and N.A not available

Source : (i) Census of India 1961, Vol.VII, Kerala, Part IV A & B

(ii) Census of India 1971, Series 9, Kerala, Part IV
Housing Report and Tables.

Table 2.10: Distribution of 1000 Residential Census Houses by Predominant Material of Wall Kerala 1960 and 1970

Period	Grass, leaves, reeds or bamboo, mud, unburnt bricks, wood.	Burnt bricks GI sheets or other metal sheets, stone, cement.	All other material	Total
1960				
Total	637	362	1	1000
Rural	659	339	2	1000
Urban	496	503	1	1000
1970				
Total	600	398	2	1000
Rural	631	368	1	1000
Urban	422	577	1	1000

Source: (i) Census of India, 1961, Vol.VII, Kerala Part IV A&B

(ii) Census of India, 1971, Series 9, Kerala, Part IV, Housing Report and Tables

The number of residential census houses having roofs built of traditional materials — grass, leaves, reeds, bamboo, thatch, mud, unburnt bricks, or wood — has come down in their proportion from 74.1 per cent in 1960 to 62 per cent in 1970 (See Table 2.9). Correspondingly the use of modern materials for roof purposes had increased.

Similar is the case of predominant material of wall. In 1960, 36.2 per cent of the total residential houses had walls built of modern materials like burnt bricks, G.I sheets or other metal sheets, stone

and cement. This proportion had increased 39.8 by 1970 (See Table 2.10). Further, the diffusion of modern materials had happened both in rural and urban areas, though the incidence of modern materials is higher in the urban sector.

Census housing statistics for 1981 are not yet available.^{40/} However, on the basis of survey of housing and employment in Kerala (1980) it is estimated that in the 'seventies there has been a drastic reduction in the number of houses using traditional materials. The proportion of huts in the total number of houses has come down from around 50 per cent in 1971 (See Table 2.11) to 24 per cent in 1980.^{41/}

Further, the survey on household construction activities in Kerala (1980-81) which gives the percentage distribution of building construction expenditure is also instructive (Table 2.12). In the case of new buildings, of the total construction expenditure which include labour cost also, expenditure on cement alone constitutes roughly 10 per cent. Another 10 per cent of the total expenditure is incurred on stone chips, iron and steel, sanitary fittings, electrical fittings, paints and varnish. In urban areas, the expenditure on modern materials is higher than that of rural. For instance in the former cement and iron and steel alone constituted 24 per cent of the total construction expenditure.

The introduction of new materials and techniques alien to the handicraft production would have also affected the traditional organisation of building process. A brief discussion on the modern building

Table 2.11: Distribution of 33,79,250 Residential Census Houses Listed in 1971 Census, by Material of Wall cross - classified for material of Roof

Predominant material of roof	Grass, leaves Reeds, bamboo thatch, mud, unburnt bricks or wood	Tiles slate, shingle corru- gated iron, zinc or other metal sheets asbestos cement sheets brick and lime stone and concrete	All other materials and materi- als not stated
1. Grass, leaves, reeds or bamboo, mud, unburnt bricks, wood	17,18,770 (50.86)	3,10,635 (9.19)	185 (N)
2. Burnt bricks, G.I sheets or other metal sheets, stone, cement	3,76,560 (11.14)	4,69,030 (28.68)	135 (N)
3. All other materials not stated	3,305 (N)	575 (N)	55 (N)

Source: Census of India, 1971, Series 9 Kerala, Part IV Housing Report and Tables p.94

Table 2.12: Percentage Distribution of Construction Expenditure
(Household Sector 1980-81)

Item	New Buildings		Total
	Rural	Urban	
1	2	3	4
1. Stone	10.63	14.00	11.01
2. Stonechips	1.31	2.11	1.40
3. Bricks	8.98	6.83	8.74
4. Sand	2.45	2.97	2.51
5. Cement	9.50	13.85	9.98
6. Lime	0.39	0.27	0.38
7. Wood	18.95	12.10	18.24
8. Roofing tile	6.36	3.47	6.04
9. Flooring tile	0.09	0.23	0.11
10. Roofing materials	0.71	0.27	0.66
11. Iron and steel	4.72	10.04	5.31
12. Sanitary fittings	0.35	0.60	0.38
13. Electrical fittings	1.54	1.54	1.54
14. Paint and varnish	0.37	.22	0.35
15. Labour-skilled	15.09	11.99	14.74
16. Labour-unskilled	5.74	5.09	5.67
17. Other expenses	12.82	14.41	12.94
Total	100.00	100.00	100.00

Source: Report on the Survey on Household Construction Activities in Kerala 1980-81 Directorate of Economics and Statistics p.13.

proces may help us to make the above point-clearer.

Modern Building Process

In modern buildings the techniques and materials used in construction, as we have noted, differ considerably from the handicraft technology and traditional materials. Further, new activities like wiring and electrification, plumbing, laying of mosaic, painting and other finishing activities are normal in modern buildings.

Foundation and Basement

Excavation and laying of foundation may be regarded as the first step in building construction. Depth of the foundation and the technique used in its construction may differ according to the load bearing capacity of the soil and the type of structure to be built. It has now become a common practice to lay a layer of concrete at the bottom of the excavation. This is particularly true of buildings with roof built of re-inforced cement concrete (R.C.C.) For big buildings re-inforcement may also be done. Depending upon the soil conditions piling may also be resorted to.

Foundation, then, is raised to the floor level of the building by constructing the basement. Granite or laterite blocks with suitable mortar is used for this purpose. Burnt bricks with cement are becoming popular.

Construction of Walls

Laterite or burnt bricks are the common materials used. This marks a transition from unburnt bricks, wood, bamboo, reeds and leaves.

When laterite is used, each block should be given proper shape before they are layed. Bricks on the other hand is available ready for use after wetting.

Width of the wall will depend upon the material used and the weight it is expected to bear. Here the spread of beam and pillar (both made in R.C.C) frame-technology may be mentioned. Beam and pillar frame practically renders walls functionless as far as the load bearing is concerned. In such cases, walls are referred to as 'curtain walls'. This marks one of the important break-throughs in the field of building technology which made the construction of high rising buildings possible. Usually beam and pillar frame technique is used for high rising buildings. But in Kerala, even for smaller buildings (say two-storied) it is commonly used. This, it is said, would enable the future extension of the building.

For construction of walls, beyond the reach from ground, temporary staging is necessary, provisions of scaffolding or temporary staging is done using bamboo and other wooden poles. With the vertical growth of buildings in Kerala, preparing these stages has become an important element of the building process. For laying of bricks, plastering and painting the wall, same scaffold is used.

Wood-work

With the introduction of RCC roofs, wood work is getting increasingly limited to windows, ventilators, and doors. Wood pieces are generally bought from saw mills in convenient sizes and brought to the site. Wood-work, most

often, is done in one temporary shed on the site or in one of the rooms of the unfinished building. Though ready-made ventilators are available and widely used, Pre-fabrication of doors and windows had not made any significant progress.

Flooring

Ground-level is raised to the floor-level of the building by filling earth. After ramming and compacting of the soil, a thin layer of concrete is laid. After the concrete is levelled, cement plastering is done to finish the flooring work. If tiles are to be put, after concreting a thin layer of mortar is put to fix the tiles.

For mosaic floors, a thin layer of concreting using mosaic chips as the aggregate is done on the levelled cement concrete. Then the floor is grinded and polished several times, within proper intervals, to get a fine finish. For grinding and polishing, mechanical devices, popularly known as 'mosaic machines' are used.

Roofing

By now, it may be clear that the roofing techniques in Kerala had changed from the 'thatch-on-timber' and 'tile-on-timber' systems to that of re-inforced cement concrete. This may be regarded as the most visible of the technological changes that have occurred with far-reaching effects.

First step in the construction of R.C.C. roofs is the preparation of formwork.^{42/} In Kerala this is popularly known as thattadikkal

or centering and shuttering. Formwork is a temporary stage to place the re-inforcement and concrete. After curing of the concrete is finished, when setting and hardening of the RCC is over, the formwork is dismantled. Wooden or steel shutters are used to prepare the formwork. Mostly, cheap and half-seasoned timber (mango-wood) is used for the purpose. With good maintenance, steel shutters can be used upto about 50 times before repair becomes necessary. Whereas wooden shutters cannot normally be reused more than 5 or 6 times. Further, steel shutters take less time and labour to assemble it. In Kerala, though wooden shutters are more common, for large buildings steel shutters are becoming popular.

Re-inforcement

Most commonly, round steel bars of various diameters are used for re-inforcement. Cutting of the bars are usually done by hand-sheers or chisel. Bars are bent by the use of two vertical pins driven on a thick piece of timber which is held firmly on a stand or table. Sometimes welding is used to make joints. These bars after they are bent and cut into convenient and required shapes are wired together on the formwork.

Mixing of the Concrete

In a proper ratio, water, cement, sand and crushed stone are mixed to prepare the concrete. Both machine mixing and hand mixing are popular in Kerala. For smaller buildings, involving very less concrete work, machine mixing is not preferred. Hand-mixing is done

on a clean platform with shovels.

Conveying and Compaction of Concrete

Mixing is often done on the ground and hence the concrete should be conveyed to the roof. This is often done through a group of labourers arranged as a chain which extends from the mixing place to the roof. This row of men and women and often children passes the filled pans to the roof and the empty pans back to the bottom. In the construction of high rising buildings mechanical lifts (hoists) are used to convey materials including concrete.

Soon after mixing, the concrete should be placed on the formwork and compacted properly, for concrete is not generally allowed to be disturbed once the setting of cement has commenced. Normally, within a maximum time of $1\frac{1}{2}$ hours after mixing, the compaction should be over.

Compaction is done to ensure maximum strength to the RCC by expelling air bubbles entrapped in it during mixing. Compaction is done either by hand using steel rods or by mechanical vibrators. Levelling and finishing of the surface is also done soon after compaction.

Curing of the R.C.C.

To keep the moist of the concrete, surface of the R.C.C. is kept wet by pouring water for 7 to 9 days after concreting.

Reinforced cement concreting, or ordinary cement concreting, as we have seen, is not limited to the construction of roof. Laying of

foundation, flooring, building of beam and pillar frame, construction of stair cases and sunshades, etc. also, involve concreting.

In addition to these basic activities, the modern building process involves various other complementary operations like, painting, plumbing, wiring, fitting of sanitary wares, etc.

From the above description of different stages involved in modern building process, some important inferences can be drawn. First of all, one would note a transition from simple traditional tools to advanced, sophisticated and costly equipments and tools. Let us consider the roofing for instance. 'Thatch-on-timber', or 'tiles-on timber' roofs involved nothing more than traditional tools of a carpenter which the artisan himself used to bring to the site. The RCC roof however, requires formwork, pans, shovels, concrete mixtures, vibrators, mechanical hoists, etc. Even if no mechanical devices are used, wooden shutters or steel shutters poles to support the form-work, pans shovells, etc. can not be dispensed with. Same is the case with making beam and pillar frames. Similarly for raising of scaffolds for construction of walls, plastering and painting, initial investment is necessary. Thus, the modern process involves substantial investment in capital equipments. Owner-customer or the workers may find it difficult to make such investments. Naturally, this favours the entry of an intermediary who can afford to buy and effectively use the means of production by employing them repeatedly.

Secondly, the introduction of new materials and related independent

trades like plumbing, wiring, bar-bending, laying mosaic, fitting sanitary wares, etc. have increased the organisational complexity of the building process.^{43/} The function of co-ordination has become all the more a difficult task. It should combine a large number of workers specialising in different trades, a wider variety of materials, and more costly instruments of production. Concrete mixtures and vibrators cannot be left idle. The supply of materials should not delay any part of the work, the centering and shuttering workers should finish their job before bar-benders start with their operations and both of them should finish before concreting can be started. Depositing of concrete and its compaction should be done with maximum speed before the setting of cement starts. The masons should prepare the floor for mosaic masons to come in, the walls when finished should have provisions for electrical fittings, plumbing, and carpentry work and so on.

The increasing complexity of the building process lends superiority for the specialist as an organiser over the owner-customer and workers. Owner-customer is an inexperienced person as far as the tricks of the trade are concerned. On the other hand, workers, with increasing specialisation and division of labour, are incapable of over all supervision and co-ordination of the work.

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5. For detailed description of the nature and names of houses belonging to different castes See Ibid., pp.245-268.
6. Logan, William., (1981): Malabar, Vol.1 Charithram Publications, Trivandrum, p.109.
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19. Government of Travancore., (1866): Report on the Administration of Travancore for the Year 1865-66, p.91
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22. Government of Travancore., (1866): Op.cit., p.91
23. Government of Travancore., (1879): Report on the Administration of Travancore for the year 1878-79, pp.127-129.
24. Government of Kerala., (1970): The Public Works Department Manual, Government Press, Trivandrum, Chapter XX
25. The Report on Household Construction Activities provide two mixed categories, viz., partially under owner and partially under Contractor and treat them as mutually exclusive categories. However, definitions of these categories are provided neither in the report nor in the instructions to enumerators.
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26. Ibid., Table 6.1, p.35
27. Government of Kerala., (1980): Statistics for Planning, Directorate of Economics and Statistics, Trivandrum, p.6.
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29. For details, See
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- (ii) Nair, P.R.G., (1983): 'Asian Emigration to the Middle East — Migration from India', Working Paper No.180, Centre for Development Studies, Trivandrum.
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- (ii) Labour Bureau., (1984): India Labour Year Book, Ministry of Labour, Government of India, pp.331-332. According to the Year Book, in 1979, of the 23,415 Indian Workers in Bahrain 11,807 (50 per cent) were engaged in Building and transport sector. Similarly, in Iraq, in 1982, 83 per cent of the Indian workers were employed in building and transport sector.

If the single largest category of Indian workers in the Middle East is from the Construction Sector, this may be true of migrants from Kerala as well. This conclusion is supported by the findings of Housing and Employment Survey. According to the Survey Report, 56 per cent of the outmigrants from Kerala have only less than secondary level education.

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36. Bowley, Marian., (1966): The British Building Industry - Four Studies in Response and Resistance to change, Cambridge University Press, Cambridge p.171 and 333.
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Chapter 3

ORGANISATION OF PRODUCTION IN THE CONTEMPORARY BUILDING INDUSTRY

Building process is no longer a direct interaction between the owner and the artisans, rather it has become a complex operation involving a large number of participants carrying out specific functions. Intermediaries seem to have taken up several functions which were earlier performed either by the owner or artisans. Besides, new functions that have emerged with the modern building process are also performed by the intermediaries. This is evidenced by the study we have undertaken for the Trivandrum City.

Building construction in the city, as of now, could be seen as one involving a combination of the following participants.

- (i) The owner-customer
- (ii) The contract manager
- (iii) The design team
- (iv) The general contractor
- (v) The activity contractors
- (vi) The workers

The owner of a building could be a private individual, a group of individuals, a firm or a government department, which/who make the decision to build and set the requirements as well as the budget. Though owner's involvement in the building process can vary,^{1/} in all types of buildings, regardless of the way in which construction is organised, the owner is supposed to perform these functions. Here, it may be noted that we have not included the speculative builders in our classification of participants in the building process. In such cases the builder-contractor will be the immediate owner who constructs the building, expecting a future demand for it from the customers. As contrasted with the contract system, here the building is produced first and then sold. In the city corporation area, though speculative building is present, it is only at its nascent stages of development.

In the study area, we have identified different stages of intermediation and corresponding groups of intermediaries between the owner and the workers. The nature of these different groups of intermediaries, however, differed considerably according to the typology of buildings. For instance, in certain type of buildings some stages of intermediation were found to be completely absent or only at rudimentary stages of development. This necessitates a detailed analysis of the role of different intermediaries and their mode of interaction in the context of different types of building. In this chapter we present our analysis of the various intermediaries,

i.e., design team and contract managers (Section 1), general Contractors (Section 2) and activity contractors (Section 3).

Section 1

Design Team and the Contract Managers

Building activity, like any other human labour process, is purposeful rather than instinctual. Even the "worst of all architects, raises his structure in imagination before he erects it in reality".^{2/} Thus, the design of the building should be made before the construction can start.

The design of the building attains special importance under contract system, since the agreement of exchange or contract between the owner and the contractor, is based on unequivocal and pre-determined specifications of the product made in the design. This is so, for under contract system production always follows the contract or the sales. Therefore, after the initial decisions on the requirements and the budget are made by the owner, design of the building and detailed technical drawings are prepared. Very often, with the increasing formalisation of contractual agreement, the design virtually becomes a paper replica of the actual product, the building.

The design of the buildings is increasingly becoming a product of the formally trained professionals. In the City Corporation area, interestingly, the Corporation rules insist that the design should be

prepared by technically qualified persons who have received formal training from recognised institutions. The traditional institutions of apprenticeship among artisans, no more enjoy any legal statue in the case of designing.

The size of the design team and its nature vary according to the typology of buildings. In the case of huge buildings, the design team may comprise of structural engineers, civil engineers, architects and draftsmen. Coming to the small and less complicated structures, more often, the design is the product of a single individual.

In the case of public sector buildings, design is usually done by the permanently employed technical staff. For instance, in government buildings, the concerned Public Works Department (Central PWD, State PWD or Public Health Engineering Department) prepares the design with the help of its-own permanent staff which includes architects, structural and civil engineers and draftsmen.

Alternatively, if there is no permanently employed technical personnel, the owner-customer hires the design team on a temporary basis.^{3/} In our sample of building sites, all the private sector buildings belong to this category. Remuneration and the mode of payment to the design team would depend on the extent of functions accorded to the designers.

As can be seen from Table 3.1, in the majority of household sector building sites, and particularly among small residential and small non-residential buildings, role of the design team is limited

to the preparation of the design. In such cases the designer's involvement in the building process, more or less, ends once the design is handed over to the owner. Or at the most the designer/team may make a few visits to the site to clear the technical doubts of the owner or his representative.

Table 3.1: Functions of the Design Team according to the Typology of Buildings

Nature of the design team Type of buildings	Only design	Design and contact management alone	Design, contact management and coordination of activities	Total
1	2	3	4	5
A. Household sector	34(68)	4(8)	12(24)	50(100)
Small residential	18(100)	-	-	18(100)
Large residential	4(40)	1(10)	5(50)	10(100)
Small non-residential	7(70)	1(10)	2(20)	10(100)
Large non-residential	5(42)	2(16)	5(42)	12(100)
B. Private corporate sector	-	5(100)	-	5(100)
C. Public sector	-	5(100)	-	5(100)

Source: Survey of Building Sites in Trivandrum, 1985.

Designers, in majority of the above cases, are not active or regular in their business. Most of these are cases where the owner

approaches an engineer, who is a friend or a relative of the owner, to help him in preparing the design. As such, there are no hard and fast rules regarding the remuneration to the design team. Owner may pay a Lumpsum amount as the remuneration or, alternatively, a fixed proportion of the estimated cost of the building (usually this ranges from 1 to 2 per cent).

Table 3.1 also shows that in all private corporate and public sector buildings and in 32 per cent of the household sector buildings, design team is also entrusted with contract management functions. Here it should be remembered that in the case of government buildings, the Public Works Department does both contract management and designing. Design team when it combines contract management, becomes an active element in the building process with more functions and higher remuneration. To make the above point clearer, we shall describe the function of contract management.

The Contract Managers

The contract management, it may be argued, is a natural corollary of the contract system. Contractor is expected to execute the work according to the specifications and quality of the product prescribed in the contract agreement. Given the fact that the contractor's profit depends on the difference between the actual cost and contract price, natural tendency of the contractor will be to minimise the actual cost of construction. This can even be at the cost of the quality of work

and the product. Thus, the very nature of contract system necessitates constant vigil and supervision on the part of owner to see whether the contractor abides by the contract conditions or not. This is also necessary for assessing and approving the work before the payment is made. With increasing technical complexity of buildings, individual owners may not be in a position to discharge the above function. The same is the case with collective owners. For instance, the general public in the case of public sector buildings, or share-holders in a company cannot directly undertake the contract management functions. Thus the contract management may be considered as one of the stages of intermediation between the owner and real producers which originated with the emergence and growth of contract system.

In cases where the owner appoints a contract manager, the relationship between the owner and all other participants is through the contract manager. As we have noted, the contract management agency may prepare the design with the help of its own technical personnel.^{4/} After getting the owner's consent on the design and the estimated cost, contract manager selects, through public tendering or negotiation, suitable contractor or contractors to execute the work and finalises the contract. The characteristic function of the contract manager, as the name itself suggests, is management of contract agreement. He keeps account of all transactions between the owner and contractors. After properly assessing and approving the work, he makes advances and final payments to the contractor, on behalf of the owner. Further,

if two or more contractors are employed, the contract manager co-ordinates their activities. In the household sector where incidence of prime-contracts is high, in 24 per cent of the sites, the contract manager is found to perform this function of co-ordination among contractors.

It is important to distinguish between contractors and contract managers. Their role and interest in the building process differ. Contractors always quote a price for the work and their profit depends on the difference between contract-price and the actual cost of construction. As such, a contractor's endeavour would be to increase productivity of workers and minimise the cost of construction. On the other hand, remuneration to the contract managers, most often, is based on what is popularly known as 'actuals'. Actuals refers to nothing but the total ex-post cost of construction. His interest, therefore, is not to minimise the cost of construction.^{5/} Rather, his reputation and goodwill depend on the quality and finish of the work.

Contract managers do not employ workers. They do not make direct investments in construction equipments like concrete mixtures, vibrators, shutters, shovels, pans, etc. Contract Managers are there mainly to monitor the work done by contractors.

Of the 60 building sites selected for our study, in 26, contract managers are employed. In 5 buildings, the Public Works Department (PWD) is in charge of design and contract management. As the PWD avoids direct execution of work it is more in the nature of a typical

contract management agency. The PWD prepares designs and detailed estimate of buildings, appoint contractors through competitive tendering, supervises their work and makes payments on behalf of the government. The PWD may also supply some of the materials (cement, iron and steel) and equipments for construction.

In private sector sites, we have 21 sites where contract managers are employed. But some contract managers are found to have more than one site in our sample itself. Thus, avoiding duplication, we have interviewed 14 contract managers.

Among them, there are 2 private limited companies and 5 partnership firms. The rest of the contract management firms are run by individual engineers. Number of building sites under a contract management agency ranged from one to seven. The highest number of building sites belong to one of the private limited companies which also employ the largest number of workers. They have seventeen permanent employees drawing monthly salaries. Most of them are engineers and draftsmen who supervise work on the sites. Interestingly, the firm employs four former chief engineers of Kerala Public Works Department. On average, each firm has two work sites and five employees.

Except for three firms owned by individual engineers, all of them have permanent offices. Most of these offices have sign boards proclaiming that they are building designers and consultants.

Though none of them have any substantial investment in construction equipments, most of them have in their offices well equipped design cabins furnished with drawing boards and other drawing aids. In some cases, contract managers are also found to help activity contractors to hire construction equipments like mixtures and shutters.

Section 2

General Contractors

The owner-customer can employ either a general contractor to construct the whole structure (i.e. through lump-sum contract) or divide the work among different specialist or activity contractors (i.e. through prime contract). The general contractor may be defined as a person/agency who/which agrees in the contract to take up the total responsibility of building the complete structure. The general contractor may subcontract the work to different activity contractors on his own. However, these activity contractors will not have direct links or responsibility to the owner.

Responsibility of Execution of Work

Before discussing the role of general contractors in the building process, let us try to see the incidence of contract system in general and general contractors (or the system of lump-sum contracts) in particular. Table 3.2 summarises the results of our enquiry on the responsibility of execution.

Table 3.2: Percentage Distribution of Building Sites
According to Responsibility of Execution of Work

Type of Building Agency of execution	Household Sector				Private corporate sector	Public sector
	Residen- tial small	Residen- tial large	Non Residen- tial Small	Non Resi- dential large		
1	2	3	4	5	6	7
Fully under owner	-	-	-	-	-	-
Partially under contract	18(100)	4(40)	4(40)	-	-	-
Fully under contract	-	6(60)	6(60)	12(100)	5(100)	5(100)
Total	18(100)	10(100)	10(100)	12(100)	5(100)	5(100)

Source: Survey of Building Sites in Trivandrum City 1985

By 'fully under contract' we mean that all the individual operations, which we listed (in Chapter 2) while discussing the modern building process, are performed under the contract system. Similarly, 'fully under owner' is defined as those cases where all activities are carried out by the owner either by family labour or through direct employment of workers. Consequently 'partially under contract' is a residual category.

It is interesting to note that there is not even a single building being constructed 'fully under the owner' either by family labour or by

direct employment of workers. All the private corporate and public sector buildings are built fully under contract system. But, what is interesting is the penetration of contract system into the household sector. In this sector, 60 per cent each of the large residential and small non-residential buildings and all the large non-residential buildings are built 'fully under contract' system.

So far we have seen only whether, in a building site, all activities are performed through contractors or not. Now we shall consider each one of the activities separately. Such a disaggregate analysis is important since even under contract system there are different ways in which the workers may be engaged for the execution of the activities.

Co-ordination of activities

Before going to analyse the responsibility of execution at the level of specific activities, let us try to see the mechanism by which co-ordination of various activities is achieved. As we have seen above, all co-operative labour processes need a mechanism to ensure effective co-ordination among co-operating workers. We have also noted earlier that the development of capitalism tends to transform the simple function of co-ordination into one of management and control of the workers. However, at this stage we shall be considering only the problem of general co-ordination among activities in the building process. Here co-ordination involves time-phasing of different activities and supply of materials to ensure harmonious progress of all activities and hence

the building process. This analysis would also help us to see the incidence of lump-sum contract and the general contractors in the industry.

Table 3.3 gives the percentage distribution of building sites according to the co-ordinating agency. In the household sector, the

Table 3.3: Distribution of Building Sites according to Agency of Overall Co-ordination

Type of building Coordinating agency	Household sector				Private Corporate sectors	Public Sector
	Reside- ntial small	Reside- ntial large	Non resi- dential small	Non-resi dential large		
1	2	3	4	5	6	7
Owner	18(100)	4(40)	7(70)	5(42)	-	-
Contract manager	-	5(50)	2(20)	5(42)	-	-
General contractors	-	1(10)	1(10)	2(16)	5(100)	5(100)
Total	18(100)	10(100)	10(100)	12(100)	5(100)	5(100)

Source: Survey of building Sites in Trivandrum City 1985

owner acts as the co-ordinating agency in all the small residential building sites, 40 per cent of the large residential building sites, 70 per cent of the small non-residential building sites and 42 per cent of the large non-residential building sites. Here it may appear

that the results presented in table 3.2 and 3.3 are contradictory. But it should be remembered that even when all activities are performed by contractors, the owner might look after the function of general coordination. In such instances of prime contracts, the owner may employ a contract manager to co-ordinate the activities or he himself will attend to the function of coordination.

Though the contract manager is completely absent in the case of small residential buildings, he works as the co-ordinator in 50 per cent of the large residential buildings, 20 per cent of the small non-residential buildings and 42 per cent of the large non-residential buildings in the household sector. As we have noted earlier, the contract manager performs the co-ordination only when the work is given to different activity contractors through prime contracts.

In all the public and private corporate sector building sites, overall co-ordination among activities is performed by the general contractor. What is interesting is the relatively rare incidence of lump-sum contracts and general contractors in the household sector. There is not even a single site under lump-sum contract in the small residential category. But one each of large residential and small non-residential buildings and two large residential buildings were given on lump-sum contract. Interestingly, except for one residential building, all the buildings in the household sector with general contractor as the co-ordinator, are owned by impersonal entities or, say, collective owners such as religious institutions and co-operatives. Thus, as the

results of our survey of building sites shows, lumpsum contracts and general contractors are associated with buildings owned by collective owners rather than individuals.

Selection of General Contractors

Whenever the general contractor is involved, the contract tends to be a highly formal agreement based on detailed written documents. Contractors are furnished with all the necessary details regarding the work so as to enable them to quote the prices. And the contract when finalised leaves nothing to the discretion of owner or contractor. All the details regarding each part of the work including the materials to be used and the time of completion are specified in the contract. It is in the common interest of both the owner-customer and contractor to minimise arbitrariness.^{6/} Deviation from the contract agreement may be made but only with the consent of all the parties involved in the contract.

Selection of contractors are through negotiation or competitive bidding. In private sector buildings, the most common method is negotiation. Contract manager or the owner consults a selected group of contractors and finalises the contract with one of them. This method, according to contract managers and many of the owners, has got the advantage of avoiding inexperienced and incapable contractors from the fray. Lack of experience and financial weakness of contractors, it is said, may lead to unnecessary delays and therefore cost escalations.

Whatever may be the reason, the fact remains that entry into the general contractors occupation is restricted.

This is equally true of building works undertaken by Public Works Departments. Though the departments follow competitive bidding, there are several restrictions on free entry. For instance, let us take the case of the Public Works Department of Government of Kerala. To be eligible to compete for works under the Department, contractors are expected to register with the Department and get licenses. Further, the registered contractors are divided into four classes according to their financial resources and professional experience.^{7/} In addition to the registration fee, the contractors have to produce solvency certificates issued by the revenue department or bank guarantees, the amount of which vary for each class of contractors. Contractors belonging to a particular class, are not allowed to compete for works for which 'probable amount of contract' may exceed the upper limit for that group. Table 3.4 gives details of the classification of contractors into different groups.

The Size and Scale of Operations

In our sample of sixty building sites, there are only 14 sites employing general contractors. Notably, of these 14 sites, seven belonged to one of the leading construction firms in the city. This is one of the oldest and highly reputed firms which was established in 1962 by a Tamil engineer. Initially, PWD was their major client and they used to take even non-building works. Now they almost exclusively

Table 3.4: Classification of Contractors under KPWD

Sl. No.	Classes of contractors	Ceiling upto which work can be taken	Registration fee	Solvency amount	Registration office and authority
1	2	3	4	5	6
1	A	Without limits	Rs.1,000	Rs.50,000	Circle Office, Superintending Engineer
2	B	Upto Rs.10 lakhs	Rs.500	Rs.25,000	Division Office, Executive Engineer
3	C	Upto Rs.2 lakhs	Rs.300	Rs. 7,500	"
4	D	Upto Rs.40,000	Rs.100	No Solvency	Sub-division office, Assistant Executive Engineer

Source: General Chief Engineer's Office,
Kerala P.W.D., Trivandrum

specialise in the construction of buildings. At present, including the 7 sites belonging to our sample of sites, they have 15 building works with an estimated cost of around Rs.3 to 4 crores on hand. Though the firm works, for all practical purposes, as a single entity, infact it is a combination of two private limited companies controlled by a family. Accordingly they have two A-class contractors' licenses issued by the P.W.D.

The remaining seven sites are distributed among six contractors, one of them having two sites belonging to our sample. In this group of contractors, on an average, each contractor has got 3 building sites where work is in progress. One of the six contractors who runs a proprietorship firm has got only a B-class contractors license in the P.W.D. All others are partnership firms with A-class contractor's licenses.

All the general contractors are found to make substantial investments in construction equipments. Though the traditional tools are usually brought by the workers, most of the non-traditional construction equipments are supplied by the general contractors. For instance, the first firm which we referred to as one of the leading construction firms in the city, seems to have a fixed capital of Rs.13 to 15 lakhs.^{8/} The value of materials for formwork and scaffolds alone comes to around Rs.4 lakhs. Besides, they have five concrete mixtures, eight concrete vibrators, one mechanical hoist, two diesel pumpsets, two trucks, two jeeps and a permanent office building. In addition to this, they have a fairly large stock of ordinary construction tools, viz., pick axes, shovels, spades, pans, baskets, etc.

The company also claims to keep a working capital of around Rs.1 lakh, which is mainly used to pay subcontractors and suppliers of materials. Here, it may be mentioned that in public as well as private sector buildings, some of the important materials (cement, iron and steel) are supplied by the contract managers on behalf of the owner.^{9/} Other materials like bricks, sand, stone, wood, etc. have to be purchased

directly by the general contractor himself. Coming to the rest of the contractors, their average fixed capital is estimated to be Rs.4 lakhs and working capital Rs.20,000. (See Table 3.5).

Table 3.5: Characteristics of the General Contractors

Sl. No.	Nature of the firm	Present value of capital assets	Working capital	Class of P.W.D registration	Number of workers drawing monthly salary	Number of works in progress
1	2	3	4	5	6	7
1	Private Limited Co.	14,00,000	88,000	A	36	15
2	Partnership firm	7,50,000	32,000	A	10	4
3	Partnership firm	5,25,000	35,000	A	12	5
4	Partnership firm	4,00,000	22,000	A	9	4
5	Partnership firm	3,50,000	15,000	A	7	3
6	Partnership firm	2,75,000	11,000	A	5	2
7	Proprietary firm	75,000	7,000	B	4	2

Source: Survey of Building Sites in Trivandrum City, 1985.

One of the striking features of the building activity in our study area is the widespread practice of subcontracting. The general contractors instead of employing workers directly to execute the activities, usually farm-out the work to different activity contractors. This, however, is not to completely rule-out the incidence of direct employment of workers

by the general contractors. Workers employed by the general contractors, or 'muster-roll workers' as they are often referred to, usually do the miscellaneous or sundry jobs which come up from time to time. Keeping the stock room, minor conveyances, cleaning, curing of concrete, attending on the contractor and supervisions, minor purchases and repairs, etc., are the ^{tasks} normally entrusted to these workers. Besides, the general contractors are found to employ their-own workers to operate mixtures, mechanical hoists, etc., owned by the company. Here it may be recalled that the general contractor supplies material and non-traditional tools to be used on the site.

Further, on every important site, the general contractor will have a temporary office manned by some supervisors (agents) and watchmen. The number of supervisors or agents on a particular site may vary according to the importance of the site as well as the stage of work. For instance, while concreting or some other important work is going on more supervisors may be posted to the site. Supervisors employed by the general contractor may give proper directions to the subcontractors, assess their work, take measurements and make payments. Site offices would also receive suggestions and remarks from contract manager and act accordingly.

The widespread use of subcontracting considerably reduces the direct employment of workers by the general contractors (See Table 3.5). For instance, the biggest construction firm in our sample with 15 sites, employ only 36 workers who draw monthly salaries. Coming to the other six contractors, on an average one of them employs eight workers on monthly salaries.

Considered against their capital size and number of sites, the employment is low. The low level of direct employment by the general contractors points to the widespread prevalence of activity subcontracting in the industry.

Section 3

Activity Contractors

Activity contractors are those who specialise in the construction of some specific part or parts of the whole structure of a building. The degree of specialisation, however, may vary among activity contractors, from a single activity to a group of activities. Further, activity contractor may get the work independently from the owner or contract manager or alternatively subcontract the work from a general contractor.

A disaggregate analysis of the responsibility of execution of specific activities involved in the building process reveals the widespread presence of activity contractors and subcontracting in particular, in the study area (See Table 3.6). There are various alternative ways in which workers can be employed to execute the activities involved in the building process. For instance (1) the owner may execute the work through direct employment of workers, (2) the general contractor may carry out the construction by direct employment of workers or else (3) the activity contractor may be entrusted by the owner or general contractor to employ workers to execute the work. Further, the owner or the general contractor may supply the non-traditional equipments to the activity contractors (AWE)

Table 3.6: Percentage Distribution of Building sites according to the Responsibility of Execution of Specific Activities

Type of Building Execution of Activities	House- hold sector small resi- dential	House- hold sector large resi- dential	House- hold sector small non resi- dential	House- hold sector large non- resi- dential	Private corpor- ate sector build- ings	Public sector build- ings
	1	2	3	4	5	6
1. Earth Work						
O.D.L	60	40	40	-	-	-
A.M.E	35	50	20	35	-	-
A.W.E	5	10	40	65	80	100
G.D.L	-	-	-	-	20	-
N.O	18	10	10	12	5	5
2. Masonry						
O.D.L	45	10	10	-	-	-
A.M.E	40	80	50	50	-	-
A.W.E	15	10	40	50	100	100
G.D.L	-	-	-	-	-	-
N.O	18	10	10	12	5	5
3. Form work						
O.D.L	-	-	-	-	-	-
A.M.E	100	70	70	35	-	-
A.W.E	-	30	30	65	80	80
G.D.L	-	-	-	-	20	20
N.O	10	10	7	12	5	5
4. Bar-bending						
O.D.L	-	-	-	-	-	-
A.M.E	100	70	70	100	100	100
A.W.E	-	30	30	-	-	-
G.D.L	-	-	-	-	-	-
N.O	10	10	7	12	5	5
5. Concreting						
O.D.L	-	10	-	-	-	-
A.M.E	80	70	70	35	-	-
A.W.E	20	20	30	65	100	100
G.D.L	-	-	-	-	-	-
N.O	10	10	7	12	5	5

	2	3	4	5	6	7
6. Wood Work						
O.D.L	-	10	-	-	-	-
A.M.E	100	90	100	100	100	100
A.W.E	-	-	-	-	-	-
G.D.L	-	-	-	-	-	-
N.O	18	10	10	12	5	5
7. Laying Mosaic						
O.D.L	-	-	-	-	-	-
A.M.E	100	100	100	100	100	100
A.W.E	-	-	-	-	-	-
G.D.L	-	-	-	-	-	-
N.O	10	10	10	12	5	5
8. Plumbing						
O.D.L	-	-	-	-	-	-
A.M.E.	100	100	100	100	100	100
A.W.E	-	-	-	-	-	-
G.D.L	-	-	-	-	-	-
N.O	7	8	10	12	5	5
9. Tiling						
O.D.L	-	-	-	-	-	-
A.M.E	100	-	-	-	-	-
A.W.E.	-	-	-	-	-	-
G.D.L	-	-	-	-	-	-
N.O	4	0	0	0	0	0
10. Thatching						
O.D.L	50	-	-	-	-	-
A.M.E	50	-	-	-	-	-
A.W.E	-	-	-	-	-	-
G.D.L	-	-	-	-	-	-
N.O	4	0	0	0	0	0
11. Painting						
O.D.L	20	-	10	-	-	-
A.M.E.	80	100	90	100	100	80
A.W.E	-	-	-	-	-	-
G.D.L	-	-	-	-	-	20
N.O	8	8	10	12	5	5

Note: O.D.L : Owner through direct labour
A.M.E : Activity contractor with most of the equipments
A.W.E : Activity Contractor without equipments
G.D.L : General contractor through direct labour
N.O : Number of observations

Source: Survey of building sites in Trivandrum city 1985

or the latter bring their own or directly hired equipments to the site (AME)

The data presented in Table 3.6 clearly bring out the relative importance of the different ways in which labourers may be employed to execute the activities.

The practice by which the owner-customers employ workers directly and execute the work is completely absent in the case of public and private corporate sector building sites and large non-residential buildings belonging to the household sector. The category of 'owner through direct employment of labour' is practically limited to activities, like earthwork and masonry, in the household sector building sites. However, it should be noted that the category of masonry in Table 3.6 includes numerous masonry related activities such as construction of foundation and basement, walls, plastering and cement-flooring.

Use of family labour for construction of buildings is too rare and therefore not included in the table separately. However, during our field survey, we could come across at least three sites (small residential buildings) where owner and his family members work on the site with the labourers employed by them.

Relatively rare incidence of the category of 'general contractor through direct labour' is conspicuous in the presented data. As we have noted earlier in this chapter, instead of employing workers directly, the general contractors farm-out most of the important activities to the activity contractors.

Widespread practice of subcontracting and the relatively rare occurrence of direct employment of workers by the owner customers make the activity contractors the predominant direct employer of workers. We have classified the activity contractors into two broad groups, activity contractors with the construction equipments and those without the equipments. And, from the data presented in Table 3.6, one can easily discern a clear pattern in which these two categories of activity contractors are distributed.

In the case of highly specialised activities like, barbending, wood-work, laying mosaic, plumbing, and painting, the activity contractors themselves own and bring most of the tools and equipments necessary for production. 'Activity contractors without equipments' are generally concentrated in private corporate and public sector building sites and large non-residential buildings belonging to the household sector. As we have already noted, the incidence of general contractors who invest in and supply construction equipments, is relatively higher among the above three types of buildings. On the other hand, activity contractors with most of the tools and instruments, appear to be concentrated in the household sector building sites except the large non-residential sites. As we have seen earlier, the incidence of lump-sum contract is rare in these types of buildings. And the owners and contract managers rarely supply the tools and equipments to the activity contractors.

Regardless of whoever he may get the work from, the activity contractor is found to be in charge of execution of the work at pre-determined unit prices. Employment of activity contractor usually is

based on an informal, and most often, an oral agreement which centres around the unit rate at which the activity contractor agrees to do the work.^{10/} Thus, in addition to the wages for his-own manual work the difference between the price agreed to in the contract and the expenditure incurred by him to complete the work also contributes to the activity contractor's earnings. As such, the activity contractor is directly involved and interested in the organisation and control of the labour-process.

The size and scale of operations

Considering the prominent and key role played by the activity contractors in the organisation of work we have tried to collect more information on them. Accordingly we have interviewed forty activity contractors, involved in our sample of building sites. The sample of activity contractors comprise of ten masonry contractors and five each specialising in different trades, viz. carpentry, concreting, mosaic, plumbing, painting and earth-work.

Our enquiry on the date of entry of these activity contractors into the industry as activity contractors showed that none of them started their present business prior to 1970. Infact, more than 60 per cent of them had started their business only after 1976. It coincides with our understanding that the contractual organisation of building construction in the household sector is a recent phenomenon.

Another important characteristic of activity contractors is their small size measured in terms of turnover, total capital and number of

workers employed.^{11/} Most of the activity contractors are skilled workers turned contractors, running their 'one-man business'. The analysis of the size structure of sample units, in terms of total capital and turnover points out to the small scale of operations of activity contractors. In terms of total capital employed, the average size of units comes to only around Rs.3600. Similarly, average annual turnover is around Rs.50,000. Finally, on an average, an activity contractor employed only seven workers on the date of our interview with them.

Small scale of operation of the activity contractors and their low capital base should be understood in the following context. The activity contractor need not spend or keep money for the building materials, since their supply is the responsibility of either owner or the general contractor. Secondly, though final accounts are settled after the completion of work, the immediate client (owner, contract manager or general contractor) makes daily or weekly advances to the activity contractors. These two practices in the industry reduce the working capital requirements of the activity contractors.

Coming to investment in capital assets, it should be noted that most of the traditional tools (in the case of masonry and carpentry) are owned, maintained and brought by the workers themselves.^{12/} Further most of the activity contractors who subcontract the work from general contractors, get the required equipments from the general contractors. In addition to all this, the presence of a fairly

efficient hire market for construction equipments like shutters, poles, concrete mixtures, vibrators, etc., reduces the pressure on activity contractors to invest in these assets.^{13/}

Thus the organisation of work, in the industry, as it exists today permits the activity contractors to enter and remain in the industry without large investments in capital assets or working capital. Our estimate of average total capital employed, though it is only a rough estimate based on a case study of 40 activity contractors, suggests that there exists no major financial barrier for entry into the activity contractors occupation. Any experienced worker, with some initiative and leadership qualities can probably convert himself into an activity contractor. Relatively easy entry into his profession, it may be reasonably assumed, makes the activity contractors occupation highly competitive.^{14/}

Here it should be cautioned that the activity contractors are a heterogeneous group. As can be seen from Table 3.7, capital requirements and average number of workers employed differ among contractors specialising in different trades. For instance, earth-work and painting, given the level of technological development, require very little investment in fixed capital assets. Whereas all the mosaic contractors interviewed are found to own at least one mosaic machine, market price of which comes to around Rs.5,000. Similarly all the plumbing contractors interviewed maintain permanent business shops. Concreting contractors who specialise in the preparation of formwork, barbending and concreting will have to supply

Table 3.7: Size Structure of Contractors Specialising in Different Activities (in Rs.)

Activity	In Terms of				Number of Observations
	Size	Fixed capital (Average)	Working capital (Average)	Annual turnover (Average)	
1	2	3	4	5	6
Masonry	2,500	700	65,000	5	10
Carpentry	3,200	500	53,000	8	5
Concreting	5,000	800	50,000	16	5
Mosaic work	6,500	400	45,000	5	5
Plumbing	4,000	400	40,000	4	5
Painting	1,000	400	35,000	4	5
Earth-work	500	400	45,000	9	5

Source: Survey of Building Sites in Trivandrum City 1985

shutters and other tools at least when they get the work directly from the owner. Similarly concreting work requires more workers to be employed at a time, compared to laying of mosaic or plumbing.

Further, the activity contractors specialising in a common trade or activity themselves can differ in their relations with the client. This is particularly so in the case of activity contractors specialising in earth-work, masonry and concreting. Some of these specialist contractors

are found to be permanently attached to particular general contractors. During our field trip we could see several of such activity contractors who had been working for years on with a single general contractor. In such cases, the general contractor supplies all the capital assets and working capital required for the work. Such activity contractors are found to have relatively high annual turnover despite insignificant investment in capital assets and working capital.

They appear more to be employees of the parent firm than independent contractors. But even in such cases the activity contractors get the work on the basis of unit rates specified in the contractual agreement with the general contractor.

The Logic of Subcontracting

The activity contractor constitutes the basic unit of contractual organisation of production in the building industry. He is the most common immediate employer of workers in the industry. He recruits and supplies labourers and supervises their work.

In building industry, given its present organisation, the labour requirements vary considerably from time to time. Number of workers required at different stages of work on a site itself may differ significantly. Added to this, there are seasonal and other fluctuations in the general construction activity itself.^{15/} Further, since the work sites are geographically scattered, the work itself is mobile. Therefore, firms operating in the industry should be able to adjust themselves to the fluctuations. They should keep an optimum number of labourers and capital assets.

It would require frequent hiring and firing of workers. General contractor by subcontracting the work, shifts the above burden to the activity contractors. In the context of growing militancy and trade unionism among workers, this strategy attains added significance. By attaching activity contractors to the parent firm, the general contractor may also ensure adequate and timely supply of workers.

The severe competition among the activity contractors ensures that the unit rates of subcontracts remain at a low level. The activity contractors are forced to increase their self exploitation as well as the exploitation of workers, just to remain in business. Thus, subcontracting enables the general contractors to reduce the cost of construction.

The general contractor by farming out the work at predetermined rates, not only avoids the problem of direct control and management of workers but also guarantees himself a profit margin. At the same time, as explained by Braverman,

"While the attempt to purchase finished labour, instead of assuming direct control over labour power, relieved the capitalist of the uncertainties of the latter system by fixing a definite unit cost, at the same time it placed beyond the reach of the capitalist much of the potential of human labour that may be made available by fixed hours, systematic control, and reorganisation of the labour process.^{16/}

We have already discussed in detail the barriers to such radical transformation of the labour process in building industry. The building industry is still in the early stages of transition to capitalist mode of production. Consequently the contemporary labour process in the industry,

despite many changes that have come about, continues to bear imprints of the past. These constitute the theme of discussion in the next chapter.

Notes and References

1. Generally speaking, the owner's involvement in the building process can vary from a system where he fulfills all the functions in the building construction through his own or family labour to the other extreme where the owner purchases a fully finished building. However, both these extremes are rare in our study area.

2. Marx, Karl., (1978): Capital, Vol.1 progress publishers, Moscow, p.174.

3. 'Design competition' is yet another method to select a proper design for the building. In this method, the final design is selected through a competition in which a large number of designers are allowed to participate. This method is claimed to increase the quality of the design. However, it was absent in our sample of building sites. For a discussion on the relationship between nature of the design team and technological progress See Bowley, Marian., (1966): The British Building Industry -- Four Studies in Response and Resistance to Change, Cambridge University Press, Cambridge pp.169-180 and 355-358.

4. Contract management and design were done by the same agency in all the sites selected for our sample. However, one can not rule out the possibility of a separation of these functions into two different agencies.

5. This, however, does not mean that the contract manager can escalate the cost of construction at his will. Cost of construction can not go beyond the prices quoted by the contractors. Here, it may be noted that the contracts are finalised with the consent of the owner.

6. Anything left unspecified or vague in the contract-agreement may lead to misunderstanding and disputes later. For instance, the Kerala P.W.D. maintains a separate office and a Chief Engineer (Chief Engineer - Arbitration) for settling such disputes.

7. P.W.D Manuals, however, do not give any criteria to judge the financial resources and professional experience of the fresh applicants. As such, the classification of an applicant is left, more or less, to the discretion of the licensing authority.
8. Our estimates of fixed capital, both in the case of general contractors and activity contractors, correspond to the present value of fixed capital assets owned by the firm.
9. Even when general contractors are employed to execute the work, contract managers supply some of the important construction materials such as cement iron and steel, on behalf of the owner. This, it is said, is mainly to prevent the profit motivated contractors from saving on such crucial materials to increase his profit. Saving on such materials may affect the quality and life of the building.
10. Unit rates are fixed for specified pieces, such as for one window, for one door, for hundred bricks to be laid, for one sq.ft. of area to be plastered, for one Cu.ft. of earth-work, for one tonne of bars to be bent and so on.
11. Annual turnover is defined as the contractual value of the output produced by the contractor during the year. Here it may be noted that the contractual value of a building need not correspond the market value of the same. See for an explanation, Subrahmanian, K.K. et.al.,((1982): Construction Labour Market. A Study in Ahmedabad, Concept Publishing Company, New Delhi, p.23-28.
12. Workers generally come to the site with their tool boxes. For instance, the carpenters maintain and bring their set of chisels, hammers, sleaker, hand saw, files, measuring rode, screw drivers, etc. Similarly masons bring their-own ladles, hammers, plumbline, cord etc. The habit of working with one's own tools, however, is declining. The younger generation of artisans had already switched from wooden tool boxes to modern brief cases and even lighter tool packets.
13. In Trivandrum city there are several shops engaged in this business. Owner-customer or activity contractor can hire concrete mixtures, vibrators, shutters, poles, pans, baskets, etc., from these shops.

14. General contractors and contract managers often complain against the heavy rush of activity contractors seeking fresh jobs.
15. Building activity is considered to be prone to business and seasonal fluctuations. See for a detailed study of building fluctuations, Richardson, W. Harry and Aldcroft, H. Derek., (1968): Building in the British Economy between Wars, George Allen and Unwin, London, pp.213-268.
16. Braverman, Harry., (1979): Labour and Monopoly Capital — The Degradation of Work in the Twentieth Century, Social Scientist Press, Trivandrum. p.62.

Chapter 4

NATURE OF WORK IN THE INDUSTRY

In the previous chapter we have discussed in detail, the different stages of intermediation and the nature and role of corresponding groups of intermediaries in the contemporary building industry. Thus, we have covered some of the important aspects of organisation of production and particularly that of contract system in the industry. Here, it may be noted that the social organisation of production constitutes only the formal structure of the labour process. Therefore, our attempt in this chapter would be to concentrate on the nature of work in the industry or on the labour process as such.

In the first section we discuss the nature of work in the traditional building process in Kerala. We proceed to examine, in the second section, the salient features of the labour process in the contemporary industry in contrast with the traditional labour process. There we shall try to highlight both the continuities and discontinuities in the labour process. The final section is devoted to a discussion on the role of activity contractors in the control and management of labour process.

Section 1

Traditional Labour Process

The distinguishing characteristic of organisation of building construction in Kerala, as we have seen earlier, was the absence of wage labour relations and the paramountcy of caste based social customs and traditions. Though the artisans were directly employed by the customer, the latter had virtually no direct control over the labour process which was based on handicraft principles.

Through years of application, the local craft-rules had developed into a coherent body of knowledge, the science of architecture; popularly known in Kerala as 'Thachusasthram'. 'Thachusasthram' is a collection of architectural principles which deals with almost all aspects of building construction. Starting from selection of plot, soil testing, location of buildings, to house warming and maintenance, on everything related to building construction it has its own rules. These principles were popular and more or less universally accepted in Kerala. The extent of influence and sophistication that this art had attained is evident from the existence and popularity of several books on the subject.^{1/} Some of these books like 'Manushyalaya chandrika' of 16th century A.D. are popular even now among the Kerala carpenters.

Rules of 'Thachusasthram' which were described in books in versus, were closely integrated with the astrological principles.^{2/} Therefore, deviation from the accepted rules, it was believed, would be detrimental

to those who use the building or the artisans who had constructed it.^{3/} Such a belief in the handicraft rules demanded a high level of precision and accuracy at all stages of the building process. The highly integrated and interdependent nature of 'Thachusasthram' principles also seem to have contributed to the need for precision and accuracy. Once the basic parametric decisions on the building were made, it is said that all other details automatically follow.^{4/}

Naturally, the craftsmen were expected to acquire an in-depth knowledge and expertise in the handicraft rules. Besides, he should be perfectly at ease with measurement units, numbers and calculations. Further, application of the craft-rules in the actual process of work required manual skill and dexterity. As the traditional craftsmen combined all these abilities, he became an authority on the building process. According to the Census Report of 1891,

"In Malayali houses, however, the owners are entirely at the mercy of the carpenter, for he is the supreme authority on the dimensions of door frames, the inclination of rafters and their number for the roof, the area of the open yards, the position of the beams and their sections, for every trifling detail has its-own sasthram (science) to be followed. The Moothasari or head carpenter who designs the Nair house and directs the workmen, has got the whole of the 'Thachusasthram' rules by heart and now and then he quotes a passage to set the house owner aright".^{5/}

The above statement shows the importance of craft rules and the role of craftsmen in the traditional building process. Wood being the most important and extensively used building material, the carpenter used to design the buildings. Masons would be supplied with the measurements of the roof structure and other necessary details. Laying out the

foundation and building the walls to suit other aspects of the structure were the responsibility of masons. As may be understood, the craftsmen used only traditional tools which they themselves carried and the labour process was purely hand based.

For becoming an artisan, given the high level of skill and expertise that the society demanded from him, it needed years of hard and intense training. Freshers used to get trained by one of the elder relatives; most often an uncle or father. All experienced workmen, however, helped the boy in his learning process. The institution of apprenticeship seems to have been very strict with respect to quality. It demanded rigorous training and, therefore, determination and dedication on the part of trainees.^{6/}

Apprentices used to cook, wash, and carry tool boxes for their masters. The system of instruction and teaching was not systematic and learning was essentially through doing. Initially, he would be assigned with some repetitive and less skilled tasks. A mason's apprentice, for instance, used to prepare and carry mortar and laterite. Same was the case with the carpenter-trainees. And the period of apprenticeship used to be a real testing time for the youngsters, for the masters used to abuse and even physically torture them even for simple mistakes. The 'muzhakkol' or the measuring rod, as people say, was used for both measuring and beating the apprentices. Further it took a very long period, say on an average seven to ten years, for one to become a carpenter or mason. And to be recognised as a 'Moothasari' or 'Kanakkan' (head carpenter) or head mason it took even a longer period.



Here it may also be mentioned that apprenticeship was a highly caste-based institution. Apprentices were selected only from among the members of the viswakarma community.

To conclude, in the traditional building process, the work was based on handicraft rules and the artisans, as the authorities of these rules, had their control over the labour process. To be more precise, while on work, the workers were their own masters. And finally, we have also noted that the apprenticeship played an important role in the building activity, for it regulated supply and quality of the workforce in the industry.

Section 2

The Continuity and Discontinuity in the Labour Process

The diffusion of modern building materials as well as the demand for modern types of buildings have had significant impact on the traditional labour process. The traditional artisan apprenticed in the architectural practices and principles evolved in the context of the old social set-up and the traditional construction materials, was ill equipped to face the new challenges.

Traditional craftsmen by virtue of years of experience and inherited wisdom from ancestors had acquired the necessary working knowledge of various properties of commonly used traditional materials like wood.

Besides, the 'thachusasthram' contained instructions on numerous permutations and combinations of traditional materials which could be safely used.^{7/} Further, as practitioners of the art the craftsmen learned most of the commonly used combinations of building materials, almost by heart, with or without knowing the scientific significance or rationality behind such combinations. With the help of this wealth of knowledge, the senior craftsmen could plan structural and aesthetic details of a building. It is in this background that we should see the introduction of modern building materials with their immense structural potentialities.

Structural properties and possibilities of modern construction materials differ widely from that of locally available traditional materials.^{8/} For instance, cement, iron and steel and their combination in re-inforced cement concrete have entirely different functional properties compared to that of wood. Thus the modern construction materials and techniques are alien to the traditional craftsmen.

De-skilling

Today all technical decision including selection of materials are made on the basis of the principles of modern science rather than customs and traditions. Thus, labour process in building activity in Kerala, as Braverman suggested in the larger context of evolution of human labour processes, is "assuming an increasingly scientific character as knowledge of natural laws grows and displaces the scrappy knowledge and fixed tradition of craftsmanship".^{9/} In short, the craft rules and

the traditional indigenous style of Kerala architecture are fading out of the scene. Now, people rarely consult the 'thachusasthram' for designing their buildings, nor are they prepared to provide for the rigid restrictions of the 'thachusasthram' while constructing the house.

Thus, as of now, the craftsmen are not expected to be bothered with the technical, structural and aesthetic problems involved in the building process. The task of designing the building has become a job of specialists or professionals. Each worker, regardless of the activities in which he specialises, would be given specific instructions to finish the tasks assigned to him by an engineer or a contractor. He need not know how his share of the work would contribute to the whole structure or how the building would look like after the work is completed. Similarly workers do not have any choice in the selection of materials and their combination. For instance, the concrete workers do not decide how many bars of what size are to be put in the re-inforcement or what should be the proper mix of concrete. Same is the case of mason or carpenter who often work with the materials selected and issued by the engineer or contractor, to execute the work according to the specific instructions from above.

Thus the workers as a whole are increasingly deprived of the mental work involved in the building process. This is particularly true of design which was performed earlier by the senior carpenters in traditional Kerala. However, the progress in division of labour between mental work and manual work is an ongoing process. In some rural areas of Kerala, the carpenters still enjoy the privilege of designing, at

least in the case of small buildings. The autonomy and responsibility of workers and their share in the decision making are generally higher in the case of small buildings.

The division of labour that removed a substantial share of mental work related to design and even execution of work from craftsmen has considerably destroyed the worker's knowledge of the production process. Naturally this has adverse implications for the craftsmen's authority and control over the labour process.

The process of deskilling is reflected in the breakdown of apprenticeship, the traditional institution of craft-skill reproduction. In traditional building process, the apprenticeship system controlled the quality and supply of new workers. But since the level of skill and knowledge that the industry requires from artisans has considerably declined, the institution of apprenticeship has shrunk in its importance. While in earlier times, it took seven to ten years for a fresher to acquire a mason's or a carpenter's skill, in the contemporary industry the apprenticeship period has come down to around three or four years. This is evident from Table 4.1 which relates the experience of workers, in terms of number of years worked in the industry, and the wage rates. The data clearly show that the newly recruited workers in the contemporary industry claim and obtain a full-fledged skilled worker's pay within three to four years.

Here it may be mentioned that the scarcity of skilled and experienced workers in 1970s also had contributed to the breakdown of the apprenticeship. Due to the scarcity of experienced workers, owner

Table 4.1: Years of Work Experience and the Wage-rates (Rs./day)

Type of workers	Number of years		Five Years and above	Average wage for all	Number of workers interviewed
	Less than 3 years	Three to five years			
Carpenter	28.50(2.17)	35.67(3.33)	35.27(20.43)	33.83	18
Mason	27.50(1.58)	35.00(3.75)	35.33(9.00)	32.31	16
Other skilled	30.75(1.7)	36.00(4.3)	37.67(10.00)	34.40	10
Total skilled all categories	28.71(1.75)	35.50(3.8)	35.67(15.98)	33.41	44

Note: Figures in parantheses refer to the average number of years of experience of workers belonging to different groups

Source: Survey of Building sites in Trivandrum, 1985.

customers and contractors were forced to employ less experienced and less skilled workers. Especially, since they are more interested in the quantity of work completed rather than quality or finish of the work, the contractors found it convenient and cheap to employ less experienced workers.^{10/} Break down of the traditional Caste based system of apprenticeship is further evidenced by the heterogenous caste-composition of building workers (See Table 4.2). In our sample of building workers, out of sixteen masons interviewed only two belonged to the viswakarma community. However, except for one carpenter all the eighteen of them interviewed were

'viswakarmas'. But Christian and Hindu Nadars, Ezhavas and even upper caste Nairs were found working as masons. Such a situation

Table 4.2: Distribution of Building workers according to their Religion/Caste

Category of workers	Viswakarmas	Scheduled castes	Hindu nadar	Hindu ezhava	Hindu nair	Christian nadar	Total
1	2	3	4	5	6	7	8
Carpenters	17	0	0	0	0	1	18
Masons	2	2	4	2	3	3	16
Other skilled workers	3	1	0	2	1	3	10
Unskilled workers	2	7	2	2	0	3	16
Total	24	10	6	6	4	10	60

Source: Survey of Building sites in Trivandrum, 1985

could not have been imagined fifty or sixty years ago in Kerala.

As can be seen from Table 4.3 break-down of the traditional system of apprenticeship and the de-skilling of building workers had its impact on the movement of wages in the industry. Difference between the wage rates of unskilled and skilled workers in the industry has declined drastically during the period between 1965-66 and 1981-82.^{11/} Though there could be other possible reasons, the de-skilling of workers

Table 4.3: Movement of Wage Differentials between skilled and unskilled workers

Average daily wage rates of							Percentage differential			
	Carpenter (urban)	Mason (Urban)	Unskilled Male (urban)	Carpenter (rural)	Mason (rural)	Unskilled Male (rural)	$\frac{\text{Col.2}}{\text{Col.4}} \times 100$	$\frac{\text{Col.3}}{\text{Col.4}} \times 100$	$\frac{\text{Col.5}}{\text{Col.7}} \times 100$	$\frac{\text{Col.6}}{\text{Col.7}} \times 100$
1	2	3	4	5	6	7	8	9	10	11
1965-66	5.54	5.41	3.31	5.03	5.01	3.00	167	163	168	167
1970-71	8.63	8.73	5.71	8.19	8.20	5.40	151	153	152	152
1975-76	13.78	13.80	9.31	13.30	13.25	8.48	148	148	157	156
1980-81	19.33	19.36	13.07	18.66	18.75	12.30	148	148	152	152
1981-82	22.87	23.01	15.94	22.52	22.66	15.22	143	144	148	149

Source: Statistics for Planning, Government of Kerala, The Directorate of Economics and Statistics, Various issues.

appears to be an important causative factor for this phenomenon.

Composition of the Work Force

The introduction of modern construction materials and related construction techniques also have affected the composition of work force in the industry. Absence of appropriate data renders a detailed examination of the phenomenon difficult. We shall, therefore, confine ourselves to certain tentative suggestions.

The modern construction materials are generally factory produced materials which are ready for use in construction. These materials replaced not only the locally available unfinished materials but also the work and workers involved in preparing the traditional materials. Cadjan leaves, for instance, have to be put in water for one or two days and then plaited before they can be used for thatching. This was mainly done by agricultural labourers and particularly women. With the introduction of tiles and RCC, the role of women engaged in plaiting and the thachers have significantly disappeared from urban areas. Similar is the case of burnt bricks replacing granite, laterite or mud. Granite, laterite and mud should be made into suitable blocks to make them amenable for construction. This involves service of specialists or experienced masons. Similarly with the spread of saw mills, members of the caste group called 'thachans' who used to fell and saw trees do not any more enjoy a role in the building process.

Introduction of modern construction materials, on the other hand, have introduced several new trades and skills into the building

process. New trades employing workers, such as concrete workers, bar benders, centering and shuttering workers, plumbers, mosaic masons, wiremen, and painters have emerged as independent occupations. Further, with the divorce of designing and planning from the artisan occupations, formally trained engineers, architects and other technical personnel have become an unavoidable part of the work-force in building industry. Parallel to this, the traditional occupations particularly that of carpenters have gone down in significance. In traditional building process, the carpenters used to design the buildings and construct the wood-skeleton of roof and walls when they are made of wood. Besides, they used to do most of the decoration work by carving the wood. But, as of now, the carpenter's job is increasingly limited to the construction of doors and windows. The share of labour input of carpenter in building construction has consequently declined.

Another important development has been the rising importance of unskilled workforce in the industry. Earlier, carpenters and masons themselves or their apprentices used to undertake many of the unskilled jobs. Though agricultural labourers were also used to perform such jobs, they were not a part of the construction industry. The incidence of unskilled work has significantly increased in modern construction. Consequently, in the urban areas, the presence of large number of workers who almost exclusively depend upon the unskilled works involved in the building process is prominent.

Finally, with the growth of wage labour relations, profit motive and contract system, one may note an increasing presence of supervisors

either appointed by general contractors or in the form of activity contractors. The former, however, normally do not participate in the manual operations. Similarly in many work sites, we have 'workers' appointed by contract managers whose functions we have explained in the previous chapter.^{12/}

The Survival of Carpentry and Masonry Craft Skills

So far we have discussed some of the important changes in the labour process in building activity. There is an increasing trend towards conscious application of natural laws and modern science in the production process. However, the consequent process of deskilling, which we have noted, is far from complete.

Despite the introduction of new materials, the construction process largely remains in its traditional technological moorings. Mechanisation and use of machinery have made very little progress in the building industry. However, this is not to deny the use of few hand based power tools by some carpentry contractors, concrete mixtures, vibrators and hoists in the construction of big buildings or fairly widespread use of mosaic machines.

We would still maintain that the capitalist transformation of the labour process is far from complete. This point will be clearer when we examine the work of two important occupations in the industry viz., carpentry and masonry.

Hand-held power tools used in carpentry for cutting, sawing, planning etc., though operate faster, demand no less skill and expertise from the carpenter than what was needed earlier for the same

operations.^{13/} Further, even these tools are yet to be widely used. What would have really affected the skill dependence of carpentry, the factory production of doors, windows, wooden members of thatched or tiled roofs, is yet to make any significant progress. Thus, though the carpenter is 'relieved' of the responsibility of design or technical and structural problems involved in building, once the measurements of a window, door or a beam is given, he works almost like his predecessors in earlier times. He works with his tools and sets the pace of the work. He decides how differently he should proceed to plane this piece of wood, where to drive the nail, how neatly to cut two pieces so that their joint is smooth, strong and so on. Thus, while at work, even now, the carpenter should make several decisions, for which he depends on his-own knowledge of the craft traditions rather than rules or work charts prepared by the management.

Coming to division of labour, though it is true and important that mental work associated with design and co-ordination among activities is no longer the responsibility of craftsmen; apart from that, it remains at a rudimentary stage of development. In carpentry work-shops attached to building sites, the activity contractor may use a proper mix of fully skilled workers and apprentices by attaching the latter to repetitive and less skilled tasks. Though this saves skilled hours for the contractors, it does not necessarily succeed in permanently attaching workers to particular tasks. When a particular phase of the work is finished or when the worker changes his contractor or site he may get a chance to try his hand on other tasks. Thus, the specialisation is in carpentry as a trade or occupation

rather than on particular parts of it like planing, sawing etc.

The picture is not, in any way, strikingly different in the case of a mason's work. Unlike what has been reported from many other areas, in Trivandrum city we could see only masons but not brick layers, stone workers or plasterers. On a site, in a particular day, a mason may be laying bricks or doing only plastering. But he is not attached to any of these tasks. It may be that the high mobility of workers among sites, typology of buildings and contractors give even freshers a chance to acquire all the ingredients of a mason's skill. Further, given the casual nature of employment in the industry, it may not be advisable for a worker to be a narrow specialist if he is to get continuous employment. However, here it may be noted that all masons may not be capable of working with granite blocks. Granite work requires special skill and those who possess are known as rubble masons. But rubble masons would undertake other masonry tasks also.

Here again, the present day masons need not bother about the load bearing capacity of the wall that he constructs, its thickness, rationality behind using a particular material for it and so on. But apart from that, the work of mason, whether it is brick laying, plastering or some other task, remains as it was fifty years ago. This, however, is not to deny the fact that at present he uses burnt bricks and cement mortar more often than not laterite stone, unburnt bricks and clay or lime mortar. It may be possible that compared to the artisanal system, he is more closely observed at his work and under more pressure to finish the work on time, since the activity contractor's profit directly depends on his

efficiency as well. What is said here about a mason's trade may be applicable for carpenters' and even workers belonging to other trades.

Thus, intra-craft division of labour or the splitting-up of crafts into independent occupations have not made any significant progress in the industry. However, introduction of modern materials and related new trades and the system of activity contracting appear to have contributed to the increasing division of labour. Here it may be noted that the activity contractors and their workers specialise in different activities. Over time, the new trades have established their occupational independence. Let us, for instance, consider the shift from thatched or tiled roof to RCC roofs. At the early stages of the diffusion of RCC roofs, both carpenter and mason had a role to play in its construction. While carpenters were involved in centering and shuttering (formwork) masons were associated with laying, compaction and levelling of the concrete. This is so, even now, in certain rural areas. But in our study area, rarely did we see a skilled carpenter or mason working on the above jobs.

Activity contractors who specialise in concreting, do not employ skilled carpenters or mason. Laying, compaction and levelling of concrete is done by unskilled and semi-skilled 'concreting workers who move from site to site to do the same work. Similarly formwork is prepared by 'centering and shuttering' workers rather than skilled carpenters. It is not that the carpenters or masons are incapable of performing the above tasks. Rather, as the contractors humourously put it, the work does not need the 'sophistication and precision' of a mason or a carpenter;

it would only unnecessarily delay the work. Thus, concreting and preparation of formwork have become independent occupations in the industry. Thus, major source of increasing specialisation and division of labour in the industry has not been the subdivision of traditional crafts. The point we wish to emphasise is that when it comes to the actual manual operations, the principle of organisation of labour process remains more or less subjective, which to a great extent is based on conventions of handicraft and manual dexterity rather than modern science and mechanical power.

Section 3

Activity Contractors and Control of Labour Process

The low level of mechanisation and division of labour and survival of craft skills have significant implications for the management and control of labour process. We have already discussed one of the important functions performed by activity contractors, the most common immediate employers of the workers, viz., the recruitment and supply of workers. It is an aspect that has been widely noted and discussed in the literature. But, there has not been an adequate treatment of yet another equally important function undertaken by the activity contractors — the control and management of the labour process.

Since the production, by and large, continues to be handicraft based, the employer cannot depend upon machines or automatic assembly

lines to set the pace of the work. Objective conditions for the bureaucratic control are also absent. As such, the ways to extract more work from the workers are limited mainly to the intensification of work which would require direct involvement of employers in the labour process.

For instance, let us take the construction of RCC roofs. It involves a large number of workers. Conveyance of concrete, in most of the sites, is effected through a row of workers which extends from the mixing place to the roof-top where concreting is done. Besides these workers, there will be workers engaged in depositing, compacting and levelling of concrete. Yet another group of workers will be assigned to supply sand, stone pieces, water and cement to the mixing place. All these workers will have to be effectively co-ordinated to ensure the smooth progress of the work. Any lag at any stage of the work will slow down the entire process. Thus, speed of each worker is crucial for the efficiency of the collective worker.^{14/} Concrete mixtures, vibrators or even mechanical hoists cannot ensure this. Supervisors will have to physically exert themselves, by shouting and instructing, and running all over the site to control the workers. The control is unstructured, direct and personal.

The characteristic features of the activity contractors make them eminently suitable for undertaking such control strategies. Though the activity contractor is an employer striving to increase his profit margin by maximising the difference between contract-rates and the expenditure incurred by him to finish the work, he still bears the marks of a skilled worker. 28 out of 40 activity contractors interviewed

work on the site along with others. Even the contractors who do not work on the site are found to be capable of demonstrating even the most difficult of the tasks to his workers. Here, it is interesting to note that except for eight of them all the activity contractors interviewed were initially wage labourers in the industry; i.e., before they became contractors. And at least a few of them answered in affirmative when asked whether they were ready to work under other activity contractors, if they themselves could not manage new contracts. Further 16 out of 40 activity contractors interviewed belonged to the viswakarma community to which the building craftsmen traditionally belonged. Unlike the new trades that have emerged with the modern building process ('others' table 4.4), the caste based occupational

Table 4.4: Distribution of Activity Contractors according to Religion and Castes

Religion/Caste Activity	Hindu Viswakarma	Scheduled Castes	Backward Hindus and Christian Nadars	Forward Hindus and Christians	Total
1	2	3	4	5	6
Masonry	5	-	4	1	10
Carpentry	5	-	-	-	5
Others	6	2	13	4	25
Total	16(40)	2(5)	17(42)	5(13)	40(100)

Source: Survey of Building sites in Trivandrum, 1985

division in masonry and carpentry is still strong. Five out of the ten masonry contractors and all the carpentry contractors interviewed belong to the viswakarma community.

Given the social origin of activity contractors, their experience as skilled workers and the fact that majority of them continue to participate in manual work, prompt us to suggest that the nature of the activity contractor is more of a head worker or a gang leader rather than that of a capitalist entrepreneur. Activity contractor maintains a small group of workers and the number of workers normally do not go beyond what is directly manageable. He recruits the workers from among relatives, friends and neighbours and maintains a very close personal relationship with them. On the site recruitment of workers is very rare and if at all present, it is limited to unskilled workers. Some of the contractors are also found to advance lean season loans to workers. Workers, generally, move from site to site with the activity contractor.

It is also interesting to note that the activity contractor often tries to take the workers into confidence by discussing with them, how difficult it is to get new works and how low are the piece rates offered to him.

His experience as a skilled worker and constant presence at the work sites enable the activity contractor to observe and assess the performance of each worker and if required intercede directly. And if anyone's performance is not satisfactory, he may use a wide variety of

tactics ranging from advice and inspiration to abuse and harsh discipline. At times it may also end up in firing the recalcitrant worker. Through his personal demonstration he is capable of correcting the mistakes or speed up the work.

The activity contractor behaves and operates as one among the workers. But at the same time, he is an employer responsible for completing the work at pre-determined unit rates. In this context, it is also important to bear in mind that due to the nature of building activity the workers are normally paid on a daily wage basis. It increases the pressure on the control and management functions of the activity contractor.

The activity contractor's intervention in the labour process bears the marks of his twin-character, both as an employer as well as an experienced worker. Like most of the employers, he enjoys the important right to hire and fire workers by using which he imposes the needed discipline over them. At the same time, as an experienced worker, as a concerned relative, friend, neighbour and patron he commands obedience and respect from the workers.

Thus the institution of activity contractors and the control strategies adopted by them are closely related to the technology in use, extent of division of labour and work practices in the industry.

Notes and References

1. "Of the ancient writings in India dealing *enter alia* with architectural science the most ancient one appears to be Matsyapurana attributed to 450 A.D., Brihad Samhitha of Varahamihira of 550 A.D., Manasara assigned to somewhere between 500 and 700 A.D., Silparatna of the Gupta period and quite a large number of treatises of importance. So far as Kerala is concerned, the treatises on architecture can be traced to Thantra Samuchaya of Chennas Manakal Narayanan Namboodiripad of 15th century. The Manushyalaya Chandrika which deals exclusively with domestic architecture written by Thirumangalath Neelakantan somewhere in the 16th or 17th century A.D. is perhaps more popularly followed in the construction of houses for dwelling purposes".
Government of India: Census of India., 1961, Kerala, Vol.VII, Part IV A and B, p.129.
2. Mangal, Biru., (1983): 'The Traditional Domestic Architecture of Kerala, An Introduction in Souvenir, All India Competition and Seminar on Low Cost Housing, Kerala State Housing Board, Trivandrum. Also see Vasu, Achari, V.K., (1976) Greha Chithravali - Silpa Sasthram, (Mal.) Vidyarambham Press, Alleppey.
3. Most of the books on Thachusasthram give detailed descriptions on the ill-consequences that may be caused by the non-compliance of accepted rules of construction. See for instance. Parameshwara Menon. K., (1929) (ed): Manushyalaya Chandrika, Thachu Sasthram (Mal), Bhasha Parishkarana Committee, Sree Ramavarma Grandhavali, and Vasu, Achari, V.K., (1976) op.cit.
4. Mangal, Biru., (1983): op.cit. and Parameshwara Menon, K., (1929) op.cit. pp.51-132.
5. Census of India., 1891, Travancore, Part 1 p.268.
6. Despite strong family ties with the disciples, the Masters were very strict towards the students. There are numerous popular folk tales in Kerala to indicate how stingy the masters were in imparting trade secrets to the apprentices. For instance, in one of such famous stories (the story of perumthachan) one master

craftsman went to the extent of killing his son out of professional jealousy. See Samkunny, Kottarathil., (1974): Itheehya Mala, (Mal.), Kottarathil Samkunny Smaraka Committee, Kottayam Vol.1.

7. Parameswara Menon, K., (1929): op.cit. pp.63-108
8. For a detailed discussion on structural properties of building materials, See Khanna, P.N., (1958) — Indian Practical Civil Engineers' Handbook, Engineers' Publishers, New Delhi
9. Braverman, Harry., (1979): Labour and Monopoly Capital: The Degradation of work in the Twentieth Century'. Social Scientist Press, Trivandrum, p.155.
10. See Anand, S., (1986): 'Migrant Construction Workers — A Case Study of Tamil Workers in Kerala' M.Phil Dissertation, Centre for Development Studies, Trivandrum pp.86-88.
11. Similar movements of wage differentials in the construction sector have been noted by many researchers. See Guha, Thakurtha, S.N.,(1980): Contract Labour in Construction Industry, Firma Klm. Private Limited, Calcutta, pp.55-59 and Segal, Martin., (1974): 'The skilled-unskilled wage differential in construction', in Industrial and Labour Relations Review, January 1984, Vol.27, No.2 p.338.
12. See Chapter 3, Section 1 of the present study
13. Reckman, Bob., (1979): 'Carpentry: The Craft and Trade' in Zimbalist, Andrew (ed), Case Studies on the Labour Process, Monthly Review Press, New York, p.96
14. One of the techniques adopted by the activity contractors to speed up the concreting work is paying higher wages and other benefits to those who mix the concrete and load the baskets and pans.

Chapter 5

RESPONSE FROM LABOUR: EVOLUTION OF WORKERS' ORGANISATIONS

So far we have attempted to trace the slow transition that has been taking place in the mode of production in the Building industry. We have noted the growth of wage labour relations and increasing capitalist control over the labour process. In this chapter, our attempt is to examine the workers' responses to these changes in terms of their consciousness and organisations. We begin with a discussion on the evolution of trade unions and proceed to examine the working conditions in the present day industry.

Building in traditional Kerala was the occupation of artisans belonging to the viswakarma caste. Given the caste based division of labour in the society, it is important to discuss the interaction between caste and class factors that led to the formation^{of}/trade unions. Emergence of trade unions can be traced to the caste-based associations of the viswakarma community. We set out in the first section with a discussion of the viswakarma associations. They were deeply involved in the social ferment within their own caste as well as in the struggles for communal reservation (Section 1). These caste associations, however, were largely

unconcerned about the work related problems faced by the artisans. Simultaneous to or following the growth of capitalistic ethos in the society and in the industry one may note an increasing awareness among artisans about the need for organisations and collective action. 1960s witnessed the emergence of several artisans unions in the State -- which finally paved the way for the formation of Kerala Artisans' Union (KAU) in 1968. Though, initially KAU was an exclusive organisation of viswakarma artisans, by 1971 it became a secular artisans' union (Section 2). KAU is a wider body of artisans specialising in different trades and industries. Industry specific problems necessitated the formation of specialised construction workers unions. In Section 3 we discuss the organisational structure and functioning of construction workers unions in Trivandrum district. In the final section we shall discuss in detail the working conditions and wages in the contemporary industry.

Section 1

Viswakarma Associations

We have already referred to the social reform movement in Kerala. Just as in the case of many other communities, the first half of this century witnessed the emergence of several caste based associations among viswakarmas. Among them mention may be made of 1. Travancore Paradesa Viswabrahma Mahasabha (TPVMS). TPVMS, an association of Tamil speaking Kammalas in Travancore, was registered

in 1933. After the formation of Kerala State, TPVMS changed its name into Kerala Viswabrahma Maha Sabha (KVMS). In 1968 KVMS was merged with the Viswakarma Service Society (hereafter V.S.S)

2. Kerala Viswakarmala Sangham (KVS). K.V.S was formed in 1964 by the amalgamation of seven independent viswakarma associations in the state, viz., Viswakarma Slipi Sabha of Muvattupuzha, Viswakarma Sevasangham of the erstwhile Cochin state, Kerala Viswakarma Sabha of Trichur, Akhila Kerala Karmala Sangham of Cannanore, Viswbhrahmana Sangham of Kanjangadu and Karmala Prothinidhi Sabha of Vadakara. K.V.S. was the product of widespread urge for unity amongst the viswakarma case members. Later K.V.S itself took initiative to form a still wider body, Viswakarma Service Society (VSS) in 1968.

3. Akhila Kerala Viswakarma Maha Sabha (AKVMS). AKVMS was the most important constituent of V.S.S., formed in 1968. The origin of AKVMS can be traced to Madhya Thiruvithancore Yuvajana Sangham which was formed in Pandalam in 1944. This Yuvajana Sangham was the forerunner of the Akhila Thiruvithamcore Viswakarma Maha Sabha. The latter was later renamed as Akhila Kerala Viswakarma Maha Sabha. In 1968, AKVMS also jointed the V.S.S. However, it may be noted that some leaders of AKVMS did not agree to join the V.S.S. This splinter group continued to function under the banner of AKVMS.

Thus, as of now, Viswakarma Mahasabha and VSS are the two active organisations of the viswakarma community in Kerala.

Apart from the important organisations mentioned, there were several other viswakarma associations scattered all around the State. The consequent disunity and the lack of an all Kerala leadership till

very late was an important reason why the viswakarma community could not play any major role in the social reform movement in Kerala at large.^{1/} However, despite the absence of a central organisation or leadership viswakarnas as individuals and through local viswakarma associations have contributed to the popular movement against the customs and practices of the traditional society.

The Sanskritisation Movement

Eventhough viswakarnas considered themselves to be the descendants of Lord viswakarma, the divine brahmin architect, they were treated as an avarna caste in Kerala. Artisans belonging to the viswakarma community used to construct temples and make idols as well as utensils and ornaments for temples. Yet as a polluting caste they were not allowed to enter temples for workship. Thus, as in the case of other avarna castes, viswakarnas or kammalans of Kerala were also subjected to the discrimination of the caste based hierarchical society. One of the ways in which the community reacted to this oppression was through a mass campaign to sanskritise the social customs, rituals and ceremonies of the viswakarnas.

Unlike in the case of Sree Narayana Movement, the campaign for sanskritisation among viswakarnas did not have a common leadership. As such, it may be difficult to determine when exactly the movement started. However, there are numerous scattered evidences to suggest its widespread influence.

According to Travancore State Manual of 1906,

"They (the kammalas) trace their descent from viswakarma the architect of gods. In many parts they claim equality with Brahmins styling themselves viswa-brahmins. Their claim, however, seems to be of a recent origin. Inscriptions show that as late as 1033 A.D (1858) the kammalas were treated as an inferior caste and permitted to reside away from the habitation of higher classes. They wear sacred thread. The introduction of the holy-thread, an attribute of the Dwia or twice born, marks a new epoch in the history of kammalas. No exact date can be assigned for this, but the universal desire among all sections of kammala community is to raise themselves in the social scale by the manners of the Brahmins and other castes higher than themselves"^{2/}

Over time, the sanskritisation movement among viswakarmas appear to have become more organised. In 1920s and 'Thirties Chengannur Kottarathil Muthasari had organised house to house campaigns and meetings all over Travancore. In these meetings kammalas were taught and advised to follow brahmin rituals.^{3/} "Kammalas, though they are brahmins by birth, the community had degenerated to such an extent that treated as avarnas. To move up in the social ladder and to regain the social status, viswakarmas had to revive the brahmin rituals and traditions".^{4/} In short, this was the message propogated by Kottarthil Muthasari and his followers.

The Sanskritisation movement among viswakarmas in Kerala may be interpreted as a radical challenge to the caste hierarchy and its traditions that had denied ritual purity to the viswakarmas.

The campaign for unit among Viswakarmas

Kammala community in Kerala, as we have seen in the IIInd

chapter, is composed of artisans specialising in different trades such as carpentry, black smithy, gold smithy, etc. Apart from this, viswakarnas in Kerala were divided into Malayalam speaking and Tamil speaking kammalas. Further, these subsections of the community were known by entirely different local names in different parts of the State.^{5/} Inter-marriages and even inter-dining among these subsections was not possible. There were even language based and trade based associations among viswakarnas.^{6/} The sanskritisation movement and the popularisation of the theory of their common decendency from viswakarma, paved the way for unity among various subsections of the community.

Many of the viswakarma associations strongly advocated the need for unity among different sections of the community. Local units (karayogams) of viswakarma associations were responsible to take an active part in different functions and ceremonies associated with marriages, funerals, etc. They used this capacity to narrow down the intra-community differences in rituals and practices. In this connection the movement for a common law of inheritance for viswakarnas deserves special mention. G. Neelakantan, a representative of viswakarma community, moved a bill viz. The Travancore Karmala bill in Sree Mulam Assembly in 1937. The bill and the amendments thereof presented by N. Velu Achari, the then president of All Travancore Artisans Association, had sought to establish common law of marriage, divorce and inheritance for all subsections of the community.^{7/}

Struggle for Communal Reservation

One of the important fronts of social reform movement in Kerala was the struggle to establish right to government employment for all communities.^{8/} Though Ezhava, Christian and Muslim communities were the front line leaders of the movement, all avarna communities including viswakarmas also actively participated in the Abstention Movement.^{9/} Following the report submitted by G.D. Nokes, the Special Officer appointed to study the question of communal representation, the government appointed a public Service Commission. Thus, from 1937 onwards communal reservation for government jobs was granted to Kammalas. The kammalas were formally accepted as a separate community eligible for reservation. However, with the adoption of the Report of Administrative Reforms Committee (1958), Kammala Community lost the separate reservation quota. They were clubbed together, with the 'Other Backward Communities'. According to many viswakarma leaders the above policy shift had considerably reduced the effective reservation rate enjoyed by the community.^{10/} So much so that, one of the important pre-occupations of viswakarma associations since 1958 was the reservation struggle; i.e. to re-establish the special status of the community which it enjoyed prior to 1958. Separate reservation quota for the community has become a common platform for all viswakarma associations. It was an important factor that paved the way for unity among them and later for the formation of V.S.S. The recommendations of the Backward Classes Reservation Commission Report of 1970 (Nettur Commission) was a morale booster for the above struggle for reservation.

V.S.S and the Maha Sabha had launched several state wide agitations demanding the implementation of the Report.^{11/} Finally, in 1978, the State Government was forced to accept the demands raised by the V.S.S and the Maha Sabha.

Section 2

From Viswakarma Associations to the Kerala Artisans Union

The main issues taken up by the caste associations were largely related to the internal caste practices and rituals as well as reservation for caste members. They were largely unconcerned about the problems related to the working conditions of the artisans.

It may be noted that most of the artisans like goldsmiths, blacksmiths, tanners, bell founders, etc., were self employed petty producers. We have already examined in detail the underdeveloped nature of capitalist relations in the building industry. The building artisans were employed directly by the customers, their interrelationship being fashioned by customs. The remuneration to the craftsmen was based on and ensured by the accepted traditions of the society rather than by collective bargaining.^{12/}

Growth of capitalist production and wage labour relations changed the situation considerably. The artisans could no longer depend on social customs that over time had become weak and non-functional. Nor

could they entirely depend on the benevolence of the employer to fix a fair price for their labour power.

Added to this was the adverse impact of industrialisation and government policies on the self employed artisans. Gold Control Act of 1963 rendered many gold smiths jobless.^{13/} Similarly, factory production of agricultural implements and household utensils significantly affected the blacksmiths and bell-founders. Economic development and technological progress introduced many novel products and processes which greatly affected traditional skills of artisans.

All these developments agitated the artisans and created an awareness for the need for collective actions to solve the problems related to the work. 1960s witnessed the emergence of several artisan's unions in Kerala. A majority, of these unions were gold workers' unions that mushroomed as a response to the gold control act of 1963. Trivandrum gold workers' union established in 1964, under the leadership of P. Sarasappan and gold workers' union in Trichur organised by T.K. Bhamu in 1965 were the most important among them.

The caste leadership of the viswakarma community were initially suspicious and even unfriendly towards these new organisations. Some of the leaders feared that -- the newly emerging unions would hamper the unity of the community and erode the influence of caste leadership.^{14/} However, before long viswakarma association themselves started taking up work related issues of its members. Labour conferences became a regular feature of the annual conferences of viswakarma associations

and their local units. And in 1968, Akhila Kerala Viswakarma Maha Sabha (hereafter the Maha Sabha) chose to come out with a state wide agitation raising specific demands to save the artisans from their deteriorating conditions. One of the major demands of the above agitation was the formation of an Artisans' Welfare Board. Leaders of the Maha Sabha demanded that the governments were responsible to solve the ill-effects of industrialisation. The 1968 agitation culminated in a 'Sathiagraham' in front of the State Secretariate which lasted for nearly a month. Similarly, the second annual conference of V.S.S. held at Ernakulam had adopted a charter of demands to be submitted to the government.^{15/} Most of these demands were for the welfare of working artisans belonging to the viswakarma community.

The Kerala Artisans' Union (K.A.U)

The 1968 agitation of the Maha Sabha which for the first time raised some important work related demands of viswakarmas, is an important event in the history of artisan movement in Kerala. It was the experience of this path breaking struggle which paved the way for the formation^{of} the Kerala Artisan's Union. The Chengannur Conference of the Maha Sabha, that took place immediately after the 1968 agitation, decided to form the K.A.U. The president-ship of P. Sarasappan who was one of the pioneers of artisans' unions in the state was pivotal in this shift in Maha Sabha's stand.

P. Sarasappan, the president of Maha Sabha at Chengannur Conference himself became the first president of KAU. Initially,

K.A.U. was expected to function as a mass organisation under the control of the Maha Sabha. It was to be an exclusive organisation of viswakarma artisans. However, after the union's registration in 1971, the KAU leadership opted to open its membership to non-viswakarma communities. Besides, the KAU also started admitting artisans specialising in non-viswakarma occupations such as barbers, potters, etc. into its fold. Thus a class-based rather than caste-based organisation of the artisans in Kerala began to emerge.

The above secular and progressive policy of KAU was not acceptable to the conservative leadership of the Sabha. In 1972, the Maha Sabha completely disowned the KAU. The Sabha even attempted to retaliate by organising its own artisans' unions. K.A.U., however, successfully withstood the above challenges and developed into a well organised organisation with units in all parts of the State. In 1983, after a referendum among its members, K.A.U affiliated itself to C.I.T.U. In 1985 it had around one lakh registered members in the State.^{16/}

K.A.U had an active role in the struggles of artisans in Kerala that led to the formation of Kerala Artisans' Development Corporation (1981) and the enactment of the Kerala Construction Workers and Quarry Workers Welfare Scheme (1981).^{17/} The caste associations as well as their artisanal fronts also independently participated in these struggles.

Further, in the context of the present study some of the demands raised by K.A.U from time to time are interesting. In the IVth Chapter

we have referred to a deskilling process in the building industry and the consequent breakdown of the system of apprenticeship. The reproduction of designing skill was shifted to engineering colleges and other formal institutions, such as, Industrial Training Institutes, Technical Schools, and Industrial Training Centres. Over time, public sector employment of skilled workers became purely on the basis of certificates issued by such formal education institutions. Responding to this situation K.A.U and V.S.S demanded reforms in the recruitment procedures. They demanded separate selection tests to evaluate the skills of the candidates. Similarly, K.A.U demanded short term courses for artisans (free of cost) to impart new skills and techniques that are emerging in different jobs.^{18/} V.S.S had also demanded reservation of seats in engineering colleges and other technical training institutions for students belonging to the viswakarma community.^{19/}

Apart from these demands and struggles, we do not have any systematic or violent resistance to deskilling and disruption of artisanal apprenticeship. This is in contrast to the experience of the artisan movements in some of the western countries.^{20/} Apprenticeship in these countries were formal and well structured by guild rules. Whereas, it was more informal and caste-based among the artisans of Kerala. This may be one of the reasons for the absence of organised and direct resistance of artisans to protect the traditional apprenticeship system or the craft skills.

Need for Specialised Unions

K.A.U covers a wide variety of workers specialising in a large number of trades ranging from cobblers, potters and barbers to ornament

workers and ivory carvers. Further, artisans specialising in a single trade may be working in different industries. For instance, carpenters work in a wide array of industries, viz., construction, boat building, furniture making, automobiles, etc. As regards employment status, K.A.U membership includes self employed and permanently employed artisans as well as casual workers.

The above nature of its membership coverage appears to have become a serious limitation on K.A.U's organisation and functioning.

Problems and organisational help required by its members employed in different industries, trades as well as under different employment status may vary considerably. Even if the union has got an extremely efficient organisation and alert leadership, membership coverage of the range as that of K.A.U would make it difficult for the union to fulfill the duties of a responsible trade union. This, however, is not to deny the existence of common problems justifying the presence of a general organisation of all artisans such as K.A.U. But industry specific or trade specific problems necessitate the formation of more specialised trade unions.

This is particularly so in the case of construction industry. Given the specific features of the construction industry, the emergence of and growth/specialised construction unions is not surprising. More importantly, a large number of unskilled men and women workers in the industry cannot be considered as artisans in the usual sense of the term. Finally, the sheer size of construction workforce in the State also facilitated the emergence of construction workers' unions.

Section 3Construction Workers' Unions

The efforts to unionise the construction workers have began to bear fruits only recently. Most of the existing construction workers unions are of recent origin and got their registration only after 1980. Prior to this, there were several construction workers' unions organised around huge construction projects. Such site based unions, however, are transitory in character. Once the construction of the dam or bridge is over, the workers disperse and the union ceases to function. Though such unions still exist, towards the end of 1970s, several district based unions with more organised and systematic functioning have come into existence. As of now, the trend is towards amalgamation of such unions into state level organisations.

In Trivandrum district, Jilla Kettida Nirmana Thozhilali Union (JKNTU) and District Kettida Nirmana Thozhilali Union (DKNTU) are the two important unions among construction workers. The JKNTU was formed in 1980. In 1984 it became a constituent of the Kerala construction Workers Federation (affiliated to AITUC). Similarly, the DKNTU which came into existence in 1982, recently became a member of the construction workers co-ordination Committee (affiliated to CITU). Though it has strong units in other districts, the efforts of Kerala Kettida Nirmana Thozhilali Congress (K.K.N.T.C affiliated to INTUC) to make inroads into the construction workers in Trivandrum district have not met with much success.

Membership and Organisation

Though 'Kettida Nirmanam' means construction of buildings, all the unions admit non-building construction workers as well. Here, it may be noted that exclusive specialisation of workers in building construction is yet to develop in Kerala. Our examination of the union registers had revealed that masons, carpenters, concrete workers, barbenders, centering and shuttering workers, mosaic workers, painters, plumbers, wiremen, road workers, quarry workers, men engaged in collecting sand and gravel, brick moulders and helpers ('Maikadu') both men and women are the main categories of workers organised by trade unions (See Table 5.1).

Table 5.1: Distribution of Trade Union Members according to Different Trades

Category	Number of workers
Masons	317 (44)
Carpenters	51 (7)
Painters	43 (6)
Rubble Masons	28 (4)
Electrical Wiremen	15 (2)
Plumbers	7 (1)
Concrete Workers	15 (2)
Barbenders	14 (2)
Centering and Shuttering Workers	14 (2)
Mosaic Workers	8 (1)
Road Workers	7 (1)
Sawyers	44 (6)
Sand Collectors	
Brick Moulders	
Quarry Workers	157* (22)
Helpers	
Total	720 (100)

Note: i* Out of 157 helpers 23 were women

ii. Compiled by taking a ten per cent sample of the total members of JKNTU as on 1985 December.

Source : Membership Register, JKNTU, Head Office, Trivandrum.

As can be seen from Table 5.2, the unions have made significant progress in terms of their memberships. Even after allowing for exaggerations (1985 and 1986 figures are collected from respective union offices),

Table 5.2: Construction Workers' Unions in Trivandrum
District by their Affiliation and Membership

Name of the Union	Membership			Year of Registration	Affiliation
	1983	1985	1986		
J.K.N.T.U	4,600	7,230	9,200	1980	A.I.T.U.C
D.K.N.T.U	1,700	3,200	6,500	1982	C.I.T.U
K.A.U	7,000	7,500	7,500	1971	C.I.T.U
K.K.N.T.C	-	700	1,000	1984	I.N.T.U.C

Note: K.A.U (Kerala Artisans Union) admits non-construction workers also

Source: (i) Labour Commissioners Office, Trivandrum
(ii) Offices of the respective trade unions

in a highly unorganised activity like construction, this rate of growth of trade union membership is remarkable. In fact, many trade union leaders believe that construction sector is one of the fronts in which trade union movement in Kerala has made significant progress in recent times. However, it should be cautioned that only 27 out of 60 (i.e. 45 per cent) workers in our sample had trade union membership. It confirms

that a significant proportion of construction workers in the district are yet to be organised.

Specific Features of the Industry and the Functioning of the Unions

Since trade union activities and organisation of work in the industry are closely related, some of our findings on the latter need to be underlined. Building industry is characterised by absence of any permanent employer-employee relationship. A good number of workers are working with individual employers (owner-customers) for a few days and leave the employers when the work is over. The general contractors who engage them for a sufficiently longer period also do not accept them as permanent employees. The widespread practice of subcontracting in the industry saves the general contractors from all direct dealings with the workers. These distinguishing features of the industry makes it difficult for the trade unions to organise the workers against a permanent employer. Similarly, since the work place itself is mobile in the industry, unions can not hope to function around a permanent workplace.

Absence of permanent employer and workplace might be the reason for the shift from early site-based organisations to area-based construction Workers' Unions. Thus, the construction Workers' Unions have a unique organisational structure. They organise workers on the basis of their area of origin. For instance, of the 83 primary units of JKNTU, there are only three site-based units. Similarly DKNTU has got only four site-based primary units out of its 64 units. K.A.U. however, has got several workplace-based units around furniture shops, jewellery shops, etc. But,

they do not have even a single site-based unit organising Construction Workers.

Area-based organisations also suffer certain handicaps. A significant proportion of workers in the industry are migratory in character and return home only after long intervals, say once in a month or once in a week. This naturally imposes serious limitation on the functioning of the union. It is difficult to organise primary unit meetings on a short notice. Usually, such meetings are held only on sundays. Secondly, the area-based trade union organisation is not conducive to take up work-place specific or employer specific problems confronted by the workers. For instance, if we take a building site in Trivandrum city, even the workers belonging to the same union, will be members of different primary units. Even identification of their members, not to speak of other matters, is a difficult task for trade union leaders. To overcome this problem JKNTU has started recently to issue identity cards for its members.^{21/}

Another important feature of trade unions in the industry is their dependence on activity contractors or gangleaders of workers. Workers in the industry are so attached to the activity contractors that the unions find it difficult to organise them independently of the specialist contractors. In fact, all the unions in the district make use of the influence of activity contractors among workers to organise them. In primary units, more often than not, the activity contractor himself would be the secretary or the convener. Trade union leaders do not conceal this strategy. According to many of them,

this is an effective interim tactics to attract workers and slowly educate and make them independent. Some of them, on the other hand, argue that the activity contractors should be considered as workers.

As explained earlier, for the general contractors, subcontracting is an effective strategy to shift the burden of labour management to the activity contractors. For workers, the activity contractor is their employer who is responsible for working conditions and the wages. Though some activity contractors are accountable to the trade unions, the pressure of competition forces them to over exert and exploit the workers.

Dependence of trade unions and workers on activity contractors limits the scope of work-place based struggles to improve the situation. General contractors on the other hand, refuse to acknowledge employment of workers by them and evade even discussion with the trade unions. Thus, objective features of the construction industry help the real capitalist to evade direct confrontation with workers. It has important implications for the efforts of the trade unions to improve the working conditions in the industry.

Section 4

Working Conditions and Wages

Building workers, unlike those in other industries have to work on widely scattered and frequently changing sites. Much of the construction work is done in open and is subject to interruptions of weather. Further,

most of the workers in the present day industry are migrant labourers who stay and work in far away places from their houses. Above all, work involved is highly demanding and prone to accidents. Given the trend towards multistoried buildings the work has become, probably more hazardous in nature.

Thus, the nature of work in the industry underlines and demands better safety precautions and welfare amenities. However, the specific features of the industry has rendered it difficult to enforce the various welfare regulations enacted.

Working Hours

In most of the building sites selected for our sample, construction work starts at 7.30 or 8 a.m. and stops at 5.30 or 6 p.m. However, the time at which the workers come and leave the work site was found to differ among sites and categories of workers. Generally, one hour recess period is given to all workers during the working day for the midday meal and for evening refreshments.

As can be seen from Table 5.3 nearly 53 per cent of the workers in our sample put in more than eight hours of work per day. Among building workers, working period is found to be relatively higher for masons and unskilled workers than that of carpenters and other skilled workers. Regarding working hours in the industry, it is important to note that the statutory minimum wage rates for construction workers in Kerala are fixed on the basis of an eight hours norm.^{22/}

Table 5.3: Distribution of Workers according to Average Hours of Work

Category of Workers	Proportion of workers who put in more than eight hours	Proportion of workers who put in less than eight hours	Total Number of workers	Average working hours
1	2	3	4	5
Carpenters	7 (39)	11 (61)	18 (100)	7 $\frac{3}{4}$
Masons	9 (56)	7 (44)	16 (100)	9
Other Skilled Workers	5 (50)	5 (50)	10 (100)	8 $\frac{1}{2}$
Unskilled Workers	11 (69)	5 (31)	16 (100)	9
Total	32 (53)	28 (47)	60 (100)	

Source: Survey of Building Sites in Trivandrum, 1985.

Safety and Workmens' Compensation

Hazardous nature of work and its proneness to accidents, calls for safety precautions on work, medical facilities and insurance schemes. However, of the sixty building sites visited during our survey, not more than three sites had any first aid facilities on the site. Though public sector contracts usually attach detailed safety codes, such regulations are observed more in their breach than in their compliance.^{23/} Further, such rules do not exist in private sector building works.

Trade union leaders and the workers in general are found to be ignorant about the safety conditions attached to the contract agreements

in public works. As a result they are not able to insist upon the departments or contractors for their implementation. This is evident from the frequent accidents on the sites. We ourselves came across four such fatal accidents that have happened during 1985 in Trivandrum city itself. Interestingly all the four cases were reported from public sector construction sites.^{24/}

Though there are legal provisions for extending financial assistance to the disabled workers or dependents in the case of death, the specific feature of the industry makes them ineffective. It is a widely accepted fact that the workmens' Compensation Act is generally by passed by the contractors and the benefits accruing to the workers under it are seldom realised.^{25/} The procedure prescribed in the act are so cumbersome and expensive that an ignorant worker often finds it difficult to pursue the case.

In none of the four fatal accidents mentioned above, the dependents managed to get the benefits of Workmen's Compensation Act. Interestingly in all the cases the dependents and trade unions applied for compensation as per the provisions of the Kerala Construction Workers and Quarry Workers Welfare Scheme. This new scheme introduced recently by the state government does not involve general contractors or other employers. It is a Welfare Scheme fully financed by the government. Yet, as is clear from Table 5.4 trade unions and workers have failed to make use of the scheme.

Table 5.4: The Kerala Construction Workers and Quarry Workers Welfare Scheme, An Evaluation

Year	Budget allotment Rs.	Amount spent Rs.	Number of persons benefitted
1	2	3	4
1981-82	Nil	Nil	Nil
1982-83	50,000	30,000	6
1983-84	1,50,000	75,000	15
1984-85	25,000	20,000	4
1985-86	Nil	-	-

Source: The Labour Commissioner's Office, Trivandrum

Other Benefits and Legislation

The story of poor implementation of labour laws is not confined to the Workmen's Compensation Act and public sector safety codes. Rather, when it comes to enforcement, all most all important legislations affecting the building workers have met with the same fate.

The Contract Labour (Regulation and Abolition) Act of 1970 and the central rules framed under the Act in 1971 are applicable to the building industry.^{26/} Both the Contract Labour Act and the Central Public Works Department (CPWD) Model Rules demand the contractors to provide canteens,

rest rooms separately for men and women workers, creches, sufficient number of latrines, urinals, wholesome drinking water, first aid facilities, etc. The sponsoring agency as well as the principle employer are equally responsible for the maintenance of these facilities.

Moreover, the CPWD's Contractors' Regulation Rules that are equally applicable to Kerala Public Works Department (KPWD) Contracts, contains provisions for maternity facilities to the female workers. Apart from this, the Payment of Wages Act, 1936 is also applicable to the Construction Workers in Kerala. The CPWD's Contractors' Regulations and the Contract Labour Act also endorses the provisions of the payment of Wages Act. This act demands the Contractors

1. to fix a wage period which should not exceed one month
2. to maintain wage books
3. to make payment of wages directly to the workers
4. to abide by the restrictions regarding deductions from wages, etc.

Thus, construction industry in Kerala can boast of several labour welfare legislations. However, in reality, as proved by our site visits, most of the provisions of these Acts are yet to be implemented. Canteens, creches, conservation of sanitation, wage period, direct payment of wages, insurance schemes, etc. remain to be attractive proposals existing only in paper. Most of the workers are not even aware of these legal rights. Apart from non-compliance of rules by contractors, lethargy and ineffectiveness of Labour Department in enforcing the rules also contribute to the

Table 5.5: Index Numbers of Average Daily Money Wage Rates in the Construction Sector — Urban

	Carpenter	Mason	Painter	Plumber	Electrical wireman	Sawyer	Unskilled Men	Unskilled women
1	2	3	4	5	6	7	8	9
1963-64	100(4.98)	100(4.78)					100(2.93)	100(2.09)
1964-65	103(5.12)	102(4.88)					101(2.97)	101(2.11)
1965-66	111(5.54)	113(5.41)					113(3.31)	115(2.41)
1966-67	117(5.83)	119(5.68)					124(3.62)	129(2.69)
1967-68	132(6.58)	138(6.59)					135(3.95)	144(3.02)
1968-69	161(8.02)	169(8.10)					174(5.10)	172(3.59)
1969-70	168(8.37)	182(8.71)					188(5.52)	188(3.92)
1970-71	173(8.63)	183(8.73)	100(7.84)	100(9.16)	100(9.28)	100(7.62)	195(5.71)	188(3.92)
1971-72	179(8.90)	185(8.86)	106(8.36)	108(9.91)	102(9.45)	102(7.74)	203(5.96)	195(4.08)
1972-73	192(9.55)	201(9.54)	110(8.64)	119(10.90)	107(9.93)	105(8.00)	216(6.32)	211(4.41)
1973-74	214(10.64)	224(10.70)	117(9.21)	123(11.26)	112(10.38)	121(9.21)	237(6.93)	232(4.81)
1974-75	240(11.96)	253(12.08)	145(11.35)	139(12.77)	141(13.15)	147(11.22)	270(7.92)	267(5.59)
1975-76	277(13.78)	289(13.80)	163(12.79)	144(13.23)	159(14.73)	174(13.23)	318(9.31)	313(6.54)
1976-77	291(14.50)	303(14.50)	174(13.61)	153(14.02)	162(15.05)	183(19.91)	329(9.65)	342(7.15)
1977-78	305(15.19)	317(15.15)	182(14.26)	165(15.12)	172(15.96)	196(14.99)	345(10.10)	364(7.61)
1978-79	315(15.70)	328(15.68)					356(10.42)	378(7.91)
1979-80	350(17.42)	364(17.42)					390(11.43)	423(8.85)
1980-81	388(19.33)	405(19.36)					446(13.07)	489(10.22)
1981-82	459(22.87)	481(23.01)					544(15.94)	585(12.22)

- Note: (i) 1963-64 = 100 - for carpenter, mason, unskilled men and women
(ii) 1970-71 = 100 - for painter, plumber, electrician and sawyer
(ii) Figures in parentheses refer to average daily money wage rates

Source: Statistics for Planning, Government of Kerala, The Directorate of Economics and Statistics, Various issues.

Table 5.6: Index Numbers of Average Daily Money Wage Rates in the Construction Sector -- Rural

	Carpenter	Mason	Painter	Plumber	Electrical wireman	Sawyer	Unskilled Men	Unskilled women
1	2	3	4	5	6	7	8	9
1963-64	100(4.59)	100(4.51)					100(2.53)	100(1.73)
1964-65	102(4.70)	102(4.60)					101(2.56)	101(1.75)
1965-66	110(5.03)	111(5.01)					119(3.00)	117(2.03)
1966-67	123(5.65)	123(5.56)					126(3.18)	134(2.32)
1967-68	132(6.06)	139(6.27)					140(3.55)	154(2.67)
1968-69	167(7.68)	170(7.68)					196(4.95)	186(3.22)
1969-70	177(8.12)	188(8.27)					217(5.49)	207(3.59)
1970-71	178(8.19)	182(8.20)	100(6.22)	100(8.29)	100(8.31)	100(7.19)	213(5.40)	213(3.68)
1971-72	182(8.37)	188(8.47)	124(7.72)	99(8.17)	104(8.67)	100(7.17)	213(5.39)	221(3.83)
1972-73	198(9.10)	207(9.32)	134(8.36)	108(8.92)	118(9.77)	111(7.98)	228(5.78)	225(3.90)
1973-74	215(9.87)	221(9.98)	141(8.77)	128(10.63)	119(9.88)	115(8.26)	247(6.26)	249(4.31)
1974-75	253(11.60)	257(11.59)	174(10.84)	136(11.31)	149(12.40)	140(10.08)	290(7.31)	293(5.07)
1975-76	290(13.30)	294(13.25)	200(12.46)	156(12.90)	169(14.04)	180(12.94)	335(8.48)	342(5.93)
1976-77	303(13.93)	309(13.94)	213(13.26)	160(13.27)	171(14.18)	189(13.59)	345(8.74)	375(6.48)
1977-78	323(14.81)	330(14.88)	228(14.20)	179(14.83)	183(15.20)	198(14.23)	371(9.38)	405(7.00)
1978-79	332(15.23)	341(15.37)					390(9.86)	423(7.32)
1979-80	363(16.66)	372(16.76)					424(10.72)	468(8.09)
1980-81	407(18.66)	416(18.75)					486(12.30)	568(9.82)
1981-82	491(22.52)	502(22.66)					602(15.22)	659(11.40)

Note: (i) (1963-64 = 100) - for Carpenter, Mason, Unskilled men and Women
(1970-71 = 100) - for Painter, Plumber, Electrical Wireman and Sawyer

(ii) Figures in parentheses refer to average daily money wage rates

Source: Statistics for Planning, Government of Kerala, The Directorate of Economics and Statistics, Various issues.

prevalence of poor working conditions in the industry. Further, it should be noted that a large section of workers employed in the construction of small buildings in the private sector, particularly in the household sector, — does not come under the purview of existing Acts.

Wages

The only exception to the above dismal picture is the upward trend in the wage rates. As can be seen from Tables 5.5 and 5.6, money wage rates in the construction sector in Kerala, both in urban and rural areas, has witnessed significant increase over time. Money wage rates for all categories of workers ^{increased} /four to six times during the period between 1963-64 and 1981-82. However, the rate of growth of wages were much higher in the second sub-period (1972-73 to 1981-82) compared to the earlier half (1963-64 to 1972-73). (See Table 5.7). The above periodisation is important because the period of high growth in wages in the Construction Sector corresponds to the period of construction boom in Kerala.^{27/} Besides, Table 5.7 also shows that the annual rate of growth of money wages ^{has} become more consistent during the second period.

Regarding the structure of wages in the industry, it is pertinent to note that the rural wage rates have risen faster than the wage rates in the urban sector. Level of wages in the urban sector, however, continues to remain higher than that of rural wages. Further, the money wage rates of unskilled workers, of both men and women, had registered higher growth rates compared to the skilled workers. This

Table 5.7: Average Annual Growth Rates of Money Wage Rates in the Construction Sector

1	URBAN				RURAL			
	Carpenter	Mason	Unskilled Men	Unskilled women	Carpenter	Mason	Unskilled men	Unskilled women
	2	3	4	5	6	7	8	9
1963-64 to 1972-73	7.64 (.77)	8.26 (.85)	7.33 (1.29)	8.83 (.66)	8.14 (.91)	8.59 (.76)	10.20 (1.16)	9.67 (.71)
1972-73 to 1981-82	10.29 (.46)	10.31 (.46)	11.00 (.56)	12.10 (.41)	10.73 (.53)	10.50 (.52)	11.53 (.55)	12.77 (.40)

Note: Figures in parentheses refer to the Coefficient of Variation of annual growth rates

Source: Compiled from tables 5.5 and 5.6

Table 5.8: Real Wages in the Construction Sector (Trivandrum District)

	Consumer Price Index	Urban				Rural			
		Carpenter	Mason	Unskilled Men	Unskilled Women	Carpenter	Mason	Unskilled Men	Unskilled women
1	2	3	4	5	6	7	8	9	10
1970-71	100	8.52	8.86	5.18	4.10	8.25	8.48	5.00	4.00
1971-72	101	8.59	8.52	5.07	4.07	-	-	-	-
1972-73	107	8.80	9.13	5.28	4.93	-	-	-	-
1973-74	128	7.97	8.17	4.97	4.02	-	-	-	-
1974-75	168	6.99	6.94	4.07	3.29	6.48	6.48	3.84	3.17
1975-76	185	7.61	7.61	4.15	3.18	7.13	7.06	4.02	2.99
1976-77	164	8.71	8.65	5.36	4.43	8.57	8.60	5.05	4.09
1977-78	160	9.00	9.06	5.51	4.85	9.03	9.28	5.74	4.93
1978-79	166	8.89	8.99	5.51	4.93	8.92	9.44	5.89	5.04
1979-80	179	9.10	9.37	5.91	5.28	9.15	9.64	6.36	5.26
1980-81	204	9.17	9.21	6.09	5.32	9.00	9.39	5.98	5.34
1981-82	229	9.82	9.95	7.03	4.89	9.73	10.02	7.17	5.15

Source: Statistics for Planning, Government of Kerala. The Directorate of Economics and Statistics Various Issues

Table 5.9: Wage rates in Building Construction Sector(1985)

(Rs./day)

Category	Basic Wages According to the Minimum Wages Act	Basic Wages and Dearness Allowance	Prevailing average Wage rate	Number of workers below Statutory Minimum Wages	Number of Workers
1	2	3	4	5	6
Carpenters	17.85	31.11	35.36	4 (29)	14(100)
Masons	20.85	34.11	35.20	3 (30)	10(100)
Unskilled Workers	12.00	25.26	25.50	9 (56)	16(100)

Note: In the case of Skilled Workers apprentices are not included

Source: (i) Survey of Building Sites in Trivandrum, 1985

(ii) Kerala Gazettee, Vol.XXVIII, Government of Kerala, Labour(E) Department, March 1983.

was so all along the period both for rural and urban areas. Among skilled workers, a shift in the structure of wages in favour of masons may also be noted.

Table 5.8 reveals that the growth of money wage rates in the construction sector was sufficient enough to compensate for or even to outstrip the increasing cost of living in Kerala. Though there are fluctuations, it is reasonable to suggest that the real wages of construction workers in Trivandrum district, both in urban and rural areas, have witnessed significant improvement during the period between 1970-71 and 1981-82.

The Minimum Wages Act, 1957, is the only successfully implemented labour welfare enactment in the building industry. As it is obvious from Table 5.9, average wage rates received by the important categories of construction workers in the city are higher than the statutory minimum wages. However, it should be noted that 40 per cent of the workers in our sample received wages below the statutory minimum wage rates. Further, as noted earlier, even though minimum wages are fixed on the basis of an eight hours day, a significant proportion of workers in the industry put in more than eight hours per day. Further, unlike the workers in the organised industries, construction workers do not receive benefits other than wages such as leave with wages, bonus, free medical facilities, retirement benefits, job security, etc.

Our discussion on the movement and structure of wages poses interesting questions that are worth pursuing. But, given the limited scope of the present study, we do not attempt to explain the reasons

behind the upward movement of wages or the shift in the structure of wages in the industry. However, it may be tentatively suggested that the post 1970 construction boom in Kerala and the simultaneous out-migration of Construction Workers from the State to the Middle East had contributed to the increase in wages. It may be too simplistic to accord a predominant explanatory role to the trade union activities for the trends in wages. Firstly, for upward movement and high growth rates in construction wages pre-dates the emergence of modern construction unions. Secondly, because in the rural sector where trade unions are relatively weak, wage rates have shown higher growth rates compared to those of urban areas. Finally, while explaining the trend in wages, one should also consider the remaining influence of social restrictions on occupational mobility, and the role of artisanal apprenticeship, in regulating the supply of construction workers.^{28/}

In conclusion, one can suggest that except for wages, the lot of construction workers has not improved. Despite their recent growth, trade unions are yet to become effective in redressing the numerous grievances of construction workers. The general thrust of trade union agitations has been to force governmental welfare interventions. Though the agitational programmes are yet to bear fruits these are enough indications of a change. Already, a Welfare Fund Bill for construction workers is under consideration of the State Legislative Assembly. State Government had also appointed a commission to enquire and report regarding the viability of constituting a Welfare Fund for building construction workers.^{29/} If realised, an independent Construction Workers' Welfare

Board will be constituted with the responsibility to register all construction workers and to look after their welfare. The Welfare Board is expected to collect contributions from employers as well as employees and to extend gratuity, accident compensation and medical benefits similar to E.S.I., housing loans, scholarship for education of children of workers, etc.

The Welfare Board, in effect, would compensate for the absence of a permanent responsible employer in the industry. The Board may be responsible to ensure the implementation of Labour Welfare Legislations. In this connection one may also note the recent demand for a Central legislation to establish similar Construction Workers' Welfare Boards all over India.^{30/}

Notes and References

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2. Nagam, Aiya., (1906): The Travancore State Manual, Vol.2, Government of Travancore, Trivandrum, pp.388-392.
3. Krishnan Achari, M.N., (1984): op.cit. pp.153-156
4. Ibid.
5. Asari, Chapattakara, Kallasari, Kalthathan, Kammala, Kamsala, Kannan, Karuvan, Kitharan, Kollan, Malayala Kammala, Musari, Pandi Kammala, Pandithattan, Perumkollan, Thachan, Thattan, Vilkuruppa, Villasan, Viswabrahmanan, Viswakarma, Viswakarmala, etc. are some of such local names of Viswakarmas. See Kumaran, Achari, D.K., (1984): Viswakarma Samudaya Rangan Oravalokanam (Mal.), Manoj Printers, Muvattupuzha, p.59.
6. For instance T.P.V.M.S was an organisation of Tamil Speaking Kammalas. Similarly Viswakarma Silpi Sabha of Muvattupuzha was an organisation of masons.
7. Government of Travancore., (1937): See Mulan Assembly Proceedings, 1936-37, Vol.IX.
8. Malayali Memorial and Abstention Movement were the two important facets of this agitation. For details on Malayali Memorial, See Jeffrey, Robin., (1976): The Decline of Nair Dominance -- Society and Politics in Travancore 1847-1908, Vikas Publishing House, Bangalore.
9. Abstention Movement can be regarded as a part of the general anti-savarna agitation. See Thomas Isaac, T.M. and Michael Tharakan, P.K., (1986): Sree Narayana Movement in Travancore, 1888-1939, A Study of Social Basis and Ideological Reproduction, Wokring Paper No.214, Centre for Development Studies, Trivandrum.

10. Vasudevan.K.,(1981): 'Sarkarum Samvarana Commissionukalum' (Mal.) Anjanaya Printers, Trivandrum. Author is the present organising Secretary general of the Akhila Bharatheya Viswakarma Maha Sabha. Also see Krishnan Achari, M.N., (1984): op. cit. pp.345-350. Krishnan Achari is the founder president of V.S.S.
11. For details on various agitational programmes of V.S.S. See Krishnan Achari M.N., (1984): Op.Cit. and Kumaran Achari D.K.,(1984) Op.cit.
12. Krishnan Achari, M.N., (1984): Op.cit. p.5 and p.23.
13. Ibid. pp.70-75. Also See Sarasappan, P., (1984): 'Artisan Rangam' (Mal.) in Paramparagath Viavasaya Thozhilali 12th State Convention, Report CITU State Committee, Essen Printers, Cochin.
14. Krishnan Achari's Speech, (The then President of Viswakarma Maha Sabha) in the first Conference of Metal Workers' Union in Pathanamthitta, expressing his dislike towards the formation of the union is a reliable testimony of the position taken by Caste leadership. Krishnan Achari, M.N., (1984): op.cit. pp.183-185.
15. The charter of demands adopted by the 2nd State Conference of V.S.S. demanded a Welfare Fund for Viswakarma Artisans, formation of a Construction Corporation, issue of gold trade licenses to gold workers, etc. See Kumaran, Achari, D.K.,(1984): Op. cit., pp.53-55.
16. Report submitted by the General Secretary of K.A.U in its Alleppey State Conference held during 23rd, 24th and 25th of September 1986.
17. Formation of Kerala Artisan Development Corporation (KADCO) was one of the important common demands of Viswakarma associations and the K.A.U. KADCO was formed in 1982 with the following broad objectives.
 - (i) To provide a package of assistance to the indigent artisans to organise industrial establishments and thereby foster their income.
 - (ii) Initiate suitable programmes for artisan women to

supplement the income of artisan families.

- (iii) Initiate welfare measures and ensure social security for artisans.
- (iv) Generate surpluses for further development of artisans. For further details See Government of Kerala., (1979): Kerala Artisans' Development Corporation -- Project Report, The Committee for Artisans Development, Government Press, Trivandrum.

The Kerala Construction Workers and Quarry Workers Welfare Scheme, 1981 contemplates for the payment of an Ex-gratia financial assistance of Rs.5,000/- by Government to a construction worker or a quarry worker in the event of his/her becoming permanently and totally disabled as a result of an accident arising out of and in the Course of his/her employment. In the event of an employee meeting with a fatal accident, the Ex-gratia financial assistance of Rs.5,000/- is payable to his/her dependents.

- 18. See Sarasappan, P.,(1984): op. cit.
- 19. See Kumaran Achari, D.K., (1984) op. cit. p.54
- 20. Artisan Movement in these countries, particularly that of Carpenters and Masons, is well documented. For instance, See Powell C.G.,(1980): An Economic History of the British Building Industry (1815-1979), Methuen, New York and Kingsford, P.W., (1973): Builders and Building Workers, Edward Arnold, London.
- 21. JKNTU has already distributed identity cards, with passport size photograph of the worker, to 5,000 members. In this connection it is also interesting to note that JKNTU do not admit Tamil Workers.
- 22. Government of Kerala., (1983): Kerala Gazettee Vol.XXVIII, Labour (E) Department, March 1983, p.2
- 23. For Central Public Works Department Safety Code, See Johri, C.K. and Pandey, S.M., (1972): Employment Relationship in the Building Industry, Shri Ram Centre for Industrial Relations and Human Resources, New Delhi pp.94-98.

24. These accidents were reported from three major public sector Construction sites viz., Kerala State Road Transport Corporation Office buildings, East Fort, Indian Space Research Organisation - Complex, Thumpa, and National Highways.
25. See Johri, C.K and Pandey, S.M., (1972): op. cit. pp.190-192.
26. See for details, Government of India: Indian Labour Year Book 1984, Labour Bureau, Ministry of Labour pp.305-307
27. See table 2.2 of the present study
28. There were several social barriers on entry into the artisanal occupations in Kerala. This aspect attains crucial importance while explaining the co-existence of high wage rates in the construction sector and large scale unemployment in the States' economy at large.
29. Government have appointed a one man commission (U. Mahabala Rao) as per G.O.Rt. 1069/84/LBR Dated 8-8-1984 - to enquire and report regarding the viability of Constituting a Welfare Fund for building construction workers. Though the Report is already submitted, it is yet to be published.
30. Here we note the recent activities of the National Campaign Committee for Central Legislation on Construction Labour. The Campaign Committee had organised a national seminar (in Delhi during 1985, November 1st, 2nd and 3rd) and a national workshop (in Bangalore during 1986 August 25th and 26th) to draft the 'Construction Workers' Bill' contemplating the formation of Construction Labour Boards all over the country.

Chapter 6

SUMMARY AND CONCLUSIONS

In this study we have attempted to capture some important features of the contemporary labour process in the building industry in Kerala. Labour process defined as man nature interaction, involving the creation of use-value, is common to all societies. But at any particular stage of history it is also a social process involving social relations specific to that stage. Under capitalist production labour process is also a process of creation of surplus-value characterised by capital-labour relations. And we have characterised the labour process in the building industry in Kerala as one in transition from the specific form under artisanal production to that of capitalist mode of production.

Our theoretical discussion in Chapter 1 highlighted that the contract system is the specific form of the early stages of penetration of capital into the building industry. An important reason for this is the highly customer oriented nature of the building activity and the continued involvement of consumer in production decisions. Fullfledged commodity production of buildings develops only at a higher stage of capitalist development of the economy at large. Further, as in the other sectors of the

economy where the initial stages of development of capitalism do not involve a complete break with traditional technology, so also in the building industry the skill dependency survives perhaps for a very long period of time. We characterise this phase of capitalist development of building industry as a stage akin to 'formal subsumption of labour' under capital, described by Marx in the context of development of capitalism in manufacture.

In Chapter II, we have outlined the background of the emergence and spread of contract system. Building in traditional Kerala was undertaken by way of direct employment of custom-bound artisans by owner-customers. Though some of the unskilled tasks were performed by the agricultural labour castes, the building craftsmen belonged mainly to the viswakarma community. Building process in its various aspects viz., organisation of production, technology and nature of work was fashioned by customs and traditions of the society and not by profit considerations or market forces.

However, these customs and traditions of the society were increasingly challenged by various social reform movements as the second half of the 19th century progressed. During this period, slavery and uriyam, the system of forced labour by which public works were executed in Travancore, were abolished. The consequent problems of supply, management and control of workers forced the PWD to promote the contract system.

Though wage labour relations became widespread, the direct employment of workers by the owner-customers continued in the private

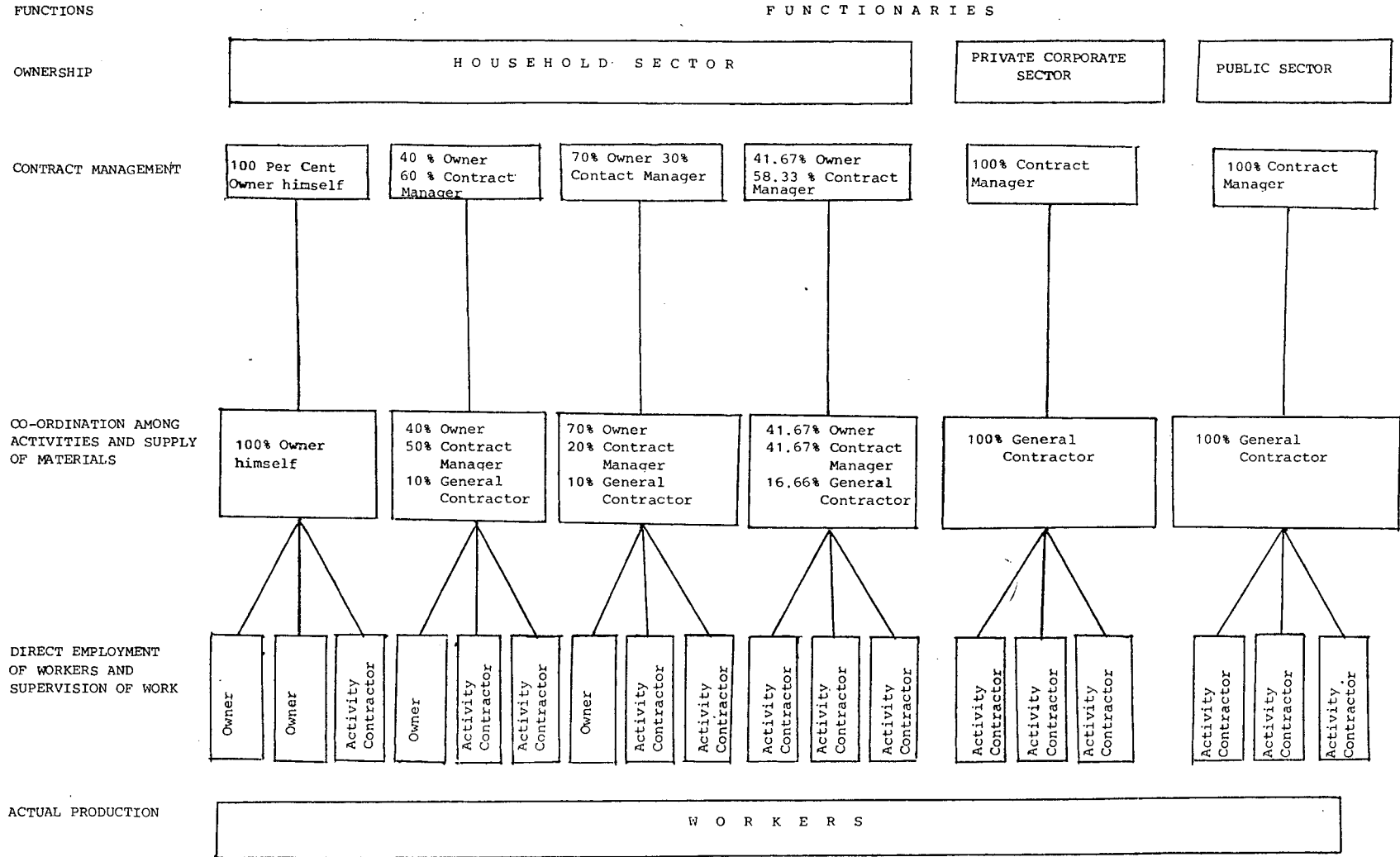
sector, particularly in the household sector building activities till recently. But with the building boom of 1970s contract system has spread even to the household sector.

The regional concentration of building activities necessitated large scale inter-regional movement of workers. The consequent disruption of the remnants of traditional links between artisans and the customers was aggravated by the labour scarcity due to the expansion of building activity and the simultaneous outflow of construction workers to the Middle East. Break-down of the traditional social relations, necessitated the entry of intermediaries to recruit, supply and supervise the workers. Further, the characteristics of the modern building process which we have documented in greater detail also favoured the intermediation and the penetration of capital.

We have conducted a detailed survey of building sites in Trivandrum city to identify and examine the role of these intermediaries. Results of our enquiry into the arrangement of these intermediaries according to different typology of buildings may be summarised using the following diagramatic presentation. (See the diagram)

Building process in the city is a complex operation involving different intermediaries, viz., design team, contract managers, general contractors and activity contractors. First of all, construction of buildings involves designing which is done now by formally trained professionals. Besides designing, the design team may also perform the function of contract management. The function of contract management

DIAGRAM ILLUSTRATING THE ORGANISATION OF PRODUCTION IN THE BUILDING INDUSTRY



is the outcome of contract system which necessitates a monitoring agency to assess the work of contractors. Remuneration to the contract managers is directly proportional to the actual cost of construction. Whereas the earnings of the contractors is the profit which depends on the difference between the contract price and the actual cost of construction.

Direct employment of workers by the customer in the industry is limited to the household sector buildings particularly to the small residential buildings. Apart from direct employment of workers, the owner can employ either a general contractor (lump-sum contract) or different activity contractors (prime contracts) to execute the work. All buildings in the public and private corporate sectors are constructed by employing general contractors. In the household sector the incidence of lump-sum contracts is associated with collective owners such as religious institutions, trusts, etc.

Though the general contractors make substantial investments in construction equipment, they farm-out most of the operations, at unit rates, to activity contractors. Thus, the most common and immediate employer of workers in the industry is the activity contractor who recruits, supplies and supervises the workers. Easy entry makes the activity contractors' occupation highly competitive, forcing them to over exert the workers to survive in the industry. By subcontracting the work at unit rates, the general contractor not only ensures a fixed profit margin for himself but also shifts the problem of labour management to the activity contractors.

In Chapter IV, we have examined the continuities and discontinuities in the nature of work. Traditional building process in Kerala was based on the local craft rules which had attained a high level of sophistication as is evident from the popularity of 'Thachusasthram'. Though the craftsmen were bound by the customs and practices of the society, as the authorities of craft rules they were virtually the masters of their work. But with the development of modern building process, workers are increasingly deprived of the mental work, especially the designing skills, involved in the building process. Thus, we have noted an ongoing process of deskilling of workers and the consequent breakdown of the traditional apprenticeship system. Another important development in the industry is a shift in composition of the work force in favour of new trades associated with modern construction materials.

However, apart from the introduction of modern construction materials and the scientific designing, the construction technology remains to be in its traditional moorings. Pre-fabrication, mechanisation and rationalisation of work, which would have revolutionised the technological base of production, are yet to make any progress. Consequently, the craft skills and hand power continues to play a crucial role in the building process. It is the continued influence of craft-skills that renders the persistence of lower forms of labour management strategies in the industry. Activity contractor with his twin characters of an experienced craftsman and an employer is eminently suited to perform the function of management and control of workers.

As it is generally true for all spheres of capitalist production, labour process under capitalist production of buildings is a contested terrain. Keeping this in mind we have also discussed the working class responses to the changes in the organisation of production and the nature of work. We find a subtle interplay of caste and class factors in the development of working class movement in the industry. Initially, a social ferment in the craftsmen community took the form of a social reform movement to attain a higher ritual status as well as to redress the caste discriminations. The growth of wage labour relations, coupled with the ever increasing pressure on artisanal production from higher form of industry as well as adverse effect of government policies prepared the way for the formation of artisans' unions. Artisans' unions, under the influence of general political and social movements in the State, increasingly took secular positions, thus breaking their links with the caste. This is the second stage of the emergence of trade unions. The final stage is the development of specialised construction workers' unions.

A detailed examination of working conditions in the industry highlighted the dismal record of the implementation of labour welfare legislations. Except for the upward movement of wages, the lot of construction workers remains poor. Eventhough it is too early to evaluate the performance of trade unions in the industry; their area based organisational structure is not conducive to take up work place-based or employer-based demands and agitations. The main focus of

the trade union activities was to force welfare interventions of government which are expected to make significant changes in the present situation.

To conclude, the building industry in Kerala is increasingly coming under the domination of profit motivated intermediaries. Traditional craftsmen are increasingly transformed into modern wage labourers. Technological change, eventhough in a limited fashion, has made its entry. Concurrent with the progress of capital, there is also an increasing presence of collective and individual actions of labourers to resist the domination of capital. However, as we have noted, the transition of building industry into a fullfledged form of capitalist production is far from complete.

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