CONCLUSIONS AND SUGGESTIONS
Materials account for a large portion of the cost of production in any manufacturing organisation. Next major item is the cost of personnel. These two items together account for more than 75 per cent of the total cost. These two vital items are indispensable for any attempt for cost reduction and control. Of these two items, the greatest scope for cost control and cost reduction lies in the area of materials. Thus efficient materials management is very essential for any organisation to prosper. It offers a wide scope for reducing costs, conserving scarce materials, improving productivity and for increasing profit.

In view of the increasing importance of Materials Management, it is recognised as an important area of management in recent years in India. Various functions of Materials Management are still considered as independent activities in most of the Indian Industries.

FOOD PROCESSING INDUSTRY:

The Indian Food Processing Industry include basic food industry, processing of food grains, pulses, oil seeds, sugarcane and the processed food industry. The processed food industry plays an important role in augmenting and
supplying protein rich food items at affordable prices for the masses. It includes biscuits, confectionery, bakery products, soft drinks, meat and fish processing, canning and processing of fruits and vegetables, dairy products including baby foods, starch and malt based products.

According to the confederation of Indian Food, Trade and Industry, the food processing industry is the largest determinant of G.N.P., accounting for 19 per cent of the total industrial production and employing around 18 per cent of the national labour force. This is against an investment of only 10 per cent of the total gross investment in the industrial sector. Thus the food processing industry has a high employment potential at lower level of investment. In the total industrial production it ranks fifth.

PRESENT STUDY:

The present study relates to "Materials Management" in one of the processed food industrial units namely "Nutrine Confectionery Company Limited", a leading confectionery manufacturing company in India situated at Chittoor in Andhra Pradesh. The study covers a period of seven years from
1983-84 to 1989-90. The data and information have been collected from the Annual Reports and records maintained by the company.

Analysis of growth and development of the Nutrine Confectionery Company during the study period has revealed that its sales increased from Rs.12.91 crores in 1983-84 to Rs.30.45 crores in 1989-90, registering a growth rate of more than 135 per cent. The net profit for the same period has increased by 110 per cent. The growth rate in net profits in some years has run in the negative. The turnover of the total assets and net profit ratio has been very low. Increase in the rate of sales and low net profit margin, indicate high growth rate of cost of operations in Nutrine Confectionery Company.

The analysis of cost structure in Nutrine Confectionery Company during the study period has revealed that cost of materials alone accounted for more than 45 per cent of the total cost on an average. Analysis of materials consumption during the study period has revealed increasing levels of consumption in case of vital material items like sugar, glucose etc., both in absolute terms and per Kg of production. The cost of sugar has increased from Rs.184.05
lakhs in 1983-84 to Rs.599.03 lakhs in 1989-90 registering a growth rate of 192 per cent. The cost of sugar per Kg of production for the same period has registered a growth rate of 65.15 per cent. The cost of glucose per Kg of production has increased by 17.7 per cent and cost of other materials per Kg of production has increased by 57.8 per cent. As a result of this the raw materials cost per Kg of production has increased by 35 percent during the study period. Further analysis has revealed that due to inefficiency the company has incurred an additional expenditure of Rs.25.76 lakhs and Rs.37.37 lakhs in the case of sugar in 1987-88 and 1988-89. The company has also incurred an additional expenditure of Rs.15.27 lakhs and Rs.17.73 lakhs in the case of glucose in 1983-84 and 1984-85. Similar increase is noticed in case of other materials. Infact, this has led to the detailed analysis and study of Materials Management aspect of Nutrine Confectionery Company.

One of the important observations is the absence of an 'Integrated Materials Management' system in Nutrine Confectionery Company. The Stores Department is under finance section and purchase department is under operations section. If these functions are integrated under a single professional manager there would be scope for better performance.
The specific observations in the areas of purchasing, stores and inventory control, are as follows.

PURCHASING MANAGEMENT:

Purchasing is one of the important functions of materials management. In Nutrine Confectionery Company, 43 per cent of the revenue is used towards purchasing. The company purchases are more than one thousand varieties of materials. The quantum of purchases in Nutrine Confectionery Company Limited increased from Rs. 5.76 crores in 1983-84 to Rs. 13.29 crores in 1989-90, registering a growth rate of more than 130 per cent. The expenditure on each item of purchase has increased during the study period. The purchase of sugar increased from Rs. 187.19 lakhs in 1983-84 to Rs. 553.90 lakhs in 1989-90 registering a growth rate of more than 195 per cent. The purchase of glucose also increased by 109 per cent. Therefore it requires a streamlined purchase procedure and proper planning, execution, and control of purchase functions.

The purchasing activity in the Nutrine Confectionery Company is decentralized. The company classifies the purchase

The purchasing department has to ensure that the materials purchased are of right quality, right quantity, obtained at right price and time, and from right source.

The following are some of the observations regarding the purchasing management in Nutrine Confectionery Company.

1. The percentage of rejections has been increasing during the review period, from 1.83 in 1984-85 to 2.71 in 1989-90. It is observed that in most of the cases, materials were not returned to the suppliers. Instead, they are accepted at a lower price. This shows that the quality aspect is not adequately taken care of in Nutrine Confectionery Company Limited.

2. The Nutrine Confectionery Company did not have any formal system and procedures for evaluating supplier's performance. The absence of such an evaluation sometimes has led to the procurement materials of poor quality.
It is therefore suggested that a system of rating the performance of major suppliers may be evolved. In the performance evaluation, three important aspects may be included, viz., the quality of item, price and delivery efficiency. For each of these aspects, a weightage depending on the importance may be given. The rating may be calculated in several ways. A very simple example is cited here:

1. Quality rating = Number of lots accepted
Total number of lots required \times 40

2. Price rating = Lowest price
Vendor price \times 35

3. Delivery rating = Delayed delivery
Promised delivery \times 25

And accordingly these weights are then added and grading of vendor is decided. Such a performance evaluation would enable the company to retain good suppliers and develop competitiveness among them.

STORES MANAGEMENT:

Stores play a significant role in the operation of a company. Stores management is the function of receiving,
storing and issuing of materials. The objective of stores department in Nutrine Confectionery Company is to provide a balanced flow of raw materials, wrapper materials, packing materials and stores necessary for meeting production and maintenance requirements. A proper storage, care and custody of materials lead to reduced quantum of inventory of materials because it would lead to less wastage, less materials being ordered and avoidance of duplication in requisitioning.

The following are some of the observations regarding the stores management function in Nutrine Confectionery Company.

1. It is observed that enough room is not available to store all materials. Some of the materials are stored outside the store room. Therefore it is suggested that the management must take necessary action to improve the stores lay out.

2. The stores department does not maintain Bin cards and index registers in respect of various materials. Therefore it is very difficult to identify the items at the time of physical stock verification.
3. The physical stock verification is done with the help of computer stock statements. Sometimes the balance shown by the computer's stock statements and physical stock balance in the stores may not tally. One of the reasons for disagreement is that most of the time indents received from the consuming departments do not contain material codes. Therefore, it is suggested that stores department should accept the indents with proper code number.

4. The stores items in Nutrine Confectionery Company are broadly classified into two headings namely production and non-production items which again consists of three main groups each. The production items are 1. Raw materials (R.M.), 2. Wrapper materials (W.M.), and 3. Packing materials (P.M.). The non-production items are 1. Washing items 2. Workshop materials and 3. Research and Development materials. To identify the materials the company is following a six digit codification system.

The first digit of the code represents main group, the second digit represents sub group, the third digit represents small group, fourth, fifth and sixth digits represent serial order of the materials. Thus it is observed that no provision has been made for self checking digit which
is of immense benefit in a computer based system of inventory accounting and controlling. Therefore, the management should examine the possibility of introducing a self checking digit.

5. It is observed that surplus and obsolete materials are carried as inventory for the last 5 years. No action had been taken to dispose them off until 31 March 1991. One of the reasons for the existence of surplus and obsolete materials is the discontinuation of product using these materials. It is therefore suggested that at the time when a decision is taken to discontinue a product, inventories on hand and on order, should be used up and the purchasing department should be instructed not to take any further procurement action in respect of items affected by product discontinuation.

INVENTORY MANAGEMENT:

Inventory Management is one of the important areas in which the management of any company has to devote much of its efforts to ensure that the inventories are not unnecessarily built up and that the production does not suffer for want of materials.

The performance of Materials Management is often appraised by means of inventory ratios. It is seen that the period 1983-84 to 1989-90 has recorded huge inventories compared to the subsequent period. The total value of the inventories, for instance, has gone up from Rs.136.94 lakhs in 1983-84 to Rs. 351.29 lakhs at the end of the year 1989-90.

On analysis of the growth rate of total inventory during the period of study, it is found that there was a rising trend in the growth rate. In Nutrine Confectionery, growth rate of total inventory is 156.53 per cent.

In order to evaluate the inventory management practices in Nutrine Confectionery Company, the size of inventory is related to 1. Working capital (both gross and net) and 2. months value of production and sales. Further, inventory turnover ratio has been calculated. Finally an attempt is also made to relate the position of annual rates of growth in inventory, sales and output individually and juxtaposition.
The following are some of the observations regarding the inventory management in Nutrine Confectionery Company Ltd.

1. The value of inventories in relation to both gross and net working capital has shown a declining trend which indicates a qualitative improvement in the liquidity position of the company.

An analysis of judging the adequacy of inventory in Nutrine Confectionery Company has been made through the study of inventory in terms of number of months consumption and sales. This analysis has revealed that the raw materials, spare parts etc., items of inventory in terms of number of months consumption have increased from 1.32 months in 1984 to 2.49 months in 1988. Next year, they decreased to 2.19 and further to 1.68. Generally, in manufacturing industries, the inventory in terms of number of months consumption, will be ranging between 3 to 4 months. In this respect, the position of inventory in the company is considered to be within the limits.

3. The finished goods inventory in terms of number of months of sales, fluctuated between 0.48 months and 0.69 months during the study period. It is a very low finished goods inventory position.
4. The Inventory turnover ratio in Nutrine Confectionery Company Ltd. has fluctuated between 11.47 and 6.49 during the study period. It shows a decreasing trend altogether. However, this ratio is considered to be quite favourable.

5. When the growth rate in inventory, production and sales are juxtaposed, the following conclusions could be drawn. The growth rate in inventory is more than the growth rate in production and sales in the years 1985-86, 1987-88 and 1989-90. During the other years of the review period the growth rate in production and sales is more than the growth rate in inventory. The year 1989-90 witnessed maximum annual growth rate both in production and sales, whereas inventory registered a smaller increase. This has resulted in an improved profit of Rs. 78.28 lakhs in 1989-90 as against Rs. 19.08 lakhs in the previous year. Thus the size of inventory in Nutrine Confectionery Company had the tendency to rise slower than the other two variables viz., productive and sales. The investment in inventory can further be reduced by laying down norms both for consumption and stocking of various raw materials on scientific basis.

6. Nutrine Confectionery Company has been following the FSN analysis of inventory control. The company has
classified the inventory items into FSN categories on the basis of movement of materials. This method is followed to identify the non-moving items and obsolete items. But the company has not so far attempted analysis of inventory items on the basis of other selective control methods like ABC analysis.

The ABC analysis is a very useful technique for any manufacturing industry. This classification can certainly produce significant results in the inventory control. Hence an attempt is made to classify the raw materials items into A, B, C categories in Nutrine Confectionery Company.

The ABC analysis in Nutrine Confectionery Company has shown that 'A' class raw materials items which constitute only 10.56 per cent in quantity, account for 91.43 per cent in value, while 68.57 per cent 'C' items account for just 1.44. Thus the selective control for inventory on the basis of ABC classification can bring significant benefits to the company. Hence it is suggested that the management should follow ABC classification of inventories. This classification is useful in fixing ordering frequencies, ordering quantities, and for concentration of effort on inventory items accounting for the bulk of usage value.
Thus the study 'Materials Management in Nutrine Confectionery Company' has explored and revealed some of the handicaps inherent in different functional areas of Materials Management. The suggestions made in this study, although not exhaustive, are expected to improve the efficiency of the Materials Management and thereby profitability of the company as well.