CHAPTER 0

AN OUTLINE OF THE ISSUES OF MATERIALS MANAGEMENT
IN DEVELOPING COUNTRIES

INTRODUCTION

SUMMARY AND OBJECTIVES OF THE STUDY
Chapter 0
AN OUTLINE OF THE ISSUES OF MATERIALS MANAGEMENT IN DEVELOPING COUNTRIES

A. Introduction

Importance of Materials Management

In India, Jordan and other developing countries, markets are becoming more open and more competitive. This enhances the importance of reduction in costs for a company so as to reduce prices in order to capture more sales and also retain them at higher levels in the context of the fresh challenges emanating from national and international markets.

As production is becoming more large scale and complex, and as materials cost has been increasing due to inflation, materials management has become more important from the point of view of reduction in costs for enhancing total profits. Management experts refer to five M’s as the main ingredients of the processes of production, stores and marketing namely:

1. Money
2. Machines
3. Man
4. Management and
5. Materials
It is the common observation in the developed countries that the cost of materials constitutes on average about 50% of the total production costs. This is more true for large scale industrial units in underdeveloped countries too. In India, in manufacturing industries, expenditure on materials and inventories constitutes, on average, about 60 per cent of the total costs of production and it varies from 40 per cent to 65 per cent and above. The data cited by Mr. P. Gopalkrishnan and Mr. M. Sundaresan in their famous book "Materials Management" in this respect for different manufacturing industries in India is very revealing and hence it is given below to highlight the importance of materials management from the point of view of reducing cost of materials and thereby reducing the total cost of production.

Average Materials Expenditure

<table>
<thead>
<tr>
<th>Average Expenditure of materials per cent</th>
<th>Industry groups</th>
</tr>
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<tbody>
<tr>
<td>Above 65</td>
<td>Cotton yarn, earthmoving equipment, sugar, wool, jute, commercial vehicles, fabrication.</td>
</tr>
<tr>
<td>60-65</td>
<td>Cotton textiles, bread</td>
</tr>
<tr>
<td>55-60</td>
<td>Engineering, non-ferrous</td>
</tr>
<tr>
<td>50-55</td>
<td>Shipbuilding, chemicals, tyre, machine tools, cement, electricity.</td>
</tr>
<tr>
<td>45-50</td>
<td>Pharmaceuticals</td>
</tr>
<tr>
<td>40-45</td>
<td>Steel, newspaper, fertilizer, aircraft.</td>
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</tbody>
</table>

It is also realized that the scope of reducing total costs is utmost via reduction in materials cost through better management of materials. So, out of five M’s, materials and their management are becoming the most important elements from the point of view of the scope of reduction in the total costs and thereby in maximizing total profit.

What is a final product for one company, it may be a spare part, raw material or half-finished product for another company. So even a multi-product company has to purchase many other products and store them so as to make continuous production possible for that particular company. But the money capital invested in inventories also implies interest cost, rent cost and obsolescence cost. Inventories require purchase and production of some materials and products. This requires investment of money on which interest has to be paid or opportunity cost is to be incurred. Storing of physical materials implies rent charges and with the passage of time, some materials become obsolete and hence there is obsolescence cost. So, there is cost in maintaining inventories. Hence, if surplus inventories are reduced, costs are reduced which help in maximizing profits. Secondly, if there is surplus stock or surplus inventories, other functions and other departments may suffer due to want of money capital, the surplus of which having been invested in inventories. In these circumstances, there will also be the burden of surplus interest (or opportunity cost) and rent charges and obsolescence cost which will dampen profit.
But there should not be deficient inventories of materials whose scarcity will also imply increased cost in keeping machines and men idle for want of sufficient utilization due to non-availability of materials at the right time and the right place. Quality and prices of materials are also very significant factors in this regard. Hence the great importance of efficient management of materials from a functional point of view of maintaining neither surplus nor deficient supply but appropriate supply of required materials, is increasingly realized.

Materials management is as old as the Industrial Revolution. But it was one of the functions of a General Manager of a company in those days. But after the end of the Second World War, materials management started becoming separated requiring a separate Manager in the companies of U.S.A., U.K., and other developed countries. In the 19th century, the percentage of companies having a separate Materials Manager was less than 2 percent which increased to 50 percent after the turn of the century and now at the end of the 20th century, the number has reached the level of about 98 per cent in these countries. This shows that materials management plays a vital role in modern industries.

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B. Objectives of Research

The available literature and empirical work on this subject show the importance of materials management in increasing profits. So the objectives of our study have been as follows:

1. To examine the relationship between materials management, reduction in costs and profit maximization in industries.

2. To identify the ideal and the most efficient methods of materials management for reducing the costs of production and marketing.

3. To identify the hindrances and hurdles in the path of a materials manager and discover and invent the ways of overcoming them.

4. To examine the possible effects of various methods of materials management on the economic behaviour of the companies.

5. To identify the most efficient methods of materials management that have been adopted in some eminent companies operating in some industries in India which can be of practical use in my country Jordan.

C. Methodology of Research

As the empirical data regarding materials management of many eminent companies of important industries and that of cement companies is available, we have thought it fit to rely on this
data as a secondary source. So, the research in theory is supported by data derived from secondary sources.

There is no want of data. What is required is analysis of data and identifying the efficient methods of inventory control and materials management. Implementation of these methods and practices is feasible in developing countries. Here we have used the library method as well as survey method and utilized the data given in the Annual Reports of the relevant companies and also the Annual Reports of the Reserve Bank of India.

The questionnaire, interviews, on the spot study and desk work techniques are involved in the present study. The questionnaire contained questions on organisation for materials management, materials disposal, production and inventory management.

I have been benefited by the interviews with the officers and even workers in understanding the system of purchase, receipts, inspection, storage and issue of inventory management and materials management in the selected cement companies.

We also have utilized the literature available in different periodicals, news-papers and other publications.

We have used various statistical methods and quantitative techniques of inventory control and materials management and ratio analysis to make in-depth study of the subject.
D. The study is spread over six chapters which are as follows:

Chapter 1

IMPORTANCE AND ROLE OF MATERIALS MANAGEMENT IN THE MODERN COMPANY
WITH SPECIAL REFERENCE TO CEMENT INDUSTRY IN GUJARAT

The first chapter is introductory. This discusses materials management in general and its importance, role, function and definition.

In this respect, we have discussed the history of materials management. Cement industry has been discussed in this chapter, with the history of cement companies in India in general and in Gujarat in particular.

We have discussed the working of four companies and we have studied their production, purchasing, inventory and storing and their balance sheets.

We also clarify the objectives of our study in this chapter.

Chapter 2

ELEMENTS OF MATERIAL MANAGEMENT CONTROL

In this chapter we have discussed the reasons for control of inventories - its principles and practices. We have also discussed principles of inventory management control like over stocking and under-stocking, materials budget, value analysis, standardization and codification.
As regards inventory control systems, we analysed the ABC, HML, XYZ and others systems.

We also discussed methods of valuation such as first-in-first-out, last-in-first-out and other methods.

Chapter 3
PURCHASE MANAGEMENT

In this chapter, we have analysed the importance and objectives of purchasing, the purchasing organisation and activities in cement factories in Gujarat and the methods used in purchasing. We have also discussed the method of receiving and inspection of quality and its subsequent acceptance or rejection and international purchasing.

Chapter 4
INVENTORY MANAGEMENT

In this chapter we have discussed importance and definition of inventory management and the situation as regards the present inventories in cement factories, and their objectives. We have analysed the techniques of control such as traditional, accounting and the scientific ones. The model of E.O.Q. has been discussed thoroughly, re-order point, fixed order quantity, replenishment models, optional law to choose the system, the structures of inventory in cement factories and classification also have been discussed.
Chapter 5

STORE MANAGEMENT

In this chapter we have discussed the importance of stores management, organisation, spare parts and the significance of availability of spare parts in the right quantity at the right time.

Chapter 6

FINDINGS, SUGGESTION AND CONCLUSION

In this chapter, after taking note of our findings, we have given summary of conclusion and made the suggestions for improvement in material management, specially in cement factories in developing countries.