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Status and performance analysis of packing case industries in Coimbatore district, Tamil Nadu

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Abstract
Packing case industry is an important wood based small scale industry in Tamil Nadu. Based on their distribution, 20 micro firms and 10 small size firms were taken for the present study. Rubber wood from Kerala is the major source of raw material for the packing case industries in the study area. Pine wood is the most preferred species for manufacturing packing cases for export purpose owing to its superior qualities such as light weight, non-bending nature and relative resistance to insect and fungal attack. Apart from the firms' margin, the difference between the average sale price of the finished products and that of the procurement price of raw materials consisted of other variable costs. Pine wood is the most preferred material for export purpose and the micro and small industries in the study area need on an average 5,000 CFT and 10,000 to 20,000 CFT of pine wood per year respectively. The total annual demand of pine wood by all the firms put together would be 7,00,000,CFT. The results of profitability analysis shows that the small firms (7-11%) had a better edge in terms of the return on sales over the micro firms (5-8%).

Keywords: Packing case industry, financial performance, demand analysis

Introduction
In India, forests play an important role in the socio-economic development hosting a rich source of energy, housing, firewood, timber and fodder and they provide employment to a large section of the rural population. There are wide range of Small Scale Forestry Enterprises (SSFE) in the country that depend upon the wood as raw material including paper industry, ply wood, particle board, safety matches to name a few. These enterprises play an important role in the national economy (Sushil Saigal and Sharmistha Bose, 2003) [6]. Packing case industry is an important wood based small scale industry in Tamil Nadu providing a huge employment opportunity. Packing cases are wooden boxes used for safe storage and transportation of any type of material. Presently, these packing cases are used by a wide range of machinery manufacturers across the state. Therefore, these firms are found in clusters in the areas concentrating in manufacturing of various kinds of machineries. Some of the major packing case clusters in the state include Coimbatore, Chennai, Trichy and Madurai. Much research has not been taken up in this particular sector and hence little information is available regarding the wood spices used, other quality parameters preferred by the industries and financial performance of these industries.

Methodology
Field study revealed that there are about 235 packing case industries located in Coimbatore district and those could be classified under micro (Less than ₹5 Crores) and small-scale (₹5 - ₹50 Crores) industries based on their annual turnover as per the latest guidelines provided by the GOI in the year 2020. Even though there was no explicit benefits enjoyed by the firms in going for MSME registration as of now, more than 75 percent of them have gone for MSME registration.
Based on their distribution, 20 micro firms and 10 small size firms were taken for the present study. Pretested interview schedule was used to collect information from the sample firms. Personal interview method was adopted to collect the required information. Financial information needed for the study was obtained from the records maintained by the firms over the years.

Results and Discussion

General profile: The average experience of the sample firms ranged from 10-15 Years. All the sample firms were either run as sole proprietorship or partnership concerns. And on an average the number of skilled labour accounted for 5-10 numbers per firm and regarding the unskilled labor, they were hired on need basis as and when required. Majority of the firms were under the Success-Growth Substage in the development stages of enterprises and lot of innovations were observed in terms of introduction of new products with alternate materials suiting to the current needs of the user industries.

Raw materials and source of procurement: Coimbatore, Tamil Nadu is a hub for manufacturing of wide range of machineries and majority of the core industries located in Coimbatore namely Pump set Manufacturers, Textile Machinery Manufacturers, Casting Machine Manufacturers, CNC Machine manufacturers and Cable manufactures were found to use these wooden packing cases. Accordingly, different types of packing cases made by the sample industries are packing cases, wooden cable drums, plywood boxes and pallets.

Based on the purpose of the packing cases, wide range of raw materials (wood) are procured from different parts of the state and the neighbouring state as well (Table 1).

Table 1: Raw materials used and Source of Procurement

Sl. No	Raw materials used	Source of Procurement
1.	Rubber wood	Kerala
2.	Pine wood	Dindigul, Thoothukudi, Pollachi
3.	Silver Oak	Mettupalayam
4.	Plywood	Kerala
5.	Jack and mango splits	Local and Kerala

Apart from the firms' margin, the difference between the average sale price of the finished products and that of the procurement price of raw materials consisted of other variable costs such as labor charges, other material used for making the packing cases, maintenance costs for the machineries etc.

Annual Raw Material Requirement

Firms need a wide range of raw material for making various types of packing cases. They demand wooden planks of varying lengths ranging from one foot to nine ft and thickness starting from 0.5 inch onwards. The annual wood requirement of the packing case industries in the study area are presented in Table 3.

Table 3: Annual Raw Material Requirement

Sl. No	Raw material	Micro	Small	Projected demand per year
1.	Pine tree	5,000 CFT	10,000-20,000 CFT	7,00,000 CFT
2.	Others	50,000 CFT	1,00,000 CFT	100,00,000 CFT

Pine wood is the most preferred material for export purpose

Rubber wood from Kerala is the major source of raw material for the packing case industries in the study area. Kerala and Tamil Nadu are the traditional rubber-growing states of India and account for 81% of production of Natural rubber in the country. (National Rubber Policy, 2019). Constant research has been taken up to shorten the lifespan of rubber cultivation for high returns (Munasinghe and Rodriga, 2017) [1] and this ensures continuous availability of raw material for the packing case industries.

Pine wood is the most preferred species for manufacturing packing cases for export purpose owing to its superior qualities such as light weight, non-bending nature and relative resistance to insect and fungal attack. Since, it is an imported wood, the industries are sourcing the material through traders and agents located at different parts of the state namely Dindigul, Thoothukudi and Pollachi.

Silver oak is mostly planted in hill areas to provide shade and shelter to the tea plantations. As a raw material for the packing case industries, it is available in limited quantities from traders in Mettupalayam, Tamil Nadu as there are restrictions for felling trees in hilly areas.

Second quality plywood from Kerala is another major source of raw material for making packing boxes for specific type of products. Apart from these materials, industries do use Jack and Mango splits available locally.

Cost particulars

The price for raw materials was normally in terms of their physical dimensions (either ₹/cubic feet or ₹/square feet (for ply wood)). And accordingly, the sale price for the finished goods were also fixed in similar terms. The details of the procurement price of the raw materials and the sale price of the finished products are presented in Table 2.

Table 2: Raw material procurement price and finished products' sale price

Sl. No	Raw Material	Average procurement price of raw materials	Average sale price of finished products
1.	Rubber wood	₹ 250 - Rs.300/cubic ft	₹ 350- Rs 400/cubic ft
2.	Pine wood	₹ 750 to Rs 800/cubic ft	₹ 1100 – Rs 1400/cubic ft
3.	Silver Oak	₹ 250 – Rs 300/cubic ft	₹ 350- Rs 400/cubic ft
4.	Plywood	₹ 25 -30/Sq. Feet	₹ 35 -40/sq. feet
5.	Jack and mango splits	₹ 230- Rs 270/cubic ft	₹ 350 – Rs 370/ cubic ft

and the micro and small industries in the study area need on an average 5,000 CFT and 10,000 to 20,000 CFT of pine wood per year respectively. The total annual demand of pine wood by all the firms put together would be 7,00,000,CFT.

Demand for other woods including rubber wood as a major component is 50,000 CFT and 1,00,000 CFT for micro and small industries respectively. And the projected annual demand is estimated as 100,00,000 CFT. Hence, there is a continuous demand for wood in the packing case industry and there is a need for ensuring sufficient availability of the raw material round the year. Since there exists a huge demand for pine wood in packing case industry, measures may be taken to facilitate the import from competitive sources.

Performance of packing case industries

Financial performance analysis of the sample packing case industries was done using the primary data obtained during the survey. Important financial ratios that are considered as indicators of financial health of the firms were estimated (Table 4) (Dayanand and Prabhakar 2021) [2].

Table 4: Financial performance analysis

Particulars	Micro	Small
Liquidity		
Current ratio	5.12 - 5.27	6.02-6.13
Quick ratio	2.23 - 2.27	2.68 - 2.89
Activity		
Receivable turnover	72	65
Inventory days	40	30
Leverage		
Debt Ratio	0.37 - 0.39	0.54 - 0.57
Profitability		
Return on sales	5-8 %	7-11%

Huge stock of raw materials has resulted in higher values of current ratio and in case of both micro and small firms it was in the acceptable range (>2). Compared to micro firms, small firms held huge stocks of raw materials to meet any kind of short/quick orders. As discussed earlier, since raw materials formed the major portion of the current assets, there was a huge difference between the current ratio and quick ratio of both micro and small firms.

Since, the inventory were held for longer durations, both the inventory days and receivable turnover ratios were at the higher end. Inventory management is expected to play a positive role in deciding the profitability of the industries as indicated by Sekeroglu and Altan 2014 [4]. Compared to micro firms, Small firms had a higher Debt Ratio (0.54-0.57) as they had obtained term loans for purchase of machineries and installation of heat treatment plants. Higher Debt Ratio could also be an indicator of better performance of the firms (Lwidiko Badi and Esther Ishengoma, 2021) [3]. The results of profitability analysis shows that the small firms (7-11%) had a better edge in terms of the return on sales over the micro firms (5- 8 %). This could be due to the huge volumes, continuous orders and better bargaining power.

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