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**SOME RECENT TRENDS IN SMALL SCALE INDUSTRIES:**

**A case study of Diamond Industry in Kerala**

**Dissertation Submitted in partial fulfilment of the  
requirements for the award of the Degree of Master of Philosophy  
in Applied Economics of the Jawaharlal Nehru University, New Delhi**

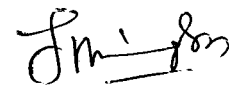
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I here by affirm that the research for this dissertation titled "**Some Recent Trends in Small Scale Industries: A Case Study of Diamond Industry in Kerala**", being submitted to Jawaharlal Nehru University, New Delhi, for the award of the Degree of Master of Philosophy, was carried out entirely by me at the Centre for Development Studies, Trivandrum.



**Tomy Joseph**

Certified that this dissertation is the bonafide work of Tomy Joseph. This has not been considered for the award of any other degree by any other University.

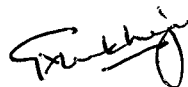


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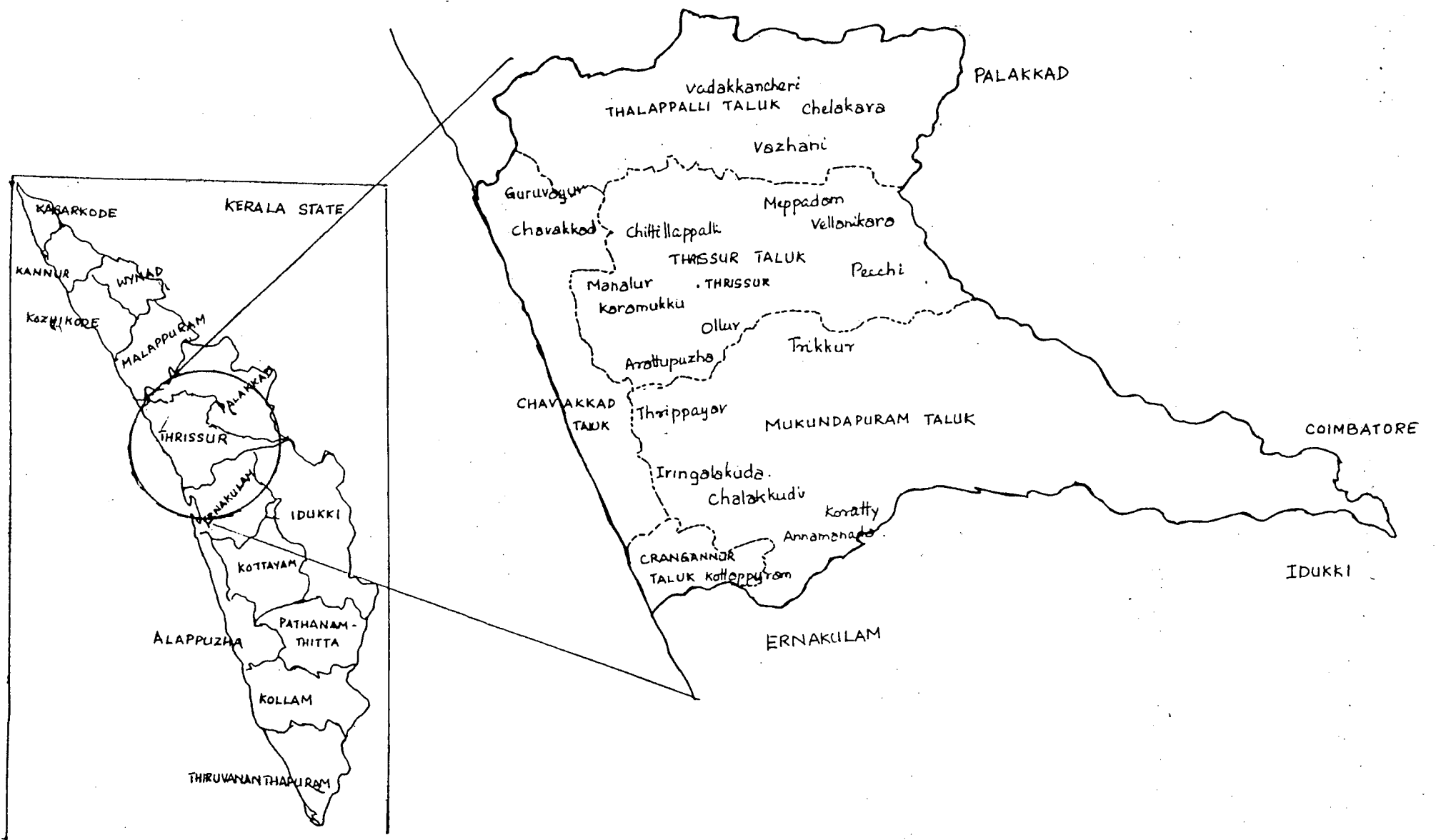
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THRISSUR DISTRICT





## Chapter 1

### INTRODUCTION

#### *Introduction*

Conventional paradigms of development posit economic development as a shift from dominance of agriculture through industry to the tertiary sector. In this process of sectoral shift, small-scale industries are conceived as a transitory phenomenon that would disappear with the expansion of modern manufacturing industries. However, there is a growing body of recent literature that emphasize not only the persistence of small scale industries but also their crucial role in the economic growth of both developed and developing economies. Moreover, given their potential for generating employment and relatively low levels of capital, technology and infrastructural requirements, small scale industries are being increasingly viewed as a solution to the problems of developing economies<sup>1</sup>. It is in this context, that the present study on the organisation of production in the diamond polishing industry in Kerala assumes importance.

Towards this, what follows in this chapter is a review of policies on small scale industries, the main thrusts of past research and a brief sketch of the industrial background of Kerala against which this study is posed. An enquiry in to the growth of unorganised sector is also attempted. This is followed by an outline of the main objectives of the study, methodology used and the contents of the chapters.

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<sup>1</sup> See Stanley and Morse (1965), Anderson (1982) and Tyabji N (1980)

### *Small scale industries in the Indian scenario*

In line with the changing global<sup>2</sup> perceptions on small-scale industries, changes were also witnessed in the Indian context. The small scale sector revived along with the industrial sector after a phase of sluggishness in the 1960s and 1970s<sup>3</sup>. This is evident from the increase in the number of units, volume of production, and the employment opportunities created in the small industrial sector.

Table 1.1 presents the major indicators of growth of this sector by a comparison of the All India Census Reports on Small Scale Industries for 1972-73 and 1987-88.

Table 1.1 brings out the growth of the sector in terms of the number, production, and net value added. Though the per unit production and net value added has gone up, the per unit employment has fallen sharply, implying a decrease in the size of firms. Both per unit employment and net value added shows a dismal picture in the case of Kerala.

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<sup>2</sup> *The world scenario witnessed a change in the production structure from the 'big firm' concept to the 'small firm' from mid 1970's. This is ascribed to 1) the introduction of new flexible technology 2) increased globalisation 3) changing composition of the labour force 4) the shift in consumer demand from standardised mass produced goods towards stylised and personalized products 5) government deregulations and 6) a period of 'creative destruction' in the Schumpeterian sense. (see Zoltan J and David Audretsch (ed) (1990)).*

<sup>3</sup> *See Raj K.N (1976 and 1984), and Ahluwalia I. J (1985) for a detailed discussion.*

Table 1.1: Growth of small scale industries: 1972 and 1988

Indicators	All-India			Kerala		
	72-73	87-88	% change	72-73	87-88	%change
No.of units	2.58	9.87	282	0.11	0.38	245
Production	2603 (1009)	13528 (1370)	420	116 (1054)	358 (942)	209
Net value added	841 (32596)	3230 (32725)	284	36 (32727)	71 (18684)	97
Employment	16.5 (6.39)	36.66 (3.71)	122	1.26 (11.45)	1.69 (4.45)	34

Notes:1. Units in lakhs, Production in Rs. lakhs at 1972-73 prices, Net value added in Rs.crores at 1972-73 prices and Employment in lakhs.  
2. Values in parantheses represent per unit values

Source: Government of India(1972 & 1988), First and Second All India Census Report on Small Scale Industries.

Small scale sector in India consists of a traditional and a modern sector. The traditional sector consists of village industries, artisans and household units. The modern sector consists of small scale enterprises, mechanised workshops and factories with power. It can be further divided into the organised and unorganised segment. The unorganised segment was not given adequate attention in the literature due to the paucity of data.

Nevertheless, the successive five-year plans and Industrial Policy Resolutions of the Government of India have endorsed a prominent position to small scale industries considering them as a homogenous entity. The policy changes regarding small scale sector is taken up in the next section.

### *Policies towards small scale sector*

The Ford Foundation team in 1953-54 suggested a programme for the development of modern small scale industry in India. Their main recommendations were 1) the establishment of four regional institutes of technology for small industries and 2) the establishment of a marketing service corporation. Further, the Small Scale Industries Board was constituted in the same year.

The Mahalanobis plan model envisaged an important role for household industries as producers of consumer goods and absorbers of surplus labour. Thus it was expected that the heavy industry bias of the model could be pursued without creating undue inflationary pressures in the economy (Kashyap, 1988). The Industrial Policy Resolution of 1956 underlined the role of village and small industries for effective mobilisation of resources, capital and skill and equitable distribution of income. The policy sought to ensure that the decentralised sector secured sufficient vitality to be self-supporting and its development was integrated with large scale industry. The Second Five Year Plan endorsed the above policy resolution.

To facilitate an integrated and harmonious growth of industrial sector as a whole, the Industrial Policy Statement of 1980 assigned a complementary role for small scale industries in conjunction with large industries (see Appendix 1). This was to ensure the plan objective of economic growth with social justice (Bhattacharya, 1986).

The New Industrial Policy announcement of 1991 had reiterated the importance of the small scale sector in the wake of liberalisation. As a sequel, the government announced policy measures for promoting and strengthening small, tiny and village enterprises. The policy measures proposed to deregulate and de-bureaucratise the sector with a view to remove all fetters on its growth potential. The various policy measures envisaged include, financial support for modernisation and technological upgradation, providing infrastructural facilities for attaining stronger linkages, facilitating markets and exports, promotion of entrepreneurship and simplification of rules and procedures. The persistent complaint of small scale units of 'being subjected to a large number of acts and laws, being required to maintain a number of registers and submit returns and face an army of inspectors', has also been addressed in the new policy statement<sup>4</sup>.

The emphasis in successive policies on the development of the small industrial sector is reflected in the various policies of protection and subsidisation, fiscal concessions, financial assistance and reservation of certain products for the small scale sector. Further, the most recent economic liberalisation policies highlight the need for technological upgradation of this sector with a thrust on export promotion.

#### *The main thrusts of past research*

There is no dearth of empirical analyses on growth and structural change of small-scale industries in India. However, these studies are mainly limited to the registered (organised) component of the

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<sup>4</sup> For details, see Government of India (1992).

small-scale industries. Though the growth of small-scale industries in the 1980s has been widely recognised, it has also been pointed out that the growth of the traditional component of the small scale sector was more or less stagnant owing to a weakening of its base in the rural sector<sup>5</sup>. Eapen and Vaidyanathan (1984) are of the view that the household industry showed a declining trend as against the non-household industry.

Even some of the official studies concluded that village and traditional industries were performing poorly and that official policies were not having their intended effect<sup>6</sup>. Deficiencies were pointed out with regard to employment generation, regional dispersal and technical capability except for a few industries catering to the export markets (Lakdawala and Sandesara, 1960; Kathuria, 1988).

One of the major areas of research on the small scale sector in India was regarding the choice of technique. This was based on the premise of the complementary role of small industry within the Mahalanobis framework (Raj, 1986; Vakil and Brahmananda, 1952; Rudra, 1978). In the mid 1970s research in this area was concerned with technological upgradation of traditional industries and the lack of access to modern production technology as a major constraining factor for the small producers. Low productivity and obsolete technology were pointed out as major bottlenecks.

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<sup>5</sup> See Kashyap and Tiwari (1982), Kashyap (1988), Papola and Mishra (1980).

<sup>6</sup> The Powerloom Inquiry Committee (1964) and Dutt Committee (1969) report have stressed this point.

Another research concern related to the definition of small scale industries<sup>7</sup>. The choice of criterion, namely, quantitative versus qualitative was a much debated issue which even now remains unresolved<sup>8</sup>. It may be borne in mind that the definitions of small-scale industries have changed over time. Since 1966 small-scale industries have been defined in terms of the upper-ceiling of investment in plant and machinery (original value) alone. The investment ceiling for plant and machinery which was then fixed at Rs.7.5 lakhs in the case of small scale industrial units and Rs.10 lakhs for ancillary units have been revised upwards four times thereafter. (See appendix-2).

As far as modern small scale industries were concerned, the major thrust of the discussion was on the relative efficiency of large and small. The argument that capital/output ratios are favourable to small scale industries came to be challenged by many studies (Dhar and Lindall(1961), Sandesara,(1981). Kashyap and Subrahmanian (1972) on the other hand pointed out the increasing capital intensity of the small scale industries.

As indicated earlier, small scale sector as a whole was performing well from 1970 in terms of the major indicators of growth. However, various studies have questioned the rationale for supporting small scale industries based on the relationship between scale and capital saving, scale and labour absorption, entrepreneurship and

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<sup>7</sup> See Dhar and Lindall 1961, Karve Committee Report 1956, Ford Foundation 1953-54.

<sup>8</sup> Qualitative criteria like kind of market served, type of organisation and quantitative criteria like the number of labourers, investment are considered relevant for policy making.

skill upgradation and evaluation of industrial estate programs. Thus, the economic logic of the government policy of protection and subsidy based on the size of the enterprise has been challenged. Scale per se is not correlated with capital saving or labour intensity (Kashyap, 1988; Kashyap and Subrahmanian, 1972; Sandesara, 1981 and 1988; N Banerjee, 1981).

Apprehensions have been raised against the dictum, "Small is Beautiful". Kashyap (1988) and Banerjee (1981) questioned the support given to small-scale enterprises and came out with expressions of misgivings regarding the outcome of a policy that supports any venture in the small scale sector without exercising adequate controls on its development or its proper identification. The presence of benami ancillary units and the deficiencies of ancillarisation were disclosed by these studies.

Another contentious issue that periodically surfaces in the literature relates to the role of entrepreneurship in promoting small scale industrial growth. The efficiency of small scale entrepreneur has been questioned by Leibeinstein<sup>9</sup>. Anderson (1982) cites the experience of a few developing countries to emphasize the need for training to improve production efficiency. According to him, rather than the elasticity of entrepreneurial response it is the efficiency which is a crucial variable. Studies (Harris J, 1982; Vander Veen, 1972; Kashyap and Tiwari, 1982) also supplement the view that the development of entrepreneurial skills are important.

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<sup>9</sup> For a detailed discussion of Leibeinstein's concept of inefficiencies and its relevance for developing countries, see Anderson 1982, pp.927-932.



A few studies have ventured to look into the role of government policies, namely industrial estate programmes, in fostering locational and agglomeration economies (Alexander(1963), Sandesara(1980), Kashyap and Shah (1995). Inter state differences in performance have been identified and problems of implementation highlighted. Along with this, they have expressed reservations on the notion that creation of industrial estates would promote regional dispersal of industries.

Commercial orientation of small scale industries, the spread of these industries with a 'quick profit orientation' and the exploitation of small entrepreneurs by middlemen are among the other major issues raised (Kashyap and Tiwari 1982, Van Der Veen 1972). It has been pointed out that skill upgradation and upward mobility of labourers from small to large sectors is rather weak.

The regressive labour practices and evasion of statutory provisions have also received scholarly attention<sup>10</sup>. Kashyap (1988) is of the opinion that the resilience and growth shown by the village and small industries sector might be welcome provided its growth experience includes the fulfillment of other desirable objectives of planning such as poverty eradication and removal of regional imbalances. He quotes various studies to show that apart from the prevalence of inhuman working conditions, village and household enterprises are not able to provide its work force a satisfactory standard of living. According to him a major share of the surplus

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<sup>10</sup> *Kashyap and Tiwari (1982), Banerjee (1981) and Papola (1994) are good examples of these genre of studies.*

generated is appropriated by agents not directly involved in the production process.

Subcontracting, an important feature of modern organization of manufacturing industry, has been dealt at length in the literature. However, studies in Indian context are limited. Subcontracting refers to a specific aspect of the organization of industrial production, where large and small firms co-exist with informal co-operation in production and sometimes in investment decisions as well (Nagaraj, 1984). Subcontracting has played a crucial role in the Japanese industrial economy and has been successful in stimulating technical progress in small scale industries (Watanabe, 1971). Given the conditions of labour surplus, there are vast possibilities for subcontracting in India. This aspect has been missed out in many studies on industrial development<sup>11</sup>.

There are a number of other issues relating to subcontracting that still await investigation. Region, industry, and firm specific studies are likely to provide new evidence and insights on this theme. The present study is a modest attempt to fill up this lacuna. More specifically, it seeks to trace the institutional arrangements and subcontracting relationships, organisation of production, diffusion of technical skills, managerial practices and entrepreneurial response against the background of the recent changes in government policies. This assumes further importance when we consider the growth of the unorganised manufacturing in recent times.

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<sup>11</sup> For a detailed sketch on the definition and types of subcontracting, see J C Bose (1987) and Nagaraj (1984).

### *The growing significance of the unorganised sector*

The significance of the unorganised sector in the development process was highlighted by Lewis (1954) in his seminal work, 'Economic Development with Unlimited Supplies of Labour'. However serious attempts to examine the economies of the unorganized sector were initiated only after the findings of the Commission of International Labour Organisation in Kenya<sup>12</sup>. In India also a number of studies have been undertaken on urban informal sector (Papola 1994 and Lubell 1991). However, the studies on organisational aspects of rural informal sector are not many. The nature of entrepreneurship, capital and labour markets and the process of production of the unorganised sector assume importance.

It would be meaningful to examine the growth of employment in various segments of the manufacturing sector in India. Table I.2 analyses the growth and distribution of total manufacturing employment according to organisational categories during the period 1961-1991.

**Table 1.2: Distribution of workers in manufacturing establishments according to organisational categories**

Category	Main Workers (in 000)			Percentage Share			Percentage Share in Non HH		
	1961	1981	1991	1961	1981	1991	1961	1981	1991
AM	17523	25145	28671	100	100	100	0	0	0
1)HH	9651	7713	6804	55	31	24	0	0	0
2)NHH	7872	17432	21867	45	69	76	100	100	100
2a)ASI	3050	7715	7743	17	31	27	39	44	35
2b)NF	4822	9717	14124	28	39	49	61	56	65

Notes: AM=All Manufacturing; HH=House Hold; NHH=Non Household; ASI=Annual Survey of Industries, and NF=Non Factory

Source: Eapen, 1984 and Ramaswamy, 1994.

<sup>12</sup> Report of the ILO Kenya Commission, 1972.

The following trends may be discerned from Table 1.2.

1. The period 1961-1981 is characterised by a shift from household to non-household manufacturing employment. Within the non-household sector the share of factory segment had been on the rise.
2. During the period 1981-1991 most of the incremental manufacturing employment was contributed by non-household non-factory segment.
3. A decline in the share of factory sector and a rise in non factory non-household segment are discernible in the 1980s. This change in structure of manufacturing employment partly reflects a shift from factory to non-factory non-household sector<sup>13</sup>.

The hypotheses of structural change based on the data provided by the Census Reports on Small Scale Industries are constrained by the fact that there exists nearly equal number of industrial units not registered with the State Directorate of Industries. As registration is not mandatory the unregistered units which apparently form a sizable segment are left out<sup>14</sup>. To overcome these limitations an alternative definition for the small scale industry other than the factory sector has been provided (Ramaswamy, 1994: 7)<sup>15</sup>. The small scale sector is an agglomerate of all industrial units outside the factory sector<sup>16</sup>. This

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<sup>13</sup> *Therefore, the definition of small-scale sector by the non-household non-factory segment of manufacturing finds its relevance in the foregone discussions. The approach followed in this section is similar to that of Ramaswamy (1994).*

<sup>14</sup> *See for details, Sandesara (1993) and Subrahmanian and Pillai (1994).*

<sup>15</sup> *Through out this analysis we follow this definition as a frame.*

<sup>16</sup> *The factory sector includes all units which employ at least a minimum number of workers (ten or more with power and twenty or more without) and at least a certain minimum amount of industrial capital investment in one location.*

provides scope for the small sector to subsume the entire decentralized production system regardless of the size of the decision making unit and concentration of ownership. The legal requirements binding the factory sector under the Factories Act 1948 are designed mainly for the protection of the consumers through quality control and of the workers by regulating the working conditions. More importantly, it gives the workers legal rights to unionise for collective bargaining. The unorganized sector is distinguished by the absence of regulatory laws and collective bargaining by workers (Papola 1994). In a labour surplus economy this means that the level of wages and employee benefits would be significantly lower in the unorganized sector. Small units in the Indian unorganized sector also enjoy several cost advantages including significantly lower wage rates and lower overheads because of their avoidance of factory regulations. These advantages may compensate for the losses of economies of scale<sup>17</sup>.

The size of firms in terms of employment has been declining since 1980s and the unregistered sector has been growing that is not often captured in data pertaining to small-scale industries. One way to overcome the problem of lack of aggregated data is to supplement it with micro level studies of specific firms, industries and regions to find out if they provide any further insight in to the issues (Nagaraj 1984).

The question of the viability of unorganised (unregistered) segment of the small-scale sector is one such important area deserving close attention. Through a case study, we attempt to look into

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<sup>17</sup> Banerjee N (1981) gives an account of it.

some problems of this segment against the background of Kerala's Industrial economy.

*Industrialisation in Kerala: some existing hypotheses*

Having discussed the changing perceptions on small-scale industries and their role in India's industrial economy, we shall now move on to take a closer look at the industrial scenario in Kerala. The various studies on the industrialisation of Kerala underlined the state's industrial backwardness and various hypothesis has been put forward to explain this phenomenon<sup>18</sup>. These include:

1. Lopsided industrial structure
2. High wage cost
3. Labour militancy
4. Lack of entrepreneurship
5. Locational disadvantages

The first set of explanations regarding industrial backwardness was based on the structural hypothesis. It has been pointed out that Kerala's industrial structure did not provide a dynamic base for the growth of modern industries and the lopsided character of industrialisation continued unabated. This suggests that the industrial backwardness is linked to the industrial structure and that structural factors are important in the growth of a region<sup>19</sup>. Additionally, the infrastructural constraints of the state have been pointed out as leading to locational disadvantages which act as hindrance for industrial growth.

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<sup>18</sup> See for a detailed review of various hypotheses, Prakash B A (1994).

<sup>19</sup> See for details, Subrahmanian and Pillai (1986) and Albin (1988). Subrahmanian and Pillai (1994) argues that the weak industrial base holds good even in the case of small scale industries.

Another major argument is centered around the high-wage cost hypothesis. A high level committee of the state planning board<sup>20</sup> looking into the lack of industrial growth in Kerala stated that wages had increased over the years without a simultaneous increase in productivity with the result that industries in the state are not able to produce at competitive prices even for its own consumption. Thampy (1986) supporting this view added that Kerala's small-scale industrial system is characterised by low productivity and high wages as compared to all India. He concluded that the general notion that high labour costs as inhibiting the growth of industries in Kerala is true at least in the case of a majority of industrial groups in the small scale industrial sector. Contradicting this hypothesis, Subrahmanian and Pillai (1986) pointed out that high wage cost alone cannot be considered as the reason for the industrial backwardness<sup>21</sup>.

Oommen (1981), examining the reasons for the mobility of small scale entrepreneurs from Kerala to neighbouring states, concluded that labour militancy, high-wage cost and government policy were responsible for the flight of capital<sup>22</sup>. His comparative study of Kerala, Karnataka, and Tamil Nadu pointed out that there were fewer work stoppages and labour strikes in the latter two states as compared to Kerala. This was often cited as an evidence for labour

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<sup>20</sup> *High level committee of the state planning board (1984)*

<sup>21</sup> *Subrahmanian and Pillai (1994) based on the two Census report on Small scale industries opined that the average money wages per employee at the national level was marginally higher than Kerala.*

<sup>22</sup> *Oommen has argued in the vein of Richardson according to whom, "Profit is an unsatisfactory goal for location decisions. Location decision has to take into account the 'psychic income' influences and other personal factors not easily compatible with narrow definitions of economic rationality". (Quoted from Oommen, 1981).*

militancy in Kerala. However, it has been suggested that militancy has to be examined in the light of the peculiar industrial structure and the social and educational status achieved. The perception of entrepreneurs regarding militant labour may be deep and persistent that entrepreneurs do not change their attitudes. However, it is worth examining whether these attitudes have changed over time or whether it is a psychological fear that still persists.

A major limitation that inhibits the growth of industries in the state of Kerala is said to be the lack of entrepreneurship. The following observation is a reflection of the popular perception on entrepreneurship. It has been lucidly commented that 'a Malayalee would deposit his saving in a bank than take the risk of starting an enterprise' (High Level Committee Report on Industry, Trade and Power, Vol.1, 1984). Such observations were made in relation to indigenous entrepreneurship in other states. Studies in the 1960s and 1970s mapped the transition from mercantile activity to investment in industry by dominant commercial communities (Mahadevan, 1987). Mahadevan also points out the lack of detailed studies on Ezhavas and Syrian Christians of Kerala, Nadars and Muslims of Tamil Nadu, and Shettys of South Kanara<sup>23</sup>.

According to Vaidyanathan and Eapen (1984), it is important to look at the industrial sector and its variations in terms of its organisational composition. In Table 1.3 an attempt is made to segregate the component wise distribution of industrial employment in Kerala.

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<sup>23</sup> *Exceptions being Isaac and Tharakan (1986) and Lemercinier (1994).*



Table 1.3: Organisational composition of industry in Kerala

	Number of Workers (in '000)			Share in total (in percentage)			Share in non-household (in percentage)		
	1961	1981	1991	1961	1981	1991	1961	1981	1991
AM	1018	1079	1176	100.00	100.00	100.00			
a) HH	489	251	214	47.99	23.23	18.18			
b) NHH	530	828	962	52.01	76.77	81.82	100.00	100.00	100.00
1) ASI	137	233	228	13.49	21.56	19.41	25.94	28.08	23.73
2) HHNF	392	596	734	38.52	55.22	62.41	74.06	71.92	76.27

Notes: AM = All Manufacturing; HH = House Hold; NHH = Non Household  
 ASI = Annual Survey of Industries; NF = Non Factory

Sources: 1. Census Report of 1961, 1981 & 1991  
 2. Summary results of ASI factory sector for 1961, 1981 & 1991.

From table 1.3, two trends are discernible. From 1961-1981 there was a sharp fall in household industries matched by a proportionate increase in the non-household sector. Further, it is noteworthy that between 1981-1991 when non-household non-factory sector has gained prominence, there was a concomitant decline of the registered ASI component. Although the pattern is broadly similar to that of all India, the growth of the non-household non-factory sector, which we have classified as the small industries sector, is more significant in Kerala. The share of ASI in total manufacturing in Kerala was only 19.41 per cent as against 27 per cent at all-India. The non-household non factory sector constitutes 62.41 per cent in total manufacturing as against 49.3 per cent at all-India. These aspects have not received sufficient attention in the earlier studies. The present study of the diamond industry is an attempt to make a case for the development of the unorganised manufacturing sector in the state.

### *Objectives of the study*

Against this background of the industrial scene outlined above, we propose to examine the diamond industry of Trichur with a view to explore some of the recent developments in the unorganised segment of small-scale industries in Kerala. The industry was mainly concentrated in Surat and other parts of Gujarat. We propose to examine the major reasons for the relocation of the industry in Kerala in the light of the regional factors of industrial development. The major objectives of the study are:

- 1) to examine the regional and location specific factors which paved the way for the relocation of the industry from Gujarat to Kerala;
- 2) to examine the nature of entrepreneurship in the industry;
- 3) to capture the nature of labour and labour market, recruitment, training, dissemination of skills and scope for upward mobility of the workers;
- 4) to analyse the pattern of subcontracting and its impact on the growth of the industry in the region;
- 5) to examine the organisational characteristics in the context of the unorganised nature of the industry, and
- 6) to examine whether industries like diamond polishing constitute a viable option for the industrialisation of the state.

### *The methodology*

The paucity of secondary data, coupled with the absence of benchmark studies related to this industry in Kerala, posed problems for data collection. Further, these firms are not registered under the

Factories Act and the registration with the District Industries Centers (DIC) are optional. Hence data are lacking to draw appropriate samples.

Table 1.4 gives details regarding registered small scale industries, in terms of coverage and employment. The number of units in existence is not known from the available data. At least 300 firms which provided employment to nearly 15000 workers do not figure in here. In these circumstances a primary survey became necessary with purposive sampling<sup>24</sup>.

Table 1.4: Units Registered and Employment - DIC

Year of Registration	No. of Units	Employment
1984-85	1	3
1985-86	1	3
1986-87	1	7
1987-88	1	7
1988-89	9	122
1989-90	18	260
1990-91	55	1479
1991-92	31	820
1992-93	10	200
1993-94	19	358
Total	146	3259

Source: District Industries Centre, Trichur

<sup>24</sup> Some basic information could be attained from the records of Panchayats and Municipalities. All units are required to register under the Shops and Establishment Act. This gives the number of units in each ward and its address, but does not give size, employment, etc. Though it was brought to our notice that the industry had so many diversities with regard to size, employment, investment, age, registration etc., a systematic stratified sample was impossible because of improper records. Patwa (1989) and Indian Express, 25 September, 1994 assessed the existence of nearly 300 diamond units in the district of Trichur employing nearly 10000 workers.

### *Selection of the sample*

Though all the firms are not registered formally with the DIC, these units are registered under the Shops and Establishment Act under local bodies. The addresses of all the licensed firms were obtained from six panchayaths and the Trichur municipality. For the sake of feasibility, a random sample of 50 units was chosen. These units, as shown in Table 1.5, were proportionately distributed across the panchayaths.

Table 1.5: Sample structure

Panchayats/Municipality	Total units	Samples selected
Kaiparambu Pt.	142	22
Tholloor Pt.	83	14
Adat Pt.	16	3
Avanore Pt.	19	6
Killannoore Pt.	8	3
Vilvattom Pt.	2	1
Trichur Municipality	2	1
Total	272	50

Source: Shops and Establishments License Registers

Most of the units are located on either side of the villages along the Trichur-Guruvayoor state highway. There is high concentration of units in the two panchayats of Kaiparambu and Tholloor. In drawing up the sample survey an attempt was also made to capture the diversities between units with regard to size, age, employment, those registered with DIC as well as the unregistered ones.

During our survey of the firms, it was not possible to have a close and frank interaction with the labourers in the factory premises except in a very few cases. The workers felt somewhat inhibited to open out in the presence of the owner. In order to get vital

information and data from them, we had to go to their houses in the villages. We interviewed 40 labourers, consisting of 18 males and 22 females to get to know the labourers of the industry, their earnings and their scope in the industry.

#### *Chapterisation scheme*

Following this introductory chapter, we discuss the export-orientation of the industry and its response to the world market signals in chapter 2. Chapter 3 attempts at bringing out the organisational aspects of the industry. Here the nature of entrepreneurship, capital and subcontracting networks are dealt with. Also an attempt has been made to look at broader questions of economies of scale, expansionary trends and optimum size of the plant. Chapter 4 discusses the labour market characteristics. Chapter 5 presents the major findings and policy implications of the present study.

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## Appendix 1

The principal objectives of the programs for the development of different small industries in the fifth plan was documented as, "to facilitate the attainment of some of the major tasks for the removal of poverty and inequality in consumption standards of persons involved, creation of large-scale opportunities for fuller and additional productive employment and improvement of their skills so as to improve their level of earning." (Draft fifth five year plan, part 2, page 164. Planning Commission.)

The Sixth Plan laid down, (following the Gandhian precept that whatever can be produced efficiently by decentralized industry should be so produced), the following measures. 1) To generate opportunities for fuller and full-time employment by: a) revitalizing and developing the existing traditional and other small scale industries; b) promoting intensive development of new viable small industries. 2) To promote the growth of these industries in rural areas and small towns. 3) To raise the level of earnings of rural artisans, landless weavers, craftsmen, and others employed in the industries and to reduce progressively the role of subsidies by providing these selectively for credits and development of skills, designs and marketing.

Appendix 2

Definition of Small Scale Industries  
Investment Ceiling for Plant and Machinery (In Rs: lakhs)

Description	1966	1975	1980	1985	1991
Small scale	7.5	10	20	35	60
Ancillary	10	15	25	45	75
SSE	-	-	2*	2 *	-
EOSSI	-	-	-	-	75
SSSBE	-	-	-	-	5

Note: SSE: Small service establishments.

EOSSI: Export oriented small scale industries.

SSSBE: Small scale service & business enterprise.

\*Located in Rural Areas and Towns with Population of Five lakhs

Source: Government of India, Development Commissioner,  
Ministry of Industry.

## Chapter 2

### *SOME REFLECTIONS ON RECENT HISTORY OF THE INDUSTRY*

#### *Introduction*

In this chapter we focus mainly on the export orientation of the diamond industry in the country, the proliferation of which is thought to be a direct outcome of the rapidly growing demand<sup>1</sup> for diamonds in the international market. This analysis is done against the background of the industry's spatial distribution across different countries. This is essential for our enquiry into how trade in the commodity resulted into a rapid growth in the processing of diamonds in Gujarat, Tamil Nadu and parts of Maharashtra and Kerala. The growth in exports was instrumental for the increase in the number of processing units and employment of diamond industry in the country.

The processing of diamonds is an important industry world wide. The countries viz. Belgium, Israel, India, USA, Germany, South Africa, Netherlands and UK are the top eight producers of diamond in the world. Belgium has a long tradition in this trade and was the major centre for world trade in diamonds. The industry has recently spread to China, Hongkong and a few other countries as well. The growth of the industry across the world is mostly a post World War II phenomenon.

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<sup>1</sup> *The diamond is a non-metallic mineral that has been the pre-eminent gem stone for centuries. This precious stone composes of a single chemical element-crystallised carbon. The optical qualities of diamond viz. high light dispersion and refraction combined with the remarkable transparency gives these cut gems display of prismatic colours.*



The growth of diamond industry in Israel, the second largest exporter in the world; has a long history. Szenberg (1971) traces the phase of growth of the industry in Israel to the paralysing of activities in the traditional diamond centres due to the occupation by German forces. By late 1930s, the jews settled in Belgium had made pioneering attempts in starting diamond enterprises in Palestine. The jews who were captured and worked under the Nazis, later set up the industry in Israel. Since the second world war the industry revived in Israel, by increasing its share in the world market.

However, it is to be mentioned at the outset that these diamond processing countries are not competing in the world market as the industry branched to several centres, each specialising in certain lines of processing. While South Africa and UK fabricate the large sized stones, Belgium and Israel specialise on small and medium ones. India processes stones which border between gems and industrial diamonds. The segmented nature of world production and the growing international demand for the product led to the development of specific activities in the respective economies along with its impact on related supply side variables. But the growth of this processing industry depends, to a significant extent, on the supply of raw materials. This fact is true for Indian processing units which draw a large part of their raw diamond from the cartelised diamond mining firms in the world market.

### *Supply of Rough Diamonds*

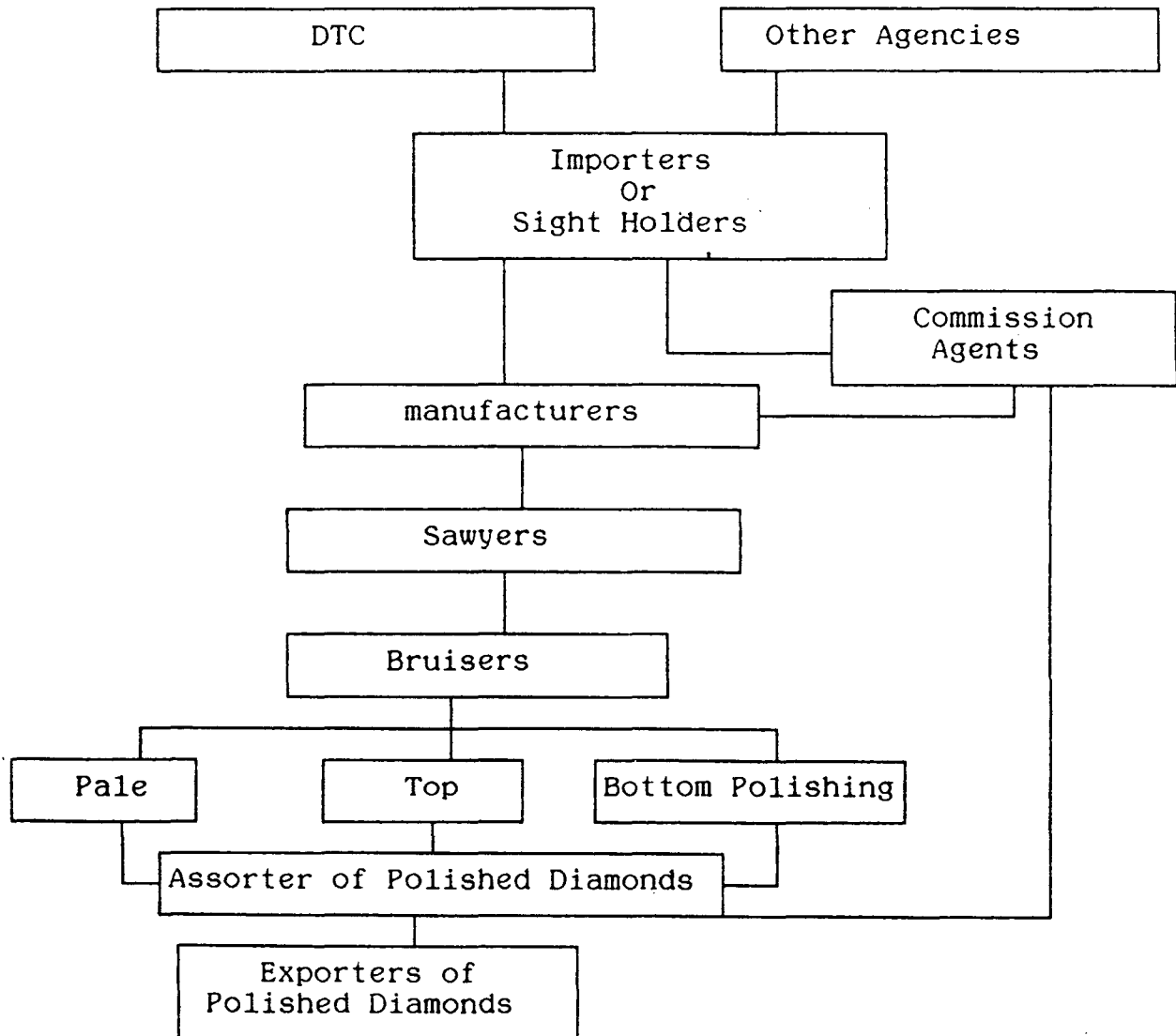
As seen in other extractive industries, competing diamond mining firms attempted to co-ordinate their general trading policy against widely fluctuating international prices. The majority of the South African diamond mines were consolidated within De Beers and formed the London Diamond Syndicate. The present day successor of the original diamond syndicate is the Central Selling Organisation (CSO). This organisation has a commanding position in the distribution of 'roughs', controlling about 80 percent the supply. The control over supply of raw diamonds necessitates sound organisational structure and network world wide.

The CSO consists of Diamond Corporation and Diamond Trading Company (DTC) engaging in the purchase of 'rough' from the mines and the sale of uncut diamonds respectively. The DTC appoints sight holders who are sanctioned quotas (sights) in different countries. Though the industries are spread over different countries and regions, the supply is entrusted to a monopoly organisation. The pyramidal chain of operations and control is shown in the accompanying figure (see Figure 2.1).

As seen in Figure 2.1, the main supplier of raw diamond (rough) is Diamond Trading Corporation (DTC). In addition, some traders settled in international diamond trading centres also supply the 'rough'. This raw diamond obtained by the importers or sight holders is passed on to the commission agents or directly to the manufacturers. Some of the commission agents also have their own manufacturing units. Increasingly, they take to trading activity and supply the rough to the smaller firms in the unorganised

sector. This rough passes through various processes at the manufacturing stage<sup>2</sup>. The polished diamonds are again sent back to the sorters of the diamonds through the commission agents and they classify these based on quality. The chain is complete with the diamond finally reaching back to the exporters.

Figure 2.1: Agents involved in different stages



<sup>2</sup> The various processes are sawing, bruising and polishing. Polishing consists of table, 8 pale, full bottom and top polishing and at the end 56 faces are cut in double cut polishing which was commonly observed in Trichur. Sawing is usually done by the commission agents. By this process a stone which can be cut into two diamonds are identified and separated. Bruising is the process of giving a conical shape to the diamond by rubbing it against another diamond, before the various faces are cut. Final line of polishing consists of table, pale, full bottom and top.

*Growth of diamond trade and industry in India: a case of locational concentration in Surat*

India has a long tradition of gems and jewellery in general and diamonds in particular<sup>3</sup>. The main factors that helped the industry to grow in India were the spread of Indian merchants to trading centres the world over and their response to growing demand for diamonds, using the skilled labour and artisans available domestically at a low wage rate. Traditionally diamond cutting and polishing in India was carried out in Surat and Palanpur in Gujrat. The availability of merchant capital became a crucial factor for the growth of the industry in Surat. The 'commercial orientation' of the industry is important as the dominant merchant class of the state involved in a wide range of disparate commercial and industrial activities, entered this industry as well.

The second major factor that fostered the growth of the industry in Surat was the entrepreneurial initiative and organisational ability among the people of Gujarat. Moreover, the diamond industry cannot be viewed in isolation without considering the industrial structure and traditions of the state. To cite, Surat was a major centre of silk industry, jari industry and many other small scale and unorganised but profitable activities.

The diamond industry in Surat is in the unorganised small scale sector. A study, by Kashyap and Tiwari (1982), observes that the small entrepreneurs of Surat carried out the processing of diamonds mostly using ghandi (Chakki), which is an old machinery. The initial investment for starting an industry was only Rs. 5000 to

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<sup>3</sup> For a historical account see Shukla (1972).

10000. Wage rates were on piece rate basis. There was a shortage of skilled workers and to retain the workers advances had to be paid. Most of the entrepreneurs were earlier diamond workers. In Surat, the Patel community had a decisive share in both the number of firms and workers. While 59 percent of the units were managed by Patels, 65 percent of the workers were from this community. Compared to other communities, the Patels prospered in this industry and traditional caste and kinship ties were dominant. These factors also resulted in accelerated growth of the industry during the last two decades, with the realisation supernormal profit in recent years. The Kashyap and Tiwari (1982) study shows that the major chunk of the profit is appropriated by the traders.

Pathak (1984) correlates the growth in trade and exports to the growth of the industry, thereby identifying different phases of growth of this trade and industry. Patwa (1987) and Vanderveen (1971) attempted to look at the market expansion of diamonds and its impact on the industry. One reason for the growth of trade and industry, as pointed out by them, was that the rejected roughs in the international market were brought to India by the merchants and polished and re-exported. The rapid spread coincides with certain important developments in the international and national economic and business environment.

On international front we see that the diamond industry in India is a direct outcome of the rapidly increasing demand for small diamonds in the international markets. This continuous growth in demand combined with scarcity of labour at competitive wage rate in the foreign markets provided a boost to the industry. The revival

from recession by the industrialised countries also favoured the growth of exports.

The growing demand for industrial diamonds and small diamonds along with the wide network of traders boosted the industrial activity. It is worth noting that small units using traditional machinery and inherited skills, without foreign capital or investment, with units mainly in Gujarat could make inroads into this industry.

#### *Growth in exports of diamonds from India*

The pattern of India's exports has undergone several structural changes since the initiation of planned economic development in 1951. The composition of India's export basket changed from traditional to non-traditional items. In the first plan, jute, cotton, leather and leather products, and spices constituted nearly 70 per cent of total exports. By the second plan its share had declined to 62 per cent and by the third plan period to 56 per cent and by 1975-76 to 43 per cent. The share of processed and manufactured items, marine products, leather manufactures, chemicals and allied products and engineering goods and gems and jewellery increased their shares during this period. Gems and jewellery includes precious stones, semi-precious stones, pearls, gold jewellery, non-gold jewellery, imitation jewellery, synthetic stones and diamonds. The growing significance of this component in the total exports of the country is evident from the following sections.

As the data relating to export and import of diamonds is not available we have taken the data relating to Gem and Jewellery.

This exercise is justified because 90 per cent of total gems and jewellery exports comprise of diamond as we will see later.

From the Table 2.1 it is evident that over the years, not only has the exports of gems and jewellery increased, but also its share in the total export basket has gone up from 4.7 per cent in 1976-77 to 18.61 per cent in 1993-94.

Though there were specific trade policy for the diamond industry, it is only from 1966 onwards that there has been a rise in exports of diamonds. The oil crisis of 1973-74 seems to have encouraged speculative buying and has thus favoured the diamond industry.

Table 2.1: Growth in exports of gem and jewellery  
(Rs. in Crores)

Year	X G&J (1)	TX (2)	1 as a % of 2
1976-77	242	5146	4.70
1977-78	546	5404	10.10
1978-79	711	5726	12.42
1979-80	519	6459	8.04
1980-81	602	6711	8.97
1981-82	655	7803	8.39
1982-83	825	8908	9.26
1983-84	1207	9771	12.35
1984-85	1153	11744	9.82
1985-86	1412	10895	12.96
1986-87	1995	12452	16.02
1987-88	2526	15741	16.05
1988-89	4223	20302	20.80
1989-90	5296	27681	19.13
1990-91	5247	32553	16.12
1991-92	6750	44042	15.33
1992-93	9503	53351	17.81
1993-94	12943	69547	18.61

Note: X G&I: Export of Gem and Jewellery.

Source: Various issues of RBI report on currency and finance.

Table 2.2: Share of diamonds in gem and jewellery exports  
(Rs. in crores)

Year	(1) Diomands	(2) G & J	(3) 1 as % of 2
83-84	1189	1324	90
84-85	1172	1307	90
85-86	1344	1508	89
86-87	1360	1995	70
87-88	2440	2653	92
88-89	4238	4581	93
89-90	4972	5479	91
90-91	4739	5360	88
91-92	6163	7234	85
92-93	8316	9503	88

Source: Gems & Jewellery Export Promotion Council.

Table 2.3: Net earnings from exports (in Rs. crores)

Year	Export	Import	Net
1970-71	43	24	19.00
1971-72	49	26	23.00
1972-73	77	42	35.00
1973-74	104	74	30.00
1974-75	103	53	50.00
1975-76	130	84	46.00
1976-77	251	181	70.00
1977-78	560	331	229.00
1978-79	570	467	103.00
1979-80	600	347	253.00
1980-81	642	417	225.00
1981-82	821	397	424.00
1982-83	1029	729	300.00
1983-84	1324	1098	226.00
1984-85	1305	1032	273.00
1985-86	1487	1100	387.00
1986-87	2069	1489	580.00
1987-88	2653	2018	635.00
1988-89	4392	317	1217.00
1989-90	5296	424	1054.00
1990-91	5210	3732	1478.00
1991-92	6750	4825	1925.00
1992-93	8839	7011	1828.00
1993-94	12528	8284	4244.00

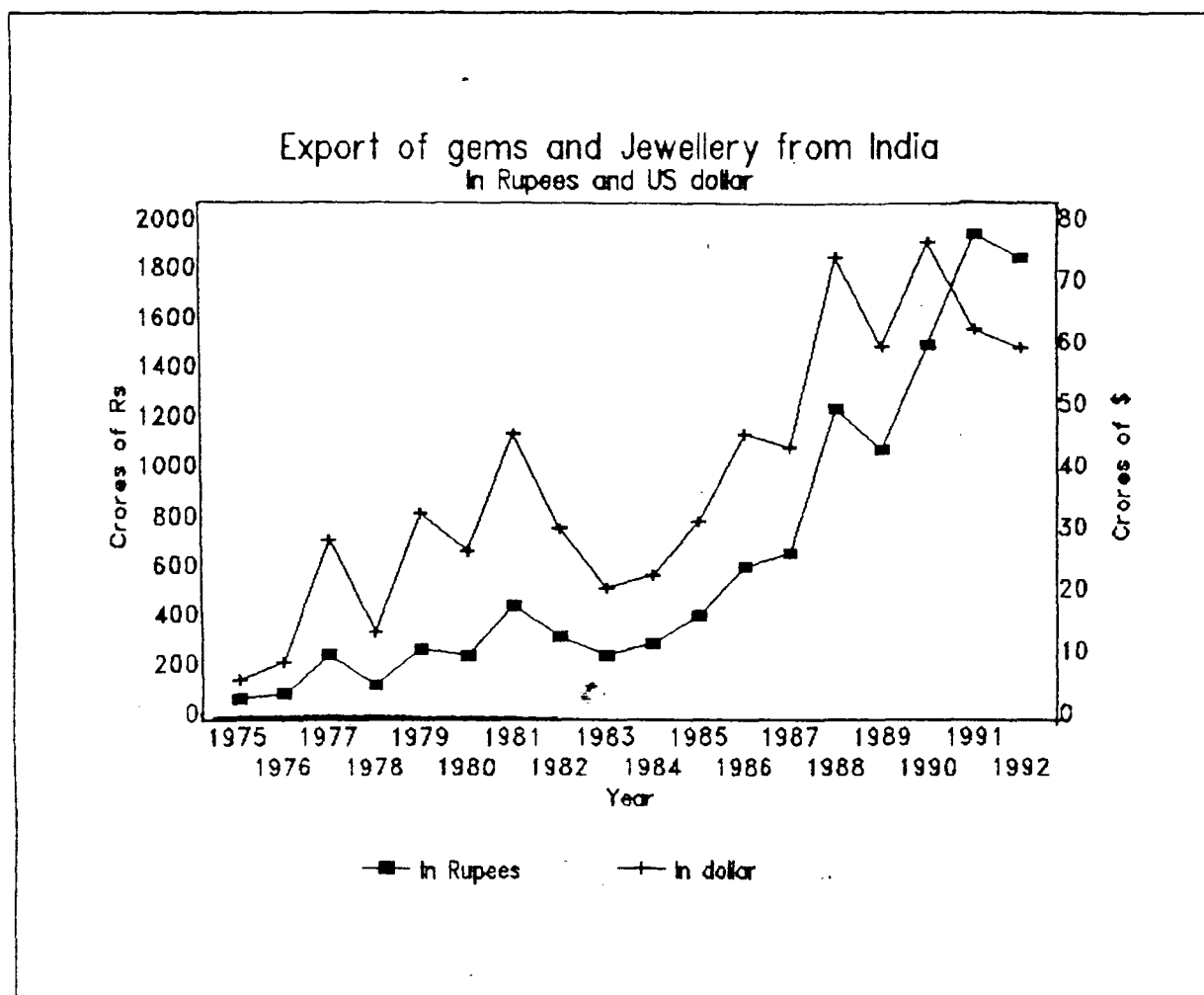
Source: Same as Table 2.2

The Table 2.2 is suggestive of consistency of the share of diamonds in total gems and jewellery exports at 85 to 90 per cent. However,



exports of diamonds do not tell us the complete story as the import content of this sector is very high. So it will be more appropriate to look at the net earnings rather than exports. The Table 2.3 reveals the trends in the net export earnings of gem and jewellery for a period of 25 years. It is evident from Table 2.3 and Figure 2.2 that net export earnings, both in dollar and rupee terms, showed increasing trend after 1983-84. This precisely coincides with the revival in the world economy after the second oil shock. The period prior to 1983-84 was marked by sharp year-to-year fluctuations. In the post 1983-84 period, the dollar value of exports witnessed wider fluctuations than the rupee value.

Figure 2.2



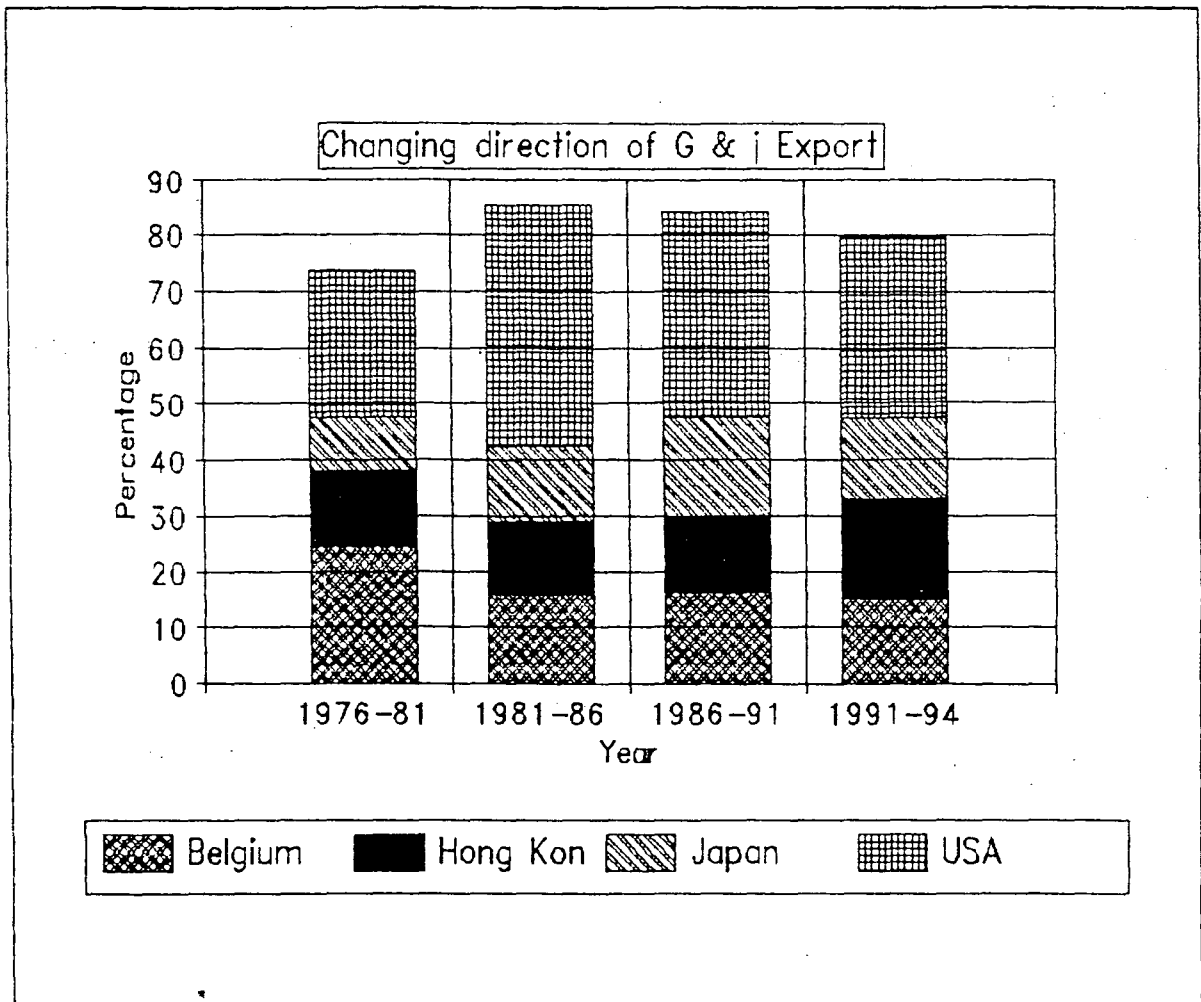
Three important reasons could be identified for this phenomenon of increasing but fluctuating trend. First, the recession that set in the economies of the developed world, particularly the United States might have led to a decline in the demand for Indian exports. In 1969-70, due to recession abroad, Indian exports also fell while many units in Belgium and Israel had to be closed down. The world market for diamonds revived during the seventies, which we observe in the later part of the analysis. Second, India specialises in small sized diamonds for which the world market is considered to be close to saturation<sup>4</sup>. Third, there has been increasing competition from countries like China, Srilanka, Thailand, Malaysia, Indonesia, Belgium and Israel<sup>5</sup>.

It is evident from Figure 2.3 that four countries (USA, Belgium, Hongkong and Japan) account for nearly 80 per cent of total diamond exports. So, there is a very high degree of concentration of exports with the USA emerging as the biggest buyer of Indian diamonds since 1975-76. Japan has also increased its share considerably in the post 1980s. Thus, a constant fall in the share of Belgium is clearly visible. The change in the direction of exports is essentially a shift from trading centres to consuming centres. This direct participation in the export trade by Indian

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<sup>4</sup> Further, additional informations suggest that, the industry seems to have withstood the plague scare that set in Surat, the main locaton of the industry, in 1995., the growth in exports has maintained a similar trend compared to the previous yerar even when imports of rough of diamonds during the period have declined. This need not imply that the import content of exports has declined, but it may be due to the utilisation of the excess stock that aloowed the production to be maintained steadily. It has been pointed out that, the plague scare appears to have come as a blessing in disguise for take industry, as not only DTC reduced the sights but the producers could reduce their stocks as a result (*Econmic Times*, October 29, 1994).

<sup>5</sup> See for details *Economic Survey*, various issues.



merchants have led to higher earnings realisation than before when most of the products were channellised through other major trading centres of the world. This increase in profits have had its positive impact on the manufacturing sector as it provided the traders with sufficient incentives to be in the trading activity. The rise in the level of exports and the consequent development of diamond industry is to a large extent intrinsically linked to the government policy towards such exports.

***Export promotion policies***

As the diamond industry is import intensive, for the smooth supply of raw materials, Import Replenishment Scheme (REP) was introduced

in 1953<sup>6</sup>. This is the first important policy direction oriented towards the promotion of the industry in post- independent India. The provisions of this scheme allowed diamond traders to import 'roughs' from DTC and other sources abroad. Against the export of cut and polished diamonds to foreign centres, a certain import replenishment settlement was given under this scheme. The export of cut and polished diamonds from India revived after 1952-53. Later on, agencies like the Gems and Jewellery Export Promotion Council, Diamond Exporter's Association Ltd. and the Hindustan Diamond Company came into being.

In 1977-78 the Government of India initiated a number of measures aimed at import liberalisation. One of the important measure in this regard is the inclusion of 14 items of equipments required by the gems and Jewellery industry under OGL. Further, the EXIM policy of 1992-97 gave sanction to regular DTC sight holder annual DTC license equal to one to one half times the consolidated value of all the DTC sights received by him in the preceding licensing year. This excludes the sights cleared against a replenishment license. The new sight holders can also apply for licenses on a monthly basis on allotment of sight from DTC, London. These licenses will be valid for import from DTC London only. The export obligation has to be completed within 120 days from the date of import of the first consignment and in accordance with the endorsement for each sight made on the license. Moreover, bulk licenses for rough diamonds were also issued to M/S Hindustan Diamond Company Ltd.

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<sup>6</sup> Prior to 1953 only three sight holders were in India who could import roughs from Diamond Trading Corporation. In 1953 quota licenses were issued by the Government of India to established exporters based on their export performance of 1942.

Bombay, and Minerals and Metals Trading Corporation Ltd. New Delhi to meet the demands of the holders of valid REP/Diamond import licenses. These were the steps taken to increase the import of the raw materials for the industry. Besides these, some periodic steps have been taken to enhance exports of jewellery. Notable in this regard is the setting up of a jewellery school in Bombay. Free-trade zones have also been established in Delhi and Bombay. This led to relocation of the industry away from the traditional processing centres to the rest of the national economy. Moreover, concentrated growth of the industry in Surat calls for alternate locations. Thus, the analysis of the partial relocation of the industry to other locations has also to be viewed against the background of the deglomerating tendencies arising out of overcrowding. The study identifies the emergence of Trichur in Kerala as a major centre next only to Surat, with nearly 300 units employing nearly 10000 to 15000 workers.

Having viewed the international network and the reasons for the growth of the industry in the country and the major boost provided by the growth in world market, we attempt to explore the reasons for the relocation of the industry to Trichur. This is followed in the next chapter.

## Chapter 3

### *PRODUCTION AND ORGANISATIONAL STRUCTURE*

#### *Introduction*

In the last chapter, we had analysed the growth of diamond industry in the country and more particularly the advantages which helped the localisation of the industry in Surat. This chapter is concerned with the partial relocation of the industry to Trichur in Kerala where the scenario was quite different when compared to Surat. Analysing the over concentration of the industry in Surat, Kashyap and Tiwari(1982) had argued that further growth of the industry in Surat can impose a heavy social cost and that the healthy growth of the industry requires selection of some growth points for bunched dispersal from Surat and to plan incremental growth of the industry in some other peripheral locations. However, given the particular features of Kerala as we have seen in the first chapter, one would not in the normal circumstances expect its relocation in Kerala. Therefore, the growth of this industry in Trichur raises many questions regarding the industrialisation of the state and how the state was visualized in the past. Also it is pertinent to examine the advantages offered by this region making it conducive for the industry to grow. An attempt has been made in this chapter to examine these aspects through the analysis of primary data collected from firms in Trichur.

#### *A brief history*

A brief history of the industry in Trichur is useful in understanding the age and the traditions of the industry. In the absence of published secondary material, this sketch is based on oral information gathered through a series of discussions with the

pioneers of the industry, association leaders, trade Union leaders etc.

P K Sankunny is considered the pioneer of the industry in Kerala. He was instrumental in setting up the first unit in Trichur and thus prepared the ground for eventual emergence of Trichur as one of the most important centres in South India. Born into a poor Ezhava family, Sankunny came to be associated with this craft at a very early age. He was initially involved in the processing of imitation jewellery at Trichur and then Tiruchirappalli in Tamil Nadu, and subsequently moved onto the diamond polishing industry<sup>1</sup>. He left for Bombay in 1947 and worked in David's Diamond Corporation, a Belgium firm. This was his first exposure to a diamond polishing work. Following the closure and subsequent reorganisation resulting in the division of the original company into six firms, Sankunny joined with M.G.Mehta one of the six partners of the original firm. He was inducted into his company and was elevated as Works Manager for his proven track record as skilled workman. In 1959, he promoted his own company in Bombay. Machinery and roughs (for polishing) were supplied by Mehta. In the meantime, he had taken some of his relatives and friends to work for him.

On August 15, 1965 he started a diamond polishing company at Trichur (Kaiparambu) as a branch of his company at Bombay, employing 10-15 people. In 1972, following the expansion of

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<sup>1</sup> Both the industries differ with regard to the quality of stones, but have great similarity in the nature of work. While imitation jewellery polishing comprises of 16 faces, diamond polishing has 56 faces.

Production in Trichur he closed down the company at Bombay. For this machines were brought from Surat and Bombay. The workforce also had increased to nearly 100. His firm at this stage was polishing about 15,000 stones annually. In 1973, following a sudden strike by workers who demanded higher wages, implementation of Factories Act etc, Sankunny had to close down his unit for 2 months. This was also the beginning of the decentralisation of production. At this point of time he became a Commission Agent and the firm under his control was split into 30 units mainly owned by his relatives. He received commission on stones he supplied. Thereafter, with the increase in demand in the world market as we observed earlier, this industry experienced further significant expansion. In recent past, there has been a slowing down of the pace of growth of the industry. Sankunny attributes this to the constraining effect of the statutory regulation and rules of the government.

It is seen that the traders were instrumental in influencing the relocation of these firms to Trichur. Their role was not limited merely to supply of raw material, but also extended to provision of the required capital for setting up the firms. The merchant capital got involved in the process. The other notable feature that comes out from the above sketch is the role and influence of kinship in the industry. The confidence of the traders was essential for ensuring supply of adequate rough.

#### *Some locational advantages*

As prelude to the analysis of the major reasons for the relocation of the industry to Trichur, it will be worthwhile to identify some



of the locational advantages this region enjoyed. It is well accepted that Trichur is the " Mecca" of gold jewellery business in Kerala. The sustenance of this inherited tradition of craft, provided a congenial climate for the development of related industries. The tradition of fabrication of synthetic stones in Trichur may also have smoothed the process of transition to the diamond industry<sup>2</sup>.

Trichur also had the added advantage of being exposed to the major domestic gold markets quite early. This facilitated the development of gems and jewells marketing networks, thus favouring the growth of a nexus between daimond merchants, manufactures and the jewellers. As replacemant of stones is quite common in the diamond industry this nexus may have favoured the traders to establish connections with Trichur.

***Skill factor: the catalyst for growth of the industry***

Together with the favourable locational factors discussed above, an important factor in favour of the growth of the industry was possibly also related to the development of skill pool. The skill as indicated earlier, popularly characterised as the "seed of the industry" was implanted in Trichur by a few pioneers<sup>3</sup>. The Trichur-Bombay-Surat connection helped nurture this skill with a gradual dissemination over a specific area. The central positions of co-ordination agents who manages and controls the sales process on the

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<sup>2</sup> See Indian Institute of Foreign Trade Report (1984). The report identified fabrication of synthetic stones as a potential industry in Trichur district.

<sup>3</sup> In the vein of Yamazaki, the pioneers are those who planted the seed, watered it and fertilised it as it began to develop and grow.

one hand and the production process on the other hand is important in understanding this aspect, and this will be dealt with in our discussion on 'subcontracting'.

The weight of the diamonds are measured in carats. On every parcel, the weight of the consignment and the expected weight after polishing are noted. The efficient artisans with their expertise would polish a stone with a minimum of wastage. The difference between what he is expected to give back to the commission agent after polishing and what he has actually produced, (the excess weight) he would sell in the market. It is to be noted that the efficiency and the skill factor rendered it profitable for the entrepreneurs to pursue their activity, as this added to their profit<sup>4</sup>.

Another reason why the skill factor assumes significance is that it is often the smallest size of stones that comes for polishing and this needs strenuous effort. The workers in this region specialise in the polishing of these kinds of stones. The workers have to be very alert as diamonds are highly valued product and unless the angle in which to be cut is identified, it may result in damaging the stone.

There is no formal training for polishing stones. Any person who is absorbed in the industry is placed as a trainee in the firm till he learns the job. Usually the training period extends from 3 to 6 months. Sometimes it can extend up to one year after which the

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<sup>4</sup> *The later part of our discussion on profits will throw more insights on the viability of these units in terms of profit.*

worker is put on a piece rate. There is complete division of labour and this enables a person to improve his efficiency. The period of training depends upon the speed with which one acquires the skill. The nature of recruitment and acquisition of skill is highly informal in the industry based on kinship and the process of 'learning by doing'; this aspect will be dealt in detail in the next section.

The above mentioned locational advantages seems to have been a necessary condition but it was not sufficient to ensure the setting up of firms in the state considering the problems discussed in the introductory chapter. To visualise the undercurrents that paved the way for the growth of this industry in Kerala, it is imperative to undertake a cross-sectional analysis of socio-economic background of entrepreneurs, size of firms, nature of capital and organisation of production, subcontracting and other linkages and the whole system under which it operates which is dealt with in the forthcoming sections in the chapter.

### *Entrepreneurial profile*

An important parameter in the development of small scale industries is 'entrepreneurship'. Entrepreneurship is said to have a crucial bearing on industrial growth. Watanabe (1974) suggests that the main problem of industrialisation is in creating conditions which activate the existing entrepreneurial resources that are lying dormant. The case of the diamond polishing firms in Kerala would suggest that the supply of entrepreneurship was not a serious problem given the small scale and unorganised nature of the industry. Our study reveals that the educational level of

entrepreneurs was rather modest and obviously not a crucial variable for promoting a firm as evidenced from the fact that 60 per cent of the owners had only studied till ninth standard.(see Table 3.1)

Table 3.1: Background of the entrepreneurs

Age of Owners	Education standard	Experience in years	Previous job
21-30 (18)	0-4 (6)	1-10 (16)	Agri labour (2)
31-40 (66)	5-9 (54)	>10 (84)	Diamond worker (60)
41-50 (16)	>9 (40)	- -	Entrepreneur (32)

Note: Figures in parantheses are percentages.

Source: Primary survey (1994)

As the Table 3.1 reveals, 66 per cent of the owners of the firms were in the age bracket (30-40). Most of them had not inherited a firm from their parents. A substantial number of them had started out as diamond workers and they had eventually elevated themselves as entrepreneurs.

Of the 50 firms we surveyed 32 per cent of the firms had actually shifted from Bombay and Surat to Kerala whereas 60 per cent were diamond workers before. The fact that 84 per cent of the owners had an experience of more than 10 years highlights close association between the work and trade. This is particularly important because the processing of diamonds requires proper identification of roughs, evaluating the quality of the work, personal supervision and control by the owner to prevent the substitution of quality diamonds. Any slackness in this respect

can prove to be costly for the entrepreneurs. The enterprising diamond workers of Trichur as revealed by our study seems to falsify the general notion of the under development of entrepreneurship and of the absence of trade groups in the state. It also opens to question the popular belief that Malayalis are inherently risk-aversers.

### *Religion and caste factor*

The wide dispersion and growth of the industry and the low initial investment would in the face of it suggest the absence of entry barriers. This would logically lead one to infer that religious and kinship ties were the minimum as the skill was not a closely guarded preserve of any community or caste. Let us look at the religious and caste background of the owners of these firms little more closely. Table 3.2 gives the break-up of the firms by religion and caste.

Table 3.2: Ownership and output by caste

Category	No: of firms	Output (monthly)
Christians	8 (16)	13900 (14)
Ezhavas (Hindus)	35 (70)	69800 (72)
Non-Ezhavas(Hindus)	7 (14)	13500 (14)
Total	50 (100)	97200 (100)

Note: Figure in parantheses are percentages.

Source: Primary survey

As seen in Table 3.2, the Hindus almost dominate the industry and it appears that later on the other religious group also entered gradually into the industry to reap the profits. The dominant caste in the diamond polishing industry in Trichur is the Ezhava community. Their dominance is evident from the fact that they control 70 per cent of the firms and 72 per cent of the total production in the industry. They also constitute nearly 60 per cent of total workforce in the industry. The single largest community next to the Ezhavas is the Syrian Christians. The latter have been traditionally of some importance in the business community of Trichur.

The Ezhava community, which constitutes a sizeable proportion of Kerala's population was traditionally either engaged in toddy-tapping or a part of the agricultural labour force. Following the colonial intervention from the mid nineteenth century, the resultant process of commercialisation, created opportunities for economic advancement and set in motion a process of differential within the community. It is from this point of time that we notice some of them emerging as large land owners and others as middlemen traders. (See T.M. Thomas Isaac and Michael Tharakan (1986). Lemercenier (1992) brings out the fact that by the mid nineteenth century there was a revival in this community, with education spreading, as some of them were teachers, others joining the bureaucracy and a number of them becoming traders and businessmen. Unfortunately a full length comprehensive history of this enterprising community still awaits scholarly investigation.

This is as much true of the Syrian Christian community; They had an even longer tradition of involvement in trade. A section of the community also responded positively and dynamically to the emerging commercial opportunities following the colonialisation of the Kerala economy<sup>5</sup>. The subject of Syrian Christians in Trichur, likewise, had a history of involvement in credit market of the region. The graduation from purely credit to jewellery business and diamond processing at a later stage appears to be consistent with the commercial ethos of the community.

### *Community and kinship ties*

In this context we venture to see how the community and kinship ties operate in the industry and the advantages they enjoy .

Jan H. Vander Veen who looked into the diamond polishing industry of Gujarat in 1970s, found evidence of restriction of entry. While the diamond polishing industry had been expanding rapidly, entry into the industry was not free. Entry depended upon personal contacts. The commission agent would be unwilling to relinquish possession of his diamonds without powerful assurances of good faith on the part of the industrialists. Accordingly the monetary returns to caste and friendship ties of the industrialists are high. Most of the transactions are based on trust. The issue of raw materials, return of finished goods, and other activities are often done without any collateral and the contracts are often unrecorded. Here major influence of caste ties can be seen. From the brief history, we had seen that some of the early owners who belonged to the community had a good rapport with the prime

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<sup>5</sup> See for details Isaac Thomas and Tharakan M (1986)

contractors and they widened their network by bringing in other members of the community and their relatives. Later on we find that these pioneers themselves became commission agents and they ensured the loyalty and allegiance of the other members of the community. The kinship ties acted as a collateral for the supply of raw material. This is an indication that though at the manufacturing level there is free entry, as is evident from the number of firms, family ties and caste ties ensure regular supply of raw materials and marketing.

#### *Nature of recruitment and training*

Caste and kinship principles were also seen to be crucial in moulding and cementing an informal relationship between the owners and the workers. This is borne out when we examine the process of recruitment of workers. The recruitment of the workers is based mainly on faith of the owner in the worker or a trainee who join the firm. The faith comes from the fact that the person is well known to the owner himself or to someone else in the firm. All the owners of firms, irrespective of size or caste, whom we interviewed maintained that the employees belonged to families in the vicinity of the firm or the owner's house. If the firm required additional hands, the word was passed on to the workers and the workers would bring in their relatives or friends. The new workers or trainees were often referred to the owner by someone whom he trusted. The same trend is evident even in distantly located firms. This knowledge about the worker and the referee assured allegiance of workers. While in firms owned by Ezhavas there was a majority of workers from the same community, in firms owned by the Christians the workers from that community were a majority. The dissemination



of skills within circumscribed social circle of caste had much to do with the system of recruitment peculiar to this industry.

### *External economies of clustering*

This community and caste ties between the owner and the workers had the effect of muting class contradictions and in the long run tended to hinder the growth of the working class movement in the industry. Given the informal character of this industry caste binding assumed a certain importance and critically influenced its survival. Precisely, because of the special role of caste, it exhibits many properties of community-based industries. It has been pointed out that unlike big industries which give little consideration to local interests, the entrepreneurs of the community-based industries are people who are part of the local community. They raise capital, hire workers and establish close linkages and also identify with their own region and community and are committed to remain in the community and protect and promote its interests<sup>6</sup>.

Here it is particularly important to note that the caste ties alone do not encompass all the relationships as regional identities also play an important role. Conversely, the differences between castes or communities do not come up among the owners of firms as there is close cooperation between them in this region as evidenced from the operation of the Artisan's association. It is also worth noting that the firms of different communities have co-existed in the past in this region. This explanation was presented to qualify the

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<sup>6</sup> *Mitzuru Yamazaki (1980) gives a detailed description of community based industries.*

community ties with a regional perspective. It has been pointed out that there is a fair degree of evidence in India based on both autonomous and induced clusters that calls for a shift from small versus large approach to a sectoral approach (Kashyap, 1992).

The clustering of firms based on kinship network is specially important in the context of failure of government efforts to foster the growth of the industries through industrial estates; It is not ironical that this industry has taken roots even despite the lack of any assistance from the Government agencies or institutions. Kashyap and Shah (1995), points out that India has a number of spatial clusters of small firms engaged in specialised industries. The advantages of agglomeration (external economies) arising out of such kind of clustering is worth looking at. These kind of clusters are based on close-knit communities and social identity rather than inter-firm relations leading to firm level specialisation, collective efficiency resulting in technological up gradation and skill formation. Community-based industries enjoy a variety of advantages of industrial and social agglomeration and the system of social division of labour offers to the entrepreneurs the promise of low production costs.

The clustering of the diamond units in this region gave them a number of advantages. This include the supply of rawmaterials, easy accessibility by the commission agents, mutual help in terms of finance, rawmaterial in shortage periods, and for organising themselves against the threats from Factory and Labour inspectors and threats from labour unions. Another major advantage was that a pool of skilled workers were available in this region. Added to

this is the fact that this growth in the number has led to local manufacturing of the machinery used in the production at a cheaper price than if imported from Bombay. It was noticed that there is a marked fall in the price of a semi-automatic machine from Rs.20000 to Rs.13000 with increased demand and local manufacturing. Though this is an industry with minimum of linkage effects a number of units manufacturing diamond machine tools and sharpening the tools have come up in this area.

### *Association of entrepreneurs*

In this section we will be concerned with the agglomeration economies connected with such kind of clustering of firms producing similar product. In order to effectively counter the problems arising out of the worker's demands and also to cope with statutory and other official demands of the governmental agencies, the owners of these firms felt the need for a forum for promoting and protecting their common interests. The outcome of this felt need was the formation in 1988 of the All Kerala Diamond Artisan's Association. At present the Association has about 200 members. The executive committee of the association is for all practical purposes the effective agency for overseeing and promoting the interests of the industry. The main advantage following the setting up of the Association of the firm owners is that they now do not face any problems with regard to labour or factory inspectors or labour law enforcing officers individually. Another significant fall out of this development was that the firm owners arrived at an understanding over a uniform wage rate and a uniform rate of bonus for the industry.

The Association also periodically kept its members informed about cost reducing measures of production. Additionally it supplied its members with dye at prices lower than open market prices. There is however no evidence of mutual financial accommodation between firms nor is there any understanding or co-operation between firms with regard to procuring of roughs or more importantly in their dealings with outside commission agents.

### *Sub contracting arrangement in the industry*

Subcontracting is often used to characterise a contractual relationship between 2 firms - the subcontracting-out-firm and the subcontracting-in-firm. Subcontracting out firms are usually known as parent firms, contractors, principals and prime contractors. And the subcontracting in firms are known as subcontractors<sup>7</sup>.

Subcontracting is a method of organisation of production based on technical and social division of labour and specialisation as against 'vertical integration' under which a single firm or business carries on the entire production of an end-product.

Maurice Dobb opines "The persistence of subcontracting is interconnected with much more complex and broader issues of the persistence of small firms. An enquiry into subcontracting explains to a considerable extent the apparently paradoxical

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<sup>7</sup> For a detailed definition and types of subcontracting see J.C.Bose (1987) and Nagaraj (1984).

survival of small scale manufacturing units in the process of economic development"<sup>8</sup>

In diamond industry two types of establishments operate: (i) The integrated manufacturers; who process rough diamonds, employs labourers to polish them and sells the finished products; (ii) the sub contractor who produces goods to specifications, never takes the credit of the goods he is producing and is never involved in the marketing of these diamonds.

The exporters are the prime contractors and there are Commission Agents who are sub-Agents. They distribute roughs (raw materials) and collect the finished goods from the the sub-contractors who are owners of the firms. The relationship between the prime contractor, Commission Agents and Sub contractors are direct and is based on the prime contractor or Commission Agents' knowledge of the sub contractors. The exporters have their own firms at Bombay and Surat where the bigger stones are cut using modern technology.

The economic and social patterns that have developed with the growth of sub contracting arrangements have given rise to considerable misunderstandings and controversies and have led to serious concerns over its functioning. Moreover absence of basic data has led to many misconceptions regarding its impact. In the following sections we shall attempt to throw some light on prime contractor-subcontractor relationship, the conditions for its success and its possible future role in diamond industry in Kerala.

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<sup>8</sup> *Dobb M (1963) highlights the need for explanation of the circumstances under which they grow and the inter relationships which it has.*

The main reasons behind sub contracting from the point of prime contractors can be grouped into flexibility, employment relations, cost and quality.

### *Flexibility*

Subcontractors are substitutes for the expansion of the plants of prime contractors. This prevents the dilution of parent company's own capital. The parent company benefits from the sub-contractors' utilization of external economies due to its specialisation in particular type of rough . Also advantage is taken of the subcontractors' specialised know-how in fabricating small and hard diamonds. In this process the managerial and supervision costs and efforts are also saved.

### *Employment relations*

Another important reason favouring subcontracting is management's solicitude for amicable industrial relations. A predicament arises when labourers get hard stones which might reduce their labour productivity and earning capacity. To overcome such unfavourable developments, subcontractors are essential as neither workers nor the unions have a voice in the decision-making process. Social division of labour as we saw earlier was facilitated with subcontracting. The informality passed on through the subcontracting arrangement makes the prime contractors take advantage of the social ties between the owners and the labourers which would have been impossible if he had not subcontracted the activity .

### *Cost*

Till recently, subcontracting firms used mechanical devices for processing small stones. This contributed to a reduction in unit labour costs. It could be cost minimising to subcontract even though there are problems of estimation of cost differences between parent firms and subcontracting firms. This might be due to savings on labour costs, coupled with narrow margins for the work done and the small size of industrial diamonds to be processed. Though it is possible that sub contractor may incur a cost due to greater wastage of rough during processing and changing stones, it was seen that with more coercion and strict specificities, these can be brought at par with what is intended.

### *Quality*

A major cause for apprehension is the quality of the product - uniform quality and precision. But from the field experiences it was found that in order to increase their margins, subcontractors using their skill and efficiency achieved the quality desired and also tried to reduce wastage by close and cordial relationships with the workers. The direct control of the owner or the manager whom he deposes need special mention in this regard.

### *How do the sub contractors benefit?*

In this section we attempt to see the perceptions of the owners of the firms about subcontracting and whether it was felt to be necessary at all? Their support for subcontracting stems from four aspects namely , their dependency on capital, raw materials, technology and marketing.

### *Capital*

The earlier firms were provided by machines by prime contractors. The cost was recovered on a monthly basis monthly out of their remunerations. This was a major incentive for setting up firms. In a few of larger firms, there was evidence of Gujarati investment and in a few others they have provided the machinery.

### *Raw materials*

One of the most important factor for the smooth functioning of a firm is the regular supply of rough stones. This is guaranteed by the prime contractors. Their international networks and financial soundness ensures import raw materials from DTC and other sources.

### *Technology*

A major boost to the growth of the industry was the change of technology. Most of the firms now use semi-automatic machine instead of the Gandi (mechanical dope). This has been promoted by the prime contractors in order to ensure increased production and maintain quality. Knowledge about machines, were provided by the Gujaratis and also machinery itself was brought to Trichur from Bombay and Gujarat. To sustain the small firms, amidst the competition from the larger firms and to respond to the increasing market abroad, the change in technology was essential.

### *Marketing*

The big traders with a good international network, can get the impulses and trends from the world market. Since the prime contractors provide raw materials, they also ensure marketing of the finished stones. As the industry is mainly export oriented ,it



makes the artisans inaccessible to the markets. This difficulty is overcome by the subcontracting network.

The subcontracting arrangement assumes importance mainly from the role of providing rawmaterials and ensuring market. It is worth noting that the major component of value addition takes place in the polishing activity organised in these firms. But only the labour cost is paid to the firms and a greater share of value addition is shared by the commission agents and the exporters. This is because the risks which any other entrepreneur has to bear is minimised with subcontracting. Further the capital to be invested for the import and export is saved by the firm owners. Also, the informal contracts which is a striking feature of the industry is passed on to the labourers. It can be inferred that subcontracting arrangement leads to economy through low labour costs, low overheads and low administrative costs. Also, with the particular nature of rough, specialisation is also made possible. Because of the confidentiality and the unorganized nature, subcontracting relations are difficult to quantify. However, the above discussions lend support to the view that subcontracting has been the main stay of the industry in Trichur.

The discussions with the diamond firm owners brought out the fact that the chances of an alternative arrangement is rather dim and even Government intervention and supply of rawmaterials seems not a feasible solution considering the nature of the product and the intricate network associated with the trade.

Having looked into the locational advantages, the nature of entrepreneurship and the subcontracting arrangement in the industry, we move on to an economic analysis of the firms.

### *Source of finance*

It is important to look at the source of capital for the industry to get an idea regarding the growth of the industry. The dependency on organised financial institutions is negligible as clearly evident from data presented below.

**Table 3.3: Source of capital**

(In Rs)

Source of capital	Percentage of capital
1. Personal savings, friends & relatives	56%
2. Moneylenders	22%
3. Co-operative Banks	18%
4. Commercial Banks	4%
Total	100

Source: Primary survey

The high dependency on personal savings and friends and relatives is a peculiar feature of this industry. The organised financial institutions had a minimal role to play in the relocation of the industry in Trichur as evidenced from the Table 3.3.

### *Investment Patterns*

Given below (Table 3.4) is the break up of the total investment of the 50 units surveyed by us. The total investment in our sample of 50 units adds upto Rs. 107,68,500. Of this, the major component of investment was incurred for upgrading machinery.

Table 3.4: Investment Patterns

(In Rs)

(i) Investment in Land and Building	36,65,000
(ii) Initial Investment in Plant & Machinery	23,74,500
(iii) Additional Investment in plant & Machinery	47,29,000
Total	107,68,500

Source: Primary survey

Additional investment was incurred by 75 per cent of the firms following technological up gradation as reflected in the switch over from the sada (Gandi) machine to the semi automatic machines. Average investment in Plant and Machinery per unit comes to Rs.1,42,070 at current prices. In order to create employment for one person, Rs.4625/- had to be invested in plant and machinery or in other words, with an investment of Rs.1 lakh, employment for 22 persons can be created. So it is assessed that initial capital does not pose a great constraint. This industry resembles a small scale industry where the capital labour ratio is small implying that the capital intensity is less when compared to the trend in small scale industries.<sup>9</sup>

The more serious problem is one relating to working capital. About 70-80 per cent of the total working capital comprises of the wage bill. The working capital for the surveyed 50 units amounts to Rs.21,14,160. For a very small unit, processing 500 stones a month, the wage bill comes to Rs.8500. The situation is all the more critical when there is a delay in payment for one or two months. Then the small firm will have to depend on the

<sup>9</sup> For a discussion of increasing capital\ labour ratios in the small scale industries in Kerala, see Subrahmanian and Pillai (1994). While in 1972-73, employment per fixed asset of Rs.1 lakh was 28.63, by 1987-88, it had come down to 13.85 indicating that the capital intensity had gone up.

moneylenders. The mushrooming of moneylenders along side the proliferation of diamond polishing units in this region bears testimony to this trend (Prakash, 1984).

Having analysed the source of finance and the investment pattern in the industry, let us classify the firms according to investment in plant and machinery.

Table 3.5: Classification of units by investment in plant and machinery and its contribution to employment and output

Invest P&M (lakhs)	Units	%	Empl.	%	Invest (in Rs)	%	Pdn. (monthly)	%
0 - 1	19	38	235	15.3	10,45,000	15	9,050	9.0
1 - 2	22	44	660	43.0	30,03,500	42	44,150	45.0
2 - 5	8	16	483	31.4	25,35,000	36	34,000	35.0
5 - 10	1	2	158	10.3	5,20,000	7	10,000	10.0
	50	100	1536	100	71,03,000	100	97,200	100.0

Source: Primary survey.

The major size class in terms of a certain bunching is in the medium size class i.e, those with an investment of 1-2 lakhs; This size class accounts 44 per cent of firms, contributes to 43 per cent of employment, 42 per cent of Investment and 45 per cent of output. Table 3.5 however clearly indicates the importance of the large size category (2-5 and 5-10 lakhs), in terms of their control over employment, investment and production.

### *Analysis of Firms*

#### *Age profile of the firms*

From the Panchayat registers and through other independent enquiries, it is estimated that there are roughly 300 firms in

existence in Trichur district employing more than 10,000 workers<sup>10</sup>.

In order to capture the operation of firms, we begin with an examination of the age of the units (see Table 3. 6).

Table 3.6: Age of the units as per the sample

Year of Establishment	No. of Units	%
1971-75	2	4
1976-80	2	4
1981-85	7	14
1986-90	20	40
1991-95	19	38
Total	50	100

Source: Primary survey.

Our survey indicated as reflected in Table 3.6, that diamond polishing firms had come into existence even as early as 1970s. About 78 per cent of the sample units were established after 1986 implying that the major phase of expansion of the industry had occurred during this period.

#### *Firms according to size of employment*

An analyse the size of firms according to the employment and volume of production is also attempted which is the focus of this sub-section.

As Table 3.7 reveals, 42 per cent of the industry consists of units which employ less than 20 workers. The major clustering of units were those that employed 20-49 workers. In a strict sense, by

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<sup>10</sup> See for instance *Indian Express*, 25 september, 1994.

virtue of definition<sup>11</sup> some of these units would come under the Factories' Act. There are five processes involved in diamond polishing, namely, Bruiting (Gart), pale, Table, Full Bottom and Top<sup>12</sup>.

Table 3. 7: Distribution of Units by Employment

Empl. range	No. of Units	% to total
1 - 9	6	12%
10 - 19	15	30%
20 - 49	22	44%
50 - 99	6	12%
100 & above	1	2%
Total	50	100

Source: Primary survey.

In Table 3.8, the age and size structure of the firms has been presented in order to discern if size of firms remained the same.

Table 3.8: Age and Structure of the Firms

Age	Firm Size according to employment					Total
	1-9	10-19	20-49	50-99	100 & above	
0 - 5 yrs	5	12	7	1	-	25
5 - 10	0	3	10	3	-	16
10 - 15	1	0	2	2	-	5
15 - 20	0	0	1	0	1	2
20 - 29	0	0	2	0	0	2
Total	6	15	22	6	1	50

Source: Primary survey

<sup>11</sup> As per the provision of Factories Act 1942, any factory employing 10 or more worker and using power and 20 or more workers not using power in any one day of preceeding 12 months are liable to be under the Factories Act.

<sup>12</sup> Bruiting is a process by which the rough which may not have any shape is given a conical shape by rubbing it against another diamond. The other four stages are polishing the different faces.

From Table 3.8, it is evident that out of six firms in the size class 1-9, five had a life of less than 5 years. And 12 of the 15 firms in 10-19 size class category was under five years old. When these two size classes are combined, it is seen that of 21 firms 17 firms were established in the last five years. If these units are treated as small units, based on the size of employment, it may be inferred that smaller units tend to have shorter life. More than two third of firms in the medium sized firms (20-49) and excepting one firm of last two size classes have life of more than five years. It follows that there is a high concentration of small size class in the age of firms of less than 5 years. They account for nearly 70 per cent of firms (17 out of 25 firms). Therefore, it can, be inferred that proliferation of the firms particularly since 1989<sup>13</sup> has been an outcome of establishment of smaller firms. This also broadly indicates that medium and large size firms tend to have a longer period of operation. In Table 3.9, we provide total employment, investment and production of these units across different size of employment

Table 3.9: Contribution of employment, investment and production

Empl. range	No. of Units	%	Empl.	%	Investment (lakhs)	%	Prodn. monthly	%
1- 9	6	12	45	3	4.9	5	2,100	2
10- 19	15	30	212	14	14.0	13	12,150	13
20- 49	22	44	708	46	48.0	45	45,950	47
50- 99	6	12	413	27	30.4	28	27,000	28
100 and above	1	02	158	10	10.2	9	10,000	10
	50	100	1536	100	107.5	100	97,200	100

Source: Primary survey

<sup>13</sup> The primary survey was conducted in 1994. The sample units whose life is reported to be less than 5 years should have been established since 1989.

Small size class employing less than 20 workers, though constitute 42 per cent of the units, account for only 17 per cent of employment. More strikingly the size class at the bottom, employing less than 10 workers and representing 12 per cent of firms, employs only 3 per cent of workers. This size class also accounts for only 2 per cent of production with 5 per cent of total investment. The medium and large size classes (20-49) show an almost proportional shares in employment, production and investment.

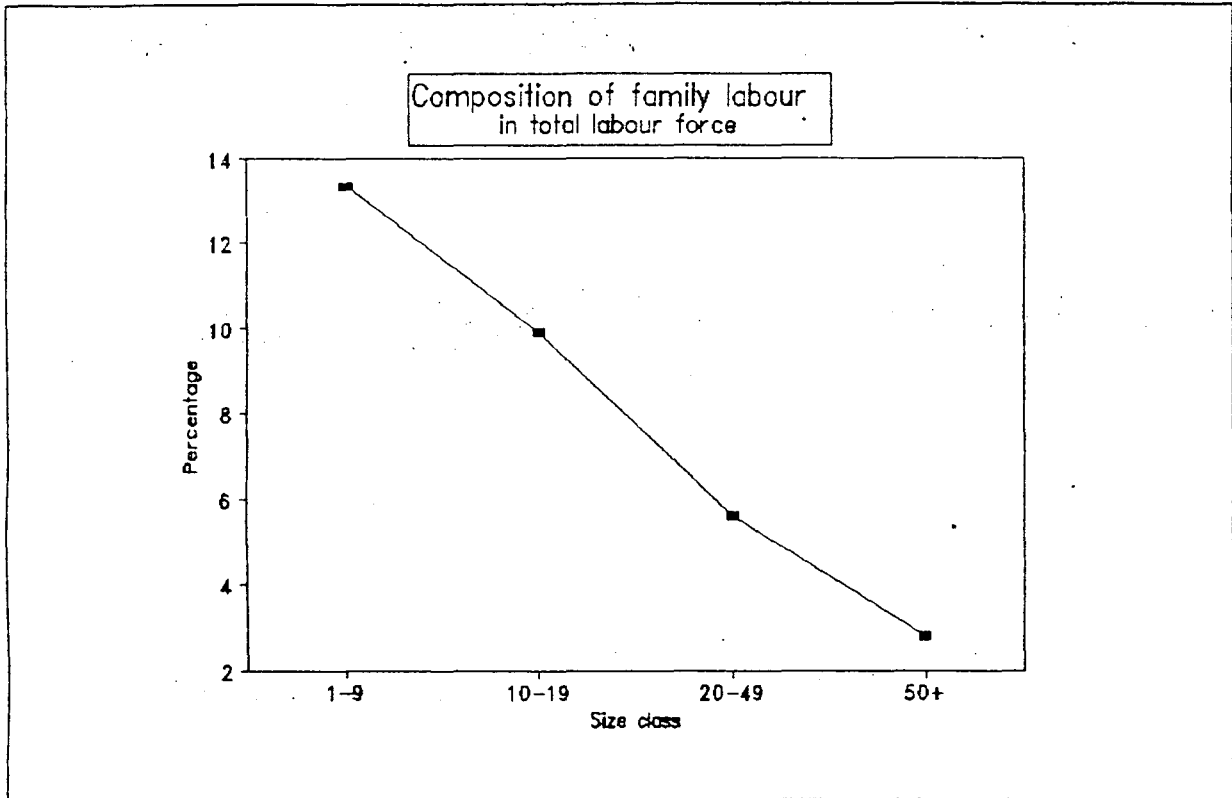
Though the numerical proliferation of firms provides a broader idea regarding the expansion of the industry, our above analysis of age, and investment and production across different size classes raises some important questions. Whether these 12 per cent of the smallest units are necessary to produce 2 per cent of the total production? Alternatively, what explains the continued presence of these units with a disproportional performance?

One explanation for the existence of very small firms is that they consider it as a means of self-employment for the owner and his family members. This may be better understood with an examination of the components of work force of different size classes of firms (see Figure 3.1).

Figure 3.1 depicting family labour as a percentage of total labourers shows that as the size of employment increases, the dependency on family labour declines. The smaller size firms depend more on family labour. In these firms, the owner is also a worker, doing both managerial work and manual work. But in the



Figure 3.1



bigger sized firms, the owner only supervises and manages the firms. In such firms, family members are mainly engaged in managerial jobs rather than polishing work. Hence, it is likely that smaller firms exist to generate self employment opportunities for the family members of owners of these units.

Production is a fair indicator of the firm size because the average production would provide a rough measure of profitability. This calls for an examination of production of these firms. The number of diamonds polished, on an average, in a month is considered as the volume of production of the firms. As the exact data of monthly production is not available, we had to cross-check the production figures with number of machines and number of workers, estimating on the basis of average production per machine in order to guard against any major discrepancy between what was stated and the actual production. This was useful corrective to the

inconsistencies arising out of under statement of the level of operations. Table 3.10 classifies the firms based on their level of production and presents their production and employment.

Table 3.10: Size distribution of units based on production

Production-Class	Units	%	Pdn.	%	Empl.	%
0 - 500	12	24	4900	5	121	8
500 - 1000	8	16	6700	7	145	9
1000 - 2000	14	28	22100	23	355	23
2000 - 3000	9	18	24500	25	370	24
3000 - 5000	4	8	15000	15	228	15
5000 & above	3	6	24000	25	317	21
Total	50	100	97200	100	1536	100

Source: Primary survey

As evident from the Table 3.10, 40 per cent the total units are producing less than 1000 stones a month and adding about 12 per cent to the total production. 80 per cent of these firms were those producing less than 1000 stones per month. The largest 3 firms are said to control 1/4th of total production.

#### *Cost structure of the units*

The argument often putforth by the owners was that they did not expand their firms because of the diseconomies that would arise due to bigger size and the smaller size makes it amenable to personal control and supervision. But given the fact that some firms have infact gone in for capacity expansion<sup>14</sup> makes one doubt the validity of this line of argument. The continued presence of smaller firms in the industry and the practise of contracting out production to smaller firms instead of increasing the plant size in

<sup>14</sup> The recent unit setup in this region is a factory employing nearly 200 workers.

the wake of the recent developments needs further enquiry. This makes one doubt the economies associated with scale and needs some explanations regarding the economic rationale behind the expansion or coming up of comparatively large firms in the industry. This leads us to the questions of economies of scale, optimum size of the plant, and size distribution of the firms in the industry.

A search for an optimal size of plant may provide, a certain firm size towards which firms may tend to move in the long run. Discovery of an optimum size of plant is not only of analytical interest, but also has policy implications as suboptimal firms may turn as waste of resources.

The conventional economic theory describes a 'U' shaped Average cost curve. But there are empirical evidences to disprove the neoclassical framework of a 'U' shaped average cost curve. Similar conclusions were arrived at in the diamond industry, indicating the existence of 'L' shaped Average cost curve<sup>15</sup>. We attempt to test this hypothesis of 'U' shaped Average cost curve against the data from the survey. In addition, an attempt at exploring the existence of an optimum plant size and thereby the presence of economies of scale related with plant size is undertaken.

For analytical purpose cost is defined in terms of output only that is,  $C = f(X)$  where C is total cost and X is output - number of stones polished per month. Total cost includes both fixed cost and

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<sup>15</sup> Kashyap and Tiwari(1982) considering labour productivity as a proxy variable for costs because it was not possible to estimate cost curves across different sized firms, concluded that evidence does not support U shaped cost curves.

variable cost. Fixed cost comprises of investment in and plant and machinery. Variable cost includes wages, electricity, and cost of other inputs, cost of fuel etc. For empirical estimation a quadratic cost function form of the conventional type is used;

$$C = aX^2 + bX + f \text{ -----(1)}$$

where a, b, and f are constants. The estimated cost function is shown below<sup>16</sup>.

$$C = 53087.44 + 0.0024x^2 + 97.33x$$

(0.82) (3.83) -----(2)

$$R^2 = 0.77$$

To find whether the economies of scale exist, the Average Cost and Marginal cost curves for the industry were obtained.

$$MC = \frac{dC}{dX} = 0.0047 X + 97.3276$$

$$AC = \frac{C}{X} = \frac{0.002369 X^2 + 97.3276 X + 53087}{X}$$

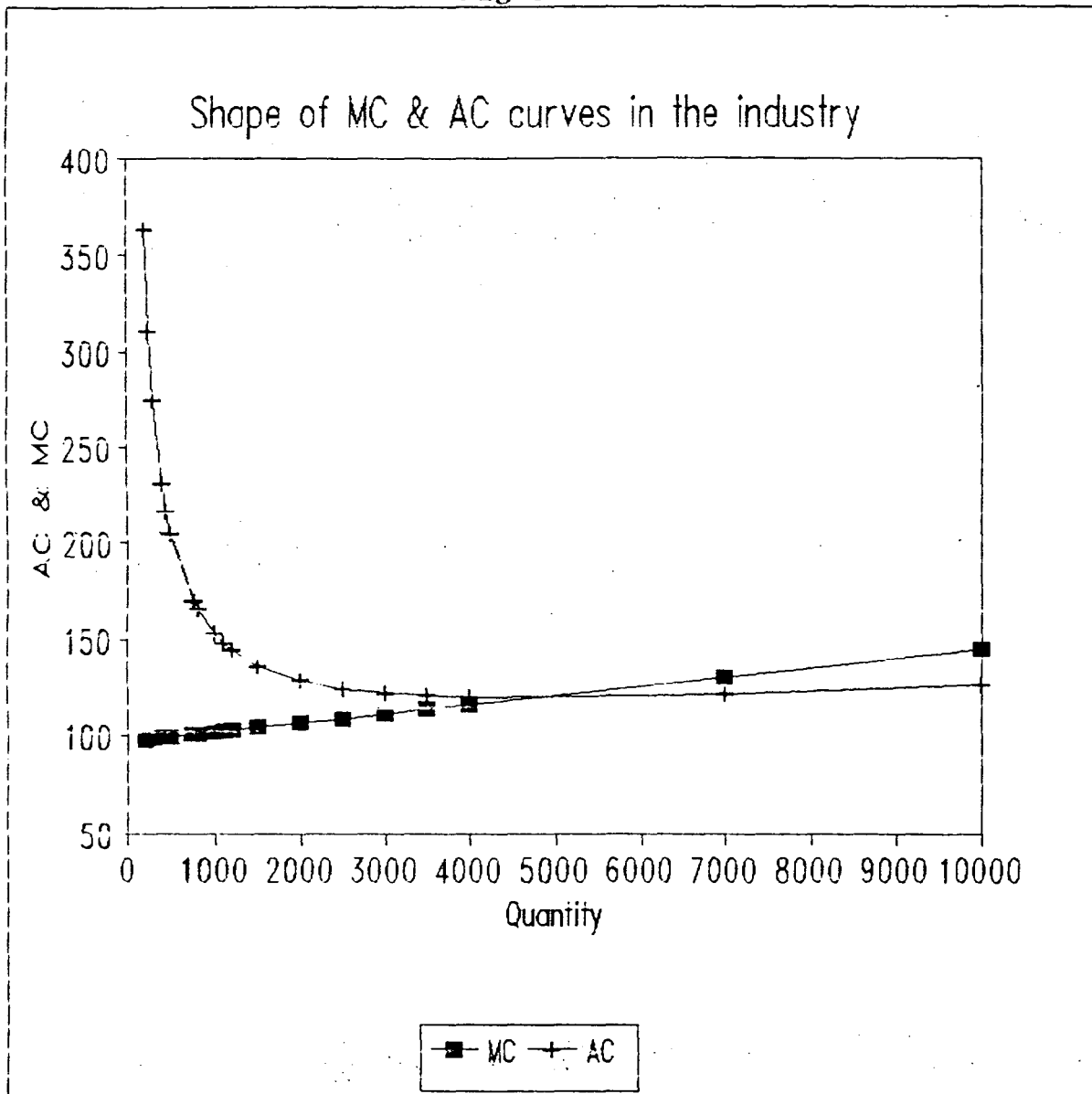
The graphical representation of MC and AC is shown in the figure below.

The Average cost curve falls steeply indicating large scale economies with increase in size until a point is reached where AC is minimum. At this point MC cuts AC from below. Though the curve satisfies the optimisation conditions postulated by the

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<sup>16</sup> Figures in the parantheses are t-ratios.

Figure 3.2



neoclassical production theory, the Average cost takes an 'L' shape, supporting the above mentioned empirical studies.

The growth of the existing plants in comparison with the optimal size will be of help in understanding the cost structure of the firms. As the optimal size of the plant could not be discerned clearly from the graph we calculate the optimum size using the

optimality conditions<sup>17</sup>. The optimum output, thus obtained, is 4734 stones per month.

The above analysis leads us to examine the distribution of the firms against this break-even point. We can broadly classify the class coming under the optimum size class as 4000-5000 stones per month. From our earlier classification of units based on monthly production, it can be seen that 86 per cent of the total firms of our sample were below this range (see Table III.10). This reveals the potential for growth in this industry in terms of size.

#### *Estimation of profits*

The estimation of profits of the diamond units is problematic. There is no proper system of book-keeping, instead the owner maintains the accounts in a notebook noting the supply of raw material (roughs), the daily output of each worker, details of expenses incurred, stones processed and sent back, and so on and so forth. The reliability of this information is doubtful and needs extreme caution in interpreting it.

In coming to terms with the questions of measuring profitability in the diamond processing industry scholars have suggested different methods of overcoming this problem<sup>18</sup>. In evolving these methods

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<sup>17</sup> Using differential calculus, the optimum output is obtained by setting the first derivative of the total cost function, with respect to output, equal to zero. The firms producing this level of output have the optimum plant size.

<sup>18</sup> (1) Gujarat Export Corporation study (1975-76) calculated profits by considering gross earnings per piece of a diamond. The size of the units considered was small. The expenses considered were wages, rent and electricity. (2) The report on the 'Diamond Cutting and polishing industry at Surat (1978) by the Small Industries Service Institute also analysed in the same way but the calculation was only for one set of machinery. (3) The study at the

it was necessary to take into account the changes that have taken place with regard to number, size, investment and technology. The change in technology seems to have a major impact on the industry with regard to profit, size, costs, and employment.

### *Technological change*

The analysis revealed that most of the firms shifted from manual to semi-automatic machinery. This occurred in the last two to three years. In our attempt to trace the detailed impact we were constrained by time-series data with regard to machinery, employment, and profit. However, the discussions with the owners of the firms brought out the fact that there was increased employment. This was mainly due to the fact that the change in technology was not labour displacing as greater division of labour and specialisation were made possible. A second effect observed was, increased female substitution for males<sup>19</sup>.

On the cost side it was highlighted that marginal cost for polishing a diamond had gone up along with the introduction of semi-automatic machine. This was caused by the use of dye and paste which was not needed in the case of old machinery. Another major component in the marginal cost is the use of diamond powder. In the manual method the diamond powder which was obtained during the polishing activity is used. But now this has also to be

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*Sardar Patel Institute of Economic and Social Research (1982) attempted to study the division of gains by between the wage earners, entrepreneurs and commission agents. The profit calculation of the units was stated to be made by deducting from the remuneration for job-work, the expenses for material costs and depreciation. No explicit calculation has been made in the report. See Pathak (1984) for details.*

<sup>19</sup> *This is discussed in the next chapter.*

purchased. Another addition to expenses was pointed out to be the repair and maintainance charges incurred from time to time. This increase in costs has to be seen in conjunction with the increase in productivity. It was explicitly stated that with the change in machinery, productivity has almost doubled (See Table 3.11)<sup>20</sup>

Table 3.11: Labour Productivity in different size class of firms

Output class	Monthly output	Employment	Productivity
Below 500	4900	121	40.49
501- 1000	6700	145	46.20
1001- 2000	22100	355	62.25
2001- 3000	24500	370	66.20
3001- 5000	14500	228	65.70
Above 5000	24000	317	75.70
Total	97200	1536	63.28

Source: Primary survey

The increased labour productivity in the larger firms is clear from Table 3.11. This implies that in the medium and large firms the labour is more efficient and the capital (investment) is more effectively used.

#### *Calculation of profitability*

The method used for calculating profitability of the units are detailed as follows.

Revenue = Number of diamonds processed per month x Rate of job work received by the unit (remuneration).

Expenses = Monetary expenses on wages, electricity, rent and other materials .

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<sup>20</sup> The smaller sized firms polishing less than 1000 pieces a month is mostly using old machinery though they may operate on one or two new ones also. Therefore these firms are taken as a proxy for the firms using old machinery.



Net profit = Revenue - Expenses

Rate of profitability = Net profit / Total investment

### *Expenses of the units*

The cost components of the diamond polishing units consists of expenses on Labour, powder and dye, electricity and fuel, and rent. The labour charges per piece was found to be uniform across firms as there exist a contract between the firm owners and the workers regarding a uniform wage rate in the industry as a whole.

Table 3.12: Cost for each piece

(in Rs.)

1. Labour	
a. Gart	3.70
b. Table	1.25
c. 8 Pale	3.25
d. Bottom	5.60
e. Top	3.20
Total ((a+b+c+d+e)	17.00
2. Powder and Dye per piece	1.00
3. Electricity and fuel	1.00
4. Rent	1.00
5. Ohters	1.00
Total (1+2+3+4+5)	21.00

Source: Primary Survey

As evidenced from Table 3.12, labour charges alone comes to Rs. 17 per piece. Other variable expenses come to Rs.4 per piece. Thus the cost of polishing a single diamond adds to Rs.21.

**Revenue of the units:** On the revenue side, the source of income of the units is the commission for polishing each stone. Commission agents mainly operate from Bombay and Coimbatore. The Bombay agents supply the raw materials through registered parcels whereas the raw materials have to be collected from the Coimbatore agents. Lately, a commission agent has begun operating from Trichur also.

The source of raw material of our sample firms are indicated in the Table below.

Table 3.13: Source of raw material

Source of R.materials	% of firms
1. Coimbatore	32
2. Bombay	30
3. Trichur Agent	14
4. Other firms	12
5. More than one source	8
6. Others	4

Source: Primary survey

As seen from Table 3.13, 62 per cent of the transactions are controlled by the Coimbatore and Bombay agents. The Trichur agent is acting on behalf of agents from Bombay. It is interesting to note that the remuneration earned by the entrepreneurs differ based on the source of raw materials.

Table 3.14: Remuneration per piece polished

Remuneration	% of firms
Rs. 26	18
24	52
22	16
20	14
Total	100

Source: Primary survey

Most of the firms which depend on Coimbatore and Bombay commission agents received Rs.24 or Rs.26. It was also found that the firms which received Rs.20 and Rs.22 as remuneration were the smaller firms depending on other larger Trichur based firms or the Trichur sub agent. Table 3.14 gives a clear indication of the differentiation among firms. Different rates are paid by one

commission agent to the firm owners depending upon personal relations, experience, his past record etc.

A comparison of Table 3.13 and 3.14 with the marginal cost already arrived at reveals that the owner of a firm securing a commission of Rs.20 per piece is just self-employed and he is incurring a loss. The survival of these kind of firms can be explained in terms of their self-employment and of the members of the family. They only receive labour charge for the polishing work and earn no profit. For the owner who gets a commission of Rs. 22, Rs.1 is the profit per piece. These are the categories of firms which depended on other firms or other temporary arrangements for raw materials. Often the excess supply of stones over and above what the larger firms were themselves able to process was passed on to the smaller firms. This makes the small units susceptible to all vulnerabilities in the market. For instance, this arrangement worked well as long as there was an excess supply of stones. In times of shortage, the smaller firms had to face the problems of closure. From our discussions in the field, we found that 76 per cent of the firms were faced with shortages in the supply of raw materials. Out of this, 32 per cent of the units had to close down for more than a week due to the shortage of raw materials. It is to be noted that 89 per cent of the units which felt raw material shortage were those processing less than 2000 stones a month.

The available evidences cited above would suggest that the small firms, far from being in a position to compete with the larger firms were often at the mercy of the larger firms for their sheer survival. It brings out the nature of relationship of subservience

and dependence between the small and large firms. Hence, one should look into the differences in the profit ratio between firms. The profit rate per piece polished on the basis of average costs have been worked out for the whole sample irrespective of size.

Table 3.15: Rate of profitability between firms

Size Class	Average Cost (Rs)	Profit/loss rate			
		Rs.20	Rs.22	Rs.24	Rs.26
0-500	-27.27	-74.58	-54.05	-33.53	-13.01
501-1000	-23.25	-24.61	-9.45	5.71	20.88
1001-2000	-23.77	-68.02	-31.91	4.21	40.32
2001-3000	-22.02	-27.26	-0.30	26.65	53.61
3001-5000	20.60	-3.40	7.93	19.26	30.59
5000 +	-22.96	-15.05	-4.88	5.30	15.48

Source: Primary survey

Table 3.15 makes it clear that the rate of profit differs between firms depending on size. We have worked out the profit rates for different firms considering the remuneration and also the size differences. The firms that earn a profit at a remuneration of Rs.22 per piece is those processing 3001-5000 stones. At a remuneration rate of Rs.24 per piece the efficient firms are those polishing more than 2000 pieces a month. This analysis brings out the vulnerability of the smaller units in terms of profit. These estimates revalidate the cost curves derived in the previous section.

This leads us to raise questions as to whether the large firms desire the presence of the small firms in the industry and what explains the continued presence of the smaller sized firms ?

Based on our analysis we could draw the following inferences.

(1) The entrepreneurs of the large and medium firms often identified themselves with the small firms in terms of dependence for raw materials, in the implementation of labour laws and provisions of the factories Act etc. The report of the committee which was entrusted with the task of looking into the problems faced by the industry came to the conclusion that it is a foot-loose kind of industry and that difference in size was not important. Secondly since the owners of the firms received a piece-rate for the contract work done, they were not in a position to ensure the security of employment nor fulfill the conditions of labour laws. This was the rationale put forward to explain the exclusion of firms from the purview of the Factories Act. Even firms with 100 to 200 workers are also categorised like small firms employing 10 or 20 employees. The unorganised nature of activity ensured the large and medium firms to be spokesmen of the small firms so that they can also reap the benefits of being totally unorganised. This is clearly evidenced in the bilateral settlement reached by the labourers and the artisans in the presence of the State Labour Commissioner in 1994. In all agreements and discussions related to wages, bonus, and implementation of laws the whole industry was viewed as a single homogenous group of firms irrespective of size, profitability, employment and other criteria. So the presence of the small firms benefited the large ones in spite of the vulnerability of the small firms vis-a-vis the large firms.

2. Secondly the presence of small firms help the large firms to engage in trading activity. The large firms instead of increasing their level of production, take up trading activity which is more

profitable. We have already seen that the big firms get a commission of Rs.24 to 26 for polishing a single stone. Without incurring any investment, or risks of organising production, they get a commission of Rs.4 to Rs.6 just for supplying the raw materials to the small and medium firms as they need to pay only Rs.20 or Rs.22 to these firm owners.

3. Thirdly the small firms provide the training ground for developing the labour market. The very small firms take apprentice by getting securities from the trainees. They themselves do some polishing job also. So by imparting training to a large number the availability of the skilled labour increases and this is taken advantage of by the large firms. The investment on labourers was a significant expenditure in the industry in the other diamond polishing centres and it was a major practice followed in Trichur also in the beginning. Often after getting the advances the labourers moved on to other firms without repayment. But now with the increased supply of trained workers this practice of giving advances to skilled workers is no longer prevalent in Trichur. Table III.16 highlights the importance of small firms in imparting training to the workers.

**Table 3.16: Trainees by Size Class**

Size (empl.) class	% of firms having trainees	No.of Trainees	Trainees as a % Employment
0 - 9	66	6	13
10 - 19	33	14	7
20 - 49	33	19	3
50 - 99	28	5	1
100 & above	0	0	0

Source: P rimary survey

It is apparent from Table III.16 that 66 per cent of the firms took trainees in the size class 1-9 while 33 per cent in the size class 10-19 did the same and this percentage tended to decline in the higher size classes. Trainees as a percentage of employees tended to be higher in the lower classes.

### *Conclusion*

In this chapter an analysis of the various factors which helped the relocation of the industry to Trichur was examined. Our analysis revealed that this region enjoyed some traditions of artisan-based craftsmanship. The entrepreneurs in this industry were largely 'worker-turned' and had only minimum of education. From the organisational point of view our major finding is that the industry prospered under the aegis of the subcontracting network. This ensured supply of raw diamonds and its marketing which were the most important elements for the sustenance of the processing units. The commission agents in turn benefitted from the unorganised and informal relationships that existed in the industry. The cordial owner-worker relations were made use of by the commission agents in increasing their margins. This was based on the caste-community ties which was the underlying factor in recruitment, dissemination of skill, and more importantly for entry into the industry. It was found that the availability of skilled labour apart from certain distinct locational advantages was a favouring condition in the the relocation process. An analysis of the firms with regard to size, upward mobility and profit rate revealed that there existed scope for further expansion across different size groups. The technological change brought about increased employment and productivity thus changing the structure of the units. Economics of

the industry revealed that majority of the firms operated below the optimum size. This raises a number questions regarding the sustainability of the units. Our analysis revealed that the small units even in the absence of profits, survived mostly due to their high dependency on family labour and self-employment. On the contrary, the medium and large firms earned a commission for conducting the activity and this constituted a major element of their revenue. The introduction of semi-automatic machines warranted increased production and increased the labour productivity. This was facilitated by the greater division of labour, specialisation and supervision of each activity. The increase in productivity coupled with a higher commission rate, made the larger units viable. The technological change also led to increased female substitution for males.

It was interesting to note that some of the large firms apart from polishing activity, became a commission agent supplying raw diamonds to the small firms, and thus we notice a kind of "subcontracting " within subcontracting. The condition of the small firms was vulnerable with a low remuneration for their work and dependency on large firms for supply of rough.

The owners of the units benefitted out of economies arising out of the clustering of units in this particular region. This is evidenced from the operation of the association of the owners. The skill pool which was created due to this clustering was also an added advantage.



In light of the recent trends regarding the growth of employment in the unorganised sector in the state along with the presence of subcontracting in the industry, aspects relating to labour and labour market assumes importance. This is pursued in the next chapter.

## Chapter 4

### *A PROFILE OF LABOUR*

The primary focus of this chapter is to throw some light on the working class in the diamond industry of Kerala, especially with reference to the wage structure and labour market. Labour militancy in Kerala has often been cited in the past as one of the major factors for the lack of industrial development of the state. Our study assumes importance in that it suggests the need for a reappraisal of some of these conventional notions about labour.

The classical theory sought to explain the regional industrial backwardness of a state on the rather naive assumption that capital would move where costs would be the lowest (so that maximum profits could be obtained) and labour would migrate to those areas where wages would be the highest. Both the growth pole approach and growth centre approach considered only removing physical and financial bottlenecks and did not take into account the macro and sectoral aspects of the economy as affecting the growth process of the peripheral areas (Das.K. 1992).

As already stated, the diamond industry had its clusters in Gujarat (mainly Surat) and in parts of Maharashtra. But since the early 70s, this industry started spreading to Kerala, a state allegedly characterised by high labour militancy and high wage cost. This raises the question; why did capital move from an apparently labour cheap environment to a high wage cost region? This question becomes all the more important while considering the labour intensity of the industry where comparative advantage is determined

by the cheapness of labour. This apparent paradox is the main focus of this chapter.

### *Coverage*

Though the sample size is limited, on data regarding employment, wage rates, division of labour etc, the firmwise data tends to compensate for this limitation. The survey of the workers was basically intended to acquire the workers perspective towards the industry.

### *Age profile*

Among one of the more striking aspects of the workforce in this industry is the predominance of young workers largely in the 'under thirty' age category. Most of them happened to be dropouts from schools. The age component of the workforce is shown in Table 4.1

Table 4.1: Age Profile of the Workers

Age	%
Below 20	28
20 - 30	47
30 - 40	20
Above 40	5
Total	100

Source: Primary survey

While 75 percent of the workers thus are less than 30 years of age, a significant section of them (28 percent) are below 20 years of age.

*Education:* It was surprising to find that there were so many dropouts from schools who have joined this industry before completion of SSLC. In this industry, as observed earlier, education is not an important consideration as many of the entrepreneurs themselves have elementary education. The educational profile of the workers is presented in Table 4.2. As may be seen from the table, 65 percent of the workers are those who have education below matriculation.

Table 4.2: Educational Status of workers

Education	% of workers
0- 7	30%
8 - 9	35%
SSLC	28%
Above SSLC	7%
Total	100%

Source: Primary survey

Apart from the monetary gains, a major attraction of this vocation is the relative respectability of the trade as well as the relative freedom in the workplace. Here work is carried out in sheltered workplaces unlike agricultural work in the hot sun. Thus employment in this activity corresponds more closely with factory employment or other informal employment. Since they develop skills of the work, the workers lose their chances of engaging in any other employment and this abundant supply of skilled labourers are a great advantage to the owners of the firms.

Entry in to the workforce at an early age and the examination of the age and upward mobility is meaningful to analyse the scope of

employment in the industry. The age composition of the workforce becomes meaningful only if along with experience, there are chances of upward mobility or higher earnings.

We shall now attempt to look into the wage structure and wage differences. In this connection it is also imperative to look at the wage rates in different centres. Though Kerala is often depicted as a high wage cost economy, paradoxically, there are reasons to believe that coupled with the skill factor, the comparative advantage this region enjoyed in terms of relatively cheap labour was another reason that prompted a partial shift of the industry from Bombay and Surat to Trichur. Table IV.3 shows the average wage rates for polishing a stone in the main centres as against Trichur.

Table 4.3: Wage Rates in Bombay and Surat and Trichur (per piece)

Year	Bombay & Surat	Trichur	Difference in %
1972	Rs.12	Rs.8	33%
1989	20	12	40%
1994	24	17	35%

Source: For 1972, P.K.Sankunny  
 For 1989, Patwa  
 For 1994, Field survey

As Table 4. 3 reveals, from the 1970s through the early 1990s, wage rate for polishing per piece was lesser in Kerala by 30-40 percent when compared to Bombay and Surat. Another additional advantage that Trichur appears to have enjoyed was the lower rates of commission charged by the owners of the firms for the activity.

### *Experience and wage structure*

As a certain amount of skill is a prerequisite for securing entry into this industry, an initial training for 3 to 6 months is given initially. After they attain the skill and speed, they are employed on a piece rate basis. The earnings depend upon worker's ability to process the number of stones. Table 4.4 gives an idea regarding the experience of the labourers in this industry and the net earnings.

Table 4.4: Total Experience and Monthly earnings

Total experience (in years)	% of workers	Avg. monthly earnings
0 - 1	10	340
2 - 3	20	900
4 - 5	15	1100
6 - 10	32	1184
11 & above	23	1374
	100	

Source: Primary survey

Nearly 70 percent of the labourers are those with an experience of having more than 4 years. And about 23 percent have an experience of more than 10 years. From the average monthly earnings in each group we find that though a slight increase is there, due to experience, the increments are negligible. The marked difference between the first two segments is due to the fact that in the first year workers are mainly trainees and they are put on a piece rate basis only after six months or an year. Though in the last chapter it was observed that the entrepreneurs were worker-turned entrepreneurs, not many of the workers better their prospects with increased experience as a diamond worker. As noted earlier, work experience by itself is not a sufficient precondition for making a

worker into an entrepreneur, but factors like caste, financial background are also important considerations. So another option for a worker should be an increase in his wages with increase in experience. The chances of this seems rather dim as we find from the age of the workers, and the relationship of wages to experience. This is visualised in Table 4.5

Table 4.5: Total Experience and Monthly Wages

Total Experience	Wages (Monthly)				Total
	0 - 500	501-1000	1001-2000	2000 & above	
0 - 1	4	0	0	0	4
2 - 3	3	4	-	1	8
4 - 5	0	3	3	0	6
6 - 10	0	6	7	0	13
11 & above	1	4	2	2	9
	8	17	12	3	40

Source: Primary survey, 1994.

Table 4.5 portrays the inability of a worker with an experience of over ten years to earn a monthly income of Rs. 500 a month. Likewise, 25 percent of workers having an experience of more than six years struggling to earn Rs.1000 per month. The picture traced above is for both males and females taken together.

Here it will be meaningful to compare the wages in the industry with the agricultural wages and some of the skilled labourers in other sectors of the state.

Table 4.6: Average daily wage rates of labourers in some other sectors

(in Rs)

	1985-86		1990-91		1991-92		1992-93	
	M	F	M	F	M	F	M	F
Paddy workers	26	15	36	21	41	26	48	32
Unskilled rural Workers	25	19	37	30	40	32	46	37
Carpenter					59		68	
Mason					59		68	

Source: Economic Review 1993 , State planning board, Trivandrum

For the diamond workers of Trichur the daily wage rate works out to roughly Rs.28 for females and under Rs.40 for males in 1994. The above table indicates that the workers of the diamond industry in Trichur are not in a better position when compared to the agricultural labourers of the state and even the unorganised unskilled workers. The difference between the skilled workers of the diamond industry and the skilled workers in the construction sector like carpenters and masons is evident from table IV.6. The average daily wage of a female worker in the cashew processing industry is between Rs.25-Rs.35 in Kerala and when compared to this industry also the female labourers of diamond industry are at a great disadvantage.

In this context, it may be noted that another attraction of the labourers to this industry would have been more number of days of employment when compared to agriculture. However, as there is no consistency in the number of days of work in each year in this industry due to raw material shortage and as the number of days of employment also differs from one unit to another, an intersectoral comparison is difficult. Nevertheless, the conversion of agricultural land for non-agricultural purposes in the state in



general and Trichur district in particular needs special attention as it has greater implication on the labour market.

It has been noted that the level of earnings in unorganised manufacture falls below that of Agriculture and organised sector in Kerala whereas it falls between that of agriculture and organised manufacture in All-India (Chandra mohan, 1982). As there is no difference in wage rates between males and females in the diamond industry, it would be naive to expect any major difference with regard to their earnings. But the reality seems to be different. The earnings differ in relation to gender (see Table 4.7).

Table 4.7: Variations in Earning- Gender Wise

Monthly Wages	Male	%	Female	%
0 - 500	1	5.6	7	31.8
501 - 1000	5	27.8	12	54.5
1001 - 1500	8	44.4	2	9.2
1500 & above	4	22.2	1	4.5
Total	18	100	22	100

Source: Primary survey

So it appears that nearly 85 percent of females are getting less than Rs.1000/- a month and nearly 30 percent getting less than Rs.500/- a month. In the industry as a whole, 60 percent are getting less than Rs.1000/- per month. What cause the wage difference between genders and within gender ?

One difference could be in relation to the size of the firms as we have already hypothesised an increase in labour productivity or efficiency with increase in size. This implies that the productivity of labour changes with size of the firms, as labour

productivity can be taken as the proxy for the difference in wages as the rate per piece is uniform in all firms irrespective of size. This is explored in Table 4.8.

Table 4.8: Wage differentials according to firm size

Production of Firms Monthly	Monthly Female (Rs)	Avg. Earnings Male (Rs)
0-1000	400-600	600-1000
1000-2000	600-800	700-1200
2000-5000	600-900	800-1500
5000& above	800-1200	1000-2000

Source: Primary survey of firms

It is clear from Table 4.8 that there is a marked difference between firms with regard to average monthly earnings. And in the same sized firms, females get lower share when compared to their counterparts.

In our attempt to find out the reasons for the wage differentials between males and females, we tried to examine whether there was any significant variations in the number of days worked. It was observed that this was not the case. While males worked for 24-26 days a month, females too worked for 22-24 days. Similarly we also tried to understand whether there was any significant difference in the working hours. Generally, working hours was from 9.30 a.m to 5.30 p.m irrespective of the gender. However, the number of stones polished, on a daily average basis, was found to be less in the case of females compared to men. We also looked into the activity wage differentials. Given below are trends in pattern of wages on the basis of gender and activity.

Table 4.9: Employment structure and wage pattern by activity and gender

Monthly wage	Gart		8pale		Table		Bottom		Top		Svision	
	M	F	M	F	M	F	M	F	M	F	M	F
0 - 500	0	0	0	2	0	2	0	1	1	2	0	0
501 - 1000	1	0	0	2	0	2	3	4	1	5	0	1
1001 - 1500	3	0	2	1	0	1	1	0	0	1	0	0
1500 & above	2	0	0	0	0	0	2	0	0	0	0	0
	6	0	2	5	0	5	6	5	2	8	0	1

Source: Primary survey

The Table 4.9 suggests clearly the predominance of male workers, with regard to Gart, considered as the most important activity in diamond processing. In all other processes, female participation is quite significant viz. 8 pale and table. Ironically these also happen to be process where there was bunching of workers on lower wages. A noticeable trend following the introduction of semi-automatic machine is the substitution of males by females in polishing. Our observation with regard to gender and activity based wage variations as captured in the previous table, gain credence and weight when seen in conjunction with the data on division of labour (see Table 4.10).

Table 4.10: Division of Labour in the industry

Type of labour	Gart.		8 pale		Table		FB		Top		Svision	
	M	F	M	F	M	F	M	F	M	F	M	F
Family labour	22	4	1	1	1	0	8	4	6	6	19	5
Hired Labour	217	12	134	86	88	82	199	278	206	145	12	0
Total	239	16	135	87	89	82	207	282	212	151	31	5

Note: FB:Full Bottom.

Source: Primary Survey of firms, 1994.

Table 4.10 brings out the domination of males in higher earning activity ie, gart. The increasing employment of women workers in a

traditionally male dominated industry is a relatively recent development, having assumed importance over the last five years. It is estimated that women constitute about 40 per cent of the total workforce.

Ester Boserup's (1970) had put forward the argument that women were marginalised by the process of economic development particularly by the establishment of modern industry. The export-orientation thrust on the policy of industrialisation, since 1970s market by the production of goods for the market of the first world, had its effect on the structure and composition of industrial labour force in many third world countries. In these labour intensive and export oriented production centres, women's share of employment grew and this led to increasing feminisation of work force. The preference for female labour arose on the assumption that females are docile and cheaper than male workers and that they accept low-paid work and have a higher dexterity (Patwa 1992). Generally women are confined to mainly industries with low technology, low capital and low productive and highly labour intensive industries.

Neo Ricardian approach argues that the new international division of labour is a consequence of fall in the rate of profit in the advanced capitalist countries which lead them to relocate to areas where wages are low and working class is weaker in bargaining. It has also been pointed out that in the above type of firms young girls are more preferred because they are suitable to delicate, repetitive and monotonous work due to their docility, patience and dexterity and they are less inclined to organise themselves. As

employment depends on fluctuating world market conditions continuity of employment is not guaranteed<sup>1</sup>.

To understand the increased female employment in this industry in Trichur we have to look in to the technological change that came about in this industry. In 1990-91 most of the firms introduced changes in the production process, shifting from mechanical to semi-automatic process. The result was that the productivity of the labourers increased and this prompted substitution of females for males as the intensity of the skill factor has decreased. But it is important to note that against the general notion that improvement in technology leads to labour-displacement, we find in fact the number of labourers has also increased with change in technology. The growth in world demand for diamonds may have favoured this trend.

However, since the external demand was constantly fluctuating it often had its repercussions on the industry. Given these conditions, the firms found it convenient to employ females in an effort to cut short and rationalise the line of production.

Another rationale seems to be that with the introduction of semi-automatic machines the specifications of the work (like the percentage of diamond to be returned after polishing) increased and the owners found it profitable, to employ females as they can be cajoled to polish a diamond till the expected quality is reached. This possibly would have been difficult where the workers involved

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<sup>1</sup> *The reasons for the preference of females in export-oriented industries have been discussed by Patwa (1992).*

were males. This would have been another reason for the less speed of the females, and per day output may not indicate the efficiency of a worker.

The owners at least face a threat from the labour unions and the increased employment of females may be a planned attempt to overcome any labour problems.

Often an important argument put forward by the owners of the firms were that this work was suited for females as they consider it as a supplementary source of income for which they need to work in their leisure time. But this argument does not hold ground as most of the firms where there are timings and the workers have to stick on to it. The argument is also contradicted by the fact that the number of married females were only 15 percent of our samples and in the firms we enumerated also this was the case. In a state where the sex-ratio is distinctly in favour of females the conclusion that the income of the females is supplementary is misleading and can have great consequences. There were instances of girls looking after their parents or their younger family members just with the income from their toil. The struggles of womenfolk to save something from their meager incomes for their future expenses, mainly for marriage, is a scene quite alarming not only in this industry but also in similar unorganised activities.

Nearly sixty percent of the households of the workers had no agricultural land to cultivate. The monthly income of the households depended upon the number of adult workers. The other

members of the family were engaged in agriculture or other unorganised activities like stone quarries or brick industries and in the case of female members they were mainly in the unorganised service sectors. Though 95 percent of the workers had their own houses the houses had minimum of facilities.

### *Background of the labourers*

The workers in the industry are mostly from the same community as the owners of the firms is obvious from the fact that eighty percent of these labourers were Hindus and 60 percent were Ezhavas. Non-Ezhavas constituted 40 percent. Out of 18 males, 8 were married, 10 unmarried and out of females, 6 were married and 16 unmarried. So 35 percent were married and 65 percent unmarried.

Out of the labourers, 55 percent had no other exposure to any other work before joining as a diamond worker. 35 percent were students, 8 percent were agricultural labourers and 2 percent other workers. There were no migrant labourers, as the workers mostly came from and within the adjoining villages. About 67 percent of the labourers lived within 2-3 kms from their place of work.

The growth of these kind of industries has to be viewed against the recent trend of conversion of agricultural land for non agricultural purposes. Of these the major conversion seems to be the uplifting of paddy lands for building houses, and for bricks industry and for other commercial crops which do not provide employment in a great manner. This trend on a massive scale cannot lose the sight of any one travelling across the district of Trichur and especially in and around the villages where the industry is

situated though the secondary data available may not picture this significant change. (See the appendix for a brief sketch).

The survival of the diamond industry and the attachment of the workers to this industry appears to be due to the curb in employment opportunities in the agricultural sector which in the past acted as a residual employment sector, but not matched by any significant growth of employment in the organised sector.

### *Saving habits*

From our enquiry about the saving habit, we found that generally saving habits was not developed among the diamond workers. While 30 percent had no savings at all, 50 percent had some savings in private chitties, mostly run by some workers in each firm. Only 20 percent had some savings in banks and cooperative societies. This indicates that the organised financial institutions has not succeeded in mobilising capital through small savings of these workers. The insecurity of job made the workers reluctant to save in organised financial institutions as they were not able to pay their installments promptly as often there was closure of firms. In the chitties run in the firms, these kind of situations were adjusted for.

In this regard, it is worth noting that saving can be a function of income also. The low earnings of the workers also put a constraint on their saving for any unforeseen events. Correlation Coefficient of saving and income is .6762, statistically significant at 10% level of significance, indicating a major influence of wages on savings of these workers. The high inter-firm mobility of the



workers of the industry is a special feature of the industry to which we turn our attention to.

### *Inter-firm mobility*

A striking characteristic of the workforce in this industry is the very high inter-firm mobility. In the initial phase of the growth of this industry workers had to be given advances to attract skilled workers and also in order to ensure long term commitment. At that time there was a shortage of skilled labourers. But later with all firms, irrespective of size imparting training, there is now a 'relative' abundance of skilled labour.

But inter-firm mobility was not the outcome of a situation of surplus labour. Even in other parts of the country this is a common practice in this industry.

### *How to measure inter-firm mobility?*

To understand this exercise it is proposed to derive a sum measure of total experience and the number of firms a worker has worked. We collected data regarding the total years of experience, total number of firms he has worked and also for how many years he has been working in the last firm.

Total experience divided by the number of firms a worker has worked give us an average mobility rate. The average mobility rate for those who have less than two years experience and those having more than two years experience is shown below.

Experience in years	Mobility rate
1-2	1.69
2 and above	2.00

This indicates that the mobility rate for workers with 1-2 years was 1.6923 and with >2 years, it was 2.00. That means an average labourer worked for 2 years in a firm irrespective of his total experience. Every 2 years he changed a firm. Another striking feature was that the master craftsman who imparted training in their firms were not insistent that the trainee should stick on to their firms. In examining the ratio of number of labourers remaining in the firm out of the total number of trained in the last 5 years, we find that 70% of the labourers moved away from their place of training, 50% of firms had only 20% of total trained.

#### *Reasons for the high labour turnover*

1. Nature of the product seems to have been one of the main reasons for the high labour mobility. If a labourer found that he was given hard diamonds to polish, for one or two days, he would quit that firm. This was a means of dismissing the labourers whom the entrepreneur did not like. Since it is a piece-rate, supply of good stones increases productivity of the labourers.
2. Some of the labourers trained in Trichur went to Bombay and Surat to try for better opportunities. This also explained partially labour mobility especially of male workers.
3. More increasingly, change of firms was inevitable as the firms had to close down or there was a shortage of rough diamonds.

This was a positive factor for the mobility of labourers from small firms to larger firms.

4. Also since productivity was higher in larger sized firms, due to external economies, for higher earnings also labourers changed firms.

It is surprising that though the owners have close interaction through their organisation, the Association of Artisans, they don't in anyway restrict the mobility of the labourers. A labourer from one neighbouring firm move to another firm and vice versa. In many cases, they even take back some workers who had left before.

While from the worker' point of view they perceive this as a right which they enjoyed from earlier times (freedom to move from one enterprise to where they preferred to work), from the entrepreneur's point of view, which is important, this unique feature has helped the survival of the industry in Kerala for the last two decade or more. Due to this mobility labourers are not identified with any particular firm. They are casual workers in the industry. The question of organization of workers at the unit level becomes very difficult. Secondly, their claims are also minimised, since workers in general do not stick on to one firm for more than 2 years. The workers are not 'labourers' in the strict sense as they are paid a piece-rate for a contract (work) they fulfill, based just on a word of mouth - a contract. They are just contract workers and they continue to be so - all through their career as a diamond worker.

### *Unionisation of workers in the diamond industry*

"The state of Kerala has been characterised by a high degree of activism by the broad masses of the people in general, and workers in particular for the last half-a-century or more" (Of Rural Proletariate, K.P.Kannan).

The most interesting at the same time most perplexing question is the organization of the workers in this industry. There are a large number of studies on Trade Union movements in Kerala. A.V. Jose, gives a detailed description of how, Kuttanad and Palghat (rice bowls of Kerala) were characterised by a high degree of unionisation of agricultural labourers. The agricultural labourers achieved distinct organisational setup and gathered momentum in thirties and forties of the present century, organized by a strong left-oriented leadership, which later became the hard core of Communist Party in the State.

In the coir industry which supported a large share of industrial labour force and a large number of rural households by providing them with income earning opportunities outside agriculture, there was considerable unrest among the industrial labourers due to wage cut and retrenchment from 1924 onwards. Trade Unions organized by the leftists gained foothold among the coir factory workers. The tension which was mounting had its culmination in the general strike of 1938 which in terms of participation and achievement was a remarkable victory for the workers. It is striking that "Trade Unions in Kuttanad agriculture was in a way the offspring of unionism in the industrial establishments of Alleppey. And the tasks of organizing agricultural labourers were successfully

accomplished by the Coir workers" (A.V. Jose). In Cashew industry also, with the active involvement of Congress Socialist party, struggles in 30's and 40's and the political turmoil during those periods led to the Trade Union Movement in the industry. Another major industry that took roots in Kerala, namely the Beedi industry also under the aegis of the RSP and the national movement had successful trade unionism.

We can see that trade union movement in Kerala had two important phases of growth and spread among the working class. The period between 1937 and 1942 was one of consolidation and of United Struggles across industries and regions. In the second phase 1942-47, the political struggle became a part of the overall freedom struggle, the major focus of trade union activity with the objective economic conditions of workers providing the ground for this participation in them. So the trade union movements and struggles among agricultural labourers, and other organised and unorganised sectors were all at a 'historical conjuncture' and the 'political configurations' and social structures at that time and the struggles against the background of the rising tide of nationalism.

The diamond polishing industry is quite different from many of the traditional industries in that it is based on caste and kinship and the whole system operates under the unorganised structure as already seen in the previous chapter. The first diamond polishing company was started in Trichur in 1968. In 1972, labour unions made a strike and this paved the way for decentralisation and with the growing markets, cheap labour and good skills of the workers,

the industry began to grow both in size and in number. It is striking to note that the union movement and strike initially was organised by the workers having allegiance to naxalite unions. Presently their role has been taken over by the main stream organised labour movements.

Trade union movements and struggles have undergone a significant change ever since independence. The focus of struggles has been reverted to economic demands. The trade unions have been split into several groups along the lines of ideologies of major political parties. This is very visible from the union movements in this industry. During our survey, we could make out that the labourers were very reluctant to say anything about unions and the owners claimed that as individual firms, they never faced any problems from their labourers nor from unions. On March 6, 1988, The Kerala Vairakkallu Thozhilali Union (KVTU) was formed. Ever since, there are unions belonging to Congress, Kerala Congress, many fractions, and most of the political parties in the state. Whatever claims the labour movements made, from our introspection with the labourers, it was evident that only less than 20 percent were members in these trade unions. It seems a majority have weakened their faith in unions. It was a major complaint that the activity narrowed down to 'Onam' season when there used to be a strike for bonus every year. Further, growing percentage of females in the total workforce and their caste affinities are posing problems for active labour union movements.

The KVTU (CITU) is the most prominent trade union in the industry. From a special convention of KVTU of Trichur District held in July

1994 gave some major indications about the functioning of the union and lack of active trade union involvement by the workers.

The main achievements of the Trade Unions seemed to be that in the presence of the District Collector, a wage contract was signed at on October 15, 1993 to Sept. 9, 1995 for 2 years. The piece-rates for the different processing was made uniform throughout the industry. Additionally, the Bonus which was Rs.150 until 1988 was raised to Rs.700/- for workers who had worked in a firm for one year. The convention under the Chairmanship of CITU District Committee, Trichur pointed out the lack of activity for the last one year. An attempt at making a welfare society for the workforce was not successful. The reasons for the growth of this industry in Trichur according to the CITU leadership was pointed to be: (1) the skill of the workforce; (2) the low cost as cheap labour was available; (3) and low investment requirements for starting an industry. The Union leadership assessed the number of units at less than 300 with employment of less than 15,000.

The CITU leadership reiterated the increased need for involvement of labour but cautioned against a situation where impossibility of smooth functioning of the industry should not come about as a result of their struggle for their rights. It was also critical of the high labour mobility in the industry as it hindered labour union activities. The need for long term policies and programs for the movement was visualised. It also cautioned the workers that they should not be lured by the luxurious life of some of the owners and it was not fair to demand all rights of organized labour.

The labourers' response was that, some of them did not favour long strikes and closures as a means to their goals. They were also quite fearful that the unionisation of workers led to another powerful organisation, Artisan's Association (by which owners became one) in 1988.

The charter of demand presented to the owners of the firms consisted of

1. Leave with wages (calculated for 1 leave for 20 days of work).
2. 13 days national and festival holidays.
3. Identity cards and attendance of the workers.

It was surprising to find that the unions did not include continuity of work, conditions of work, and security of job in the agenda. The current year also, witnessed strikes during Onam season regarding over the issue of bonus. Surprisingly, with no active labour involvement, the industry was closed down for nearly two months sending a critical signal of final closure. The result was that a bilateral agreement was arrived at, in the presence of the government, industry officials and the state labour commissioner. The terms of the agreement was a meager rise in the bonus from Rs.700 to Rs.1000 for those who worked in the firm for at least a year continuously. Ten days of national and festival holidays were also allowed.

The Government authorities and the labour officials came out with a clear conclusion that the labour threats will only lead the industry to shift to neighbouring states and warned that in the past labour militancy had been hindering industrial growth of the



state. The authorities are of the view that this industry cannot be viewed as the other organised industries and the factory and labour laws cannot be implemented in the industry in the state.

Struggles of workers organised mainly on the immediate interests like bonus, will not pay off in the long run. The luke warm attitude of the unions made the workers often express doubts regarding the links between the owners of the firms and the political leaders. This scenario could have prompted for the persistence of the informal relationships in the industry.

We have the classic example of the coir industry in which caste organisations was replaced by a class organization and "Caste Consciousness" was overcome by "Class Consciousness". However, in the diamond industry, there are reasons to doubt the caste consciousness still playing a role in the industry. Most of the owners did not consider the formation of the union movements as a predicament to their firms.

It is to be noted that the union consciousness does not spontaneously emerge from worker's experience at their work place alone. It requires conscious intervention and is related to the totality of social relations and traditions in which the wage-labour relationship is embedded. In this industry, we cannot dismiss caste and community ties as irrelevant in understanding the capital-labour relations.

The experience of the cashew processing industry suggests that measures at organisation and mobilisation of labour limited to

certain regions, will not only fail in strengthening the workers' movement in the long run, but could create conflicting situations.

The existence of cheap and unorganised labour with an abundant supply of child labour outside the state poses threat to the prospects of employment for the organised workers in Kerala. (K.P. Kannan, 1988). This view seems to have been endorsed by the union leadership in the diamond industry in Kerala also. A shift from Trichur to neighbouring state of Tamil Nadu is put forward often as a threat by the owners.

The last factory set up in Trichur employs nearly 200 workers with factory premises and modern equipments is a trend of consolidation of this industry in Kerala. As seen in the last chapter investment in plant and machinery in the sample 50 units comes to Rs.71 lakhs. Investment in buildings alone comes to Rs.36,65,000, adding to a total investment of Rs.1,07,68,500 rupees. Therefore the shifting of this industry seems to be not that simple when compared to Beedi industry or tile making industry for that matter.

Secondly, decentralisation into cottage industries is not a feasible proposition as we have seen that economies of scale do exist and with the new machines, division of labour has been made to a greater extent and large scale production are the order of the day. And the nature of the product itself is such that the diamond given for processing is as trust and such a high valued commodity cannot be subcontracted to cottage and household units.

### *Conclusion*

To sum up, the wage rate in the industry was observed to be lower compared to other unorganised activities. However, we have identified certain non-wage factors like the nature of the work, the place of work coupled with relatively more days of employment, which attract the workers in to this industry. There is increased female substitution for males with the introduction of semi-automatic machines. But interestingly, the females are at a disadvantage compared to their male counterparts in terms of their daily earnings. The workforce in this industry have been deprived of various social security benefits such as maternity benefits, provident fund, insurance etc. Besides, the unorganised system of production in this industry facilitates a high degree of casualisation of the work force.

Although the workers are inducted at an early age, the same do not facilitate their upward mobility. Though the owners have come up the rank of workers, their entry is not free as it appears to be. Apart from community and caste factors, the entry depends on the ability of the workers in winning the "faith" of the commission agents.

A unique feature of the industry is high inter-firm mobility of workers which limits the scope of unionisation at the firm level. For instance, a worker on an average worked in a firm for not more than two years. The observed high labour turnover is explained in terms of industry specific factors such as the nature of the product, mortality of firms, organisation of production and the perceived pecuniary benefits associated with mobility.

Moreover, our analysis of industrial relations does not lend support for the widely held labour militancy hypothesis of industrial backwardness. The industry is characterised by low participation of workers in trade union activities. The connivance on the part of trade union leaders and the Government to the non-implementation of labour welfare legislation (LWL) needs to be highlighted, particularly in a state where most of the unorganised activities are already under the LWL. The persistent criticism that union activity has been hindering industrial growth of the state seems to be the rationale for this caution.

## Appendix 1

### Area cultivated in Trichur district in hectares

	1970- 71	1980- 81
Paddy cultivation	115000	99694
Coconut	54861	54745
Arecanut	13261	6348

Source: District Statistical Hand book, Trichur  
1971 and 1981

Kerala Seasons and Crop Report 1987-88, Department of Economics and Statistics, shows that the area under major crops came down for the period 1990-91 to 1992-93, except in the case of Rubber. The report in addition pointed out that land was increasingly put to non-agricultural uses.

## Chapter 5

### *SUMMARY AND CONCLUSIONS*

A major concern of this study was to examine the various facets of the organisational structure of the diamond polishing industry in Kerala. The study was also expected to throw some light on the major reasons for the shift of this labour intensive industry from its traditional low wage centres to Kerala, a state widely perceived as a 'high-wage' island, known for its militant trade unionism.

We set out the study with a general discussion on the industrial scene of Kerala. One important recent development in the industrial sector of the state has been the remarkable growth of the unorganised manufacturing sector. With a view to understand the above process, we analysed the recent trends in small scale industries and the various policies aimed at revitalising this industrial segment. However, the data-base on the small-scale sector of the state was found to be too inadequate to facilitate an in-depth analysis. Industry specific case studies, as the one we undertook, would provide a better understanding of the dynamics of the unorganised sector.

The growth of the diamond industry, as it thrives almost exclusively on external demand, is closely linked to the network of world trade in diamonds. In this connection, we have analysed the growth in exports of this sector and its recent trends. Surat perhaps has been one of the first centres in the country, which responded to the growing international demand for polished diamonds. The growth and concentration of the industry in Surat is

attributed to active involvement of merchant capital and the existence of different unorganised industries. The recent relocation of the industry to other regions was necessitated by the deglomerative tendencies arising out of over crowding. The partial relocation of the industry to Trichur district of Kerala was seen in the context outlined above.

While the relocation of the industry to Kerala is partly explained by the overcrowding and deglomeration tendencies in Surat, the locational advantages specific to this region supplemented this. Trichur had previous traditions of unorganised sector activities and traditions of processing of similar products, ie, artificial diamonds. Further, a revival of industrial activities is being noticed in Palghat and Trichur belts, perhaps as a spill over from Coimbatore. The linkage with Coimbatore is also important as the traders mainly operated from Coimbatore. The nexus between diamonds and jewelleryes could have been another possible advantage which the region enjoyed as replacement of diamonds is a well-known practice in the industry.

The analysis of the organisational and the production structure of the diamond polishing industry revealed features that are unique in many respects compared to other traditional industries like coir, cashew, beedi or handloom in the state. The peculiar feature of the industry is its community-based nature where caste affinities play a fairly dominant role in setting up the units, recruitment and training of workers and allocation of activities among them.

The study lends no support to the view that there is shortage of entrepreneurship in the state. The diamond 'worker-turned' entrepreneurs of Trichur illustrates a clear case of emerging entrepreneurship. The subcontracting arrangement activated and acted as a boost to the development of local entrepreneurship.

Our case study highlights the subcontracting network as the mainstay of the organisational structure of the industry. The system of subcontracting lends an efficient mechanism for the supply of raw diamonds as well as the marketing of the finished diamonds. The commission agents benefited from the unorganised and informal relationships that existed in the industry.

The analysis reveals that larger sized firms with more advanced technologies tend to have higher productivity and profitability. However, majority of the firms were located in the lower end of the spectrum, i.e., they were mostly small, employed less advanced technologies, and operated below the optimum size. This raises a number of questions regarding the sustainability of the units. Our analysis revealed that the small units even in the absence of profits, survived mostly due to their high dependency on family labour and self-employment. On the contrary, the medium and large firms earned a commission for conducting the activity and this constituted a major element of their revenue. The introduction of semi-automatic machines warranted increased production and increased the labour productivity. This was facilitated by the greater division of labour, specialization and supervision of each activity. The increase in productivity coupled with a higher commission rate, made the larger units viable.



It is also interesting to note that the technological change in the industry, as against our common notion, has not been labour-replacing. In fact, the technological change seems to have facilitated higher employment in general and female participation in particular.

We have also dealt in detail the labour market conditions, the wage rates and the labour movements. Wage rates in the industry when compared to many other activities lend no support to the general notion that labourers in the industry have better earnings. A more disturbing feature of the labour conditions in the industry is that the labourers are deprived of the benefits of welfare legislations, which their counterparts in other industries enjoy. The lack of security of job is another threat that the workers in the industry have been facing ever since its inception because of the 'foot-loose' nature of the industry.

A major break from the past has been the attitude of the labour unions and the government. This is clearly reflected in their liberal, and softened, stand vis-a-vis those factories employing more than 100 workers in the unorganised sector, allowing exemptions from the provisions of the Factories Act and labour legislation. The labour unions on the other hand also appear to be taking a more pragmatic approach as revealed in their reluctance to organise the workers in their struggle to achieve the demands. The widely prevalent notion that the labour movements in the state has been a major cause for inhibiting industrial growth of the state is partly responsible for this cautious approach. Taking advantage of

this situation, entrepreneurs of even large firms have openly begun evading the provisions of factory laws and labour legislations.

The prevalence of low wage rates in the industry in Trichur, even as compared to other major diamond processing centres in the country, underscores the need for exercising caution in employing the high wage cost and labour militancy hypotheses.

The relevance of agglomeration economies arising from clustering of units of firms producing similar products has not been overlooked. The fact that the autonomous clustering of diamond units enjoyed different external economies arising mainly from the skill pool, the organisation of firms for mutual help and of organisation of production on caste and community affinities needs special attention. This industry is a good case of 'space bound' clusters of units producing specific products.

While there is scope for developing small industry in Kerala on the basis of comparative advantage the region has in specific skills and resources for specialization in the production of specific industries, the growth of these in the unorganised sector like the one we examined needs more serious attention, especially in the context of structural adjustment programmes initiated in the country.

The study of the diamond polishing industry in Kerala leads us to ponder over questions of policy implications. In this context, one major area of doubt have been with regard to the security of labour in the phase of liberalisation programmes launched in the country.

The issues relating to employment generation and institutional arrangement for social protection of workers have featured as important aspects of economic and social development policy in India over the past four decades (Papola 1994). As a result, a number of legislation and enactments for social protection to labour were passed. But, unfortunately, this led to creating employment mostly in the unprotected segment and in the process, the objective of providing social protection to large majority got eroded.

The process of liberalisation-induced industrial restructuring, which tend to shift more and more industrial activities to the unorganised sector, and the consequent casualisation of the workforce is likely to get accelerated in the coming years. There are serious apprehensions about the quality of new employment in terms of job security, conditions of work and earnings. In this context, the minimum degree of protection and job security to be provided to the labourers in the unorganised sector is a major challenge before the government and trade unions.

The question of shifting of industries to the unorganised sector and the analysis of working conditions in such industries, have to be examined against the policy statement on small scale industries. The policy towards the small scale sector, which seeks to minimise government intervention, as already mentioned, may provide a cover to the widespread evasion of protective legislation. This can have serious implications for the welfare of the workforce of the country.

The above mentioned issues are equally valid for the diamond polishing industry. The social and educational status of the labour force in Kerala cannot be taken for granted when we speak about wages or security of employment. The working conditions, hygiene and health status of the workforce are important and a neglect of these in the long run will end up in calamities like plague which shocked the entire economy and especially the diamond industry in Surat. The condition of the workers in this industry which caters to the needs of the affluent in the developed country is quite alarming. The insecurity of job and low wages in industries like diamond polishing and its persistence in the unorganised sector makes one reject the proposition that this kind of industries are a viable solution for the industrialisation of the state of Kerala.

Further, the findings of the study specifically have some more policy implications with regard to the industrialisation of the region and the state. We have seen that a skill pool have been developed in this region which can be used for the development of allied industries. Studies in the past have highlighted the scope for developing industrial regions, utilising the location specific, product specific industries by utilising the local resources, skill base and agglomeration economies. However, since the industry is characterised by limited inter-industry linkages, its growth may not have major stimulating effects on other industries of the region. Nevertheless, a long run possibility can be visualised. The market for jewellery has been identified as a potential area for augmenting exports. Raising of exports, however, would require diversification of the product mix of the industry and increasing specialization in value added items, like diamond studded

jewellery. Further, the state should also try to make use of its comparative advantage, with its diversified range, in hand-made jewellery. This is particularly true of the Trichur district which is well endowed with a vast pool of highly skilled craftsmanship in jewellery and diamond polishing.

A serious problem identified in the industry is the shortage of raw materials and the high dependency on commission agents.. In this context, one option that naturally emerges is the government supply of raw materials to ensure the steady functioning of the industry. However, the observers of the industry raise doubts of such a proposition, taking into account the wide, closed and guarded circuits of network that operates in the industry and the informal contracts based on 'faith'. The problems of assorting and identifying the quality of such high valued commodity has also been posed. Thus, considering the above discussed factors, it can be concluded that the role of government may be facilitative than regulative. However, with regard to social security and welfare of the workforce, we visualise the need for a more active role for the government.

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