

**A STUDY ON THE EFFECT OF INVENTORY MANAGEMENT ON
THE FINANCIAL PERFORMANCE OF KERALA FEEDS LTD,
KALLETTUMKARA**

Project Report

Submitted in partial fulfillment of the requirements

For the award of the degree of

MASTER OF BUSINESS ADMINISTRATION



University of Calicut

By

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Reg. No: YPAWMBA047

IV Semester MBA

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DECLARATION

I, **EBI XAVIER (Reg. No. YPAWMBA047)**, hereby declare that the Project Report entitled “**A STUDY ON THE EFFECT OF INVENTORY MANAGEMENT ON THE FINANCIAL PERFORMANCE OF KERALA FEEDS LTD, KALLETTUMKARA**” has been prepared by me and submitted to the University of Calicut in partial fulfilment of requirements for the award of the Master of Business Administration, is a record of original work done by me under the supervision of **Dr. SURAJ E S, Associate Professor**, of Naipunnya Business School, Pongam, Koratty East, Thrissur.

I also declare that this Project work has not been submitted by me fully or partly for the award of any Degree, Diploma, Title or recognition before any authority.

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TABLE OF CONTENTS

Chapter No	Content	Page No
	Chapter I - Introduction	
1.1	Introduction	1
1.2	Statement of the problem	2
1.3	Objectives of the study	3
1.4	Scope of the study	3
1.5	Research methodology	3
1.6	Limitations of the study	5
1.7	Industry profile	5
1.8	Company profile	10
	Chapter II - Review of Literature & Theoretical Framework	
2.1	Literature Review	22
2.2	Theoretical Framework	29
	Chapter III - Data Analysis and Interpretation of Data	
3.1	Trend Analysis of Sales	44
3.2	Trend Analysis of Inventory	46
3.3	Components of Inventory	48
3.4	Inventory Turnover Ratio	49
3.5	Inventory Conversion Period	51
3.6	Raw Material Turnover Ratio	53
3.7	Raw Material Conversion Period	55

3.8	Work In Progress Turnover Ratio	57
3.9	Work In Progress Conversion Period	59
3.10	Finished Goods Turnover Ratio	61
3.11	Finished Goods Conversion Period	63
3.12	Inventory to Current Asset Ratio	65
3.13	Inventory to Working Capital Ratio	67
3.14	Inventory to Sales Ratio	69
3.15	Return on Asset (ROA)	71
3.16	Return on Equity (ROE)	73
3.17	Annual Consumption of Rice Bran	75
3.18	Annual Consumption of Maize	77
3.19	Annual Consumption of Rice Polish	79
3.20	Annual Consumption of Coconut Meal	81
3.21	Annual Consumption of Cotton Seed Extractions	83
3.22	EOQ of Rice Bran	85
3.23	EOQ of Maize	87
3.24	EOQ of Rice Polish	89
3.25	EOQ of Di Calcium Phosphate	91
3.26	EOQ of Calcite Powder	93
3.27	ABC Analysis	95
3.28	FSN Analysis	98
3.29	Correlation Analysis	100

3.30	Regression Analysis	101
	Chapter IV – Findings, Recommendations and Summary	
4.1	Findings	102
4.2	Recommendations	104
4.3	Summary	105
	Bibliography	
	Appendix	

LIST OF TABLES

Table. No	Title of the Table	Page No.
1.8.1	Valuation of Inventory	19
3.1.1	Trend Analysis of Sales	44
3.2.1	Trend Analysis of Inventory	46
3.3.1	Components of Inventory	48
3.4.1	Average Inventory	49
3.4.2	Inventory Turnover Ratio	49
3.5.1	Inventory Conversion Period	51
3.6.1	Average Raw Material	53
3.6.2	Raw Material Turnover Ratio	53
3.7.1	Raw Material Conversion Period	55
3.8.1	Average Work In Progress	57
3.8.2	Work In Progress Turnover Ratio	57
3.9.1	Work In Progress Conversion Period	59
3.10.1	Average Finished Goods	61
3.10.2	Finished Goods Turnover Ratio	61
3.11.1	Finished Goods Conversion Period	63
3.12.1	Inventory to Current Asset Ratio	65

3.13.1	Inventory to Working Capital Ratio	67
3.14.1	Inventory to Sales Ratio	69
3.15.1	Return on Asset (ROA) Ratio	71
3.16.1	Return on Equity (ROE) Ratio	73
3.17.1	Annual Consumption of Rice Bran	75
3.18.1	Annual Consumption of Maize	77
3.19.1	Annual Consumption of Rice Polish	79
3.20.1	Annual Consumption of Coconut Meal	81
3.21.1	Annual Consumption of Cotton Seed Extractions	83
3.22.1	EOQ of Rice Bran	85
3.23.1	EOQ of Maize	87
3.24.1	EOQ of Rice Polish	89
3.25.1	EOQ of Di Calcium Phosphate	91
3.26.1	EOQ of Calcite Powder	93
3.27.1	ABC Analysis	96
3.28.1	FSN Analysis	98
3.29.1	Variables of Correlation Analysis	100
3.29.2	Results of Correlation Analysis	100
3.30.1	Results of Regression Analysis	101

LIST OF CHARTS

Chart No	Title of the Charts	Page No.
3.1.1	Trend Analysis of Sales	44
3.2.1	Trend Analysis of Inventory	46
3.3.1	Components of Inventory	48
3.4.1	Inventory Turnover Ratio	50
3.5.1	Inventory Conversion Period	51
3.6.1	Raw Material Turnover Ratio	54
3.7.1	Raw Material Conversion Period	55
3.8.1	Work In Progress Turnover Ratio	58
3.9.1	Work In Progress Conversion Period	59
3.10.1	Finished Goods Turnover Ratio	62
3.11.1	Finished Goods Conversion Period	63
3.12.1	Inventory to Current Asset Ratio	65
3.13.1	Inventory to Working Capital Ratio	67
3.14.1	Inventory to Sales Ratio	69
3.15.1	Return on Asset (ROA) Ratio	71
3.16.1	Return on Equity (ROE) Ratio	73
3.17.1	Annual Consumption of Rice Bran	75

3.18.1	Annual Consumption of Maize	77
3.19.1	Annual Consumption of Rice Polish	79
3.20.1	Annual Consumption of Coconut Meal	81
3.21.1	Annual Consumption of Cotton Seed Extractions	83
3.22.1	EOQ of Rice Bran	85
3.23.1	EOQ of Maize	87
3.24.1	EOQ of Rice Polish	89
3.25.1	EOQ of Di Calcium Phosphate	91
3.26.1	EOQ of Calcite Powder	93
3.27.1	ABC Analysis	96
3.28.1	FSN Analysis	99

CHAPTER I
INTRODUCTION

1.1 INTRODUCTION

Inventory management plays a crucial role in the success of any business, regardless of its size or industry. It is a critical component of any manufacturing company's operations, encompassing the processes and strategies used to oversee the flow of goods and materials within an organization. From procurement to production and distribution, effective inventory management ensures that businesses maintain optimal inventory levels to meet customer demand while minimizing costs and maximizing efficiency. It involves various activities such as inventory planning, procurement, storage, tracking, and replenishment to ensure that the right products are available in the right quantities at the right time. It plays a pivotal role in its success, profitability, and customer satisfaction.

The term Inventory typically refers to the goods and materials that a business holds for the ultimate purpose of resale or production. It can include raw materials, work-in-progress items, and finished products. Essentially, it's everything a company owns that is meant to be sold or used in the production process. Raw materials form the foundation of manufacturing inventory. These are the basic inputs used to produce finished goods. Procuring and managing raw materials efficiently is crucial for uninterrupted production and timely order fulfillment. Manufacturers must accurately forecast demand for raw materials, establish reliable supplier relationships, and implement inventory control measures to avoid stock outs or overstock situations.

Work-in-progress inventory represents partially completed products at various stages of the production process. Managing WIP inventory involves optimizing production workflows, minimizing bottlenecks, and ensuring smooth transitions between production stages. Effective WIP management enhances operational efficiency, reduces lead times, and enables agile responses to changing market demands. Finished goods inventory comprises the final products ready for sale or distribution. For manufacturing companies, maintaining optimal levels of finished goods inventory is essential for fulfilling customer orders promptly and efficiently. However, excessive finished goods inventory ties up working capital and incurs storage costs, while insufficient inventory can lead to missed sales opportunities and dissatisfied customers. Therefore, manufacturers must strike a

balance between inventory levels and demand fluctuations through accurate demand forecasting, production scheduling, and inventory replenishment strategies.

Financial performance, on the other hand, refers to the measurement of how well a company is doing in terms of generating revenues and profits. It includes various financial metrics such as revenue growth, profitability, return on investment, and cash flow. It refers to the evaluation of a company's ability to generate profits and create value for its stakeholders over a specific period. Analyzing financial performance provides insights into the overall health of the business, its growth prospects, and its ability to meet financial obligations.

Effective inventory management directly impacts financial performance of manufacturing companies by influencing factors such as inventory carrying costs, sales revenue, and customer satisfaction. Effective management ensures optimal levels of inventory, minimizing costs associated with holding excess inventory or experiencing stock outs. This optimization positively impacts various financial metrics including cost of goods sold, cash flow, working capital, profit margins, production efficiency, and customer satisfaction. By striking the right balance in inventory management, companies can improve overall financial performance by reducing costs, enhancing operational efficiency, and meeting customer demands effectively. Financial performance and inventory management are two critical aspects of business operations that significantly impact the success and sustainability of an organization.

1.2 STATEMENT OF THE PROBLEM

Inventory management is a critical function in manufacturing companies, directly influencing operational efficiency and financial performance. Inefficient inventory management leads to high holding costs and cash flow issues, while stock outs result in production delays and lost sales. This study aims to examine the effects of current inventory management practices on the financial performance of Kerala Feeds Ltd and identify strategies for improvement to enhance profitability and operational efficiency.

1.3 OBJECTIVES OF THE STUDY

- To analyze the effect of inventory management on the financial performance of Kerala Feeds Ltd.
- To measure the turnover ratios of inventory, raw material, work in progress, and finished goods.

1.4 SCOPE OF THE STUDY

This study focuses on examining the inventory management practices of Kerala Feeds Ltd, located in Kallettumkara, and their impact on the company's financial performance. The scope is limited to analyzing data provided by the finance department for the financial years 2017-18 through 2021-22. The study utilizes tools and techniques such as trend analysis, ratio analysis including inventory turnover ratios, Economic Order Quantity (EOQ), ABC Analysis, and FSN Analysis, alongside correlation and regression analysis. The research aims to evaluate and enhance inventory management practices. It intends to offer actionable recommendations to improve profitability, working capital, and liquidity by optimizing inventory control methods. This optimization aims to enhance order accuracy, reduce non-moving inventory, and control costs, thereby significantly influencing the company's overall financial performance.

1.5 RESEARCH METHODOLOGY

Research methodology refers to the systematic approach and techniques used to gather, analyze, and interpret data in order to answer research questions or achieve research objectives. It encompasses the overall strategy employed to conduct the research, including the methods chosen for data collection, the tools and instruments and techniques used. It serves as a roadmap for researchers, guiding them in collecting, analyzing, and interpreting data to address research questions or objectives effectively while ensuring the reliability and validity of the findings.

1.5.1 RESEARCH DESIGN

Research design is a framework or blueprint for conducting a research project. It specifies the methods and procedures for collecting and analyzing the necessary information.

The design employed in this project is analytical research.

Analytical research design involves the examination and analysis of existing data or information in order to answer research questions or achieve research objectives. Researchers leverage the data to identify trends, patterns, or relationships relevant to their research questions or objectives. It typically employs statistical or other analytical techniques to secondary data sets and analyze data sets, identify and draw conclusions without the need for primary data collection. Analytical research aims to provide a deeper understanding of the subject matter by rigorously analyzing available data.

1.5.2 SOURCES OF DATA

Secondary Data

The audited financial statements for previous 5 years used in this project.

1.5.3 TOOLS OF DATA ANALYSIS

- Trend Analysis
- Ratio Analysis
- EOQ, ABC, FSN Analysis
- Correlation and Regression Analysis

1.5.4 PERIOD OF THE STUDY

The study was conducted for 2 months (56 days) from the date of 1st April 2024 to 26th May 2024

1.6 LIMITATIONS OF THE STUDY

- The study is conducted by considering only last five year's report so it's unattainable to find out the lifetime performance of the firm.
- The complete data are taken from given annual report only and also the accuracy of the analysis depends upon the accuracy of the available data.
- The company was reluctant to reveal some of its official documents and reports which are kept confidential.
- Due to busy schedules of the officers and the employees proper detailed discussions with them was not possible.

1.7 INDUSTRY PROFILE

The beginning of industrial scale production of animal feeds can be traced back to the late 19 century, around the time advances in human and animal nutrition were able to identify the benefits of a balanced diet, and the importance of the role processing of certain raw materials played. Corn gluten feed was first manufactured in 1882, while leading world feed producer Purina Feeds was established in 1894 by William H. Danforth, Cargill, which was mainly dealing in grains from its beginnings in 1865, started to deal in feed at about 1884. The feed industry expanded rapidly in the first quarter of the 20th century, with Purina expanding its operations into Canada, and opened its first feed mill in 1927. In 1928, the feed industry was revolutionized by the introduction of the first pelleted feeds- Purina Checkers. Now the feed industry has modern computerized plants and the latest equipment for analytical procedures and least cost ratio.

CATTLE FEED INDUSTRY

Feed industry in India is about 50 years old. It primarily consists of cattle feed and poultry feed segments. Cattle feed industry in India is gradually evolving into an organized sector and the feed manufactures are increasingly using modern and sophisticated methods that sack to incorporate best global practices. Indian cattle feed industry has got high growth potential, given the country's top position among the world nations in respect of livestock population and also the high expected growth rate of about 5 per cent. Compounded Cattle

Feed (CCF) products, particularly the branded ones are fast gaining popularity India, including in rural areas. Earlier research studies, based on the feedback from the farmers, have revealed the high growth prospects of the branded cattle feed industry, the feed consumption pattern based on product types, composition of cattle feed market and the relative shares of major brands, the major factors influencing the purchasing decisions. Worldwide demand for dairy products is rapidly growing and is projected to extend by 58%. The Indian animal feed market is driven by the rising dairy industry, backed by the white revolution which has resulted within the ascent of the cattle population. Currently, India has the foremost important cattle population within the globe, thereby becoming an oversized marketplace for cattle feed. The demand for commercial cattle feed is projected to increase in India, because the dairy industry structure is becoming more organized, and which are aimed toward improving the status of the animal feed industry to provide for future demand. The Indian animal feed market size reached a price of nearly INR 403.5 billion.

India currently represents one amongst the foremost important feed producers within the global. Animal feed include the various raw, processed and semi processed products that are fed to the livestock. variety of the foremost common feeds include pasture grasses, cereal grains, hay and silage crops, and other by-products of food crops, like brewers grains, pineapple bran and sugar beet pulp. These products are carefully formulated with the help of nutritional additives, like vitamins and minerals, these required to fret of the health of animals and improve the quality of the numerous end products, including eggs, meat and milk.

WORLD SCENARIO

Animal feeds play a leading role in the global food industry, enabling economic production of animal proteins throughout the world. Livestock rising and the consumption of animal product make crucial contribution to the economic and the nutritional wellbeing of millions of people around the world, world compound feed production is past approaching estimated 41 billion tones annually. The animal feed industry serves as a linchpin in the global food system, supporting the production of meat, dairy, eggs, and seafood by providing essential nutrition to livestock, poultry, and aquaculture. With the world's population steadily

climbing and dietary preferences evolving, the demand for animal protein continues to rise, propelling the animal feed industry to the forefront of modern agriculture.

At the heart of the animal feed industry lies its core mission: to convert raw agricultural materials into balanced and nutritious feed formulations tailored to the specific needs of different animal species and production stages. These formulations typically comprise cereals, grains, oilseeds, protein meals, vitamins, minerals, and additives, carefully blended to optimize animal health, growth, and productivity. The industry operates on a massive scale, with a global network of feed manufacturers, suppliers, and distributors spanning continents. Key players in the global feed market include major agricultural powerhouses such as the United States, China, Brazil, and European nations, which collectively account for a significant share of global feed production and consumption.

INDIAN SCENARIO

The Indian feed industry is about 35 years old. The quality standards of Indian feeds are high and up to international levels. Raw materials for feeds are adequately available in India. The industry's production is about 30 million tones, which represents only 5 percent of the total potential and feed industry has least cost ration for mutation and it employ the latest manufacturing technology in India. Most research work on animal feed is practical and houses on the use of by products, the upgrading of ingredients and enhancing productivity the country has entered into a period of liberalization and this is bound to influence the livestock industry. The per capita consumption of milk, egg and boiler meat will grow. Indian feed industry is undergoing a very exacting phase of growth for the next decade.

The big increase in the animal protein demand over the last few decades has been largely met by the worldwide growth in intensive livestock production. The industrial production relies heavily on grains, soya, and fishmeal, and has a high cost in terms of fossil fuel consumption. Feed manufacturing on a commercial and scientific basis started around 1956 with the settings up of medium sized feed plant in Northern and western India. Feed was mainly to cater to the needs of dairy cattle.

The Indian animal feed market reached a value of INR 956.7 billion in 2022. India currently represents one of the largest feed producers in the world. Animal feed includes various raw, processed, and semi-processed products that are fed to livestock. Some of the most common feeds include pasture grasses, cereal grains, hay, and silage crops, and other byproducts of food crops, such as Brewers grains, pineapples bran and sugar beet pulp. These products are carefully formulated with the help of nutritional additives, like vitamins and minerals, to maintain the overall health of animals and improve the quality of various end-products, including eggs, meat, and milk. In this country, there has been a rise in public concern regarding the safety of animal-origin food products due to the prevalence of food-borne bacterial infections, bovine spongiform encephalopathy (BSE) and dioxin contamination. These concerns have prompted regulatory organizations to inspect and improve feeding practices in the country.

The Indian government plays a crucial role in shaping the trajectory of the animal feed industry through policy support, regulatory oversight, and financial incentives. Initiatives such as the National Livestock Mission, Rashtriya Gokul Mission, and Pradhan Mantri Matsya Sampada Yojana aim to boost livestock productivity, enhance feed availability, and promote sustainable livestock and aquaculture practices. Moreover, regulatory reforms aimed at streamlining approval processes, ensuring feed safety and quality standards, and promoting transparency and accountability within the industry are essential for fostering a conducive business environment and promoting investor confidence.

STATE SCENARIO

In Kerala, the animal feed industry occupies a unique position within the state's agricultural landscape, playing a crucial role in supporting the diverse livestock and poultry sectors. Known as "God's Own Country" Kerala boasts a rich agricultural heritage characterized by lush greenery, fertile soil, and a favorable climate, which contribute to the state's vibrant livestock and dairy farming activities. The animal feed industry in Kerala caters to a wide array of livestock and poultry species, including dairy cattle, poultry birds, goats, and fish, among others. Given the state's limited land resources and predominantly agrarian economy, livestock and poultry rearing serve as vital sources of livelihood for thousands of smallholder farmers and rural communities. The demand for high-quality feed products

is thus paramount to support the health, productivity, and sustainability of Kerala's livestock and poultry sectors.

The cattle feed in Kerala is developing rapidly which create demand for cattle feed. Cattle feed production in Malabar is very less. At present 1.5 million tone pellet cattle feed is produced per house; this capacity is to be increased. Government of Kerala is giving subsidy to milk producers. Milma, Kerala this scheme government of Kerala has agreed to include cattle feed produced by company in the said subsidy scheme. Therefore, production of the cattle feed has to be increased. Milk production in Kerala was 2640 tone with the shift gapping pattern of Kerala we can see a reduction in availability of straw for feeding cattle. The availability of fodder in the state of Kerala is the lowest in the country, of fodder for cattle feed to maintain the health bovines. Among the users of the branded cattle feed products as high as 60 percent use the pellet type products. Among the users of pellet type product, more than one fourth uses the Kerala feeds Ltd brand products and are closely followed by the users of Milma brand and then by those of Kerala Solvent Extractions with 11.80 percent share. East Asiatic Company in the brand OK is first introduced the compounded cattle feed in Kerala.

Even today cattle feed is synonymous with that brand name. One plant of Kerala Solvent Extraction Ltd has 180 tons per day. It was situated in Tamil Nadu also caters to Kerala market. The other small manufactures include milk societies, Shilpi Aggrotech, Sakthi, Ksheera, Setabi, MSE, Sunandhi etc. Government support and policy interventions are essential for fostering the growth and competitiveness of the animal feed industry in Kerala. Initiatives such as subsidized feed procurement schemes, investment incentives, and infrastructure development projects can help alleviate the cost burden on feed manufacturers and promote investment in the sector. Moreover, regulatory reforms aimed at streamlining approval processes, ensuring feed safety and quality standards, and promoting transparency and accountability within the industry are crucial for fostering a conducive business environment and promoting consumer confidence.

1.8 COMPANY PROFILE

Kerala Feeds Limited is a Public Sector Undertaking under the Animal Husbandry department of Government of Kerala. Setup in 1995, Kerala Feeds Ltd was incorporated under the Companies act, 1956. The Company is committed to produce and sell good quality compounded cattle feed and feed supplements to dairy farmers at affordable rates. The company started its operations at Kallettumkara, Thrissur with the manufacturing of pellet form of cattle feed and over the years has diversified into other feeds, like poultry feed, goat feed and other supplements like keramin, milk booster etc.

Presently the company has six operational manufacturing units with latest manufacturing technology and machinery to produce and supply consistent high quality feeds to dairy farmers and other consumers. The company caters the major portion of cattle feed demand in the State by timely supply of its feeds and supplements through a strong and established network of private dealers and societies.

The cattle feed plant with 500 TPD capacity was commissioned in late 1998 and commercial production started in January 1999, with one shift only. The second and third shift operations were commenced in June 1999 and July 2000 respectively. The unit is located in Kallettumkara Village in Mukundapuram Taluk of Thrissur District beside the Palghat - Ernakulam Railway line and about 7km from Chalakudy and 9km from Irinjalakuda. The plant is situated in 27 acres of land and has sufficient scope for further expansion.

Kerala Feeds is a manufacturing firm and it is more concentrated on manufacturing the cattle feeds. The first cattle feed manufacturing company in Kerala which was introduced the M.M.C.P.I Technology animal feeds play a Leading role in the global food industry. It enabling economic production of animal proteins Kerala Feeds Ltd revolutionized the use of pellet form cattle feed among daily farmers family as with mash feed only the product have been categorized into two namely; ordinary and special cooking of the feed up to 801 removes the mixture hence increases the shelf life of the feeds and helps easy digestion of the feed. They are using good packing materials because it may help to absorb the moisture content and help to keep the feed for a long time.

The raw materials are tested for the quality before manufacturing the product. Kerala Feed has an equipped laboratory which ensure the quality of the product. There should be some parameters for checking the quality of the product. After fulfilling those parameters only, it should be marketed. Some of the raw materials used here are like Grains, Rice Bran, DE oiled cakes, Chemicals and some other materials. The raw materials like coconut cake, cotton seed cakes are included in this compounded feed. It is because for the increasing the milk yield protein, fat, vitamin and minerals and it is used in the correct proportion.

The site is comprising main plant buildings such as: Raw Material and Finished Product God owns, Administrative Office, Quality Control Laboratory, Worker's Rest Room, Canteen, Guest House and Quarters, Generate Room, Boiler House and 2 Weigh Bridges. The design of the plant is based on European Standards. The specialty of the plant is the high levels of automation that has been incorporated and this automation has been helpful in attaining the consistency in quality through the repeatability of the formulation during the batching process. Only dumping of raw materials and stacking of finished feed is manual. The other process is fully automated and controlled from the plant Control Room. The plant has dedicated PLC software controlling all the activities of the plant from dumping up to bagging. One interesting features of the plant is that the design incorporates a post milling technology where the entire batch is passed through hammer mill and particles necessary for grinding are ground to a fine powder. The technology is a tried, tested and proven one. It has been successful in producing high quality pellet. This technology has been marketed by us in the form MMCP.

VISION

- To improve dairy farming in Kerala by providing quality feeds and supplements at reasonable cost.

MISSION

- Increase the production of balanced compounded cattle feed in pellet from 650MT to 950MT per day.
- To produce 300MT per day of the other livestock feed and poultry feed.

- To manufacture appropriate type of feed and feed supplements for different stage of livestock.
- To become a market driving company from market driven company.
- To support the development of knowledge-based network on feed related activities.
- Educate and train the livestock farmers to practice scientific feeding to optimize livestock productivity.
- Procurement of feed ingredients which provides advisory services on logistical solutions, feed manufacturing and the establishment of analytical laboratories.
- A culture of innovation and creativity among its employees.
- Become an Active Partner in Community Development Programs

FEATURES OF KFL

- The first cattle feed manufacturing company in Kerala which introduced M.M.C.P technology.
- Cooking of the feed up to 80 degree Celsius removes the moisture hence increases the shelf-life of feed and helps easy digestion of the feed.
- The raw materials are tested for quality at the fully equipped laboratory which also ensures that least loss occurs while handling the feed, which in turn ensures cleanliness.
- Raw materials like coconut cake, cotton seed cake, rice included in our compounded feed. Hence it is not necessary to feed the cattle separately with the said items.
- For increasing the milk yield protein, fat, vitamin and minerals are included in the correct proportion.
- Kerala Feed Ltd., being a govt. undertaking is committed to continual improvement of the product.
- Uniformity in M.R.P throughout Kerala.

BOARD OF DIRECTORS

Kerala Feeds Ltd. is subordinated to the Department of Animal Husbandry, Government of Kerala. The company board of directors also includes seven Official Directors and two Non - Official Directors.

- Chairman - Shri K Sreekumar
- Managing Director - Dr. B Sreekumar

DEPARTMENTAL PROFILE

Kerala Feeds Ltd. has multiple functional departments and each department is required to perform multiple functions within the organization. The following are confined to various divisions of Kerala Feeds.

1) Material department

The materials department plays a key role in maintaining the quality of the final product. The materials department takes almost care to load only good quality materials, store them without quality loss, and output only good quality materials. Their goal is to ensure a continuous process by establishing the flow of raw materials to production departments and ensuring the identification and traceability of raw materials. It also minimizes loading and unloading times for finished feed and raw materials.

2) Human resource department

The Human Resources Department includes Assistant Managers, Human Resources Officers, Stenographers and Clerks. It includes a number of goals and functions for the employees or workers of an organization, provides training programs for efficient performance by employees of an organization, and provides training programs for efficient performance by employees during working hours in an organization. They offer training programs for optimal performance.

3) Production department

The function of the manufacturing department is to transform raw materials into finished products. The functions of the production department start from bringing raw materials into the factory to packing the materials. Each stage is controlled and monitored by

programming logic controls. MMCP technology is one of the key advantages of KFL's production divisions: grinding, mixing, cooking and pelletizing. In this method, a sample of the product is passed to an analytical lab. The quality of subsequent solids, regrind and mash pellets is checked.

4) Purchase department

The main goal of the purchasing department is to have the right quality materials in the right place at the right time. Proper quality material enhances the quality of the material. Proper timing enhances the ability to deliver materials. Proper pricing of products helps reduce production costs.

5) Quality control department

Quality control and feed analysis laboratories are located within Kerala Feeds Ltd. This department started its operation in 1998. The departmental function begins with quality assurance of incoming raw materials, and considers the needs of customers, between quality assurance of processed products and quality assurance of finished products. The department's laboratories include the latest and most advanced technologies for the analysis of moisture, crude protein, crude fiber, ether extracts, sand and silica, and aflatoxins in coded samples of raw materials, in-process products, and finished products, equipped with analytical instruments.

6) Marketing department

The marketing department's goal is to increase customer and dealer satisfaction and maintain brand image. It also ensures product availability in the market and develops development activities to achieve the company's goals.

7) Finance department

Finance's role in an organization is to ensure that sufficient resources are available to achieve organizational goals. This department also ensures that costs are controlled, that there is sufficient cash flow, and that all levels of profitability are established and controlled.

PLANT DESIGN AND TECHNOLOGY

The design of the plants is based on European standards and the production process follows the MMCP technology which is a tried, tested and proven one. All the manufacturing units are fully automated and controlled from the control room with minimum space for human error and quality variations. This high level of automation and the latest imported machinery makes the process highly efficient and helps in maintaining the consistency in quality of the products. Currently KFL have 6 Units

- 1) Kallettumkara Unit, Thrissur
- 2) Karunagappally Unit, Kollam
- 3) Thiruvangoor Unit, Kozhikode
- 4) Arrikkuzha Unit, Idduki
- 5) Muthalamada Unit, Palakad
- 6) Athavanad Unit, Malappuram

All the units comprises separate administration offices, plant buildings, quality labs, storage go downs, weighbridges, silos, molasses tanks, workers restroom facilities etc.

PURCHASE OF RAW MATERIAL

Raw material is purchased through agents and by direct purchases. The majority of raw materials are from other States. Coconut extracted cake is raw material that is available in Kerala in plenty. Even for rice brans the units depend on other States. The rice bran available here has oil content which has to be extracted. Otherwise, the oil content present in the bran will decay the cattle feed produced. As there is no solvent extraction plant in Kerala all the units have to depend on other States. Most of the unit have their agents in other States through whom they purchase raw material. Sometimes, the company purchases directly from producers and eliminates the agents so that the cost of raw material can be reduced.

PRODUCTION AND MAINTANCE

Production processes are as follows:

- Raw Material Storage
- Intermediate Raw Material storing
- Proportioning
- Sieving and milling
- Storage at the buffer in BB4
- Batch Mixing
- Molasses Mixing
- Storage at the mash bins
- Conditioning and cooking with steam
- Pelleting and Cooling
- Powder separation/sieving
- Bagging and stitching
- Storage of finished feed in go downs

MAJOR VALUE ADDITION PROCESS

- Batching Process
- Milling Process
- Mixing
- Cooking
- Pelleting

QUALITY CONTROL AND ANIMAL NUTRITION LAB

Quality control, Animal Nutrition Lab is located inside the Kerala Feeds Ltd campus. This department started functioning from 1998. The department function includes incoming raw material quality assurance, in-process product quality assurance and finished product quality assurance and addressing customer complaints. The department lab is equipped with latest & most modern analytical instruments for analyzing Moisture, Crude Protein, Crude Fiber, Ether Extract, Total Ash, Sand & Silica, minerals and Aflatoxin of the raw material , in-process product and finished product.

QUALITY POLICY

The quality policy is to produce and distribute good quality compounded cattle feed in pellet form, mineral mixture and other fodder materials through a quality system, which registers continual improvement by setting and reviewing functional quality objectives aimed to create enhanced customer satisfaction. The quality policy will be communicated to all and will be reviewed periodically for continual suitability. The management and staff are determined and committed to achieve this quality policy and to make dairying.

ROLE OF KERALA FEEDS LTD IN DAIRY SECTOR

Kerala feeds has distinct role to play in the development of dairying. In the state major identified role as follows:

- To produce and make available compounded cattle feed at an optimum price.
- Creative awareness on feeding methods and educate farmers about the need for quality feeding.
- Supplement minerals and vitamins in the feed to level the inadequacy in natural feed compounds.
- External service for housing breeding and health carrying by joining hand with other agencies in the field.

PRODUCTS

- KF Elite
- KF Midukki
- KF Calf Starter
- KF Milk Booster
- KF Dairy Rich Plus
- Keramin Mineral Mixture
- Densified TMR Block
- KF Regular Goat Feed
- KF Malabari Premium Goat Feed
- KF Athulyam Grower & Layer Mash
- Athulyam Chick Mash for Layer
- KF Kairali
- Kerabbit

COMPETITORS

- Amrit Feeds Ltd.
- Baramati Agro Ltd.
- Grintec India Ltd.
- Indian Potash Ltd.
- Kwaliti Feeds Ltd.
- SKM Animal Feeds & Foods Ltd.
- Kerala Solvent Extraction Ltd
- Godrej Feeds Ltd
- Sunandini Feeds
- Primal Feeds
- Mother feeds
- Milma

VALUATION OF INVENTORY

Inventories at the close of the year are valued at the lower of cost or net realized value. Cost includes the cost of purchase, conversion, and other costs incurred in bringing the inventories to their present location or condition.

SI No	Type of Inventory	Method of Valuation
1	Raw materials	At weighted average cost
2	Packing Materials	At weighted average cost
3	Chemicals	At weighted average cost
4	Lab Chemicals	At cost on FIFO basis
5	Stores & Spares	At weighted average cost
6	Work in Process	Cattle Feeds and Mineral Mixture lying in the bin as at the end of the year are valued at weighted average cost of finished goods net of packing charges.
7	Used Gunny & PP Bags	At net realizable value
8	<u>Finished Goods</u> KF – Ordinary KF – Rich KF – Midukki KF – Elite KF – Dairy Rich Calf Feed Goat Feed Mineral Mixture – Keramin Densified Fodder Block	At lower of cost or net realizable value (cost being direct material, direct labour, direct expenses and manufacturing overheads)

Table No 1.8.1 showing Valuation of Inventory

SWOT ANALYSIS

Strength

- KFL has well-organized MMCP technology not found in other competitors. It works fully automatically under the control of a computer system.
- The company is ISO 9001-2000 certified. This indicates that the company only manufactures quality products under government regulations.
- When it comes to sourcing materials, companies look to every state in the country. Therefore, the company can purchase materials at low prices and get high quality.
- KFL has a well-organized QC department ensure the quality of raw materials and final feed.
- The company has broader distribution channels as it sells through private dealers, cooperatives and government agencies.
- Provide many securities and benefits for employees.
- KFL is the sole supplier of pelleted cattle feed.

Weakness

- Products may become more expensive if raw material prices increase.
- Transportation costs are high as most of the raw materials come from outside Kerala
- All devices are designed to operate with an uninterruptible power supply only.
- Critical parts of the plant are imported and are very expensive and some spare parts are not readily available in the domestic market.
- Demand for the company's products is low during the rainy season.

Opportunities

- The company faces intense competition in the Indian market. The demand for animal feed is increasing day by day. This is due to the strength of product quality and stable supply.
- KFL currently own 27 acres and have the ability to scale our operations to increase our production capacity.

- The company focuses only on the Kerala market and is able to expand its market outside of Kerala.
- Demand is outstripping supply, so companies can increase production and distribute it evenly across demand.

Threats

- The competitors are flooding the market with their products which is gradual.
- Increasing trend of raw material cost.
- Availability of raw material.
- Changes in government policies

CHAPTER II
REVIEW OF LITERATURE AND THEORETICAL
FRAMEWORK

2.1 REVIEW OF LITERATURE

Rajagopalan & Malhotra (2001) done study on the trends in inventory levels (RMI, WIPI, and FGI) of US manufacturing firms for the period of 34 years (1961-1994) reported that total inventory ratio at all three levels have decreased from 1961 to 1994. They reported in detail that RMI and WIP decreased in majority of sectors, but FGI decreased in some industry sectors while increased in others.

Dave Piasecki (2001) he focused on inventory model for calculating the optimal order quantity that used the Economic Order Quantity method. He points out that many companies are not using EOQ model because of poor results resulted from inaccurate data input. He says that EOQ is an accounting formula that determines the point at which the combination of order costs and inventory costs are the least. He highlights that EOQ method would not conflict with the JIT approach. He further elaborates the EOQ formula that includes the parameters such as annual usage in unit, order cost and carrying cost.

Deloof (2003) undertook a study on working capital management and performance of Belgian Ian firms. The study relied on a sample of 1,009 large Belgian non-financial firms. Profitability was evaluated for the period between 1992 and 1996. The study considered the Inventory policy and management as one of the key variables considered. It was established that holding as less inventories as possible Optimal level serves to enhance corporate profitability.

Gaur, Fisher and Raman (2005) in their study examined firm-level inventory behavior among retailing companies. They took a sample of 311 public-listed retail firms for the years 1987–2000 to examine the relationship of inventory turnover with gross margin, capital intensity and sales surprise. They observed that inventory turnover for retailing firms was positively related to capital intensity and sales surprise while inversely associated with gross margins. They also suggested models that yield an alternative metric of inventory productivity, adjusted inventory turnover that can be used in study of performance analysis and managerial decision-making.

Roumiantsev and Netessine (2005) investigated the association between inventory management policies and the financial performance of firms. The purpose of the study was to assess the impact of inventory management practices on financial performance across the period 1992-2002. They used conventional firm specific variables, inventory levels, margins, and lead times as explanatory variables. They found no evidence that smaller relative levels are associated with financial performance as measured by return on assets.

Agus and Noor (2006) examined the relationship between inventory management practices and financial performance. The study measured manager's perceptions of inventory and supply chain management practices and the level of performance in the industry. The practices include lean inventory systems, technology and strategic supplier partnerships. They employed a structured questionnaire, which was designed to assess the companies in terms of the described dimensions. The sample companies were randomly chosen from manufacturing companies, non-food based manufacturing companies with medium to high technology in Klang valley, Malaysia. The findings suggest that inventory management practices have significant correlations with profitability and return on sales.

Pradeep singh (2008) in his study made an attempt to examine the inventory and working capital management of Indian Farmers Fertilizer Cooperative Limited (IFFCO) and National Fertilizer Limited (NFL). He concluded that the overall position of the working capital of IFFCO and NFL is satisfactory. But there is a need for improvement in inventory in case of IFFCO. However inventory was not properly utilized and maintained by IFFCO during study period. The management of NFL must try to properly utilize the inventory and try to maintain the inventory as per the requirements. So that liquidity will not interrupt

Capkun, Hameri and Weiss (2009) statistically analyzed the relationship between inventory performance and financial performance in manufacturing companies using the financial information of a large sample of US-based manufacturing firms over a 26-year period, that is, 1980 to 2005. They inferred that a significant relationship existed between inventory performance along with the performance of its components and profitability. Raw material inventory performance was highly correlated to gross profit and operating

profit. Work in progress inventory was highly correlated to gross profit measures while finished goods inventory performance was more correlated with operating profit measures.

Gaur and Bhattacharya (2011) attempted to study the linkage between the performance of the components of inventory such as raw material, work in progress and finished goods and financial performance of Indian manufacturing firms. The study revealed that finished goods inventory as inversely associated with business performance while raw material inventory and work in progress did not have much effect on same. They emphasized that instead of focusing on total inventory, an attempt should be made to concentrate on individual components of inventory so as to adequately manage the same. They concluded that managers not paying heed to inventory performance may become weak in combating competitors.

Nyabwanga and Ojera (2012) highlighted the association between inventory management practices and business performance of small scale enterprises (SSEs), in Kisii Municipality, Kisii County, Kenya. They used a cross-sectional survey study based on a small sample size of 79 SSEs. The study inferred that inventory comprised the maximum portion of working capital, and improper management of working capital was one of the major reasons of SSE failures. The empirical results disclosed that a positive significant relationship existed between business performance and inventory management practices with inventory budgeting having the maximum influence on business performance ensued by shelf-space management. The study suggested that by following effective inventory management practices business performance can be enhanced.

Lwiki et al (2013) a survey conducted on all the eight sugar manufacturing firms in Kenya established that there is generally positive correlation between each of inventory management practices. Specific performance indicators were proved to depend on the level of inventory management practices. They established that Return on Equity had a strong correlation with lean inventory system and strategic supplier partnerships. As such, they concluded that the performance of sugar firms could therefore be stated as being a function of their inventory management practices.

Panigrahi (2013) undertook an in-depth study of inventory management practices followed by Indian cement companies and its effect on working capital efficiency. The study also investigated the relationship between profitability and inventory conversion days. The study, using a sample of the top five cement companies of India over a period of 10 years from 2001 to 2010, concluded that a considerable inverse linear relationship existed between inventory conversion period and profitability.

Srinivas Rao Kasisomayajula (2014) an analytical study was conducted on “Inventory Management in Commercial Vehicle Industry in India”. A sample of five companies’ was selected for study. The study concluded that all the units in the commercial vehicle industry have significant relationship between Inventory and Sales. Proper management of inventory is important to maintain and improve the health of an organization. Efficient management of inventories will improve the profitability of the organization.

Edwin Sitienei and Florence Memba (2015) conducted a study on “Effect of Inventory Management on profitability of Cement Manufacturing Companies in Kenya”. The study concluded that Gross profit margin is negatively correlated with the inventory conversion period, Increase in sales, which denotes the firm size enriches the firm’s inventory levels, which pushes profits upwards due to optimal inventory levels. It is also noted that firms inventory systems must maintain an appropriate inventory levels to enhance profitability and reduce the inventory costs associated with holding excessive stock in warehouses.

Kilonzo et al (2016) investigated the effect of inventory management on the financial performance of firms funded by government venture capital in Kenya. The study adopted a descriptive research design, primary data was used for the study and a questionnaire was used in collecting data from seventy-two respondents of firms funded by government venture capital. The use of Cronbach Alpha, the instrument of validity and reliability was tested through a pilot study. The data collected were analyzed using descriptive statistics and regression analysis. The finding from the study revealed a positive relationship between inventory management and the financial performance of firms funded by government venture capital in Kenya. It is recommended that managers can create value for their firm by reducing turnover days to the barest minimum.

Edwin et al (2016) studied inventory management on the profitability of cement manufacturing companies in Kenya. The independent variable used for the study were inventory turnover, inventory collection period, inventory level, and storage cost, while the dependent variable used was gross profit margin, return on assets and firm growth. Panel data design was used in the study secondary data used in the study was collected from three (3) sample cement manufacturing firms' annual reports in the Nairobi stock exchange (NSE) from 1999 to 2014. The analysis of data was done using multiple regression models. The result revealed a negative association between inventory turnover, inventory conversion period, and storage cost with profitability. It was also discovered that inventory level is related to firm size and storage cost. The study concluded that proper inventory management influences the profitability of an enterprise. It was recommended that a firm inventory system must maintain an appropriate inventory level to improve profitability.

Ahmad Zeb et.al. (2017) conducted various field visits in order to collect data regarding a bridge project, and it was gathered from inventory books and physical stock verification. After which the ABC analysis was done using MS excel using following steps (1) collect items details with their unit prices. (2) Find the total value to the item in the project by the product of expected units required and unit price. (3) Arrange the items in descending order of their values. (4) And then classified according to ABC - A (highest value), B (Moderate Value), C (Lowest value). For the detailed analysis S curve analysis was done of cement, in which planned cost of the material procurement was compared with actual cost. According to the study, cement and steel is categorized in Class A, aggregates are in Class B and stones are in Class C.

Francis, et al (2017) investigated inventory management and organizational profitability in Uganda. The methodology used was descriptive research design. Primary data were used, an instrument for data collection was a structured questionnaire and the population of study companies employees of Gumutindo coffee corporative enterprise (GCCE). The sampling size used was 181 out of a population of 345 staff; probability and non-probability sampling were used to test the reliability. Descriptive statistics along with regression analysis were used to determine the strength of the relation of the variable. The

finding revealed that inventory management positively influences the profitability of the organization. The study concluded that inventory management adopted in GCCE was effective and contributed to profitability by 20.2%. The study recommended more investment in inventory to boost inventory level.

Onikoyi, et al (2017), evaluated the effect of inventory management practices on the financial performance of Lafarge Wapco plc. Nigeria. The survey research design was adopted for the study. It was a secondary data source that gathers data from the annual report of Lafarge Wapco plc. from 2005 to 2013. The collected data were analyzed using descriptive statistics and regression techniques. The study revealed a significant positive association between the value of stock carried and the cost of goods sold. It was discovered that the inventory policy of the organization does not affect profitability. The study further discovered a positive association between profitability and inventory management. It was recommended that an appropriate policy framework be put in place to facilitate the prompt implementation of the management of inventory practice.

Enock, et al, (2017), studied the effect of inventory management on organizational performance in Kenya. The study adopted the convergent parallel mixed methods design, the study was guided by learns theory. The study used Primary data, an instrument for data analysis was a questionnaire, and the sample size was 139 respondents, stratified simple random sampling methods were used for selecting employees. The data were analyzed using inferential statistics, multiple regression and correlation analysis. The finding showed that inventory management had a significant positive relationship with firm performance in textile firms in Nairobi. The study concluded that inventory management possesses the potential of influencing the performance of textile firms positively.

Marsudi (2018) reviewed on inventory management in manufacturing industry and found that the demand pattern policy help in determining the best approaches and the inventory system such as the Economic ordering quantity, Material requirement planning and Just-in-time has benefitted the industry in planning, delivering process, timely production with linking factors that is environment, technology , systems and procedures.

Nisa (2019) studied hospitals that had problems with expired drugs. Data processing requires several data such as demands, order cost, and storage cost in this study. She uses analyses of the ABC, EOQ, and ROP methods for data processing. This research aims to identify and analyze drug grouping based on the ABC method, the optimum amount of drug ordering using the EOQ method, and the time of reordering medicine using the ROP method.

Aarti Patki, Chartered Accountant (2021) "Analysis of Inventory Turnover Ratio and Its Impact on Profitability of Enterprises in Indian Retail Industry" Cash flow and inventory are crucial for a business organization's profitability. Asset utilization and inventory turnover ratios indicate management efficiency in managing assets, inventory, and accounts receivables. A high inventory turnover ratio indicates lean operations and positive resource utilization, while slow inventory indicates capital blockage.

2.2 THEORETICAL FRAMEWORK

INVENTORY

Inventory refers to the goods and materials that a business holds for the purpose of resale or use in production. It includes both finished products ready for sale, as well as raw materials and work-in-progress items. Inventory is a key component of a company's assets and is typically listed on its balance sheet. Managing inventory effectively is crucial for businesses to meet customer demand, minimize costs, and maximize profitability.

TYPES OF INVENTORY

In a manufacturing company, inventory plays a crucial role in the production process. Here are some types of inventory commonly found in manufacturing industry.

- **Raw Materials Inventory**

These are the basic materials needed for production. Examples include raw metals, plastics, fabrics, or components purchased from suppliers.

- **Work-in-Progress (WIP) Inventory**

These are partially completed products that are in various stages of the production process. WIP inventory includes materials and goods that are being transformed or assembled but are not yet finished.

- **Finished Goods Inventory**

These are the completed products that are ready for sale to customers. Finished goods inventory represents the final output of the manufacturing process.

- **Maintenance, Repair, and Operations (MRO) Inventory**

These are materials and supplies necessary to maintain the manufacturing facility and equipment. MRO inventory includes items like spare parts, lubricants, and cleaning supplies.

- **Packaging Inventory**

Packaging materials such as boxes, containers, labels, and packing materials are essential for packaging finished goods for shipment.

- **Tools and Equipment Inventory:**

This includes the tools and equipment used in the manufacturing process, such as machinery, molds, and specialized tools.

- **Obsolete or Scrap Inventory**

This category includes materials or products that are no longer usable or saleable due to defects, damage, or obsolescence. Proper management of obsolete inventory is essential to prevent tying up valuable resources.

- **Safety Stock Inventory**

Additional inventory held as a buffer to protect against fluctuations in demand, supply chain disruptions, or production delays. Safety stock helps ensure that production can continue smoothly even in unforeseen circumstances.

- **Cycle Inventory**

The inventory that is regularly ordered and received to meet ongoing production needs. It represents the normal fluctuation of inventory levels as materials are used and replenished.

- **Serialized Inventory**

Inventory items that are assigned unique serial numbers for tracking purposes. This is common for high-value or high-risk items to enable traceability throughout the manufacturing and distribution process.

- **Seasonal Inventory**

Inventory held to meet demand fluctuations related to seasonal variations in sales

- **Anticipation Inventory**

Inventory held in anticipation of future demand or price changes.

- **Dead Stock**

Inventory that has been in stock for a long time and has a low probability of being sold in the future

- **Goods in Transit**

Inventory that is currently in the process of being transported between locations, such as from suppliers to warehouses or from warehouses to retail locations.

- **Consignment Inventory**

Inventory that is in possession of a retailer but is owned by a supplier or manufacturer until it is sold.

INVENTORY MANAGEMENT

Inventory management refers to the process of overseeing and controlling the flow of goods or materials in and out of a business's inventory. It involves managing the quantity, location, and timing of inventory to ensure that a company has the right amount of stock available to meet customer demand while minimizing costs associated with holding excess inventory. Effective inventory management is essential for businesses to maintain adequate stock levels, minimize holding costs, reduce the risk of stock outs, and optimize cash flow. It requires a combination of strategic planning, accurate forecasting, efficient logistics, and the use of inventory management software or systems.

OBJECTIVES OF INVENTORY MANAGEMENT

Inventory management serves several objectives, all aimed to balance stock levels for customer demand and minimizing holding costs. Some key objectives include:

- **Optimizing Stock Levels**

The primary objective is to ensure that the right amount of inventory is available to meet customer demand. This involves determining optimal stock levels for each product to prevent stock outs while avoiding excess inventory that ties up capital and incurs holding costs.

- **Minimizing Holding Costs**

Inventory carrying costs, including storage, insurance, and depreciation, and obsolescence, can represent a significant expense for businesses. Effective inventory management aims to minimize these costs by optimizing stock levels and turnover rates.

- **Improving Cash Flow**

Excessive inventory ties up capital that could be invested elsewhere in the business. By optimizing inventory levels and turnover, businesses can free up cash flow for other investments or operational needs.

- **Reducing Stock outs**

Stock outs occur when inventory levels are insufficient to meet customer demand, resulting in lost sales and potential damage to customer relationships. Inventory management aims to minimize the risk of stock outs by accurately forecasting demand and maintaining appropriate stock levels.

- **Enhancing Customer Service**

Ensuring product availability and timely order fulfillment are essential for providing excellent customer service. Effective inventory management helps businesses meet customer expectations by ensuring that products are in stock when needed and orders are processed efficiently

- **Minimizing Obsolescence**

Products that become obsolete or expired represent a loss of investment for businesses. Inventory management helps minimize the risk of obsolescence by monitoring product lifecycles, managing product recalls, and implementing strategies to sell or dispose of obsolete inventory.

- **Streamlining Operations**

Efficient inventory management improves supply chain efficiency, cuts costs, boosts productivity, and enhances competitiveness.

TECHNIQUES OF INVENTORY MANAGEMENT

Inventory management is a crucial aspect of supply chain management that involves overseeing the flow of goods from manufacturers to warehouses to retailers and ultimately to customers. Effective inventory management aims to balance the costs of holding inventory against the costs of stock outs and lost sales. Here are some common techniques used in inventory management:

1) ABC ANALYSIS

ABC analysis is an inventory categorization technique. It is an inventory management technique that determines the value of inventory items based on their importance to the business. ABC analysis is widely used for unfinished good, manufactured products, spare parts, components, finished items and assembly items. ABC analysis divides an inventory into three categories:

- **A items:** These are the most valuable items, typically representing a small percentage of the total inventory but contributing a significant portion of the overall inventory value. These items are often high-cost or high-demand items. Managing these items effectively is critical to the success of the business. These item have very tight control and accurate records.
- **B items:** These items are of moderate importance. They are less critical than A items but still require careful management to ensure adequate availability and cost-effectiveness. B items usually represent a moderate percentage of the total inventory value. B items with less tightly controlled and good records.
- **C items:** These items are of relatively low value or importance individually but may collectively represent a significant portion of the total inventory. They are typically low-cost or low-demand items. While individual C items may not have a significant impact on overall operations, their collective management is still necessary for efficient inventory control. C items with the simplest controls possible and minimal records.

There are no fixed thresholds for each class, and different proportions can be applied based on objectives and criteria. ABC class are:

- **A items** - 20% of the items accounts for 70% - 80% of the annual consumption value of the items.
- **B items** - 30% of the items accounts for 15% - 25% of the annual consumption value of the items.
- **C items** - 50% of the items accounts for 5% - 10% of the annual consumption value of the items.

2) FSN ANALYSIS

FSN analysis is a technique used in inventory management to classify items based on their demand variability and consumption patterns. It categorizes inventory items into three groups:

- **Fast-moving (F)**

Items in this category have high demand and turnover rates. They typically account for a significant portion of sales or consumption. These items require close monitoring and efficient replenishment to prevent stock outs.

- **Slow-moving (S)**

Slow-moving items have moderate demand and turnover rates. They may have seasonal demand patterns or be niche products. While not as critical as fast-moving items, they still require attention to avoid excess inventory and obsolescence.

- **Non-moving (N)**

Items in this category have very low or no demand. They may be obsolete, have very low sales, or be awaiting disposal. Non-moving items tie up capital and storage space and should be addressed promptly to minimize losses.

3) ECONOMIC ORDER QUANTITY

The Economic Order Quantity (EOQ) is a formula used in inventory management to determine the optimal order quantity that minimizes total inventory costs. It balances the costs of holding inventory (carrying costs) against the costs of ordering and replenishing inventory (ordering costs). The EOQ formula is calculated as:

$$EOQ = \frac{\sqrt{2DS}}{H}$$

Where:

- **D** = Annual demand (in units)
- **S** = Ordering cost per order
- **H** = Holding cost per unit per year

Once the EOQ is calculated, it represents the optimal order quantity that minimizes the total cost of inventory, which is the sum of ordering costs and holding costs. Carrying costs and ordering costs are two types of costs associated with inventory management. Understanding and optimizing these costs are crucial for efficient inventory management practices.

Carrying Costs: Carrying costs, also known as holding costs, are the expenses incurred for holding inventory over a specific period. Carrying costs are influenced by factors such as inventory levels, storage duration, and the nature of the inventory. These costs typically include storage cost, opportunity cost, Inventory shrinkage, depreciation, handling cost etc.

Ordering Costs: Ordering costs, also known as setup costs or procurement costs, are the expenses associated with placing and receiving an order for inventory. Ordering costs are typically incurred each time an order is placed and are influenced by factors such as order frequency, order size, and supplier terms. These costs may include order processing, shipping and receiving, quality control, supplier communication etc.

The Economic Order Quantity (EOQ) model aims to find this balance by determining the optimal order quantity that minimizes the total costs of inventory, including carrying and ordering costs.

FINANCIAL PERFORMANCE

Financial performance is a complete evaluation of how well a company can use its assets from its primary mode of business and generate revenues. It measures a firm's overall financial health over a given period and is used to compare similar firms across the same industry or to compare industries or sectors in aggregation. It measures a firm's financial health based on assets, liabilities, revenue, expenses, equity, and profitability. It is a thorough analysis of company financial statements. Analysts examine a firm's Income Statement, Cash Flow Statement, Balance Sheet, and Annual Report.

OBJECTIVES OF MEASURING FINANCIAL PERFORMANCE

- **Financial Health Assessment**

Evaluate profitability, liquidity, and solvency to understand the overall financial well-being of the organization. This helps in identifying areas of strength and weakness.

- **Informed Decision Making**

Analyze financial data and industry trends to make informed decisions regarding investments, expansions, pricing strategies, and operational improvements. This ensures resources are allocated efficiently and strategically.

- **Risk Management**

Identify and assess potential risks, vulnerabilities, and uncertainties that could impact financial stability. Implementing risk mitigation strategies based on financial analysis helps in safeguarding the organization against adverse events.

- **Optimizing Resource Allocation**

Improve cost management practices, optimize capital allocation, and enhance overall profitability by identifying opportunities for cost reduction and efficiency improvements.

- **Monitoring Performance**

Track key financial indicators over time to monitor performance, identify trends, and measure progress towards organizational goals. This enables timely corrective actions and adjustments to strategic plans.

- **Stakeholder Communication**

Present clear and transparent financial reports and analyses to stakeholders, including investors, lenders, and regulators. Effective communication builds trust and confidence in the organization's financial management.

- **Compliance and Governance**

Ensure adherence to financial regulations, accounting standards, and reporting requirements. Compliance with these guidelines enhances credibility and transparency in financial reporting.

- **Strategic Alignment**

Align financial performance metrics with the organization's strategic objectives and long-term goals. This ensures that financial decisions support broader business strategies and contribute to sustainable growth.

MEASURING FINANCIAL PERFORMANCE

Financial performance is evaluated using specific financial formulas and ratios. These metrics are crucial as they provide insights into a company's financial health and operational efficiency. When calculating financial performance, several key ratios are extensively used in the business world to evaluate a company's overall condition and performance. These ratios include:

INVENTORY TURNOVER RATIO

Inventory turnover ratio, also known as stock turnover ratio, is a financial metric used to measure how efficiently a company manages its inventory. It indicates the number of times a company's inventory is sold and replaced over a certain period, typically a year. The formula to calculate inventory turnover ratio is

Inventory Turnover Ratio = Cost of Goods Sold/Average Inventory

Cost of Goods Sold = Beginning Inventory + Purchases - Closing Inventory

Average Inventory = Opening Inventory + Closing Inventory/2

A higher inventory turnover ratio generally indicates that a company is efficiently selling its inventory and replenishing it quickly. A low ratio may suggest overstocking, obsolete inventory, or poor sales, while a very high ratio may indicate inventory shortages or lost sales opportunities. It's essential to compare the ratio with industry averages and historical data for better context and analysis.

INVENTORY CONVERSION PERIOD

The inventory conversion period, also known as the inventory turnover period or days inventory outstanding (DIO), is a financial metric used to measure how quickly a company is able to turn its inventory into sales. It indicates the average number of days it takes for a company to sell its entire inventory. It's a measure of how efficiently a company manages its inventory.

Inventory Conversion Period = 365/ Inventory Turnover Ratio

A shorter inventory conversion period signifies that inventory is sold quickly, indicating efficient operations and strong demand. This can lead to lower holding costs and better cash flow. Conversely, a longer inventory conversion period suggests slower sales and potential issues with inventory management, such as overstocking or slow-moving products, which could increase holding costs and tie up capital.

RAW MATERIAL TURNOVER RATIO

The raw material turnover ratio is a financial metric used to assess how efficiently a company manages its raw materials. It indicates how many times a company's raw materials are used and replaced within a given period. The formula for calculating the raw material turnover ratio is:

Raw Material Turnover Ratio = Raw Material Consumed/Average Raw Material

Average Raw Material = Opening Raw Material + Closing Raw Material /2

A higher turnover ratio typically indicates that a company is effectively managing its inventory and utilizing its raw materials efficiently. Conversely, a lower ratio may suggest inefficiencies in inventory management or excessive raw material holdings.

RAW MATERIAL CONVERSION PERIOD

The raw material conversion period refers to the time it takes for a company to convert raw materials into finished goods. It includes the entire production process from acquiring raw materials to producing finished products ready for sale.

Raw Material Conversion Period = 365/ Raw Material Turnover Ratio

A higher raw material conversion period signifies potential inefficiencies in production and supply chain management, leading to increased inventory holding costs, while a lower period indicates improved operational efficiency and inventory management, enhancing cash flow and competitiveness.

WORK IN PROGRESS TURNOVER RATIO

The Work In Progress Turnover Ratio measures how efficiently a company is managing its work in progress (WIP) inventory. It indicates how many times the WIP inventory is converted into finished goods within a specific period. This ratio helps assess how quickly raw materials are being transformed into finished goods and can indicate production efficiency and potential bottlenecks.

Work In Progress Turnover Ratio = Cost of Goods Sold /Average Work In Progress

Average Work In Progress = Opening Work In Progress + Closing Work In Progress /2

A higher Work In Progress (WIP) Turnover Ratio indicates that a company is efficiently converting its work in progress inventory into finished goods or sales within a given period. This suggests effective production processes, timely deliveries, and minimal holding costs associated with WIP inventory.

On the other hand, a lower WIP Turnover Ratio suggests that the company is not converting its work in progress inventory as efficiently. This could be due to factors such as overproduction, underutilization of resources, inefficiencies in production processes, or slower sales cycles. It may also lead to higher holding costs, increased risk of obsolescence, and potential cash flow concerns due to capital being tied up in inventory for longer periods.

WORK IN PROGRESS CONVERSION PERIOD

The Work in progress conversion period usually refers to the time it takes for raw materials to be transformed into finished goods. This period encompasses the various stages of production, including processing, assembly, and quality control, before the products are ready for sale or distribution. It's a critical metric for assessing production efficiency and inventory turnover rates.

Work In Progress Conversion Period = 365/ Work In Progress Turnover Ratio

A higher work in progress conversion period suggests slower conversion of partially completed items into finished products, potentially indicating inefficiencies in production, while a lower period indicates faster conversion and more efficient operations.

FINISHED GOODS TURNOVER RATIO

The finished goods turnover ratio assesses how effectively a company is utilizing its finished goods inventory. It indicates how quickly the company is able to sell its finished products within a specific time period, typically a year.

Finished Goods Turnover Ratio = Cost of Goods Sold /Average Finished Goods

Average Finished Goods = Opening Finished Goods + Closing Finished Goods /2

A higher finished goods turnover ratio indicates faster movement of inventory, efficiently managing its inventory, minimizing carrying costs, and generating sales revenue while a lower finished goods turnover ratio suggests slower turnover, potentially indicating excess inventory or inefficiencies in sales.

FINISHED GOODS CONVERSION PERIOD

The Finished Goods Conversion Period refers to the average time it takes for raw materials to be transformed into finished products ready for sale. It measures the efficiency of the production process by indicating how quickly raw materials are being converted into final goods.

Finished Goods Conversion Period = 365/ Finished Goods Turnover Ratio

A shorter conversion period generally indicates that the company is efficiently managing its inventory and production processes, which can lead to lower holding costs and better cash flow. On the other hand, a longer conversion period may indicate inefficiencies in production or inventory management, potentially leading to higher costs and reduced profitability.

INVENTORY TO CURRENT ASSET RATIO

The inventory to current asset ratio is a financial metric that measures the proportion of a company's current assets that are tied up in inventory. This ratio helps assess a company's efficiency in managing its inventory levels relative to its overall liquidity.

Inventory to Current Asset Ratio = Inventory/Current Assets*100

A higher ratio typically indicates that a larger portion of the company's current assets are invested in inventory, which may suggest slower inventory turnover or potential liquidity issues. On the other hand, a lower ratio implies that less of the current assets are tied up in inventory, which may suggest efficient inventory management and better liquidity.

INVENTORY TO WORKING CAPITAL RATIO

The inventory to working capital ratio in inventory management is a measure of how efficiently a company is managing its inventory in relation to its available working capital.

Inventory to Working Capital Ratio = $\text{Inventory} / \text{Working Capital} * 100$

This ratio helps assess the liquidity and efficiency of inventory management, with lower ratios indicating better efficiency in utilizing working capital to maintain inventory levels.

INVENTORY TO SALES RATIO

The inventory to sales ratio is a financial metric used to measure how efficiently a company manages its inventory levels in relation to its sales.

Inventory to Sales Ratio = $\text{Inventory} / \text{Sales} * 100$

A high inventory to sales ratio may indicate that a company is not effectively managing its inventory, leading to excess inventory levels which could tie up capital and increase holding costs. On the other hand, a low ratio may suggest that the company is experiencing stock outs or shortages, potentially leading to lost sales and dissatisfied customers.

RETURN ON ASSET

The Return on Assets (ROA) ratio measures a company's efficiency in generating profits from its assets. It indicates how well a company is utilizing its assets to generate earnings.

The formula for ROA is:

Return on Asset (ROA) = $\text{Net Profit} / \text{Total Asset}$

A higher ROA indicates that the company is more efficient in using its assets to generate profits, while a lower ROA suggests the opposite.

RETURN ON EQUITY

The Return on Equity (ROE) ratio measures a company's profitability by revealing how much profit it generates with shareholders' equity. In essence, it shows how effectively a company is using its shareholders' investments to generate profit.

Return on Equity (ROE) = Net Profit/Total Equity

A higher ROE indicates better efficiency in utilizing shareholder's funds to generate profits, which is generally considered favorable by investors.

CHAPTER III

DATA ANALYSIS AND INTERPRETATION OF DATA

TREND ANALYSIS

3.1 TREND ANALYSIS OF SALES

Years	Sales	Trend
2017-18	36864.73	100
2018-19	42764.88	116.00
2019-20	49114.48	133.23
2020-21	49563.59	134.45
2021-22	57459.79	155.86

Table No. 3.1.1 showing Trend Analysis of Sales

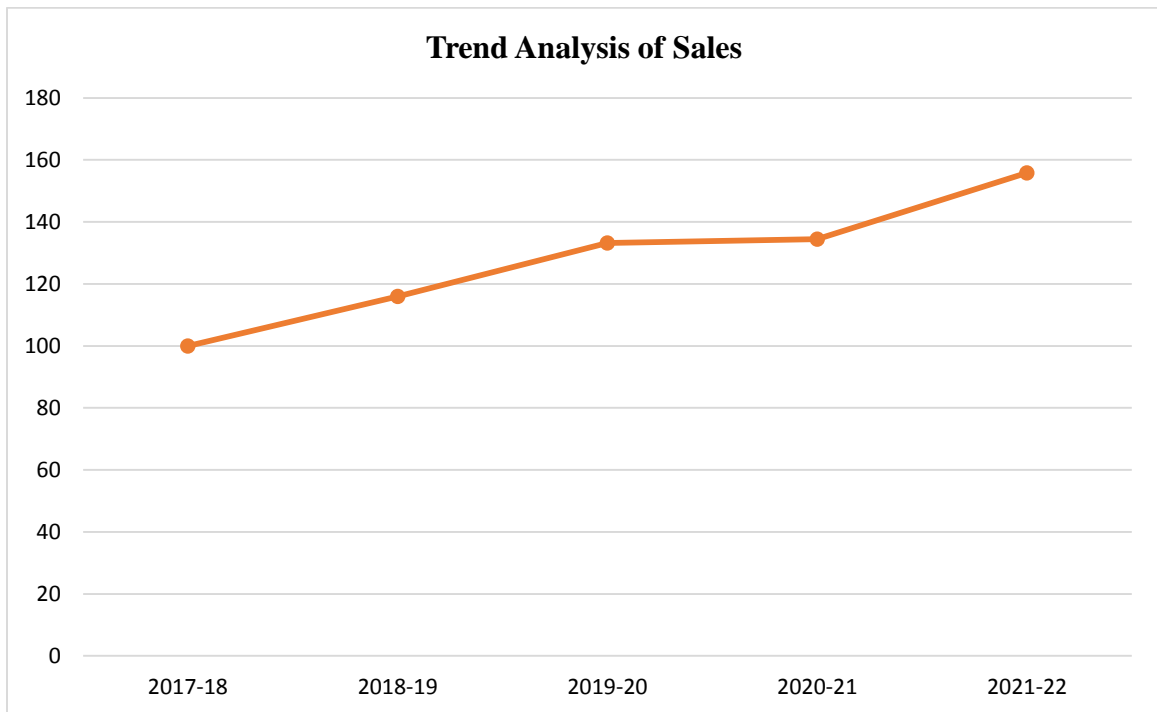


Chart No. 3.1.1 showing Trend Analysis of Sales

INTERPRETATION

From 2017-18 to 2021-22, the company's sales have steadily increased from 36,864.73 to 57,459.79, showing a total increase of 20,595.06 over the five-year period. This indicates the company's growing market presence and its ability to capture a larger share of the market. The trend column indicates the annual sales growth percentage compared to the baseline year of 2017-18, reflecting how much sales have increased each year. The growth ranges from 16% to 21%, demonstrating a steady and robust upward trend. Several factors could contribute to this growth, including effective marketing, product innovation, market expansion, enhanced customer satisfaction, and favorable economic conditions.

Overall it indicates a healthy sales growth trend over the five-year period, with an increasing percentage of growth each year. This suggests that the business is performing well and expanding its market presence.

3.2 TREND ANALYSIS OF INVENTORY

Years	Inventory	Trend
2017-18	3228.70	100
2018-19	3778.85	117.04
2019-20	1952.99	60.48
2020-21	4325.07	113.95
2021-22	4462.82	138.22

Table No. 3.2.1 showing Trend Analysis of Inventory

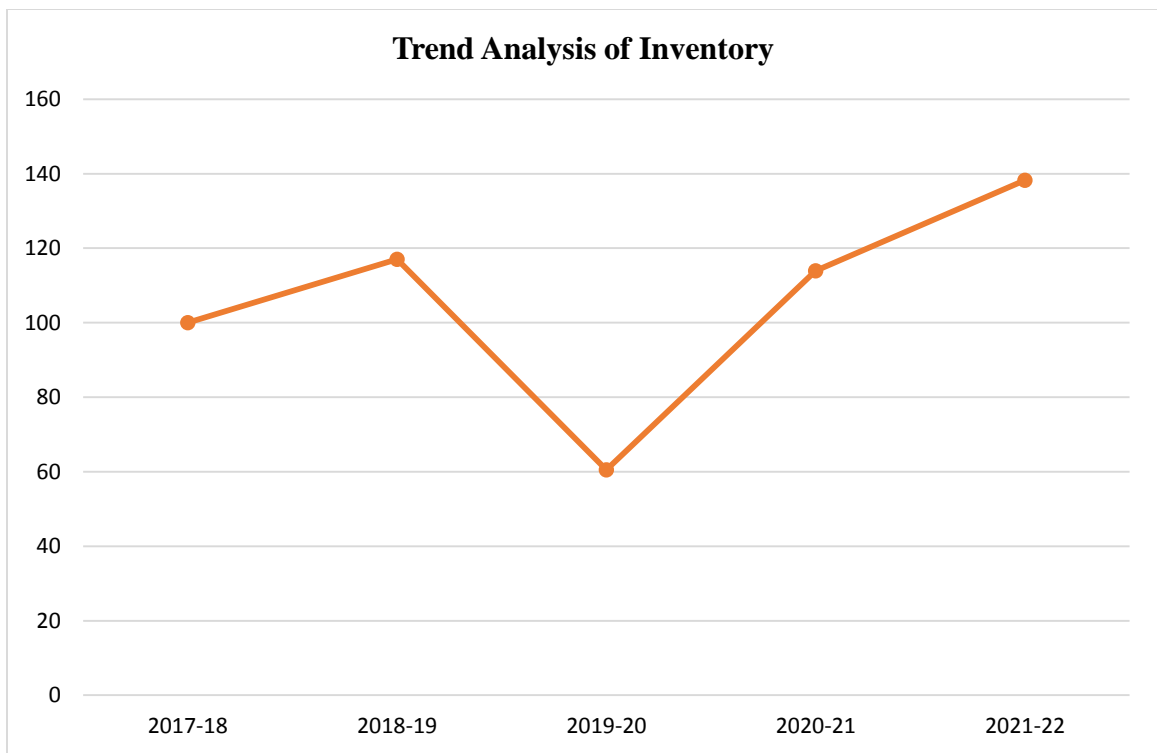


Chart No. 3.2.1 showing Trend Analysis of Inventory

INTERPRETATION

The inventory trend analysis over five years, starting from 2017-18 as the base year set at 100, shows varying fluctuations. In 2018-19, the trend index rose to 117.04, indicating a 17.04% increase in inventory compared to the base year. However, in 2019-20, the index dropped drastically to 60.48, reflecting a significant reduction to 60.48% of the base year's inventory level. Subsequently, in 2020-21, the trend index rebounded to 113.95, nearing the base year's level but slightly below the peak of 2018-19. By 2021-22, the trend index reached its highest point at 138.22, marking a substantial 38.22% increase over the base year.

The overall trend analysis of the inventory reveals a fluctuating trend with a notable decline in 2019-20 followed by a recovery and growth in later years, suggesting effective inventory management strategies implemented by the organization.

3.3 COMPONENTS OF INVENTORY

Year	RM	Pkng Matl	Chems	Lab	FG	Stores & Spares	Furnace Oil & Diesel	WIP	Gunny & PP Bags
2017-18	1872.48	117.41	35.42	5.51	545.52	582.52	19.23	9.14	41.39
2018-19	2429.90	60.39	19.62	4.82	561.92	650.55	27.13	2.32	22.20
2019-20	935.72	90.15	38.17	5.15	146.59	669.07	34.27	5.22	28.64
2020-21	2860.33	110.14	27.35	7.17	477.39	726.35	35.04	29.70	51.60
2021-22	2322.87	376.52	68.81	8.15	793.89	739.52	36.27	37.24	79.56

Table No. 3.3.1 showing Components of Inventory

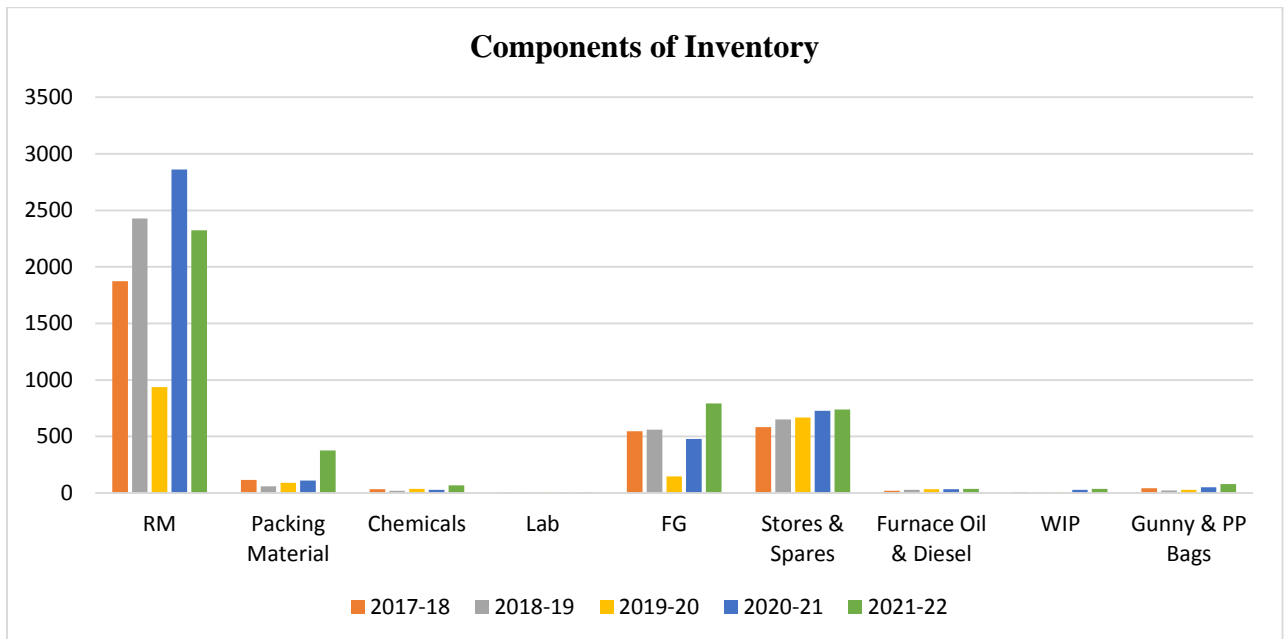


Chart No. 3.3.1 showing Components of Inventory

RATIO ANALYSIS

3.4 INVENTORY TURNOVER RATIO

Inventory Turnover Ratio = Cost of Goods Sold/Average Inventory

Average Inventory = Opening Inventory + Closing Inventory/2

Years	Opening Inventory	Closing Inventory	Average Inventory
2017-18	2374.19	3228.70	2801.44
2018-19	3228.70	3778.85	3503.77
2019-20	3778.85	1952.99	2865.92
2020-21	1952.99	4325.07	3139.03
2021-22	4325.07	4462.82	4393.94

Table No.3.4.1 showing Average Inventory

Years	Cost of Goods Sold	Average Inventory	Inventory Turnover Ratio
2017-18	35914.84	2801.44	12.82
2018-19	43177.21	3503.77	12.32
2019-20	53858.36	2865.92	18.79
2020-21	42665.01	3139.03	13.59
2021-22	56593.09	4393.94	12.87

Table No. 3.4.2 showing Inventory Turnover Ratio

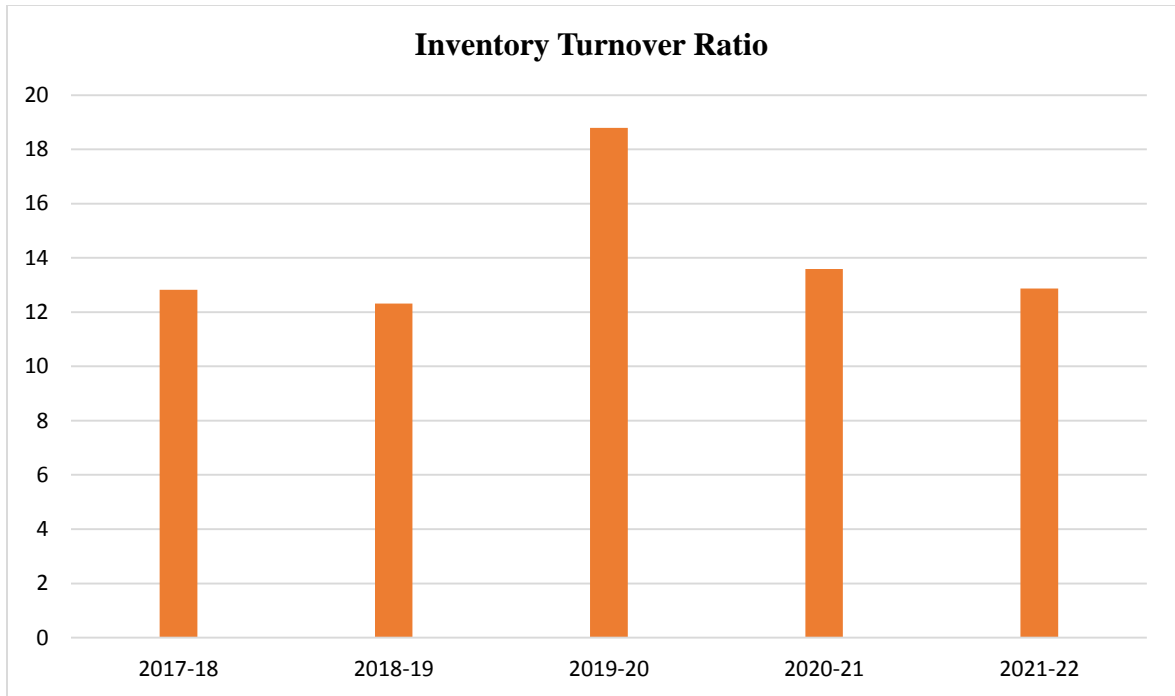


Chart No. 3.4.1 showing Inventory Turnover Ratio

INTERPRETATION

In 2017-2018, the ITR was 12.82, this indicates that the company sold and replaced its inventory approximately 12.82 times during the fiscal year. It suggests moderate efficiency in managing inventory turnover. The ratio decreased slightly to 12.32 in 2018-2019, indicating a minor decline in efficiency. However, in 2019-2020, there was a significant increase to 18.79, highlighting substantial improvements in inventory management. By 2020-2021, the ratio decreased to 13.59, possibly due to market changes or operational challenges. In 2021-2022, the ratio stabilized at 12.87, compared to the previous year. This suggests that the company maintained a similar level of efficiency in managing inventory turnover compared to the previous year.

Overall, the trend shows fluctuation in inventory turnover ratios over the years, showing significant ups and downs influenced by factors like demand changes, supply chain disruptions, seasonal variations, and company strategic decisions on inventory management.

3.5 INVENTORY CONVERSION PERIOD

Inventory Conversion Period = $365 / \text{Inventory Turnover Ratio}$

Years	Days in a Year	Inventory Turnover Ratio	Inventory Conversion Period
2017-18	365	12.82	28.47
2018-19	365	12.32	29.62
2019-20	365	18.79	19.42
2020-21	365	13.59	26.85
2021-22	365	12.87	28.36

Table No 3.5.1 showing Inventory Conversion Period

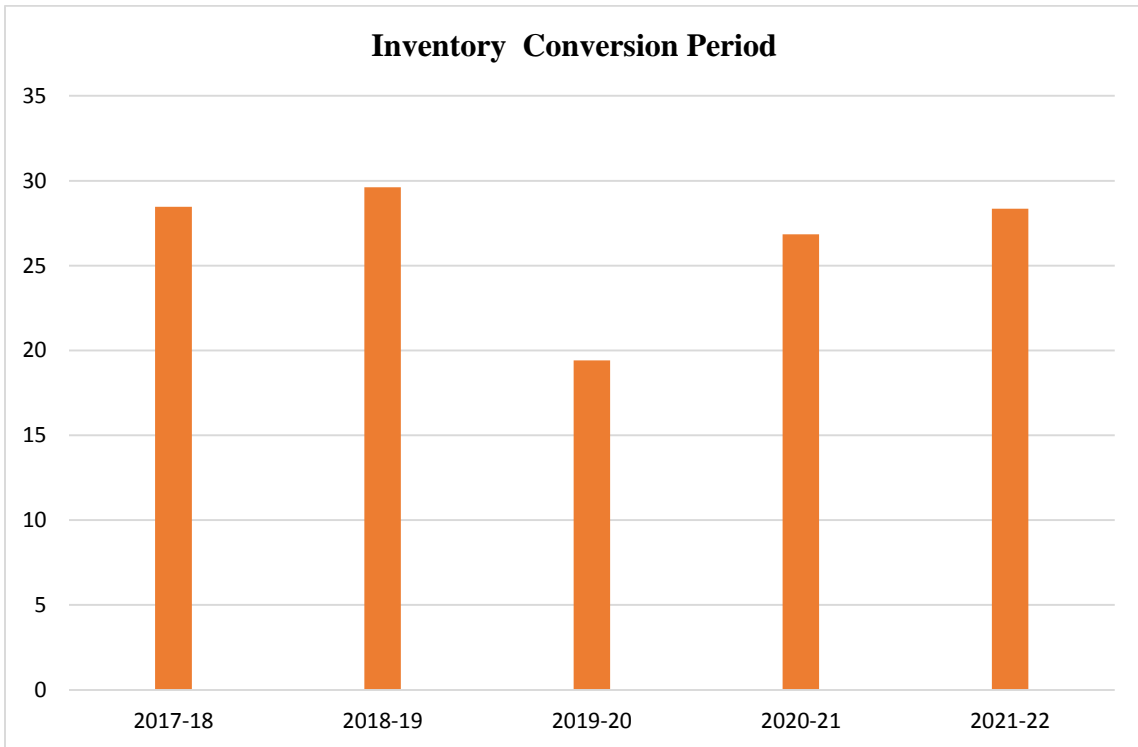


Chart No. 3.5.1 showing Inventory Conversion Period

INTERPRETATION

The Inventory Conversion Period for 2017-18 was 28.47 days. This means, on average, the company took approximately 28.47 days to sell its entire inventory during this period. By 2018-19, this period extended slightly to 29.62 days. However, in 2019-20, it significantly reduced to 19.42 days, showing that the company managed to sell its inventory more quickly during this period. In 2020-21, the period increased to 26.85 days, but remained lower than 2018-19. By 2021-22, it increased slightly to 28.36 days, indicating a stable trend compared to previous years.

Overall, fluctuations in the Inventory Conversion Period can indicate changes in a company's sales efficiency, production processes, demand for its products, or inventory management practices.

3.6 RAW MATERIAL TURNOVER RATIO

Raw Material Turnover Ratio = Raw Material Consumed/Average Raw Material

Average Raw Material = Opening Raw Material + Closing Raw Material /2

Years	Opening Raw Material	Closing Raw Material	Average Raw Material
2017-18	988.82	1872.48	1430.65
2018-19	1872.48	2429.90	2151.19
2019-20	2429.90	935.72	1682.81
2020-21	935.72	2860.33	1898.02
2021-22	2860.33	2322.87	2591.6

Table No. 3.6.1 showing Average Raw Material

Years	Raw Material Consumed	Average Raw Material	Raw Material Turnover Ratio
2017-18	28419.76	1430.65	19.86
2018-19	34163.43	2151.19	15.88
2019-20	42103.11	1682.81	25.01
2020-21	34955.10	1898.02	18.41
2021-22	44840.83	2591.6	17.30

Table No. 3.6.2 showing Raw Material Turnover Ratio

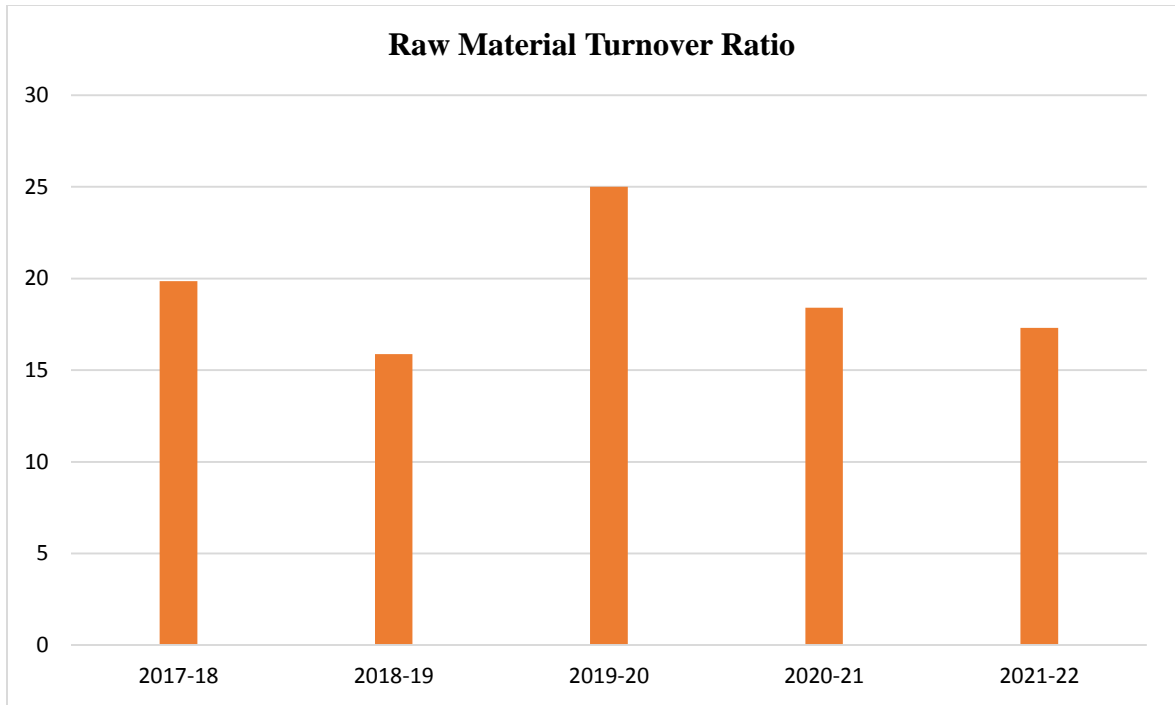


Chart No. 3.6.1 showing Raw Material Turnover Ratio

INTERPRETATION

The RM turnover ratio in 2017-2018 was 19.86, meaning the company used and replaced its raw materials approximately 19.86 times during this period. By 2018-2019, this ratio decreased slightly to 15.88, showing a slight dip in efficiency in managing raw materials compared to the previous year. However, in 2019-2020, it increased significantly to 25.01, suggesting that the company improved its efficiency in managing raw materials. In 2020-2021 the ratio decreased to 18.41, indicating a decrease in efficiency compared to the previous year but still higher than 2018-2019. In 2021-2022 the ratio further decreased to 17.30, indicating a continued decline in efficiency in managing raw materials compared to the previous year.

Overall, the RM turnover ratio shows fluctuations, with improvements in 2019-2020 but declines in subsequent years, highlighting varying efficiency in the company's management of raw materials.

3.7 RAW MATERIAL CONVERSION PERIOD

Raw Material Conversion Period = $365 / \text{Raw Material Turnover Ratio}$

Years	Days in a Year	Raw Material Turnover Ratio	Raw Material Conversion Period
2017-18	365	9.86	18.37
2018-19	365	15.88	22.98
2019-20	365	25.01	14.59
2020-21	365	18.41	19.82
2021-22	365	17.30	21.09

Table No. 3.7.1 showing Raw Material Conversion Period

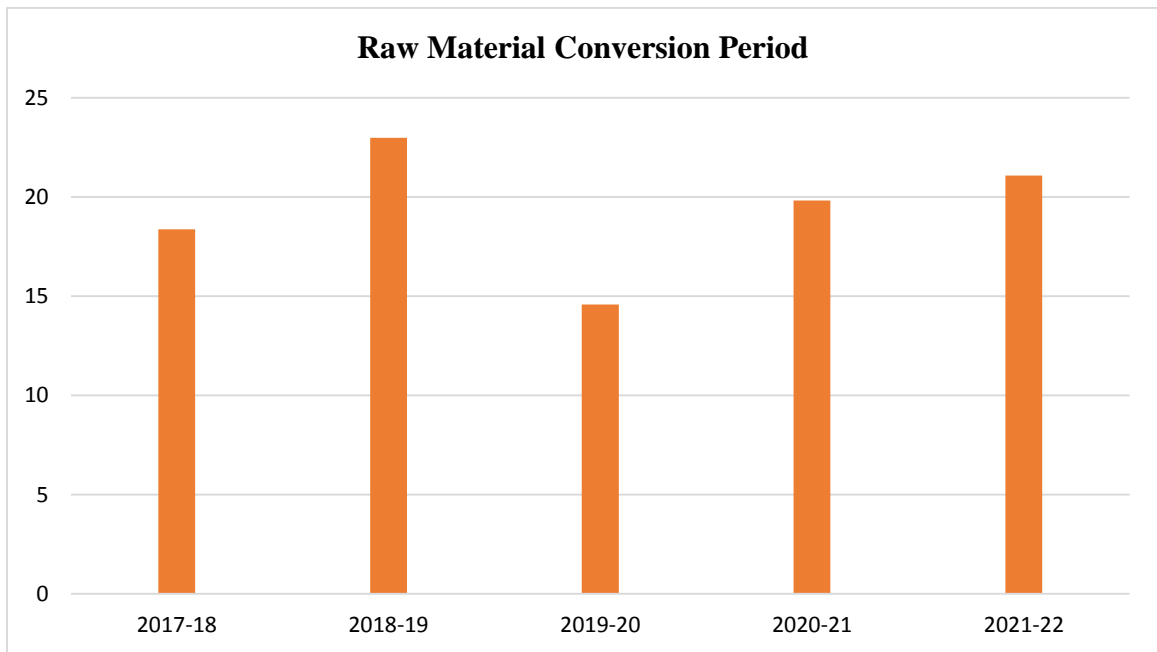


Chart No. 3.7.1 showing Raw Material Conversion Period

INTERPRETATION

The raw material conversion period fluctuated over the years, in 2017-18, it was 18.37, indicating the time taken to convert raw materials into finished goods. By 2018-19, this period increased to 22.98, reflecting a longer conversion time compared to the previous year. In 2019-20, it significantly decreased to 14.59, suggesting improved efficiency in the conversion process and it took less time to convert raw materials into finished goods compared to the previous years. However, by 2020-21, the period increased again to 19.82, and in 2021-22, it further rose to 21.09, indicating longer conversion times compared to the previous years.

Overall, the data shows fluctuations in the raw material conversion period over the years, which could be influenced by various factors such as changes in production processes, supply chain issues, or shifts in demand.

3.8 WORK IN PROGRESS TURNOVER RATIO

Work In Progress Turnover Ratio = Cost of Goods Sold / Average Work In Progress

Average Work In Progress = Opening Work In Progress + Closing Work In Progress / 2

Years	Opening Work In Progress	Closing Work In Progress	Average Work In Progress
2017-18	18.55	9.14	13.84
2018-19	9.14	2.32	5.73
2019-20	2.32	5.22	3.77
2020-21	5.22	29.70	17.46
2021-22	29.70	37.24	33.47

Table No. 3.8.1 showing Average Work In Progress

Years	Cost of Goods Sold	Average Work In Progress	Work In Progress Turnover Ratio
2017-18	35914.84	13.84	25.95
2018-19	43177.21	5.73	75.32
2019-20	53858.36	3.77	142.86
2020-21	42665.01	17.46	24.43
2021-22	56593.09	33.47	16.90

Table No. 3.8.2 showing Work In Progress Turnover Ratio

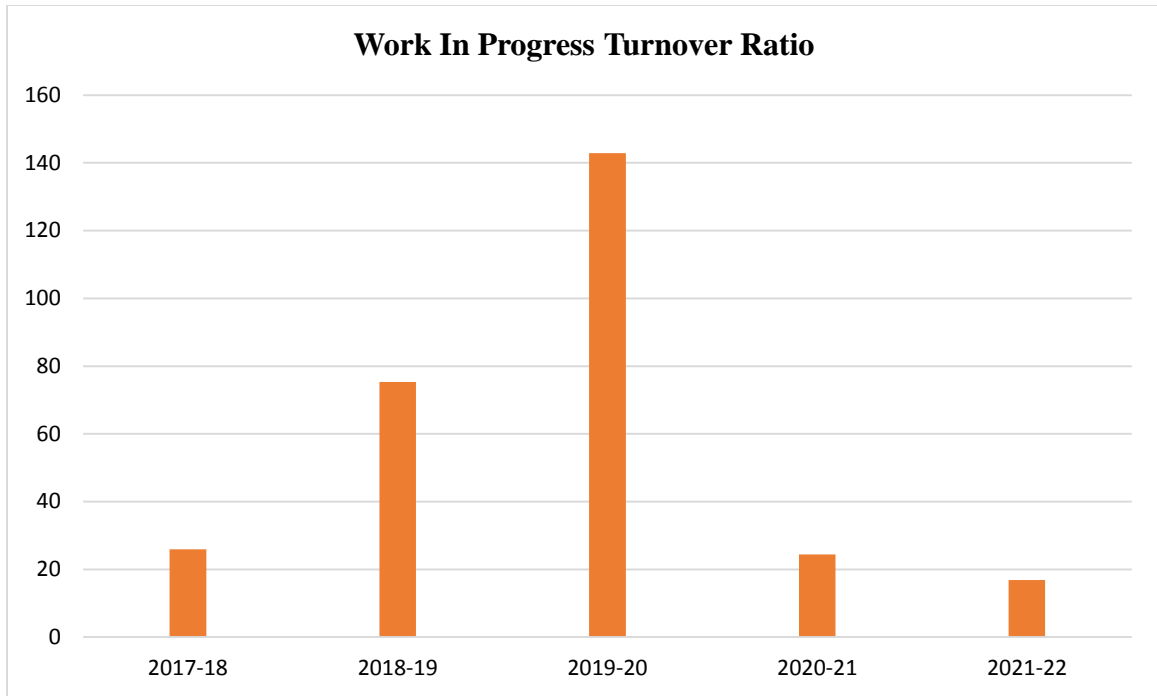


Chart No. 3.8.1 showing Work In Progress Turnover Ratio

INTERPRETATION

The WIP inventory turnover ratio showed notable changes over the years, in 2017-18, it was 25.95, indicating how often WIP inventory was converted into finished goods. By 2018-19, this ratio significantly improved to 75.32, showing increased efficiency. In 2019-20, it more than doubled compared to the previous year, highlighting even greater efficiency. However, in 2020-21, there was a noticeable decrease in the turnover ratio. By 2021-22, the ratio further declined to 16.90, indicating ongoing efficiency challenges in converting WIP inventory into finished goods.

Overall, we can understand that there was a notable increase in turnover ratio over the first three years, followed by a significant decrease in the last two years. This suggests some fluctuations in the efficiency or pace of work progress during these periods.

3.9 WORK IN PROGRESS CONVERSION PERIOD

Work In Progress Conversion Period = 365/ Work In Progress Turnover Ratio

Years	Days in a Year	Work In Progress Turnover Ratio	Work In Progress Conversion Period
2017-18	365	2595.00	14.06
2018-19	365	7535.28	4.84
2019-20	365	14286.03	2.55
2020-21	365	2443.58	14.93
2021-22	365	1690.86	21.58

Table No. 3.9.1 showing Work In Progress Conversion Period

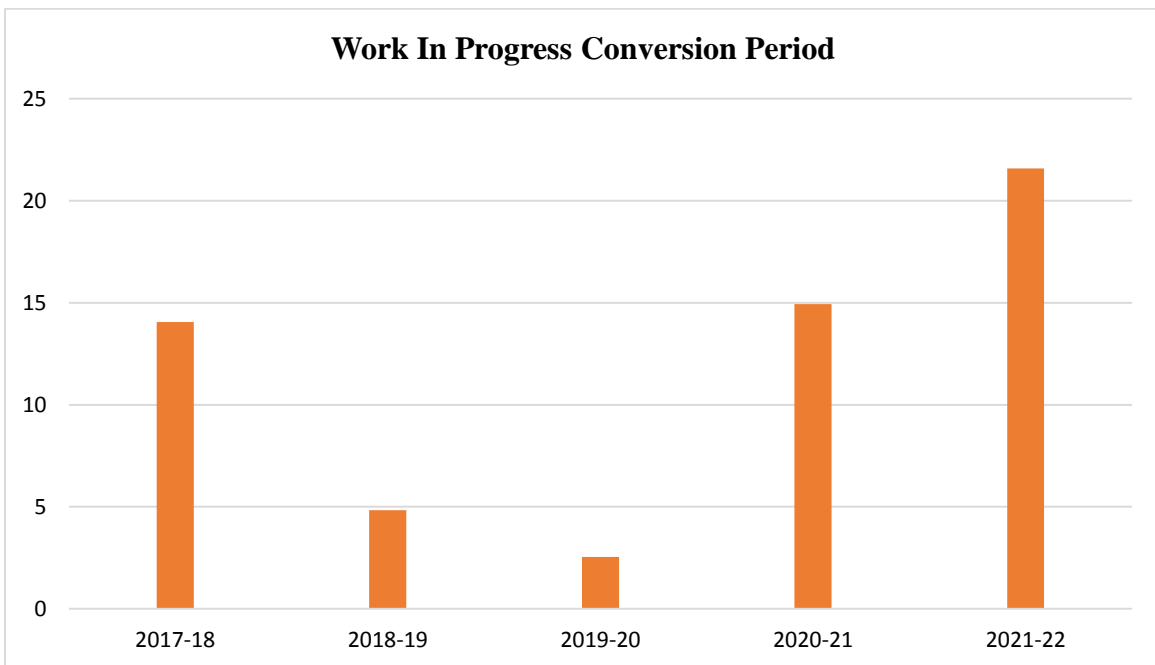


Chart No. 3.9.1 showing Work In Progress Conversion Period

INTERPRETATION

The work in progress (WIP) conversion period varied over the years in 2017-18, it was relatively high at 14.06, indicating a longer time to convert WIP into finished goods. By 2018-19, there was a significant decrease to 4.48, showing improved efficiency. In 2019-20, the period further decreased to 2.55, suggesting continued efficiency gains through optimized processes or strategies. However, in 2020-21, there was an increase to 14.93 units, indicating a potential setback. In 2021-22 the work in progress conversion period increased significantly to 21.58 units, marking a substantial rise from the previous year. This suggests a notable decline in efficiency or challenges faced by the organization in converting work in progress into finished goods during this period.

Overall, it shows fluctuations in the efficiency of converting work in progress over the specified period. While there were significant improvements in efficiency in the early years, there were setbacks and challenges observed in the later years, particularly in 2020-21 and 2021-22. This could indicate changes in production processes, management issues, market conditions, or other external factors impacting the conversion period over time.

3.10 FINISHED GOODS TURNOVER RATIO

Finished Goods Turnover Ratio = Cost of Goods Sold /Average Finished Goods

Average Finished Goods = Opening Finished Goods + Closing Finished Goods /2

Years	Opening Finished Goods	Closing Finished Goods	Average Finished Goods
2017-18	571.05	545.60	558.32
2018-19	545.60	561.92	553.76
2019-20	561.92	146.59	354.25
2020-21	146.59	477.39	311.99
2021-22	477.39	793.89	635.64

Table No. 3.10.1 showing Average Finished Goods

Years	Cost of Goods Sold	Average Finished Goods	Finished Goods Turnover Ratio
2017-18	35914.84	558.35	64.32
2018-19	43177.21	553.76	77.97
2019-20	53858.36	354.25	152.03
2020-21	42665.01	311.99	136.75
2021-22	56593.09	635.64	89.03

Table No. 3.10.2 showing Finished Goods Turnover Ratio

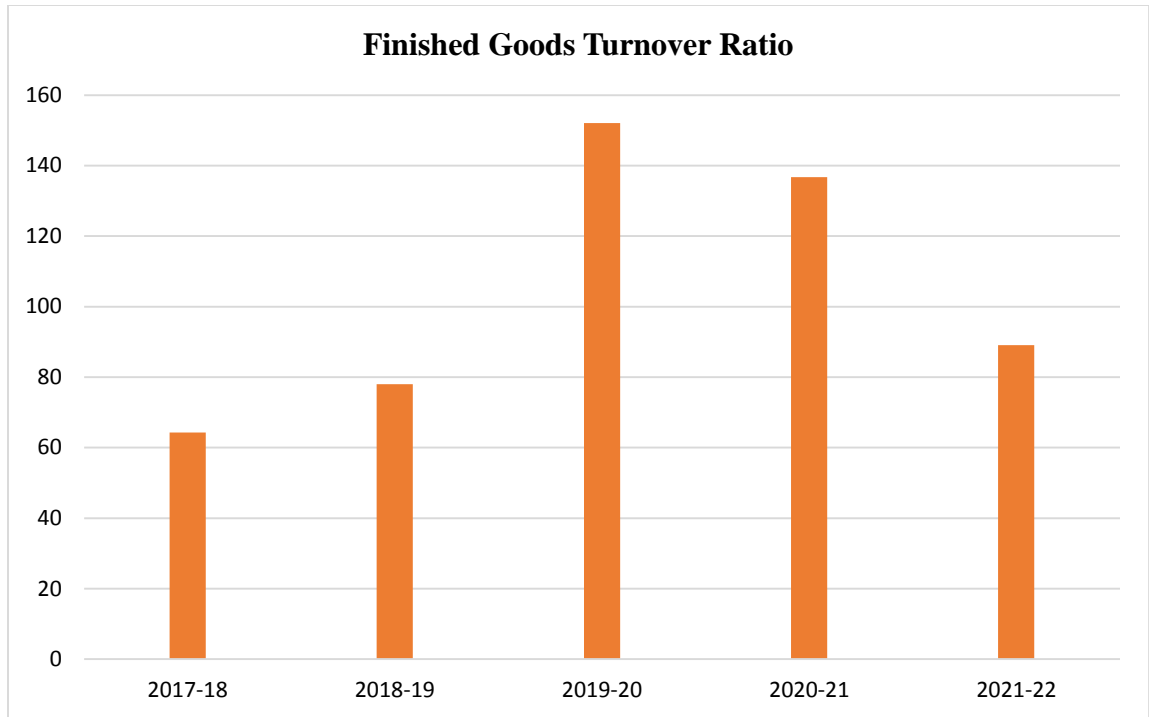


Chart No. 3.10.1 showing Finished Goods Turnover Ratio

INTERPRETATION

The finished goods turnover ratio in 2017-18 was 64.32. This indicates that the company's inventory of finished goods turned over approximately 64 times during this period. By 2018-19, the ratio increased to 77.97, showing improved efficiency in inventory turnover. In 2019-20, there was a significant jump to 152.03, suggesting substantial improvements in inventory management, likely due to better forecasting and streamlined production processes. However, in 2020-21, the ratio slightly decreased to 136.75, indicating a minor dip in efficiency compared to the previous year but still effective overall. By 2021-22, the ratio decreased noticeably to 89.03, signaling challenges in managing finished goods inventory, possibly due to market changes or operational issues.

Overall, there were fluctuations in the Finished Goods Turnover Ratio over the five-year period, with significant improvements in some years and declines in others. This indicates that the company's inventory management performance varied over time.

3.11 FINISHED GOODS CONVERSION PERIOD

Finished Goods Conversion Period = $365 / \text{Finished Goods Turnover Ratio}$

Years	Days in a Year	Finished Goods Turnover Ratio	Finished Goods Conversion Period
2017-18	365	64.32	5.67
2018-19	365	77.97	4.68
2019-20	365	152.03	2.40
2020-21	365	136.75	2.66
2021-22	365	89.03	4.09

Table No. 3.11.1 showing Finished Goods Conversion Period

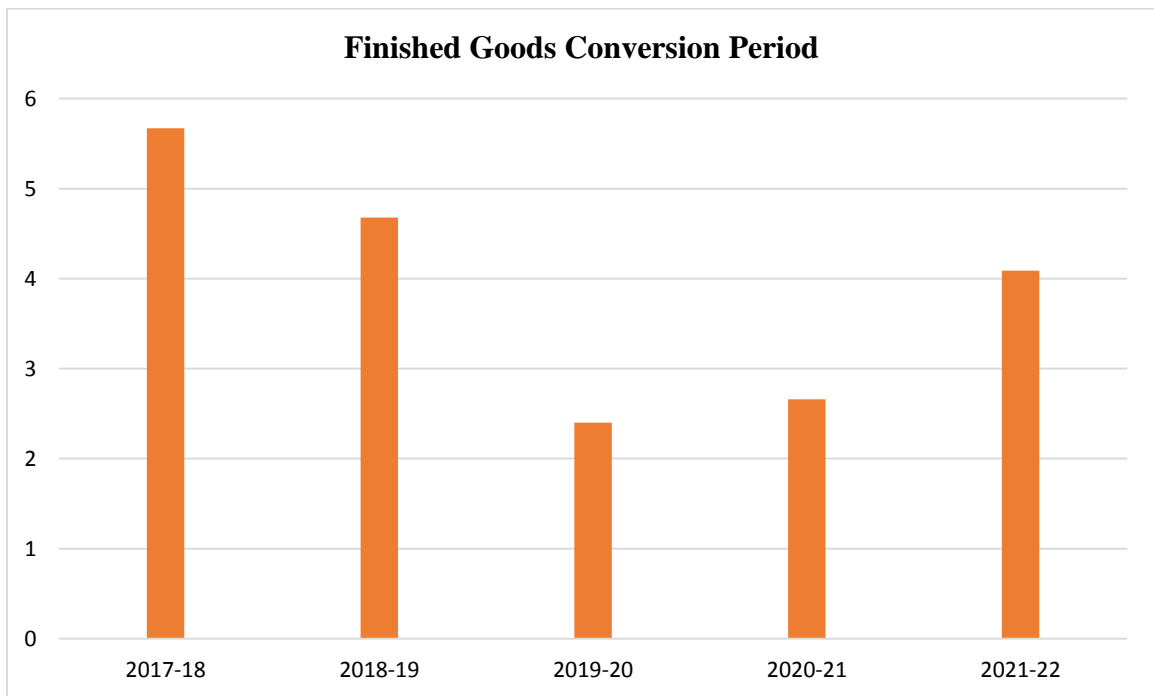


Chart No. 3.11.1 showing Finished Goods Conversion Period

INTERPRETATION

In 2017-18, the company took approximately 5.67 months to convert raw materials into finished goods. By 2018-19, there was improvement as the conversion period decreased to 4.68 months, indicating streamlined production processes or better inventory management. In 2019-20, there was a significant decrease to 2.40 months, suggesting further efficiency gains possibly from process optimization or improved supply chain management. In 2020-21, although the period increased slightly to 2.66 months, efficiency improvements from the previous year were sustained. However, by 2021-22, the period increased to 4.09 months, indicating potential production slowdowns or inventory challenges

Overall, the company showed varying efficiency in converting raw materials to finished goods, with notable improvements followed by some fluctuations and challenges in production.

3.12 INVENTORY TO CURRENT ASSET RATIO

Inventory to Current Asset Ratio = $\text{Inventory} / \text{Current Assets} * 100$

Years	Inventory	Current Asset	Inventory to Current Asset Ratio
2017-18	3228.70	5784.46	55.81
2018-19	3778.85	6937.40	54.47
2019-20	1952.99	6424.04	30.40
2020-21	4325.07	6908.32	62.60
2021-22	4462.82	7462.89	59.80

Table No. 3.12.1 showing Inventory to Current Asset Ratio

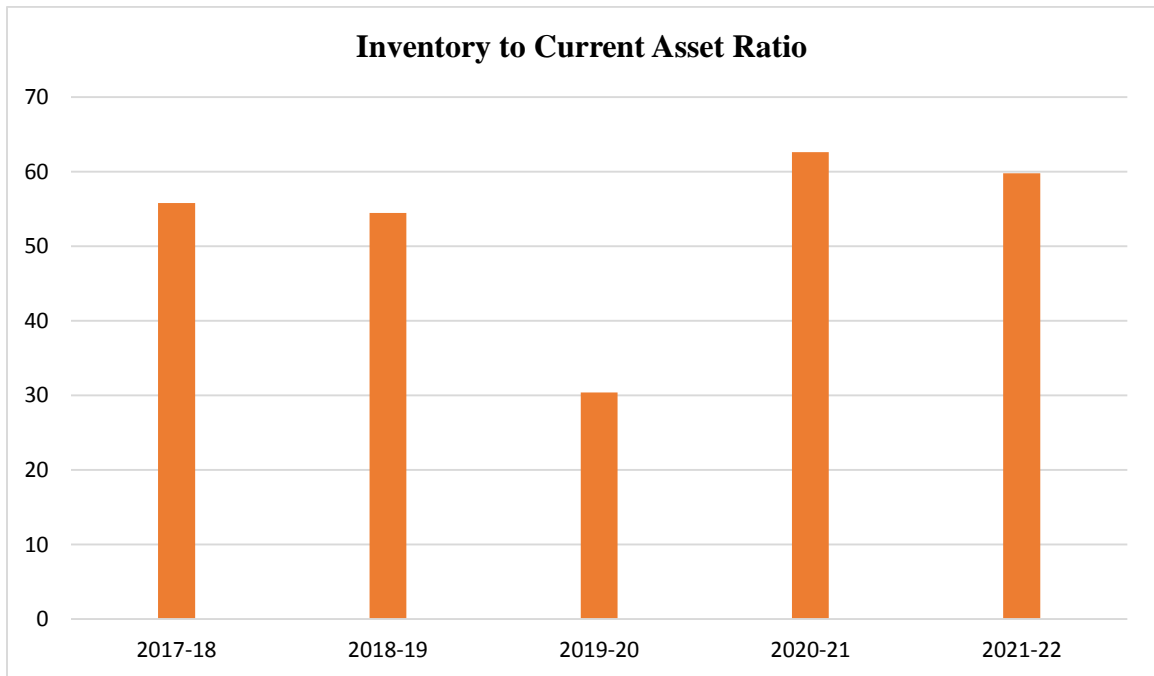


Chart No. 3.12.1 showing Inventory to Current Asset Ratio

INTERPRETATION

The ratio of inventory to current assets has shown notable variation in recent years. In 2017-18, it was 55.81%, indicating a significant portion of current assets was tied up in inventory. This proportion decreased slightly to 54.47% in 2018-19, then dropped sharply to 30.40% in 2019-20, suggesting either reduced inventory levels or an increase in other current assets. However, the ratio rebounded to 62.60% in 2020-21, surpassing the 2017-18 level, indicating a substantial increase in inventory allocation. By 2021-22, the ratio decreased slightly to 59.80%, remaining relatively high compared to 2018-19.

Overall, there seems to be some fluctuation in the inventory to current asset ratio over the years, indicating changes in inventory management practices or the composition of current assets.

3.13 INVENTORY TO WORKING CAPITAL RATIO

Inventory to Working Capital Ratio = Inventory/Working Capital *100

Years	Inventory	Working Capital	Inventory to Working Capital Ratio
2017-18	3228.70	-4559.02	-70.82
2018-19	3778.85	-5230.23	-72.25
2019-20	1952.99	-9078.15	-21.51
2020-21	4325.07	-5690.11	-76.01
2021-22	4462.82	-5187.96	-86.02

Table No. 3.13.1 showing Inventory to Working Capital Ratio

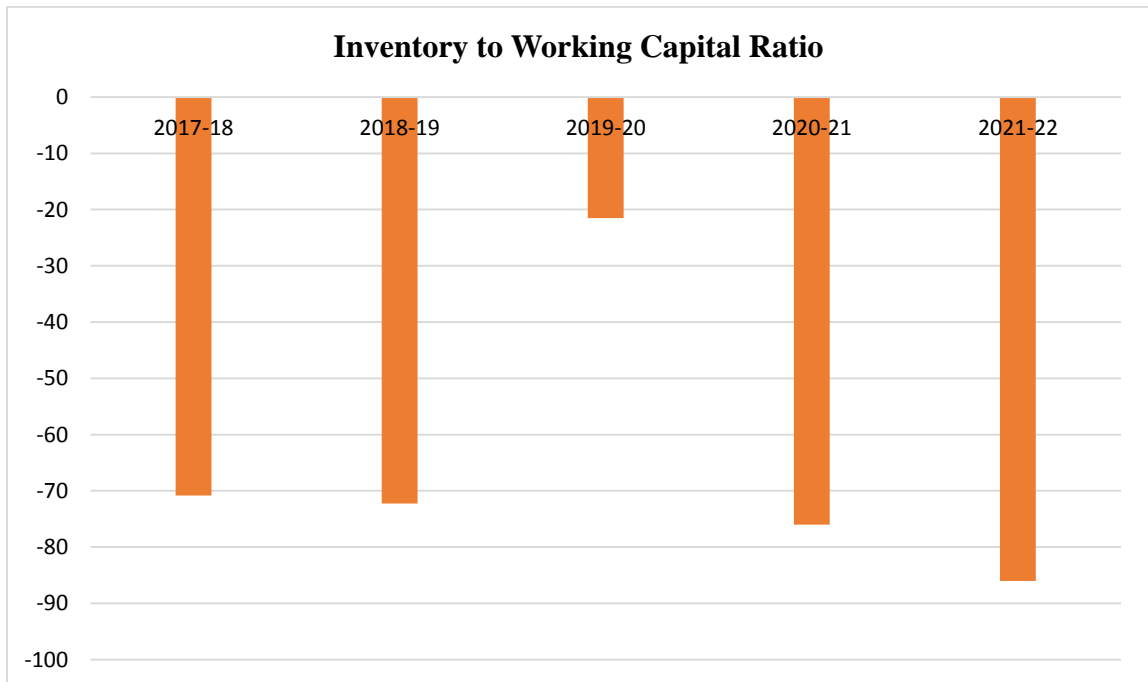


Chart No. 3.13.1 showing Inventory to Working Capital Ratio

INTERPRETATION

A negative inventory to working capital ratio typically indicates that a company has more inventory than working capital available to cover its short-term liabilities. In other words, the company may have difficulties in meeting its short-term financial obligations with its current level of inventory.

In 2017-18 the ratio is -70.82, indicating a significant imbalance between inventory and working capital. This imbalance continued to worsen in 2018-19 with a ratio of -72.25. Although there was a slight improvement in 2019-20 to -21.51, indicating a lesser deficit in working capital, the situation deteriorated sharply in 2020-21 with a ratio of -76.01. By 2021-22, the ratio declined further to -86.02, signaling a continued imbalance and potentially heightening financial risks for the company.

Overall, the trend indicates ongoing challenges in managing inventory relative to available working capital over the years. This could signify inefficiencies in inventory management or financial difficulties that need to be addressed to ensure the company's financial health and stability.

3.14 INVENTORY TO SALES RATIO

Inventory to Sales Ratio = Inventory/Sales *100

Years	Inventory	Sales	Inventory to Sales Ratio
2017-18	3228.70	36864.73	8.75
2018-19	3778.85	42764.88	8.83
2019-20	1952.99	49114.48	3.97
2020-21	4325.07	49563.59	8.72
2021-22	4462.82	57459.79	7.76

Table No. 3.14.1 showing Inventory to Sales Ratio

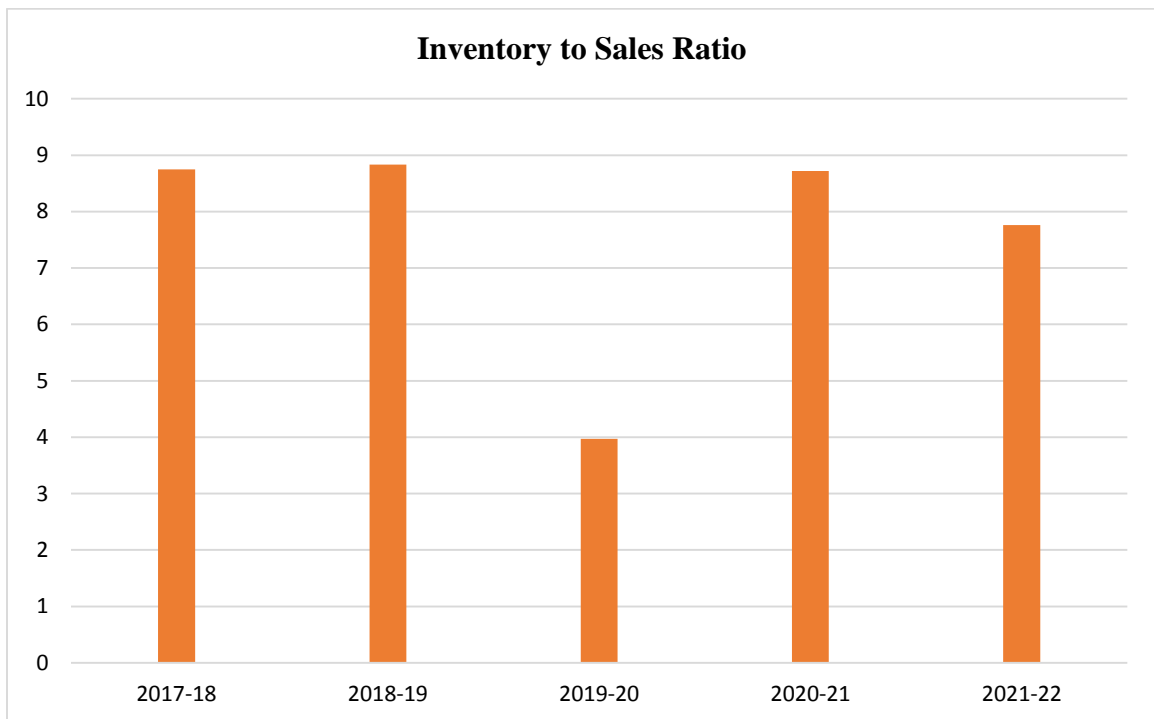


Chart No. 3.14.1 showing Inventory to Sales Ratio

INTERPRETATION

In 2017-2018 the inventory to sales ratio was 8.75, indicating that inventory turnover occurred approximately 8.75 times during this period. This ratio slightly increased to 8.83 in 2018-2019, showing a modest uptick in turnover. However, there was a significant drop in 2019-2020 to 3.97, suggesting either lower sales or an accumulation of inventory, likely influenced by economic factors or disruptions such as the COVID-19 pandemic. By 2020-2021, the ratio rebounded to 8.72, indicating a return to higher turnover levels following the previous year's challenges. In 2021-2022, although still relatively high, the ratio decreased to 7.76, suggesting a slight slowdown in inventory turnover compared to the preceding year.

Overall, the ratio indicates fluctuations in inventory turnover over the years, which could be influenced by various internal and external factors affecting sales, production, and supply chain management.

3.15 RETURN ON ASSET

Return on Asset (ROA) = Net Profit/ Total Asset

Years	Net Profit	Total Asset	ROA Ratio
2017-18	249.25	17645.50	1.41
2018-19	-488.84	19552.59	-2.5
2019-20	-2615.47	19150.68	-13.65
2020-21	4816.19	16487.20	29.21
2021-22	1074.36	15691.35	6.84

Table No. 3.15.1 showing ROA Ratio

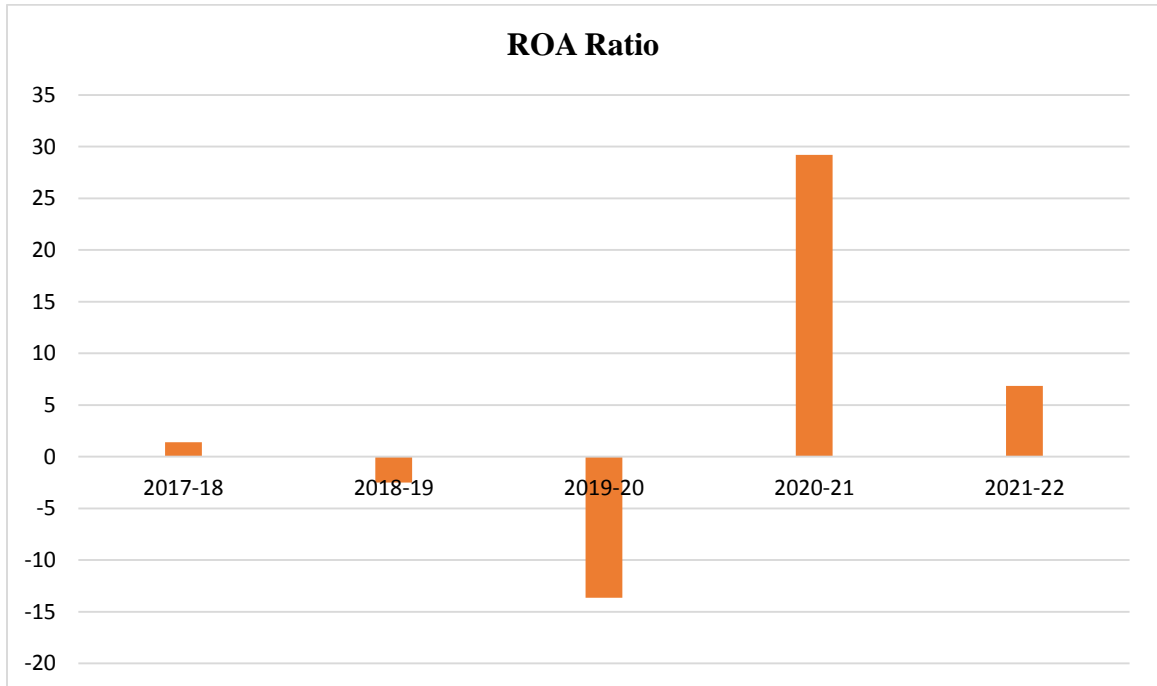


Chart No. 3.15.1 showing ROA Ratio

INTERPRETATION

In 2017-18, the ROA was 1.41%, indicating a modest profitability relative to its total assets. However, in 2018-19, the ROA sharply declined to -2.5%, signifying a period of negative profitability where the company's assets were not effectively generating profit. This trend worsened in 2019-20 with an ROA of -13.65%, reflecting significant losses relative to its assets. A dramatic turnaround occurred in 2020-21, where the ROA soared to 29.21%, suggesting a highly effective utilization of assets to generate profit. By 2021-22, although the ROA decreased to 6.84%, profitability remained positive, indicating a continued but slightly lower level of effectiveness in asset utilization compared to the previous year.

Overall, the ROA ratio shows fluctuating profitability for the company over the five-year period, with significant improvements in profitability in the later years following a period of losses. This could indicate changes in management strategies, market conditions, or operational efficiency over time.

3.16 RETURN ON EQUITY

Return on Equity (ROE) = Net Profit/Total Equity

Years	Net Profit	Total Equity	ROE Ratio
2017-18	249.25	4301.95	5.79
2018-19	-488.84	4155.73	-11.76
2019-20	-2615.47	-396.66	659.37
2020-21	4816.19	1313.67	366.62
2021-22	1074.36	1815.18	59.18

Table No. 3.16.1 showing ROE Ratio

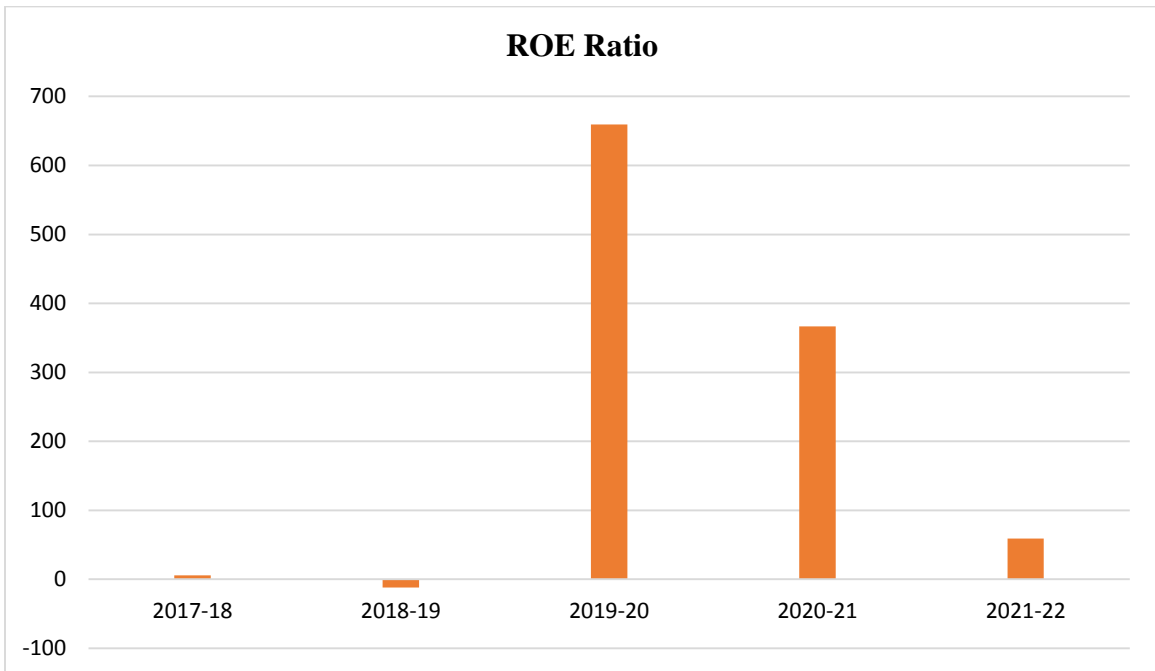


Chart No. 3.16.1 showing ROE Ratio

INTERPRETATION

The ROE for 2017-18 was 5.79%, which suggests a moderate level of profitability given the equity that shareholders had contributed. On the other hand, the ROE for 2018-19 was negative -11.76%, suggesting that the company incurred losses relative to its equity. The situation dramatically shifted in 2019-20, with an unusually high ROE of 659.37%. This abnormality is likely due to a negative equity figure. The ROE showed a significant recovery and profitability in relation to shareholders' equity by 2020–21, when it normalized at 366.62%. The ROE dropped to 59.18% in 2021–2022, suggesting ongoing profitability even if it was less than in the previous year.

Overall, the ROE ratio reflect the company's varying profitability and financial health relative to shareholder investments over the years.

ANNUAL CONSUMPTION OF IMPORTANT RAW MATERIALS

3.17 ANNUAL CONSUMPTION OF RICE BRAN

Years	QTY in MT	Value
2017-18	84147.363	11862.57
2018-19	102845.579	15166.42
2019-20	113776.277	21728.78
2020-21	101670.806	14807.97
2021-22	119915.690	15952.61

Table No. 3.17.1 showing Annual Consumption of Rice Bran

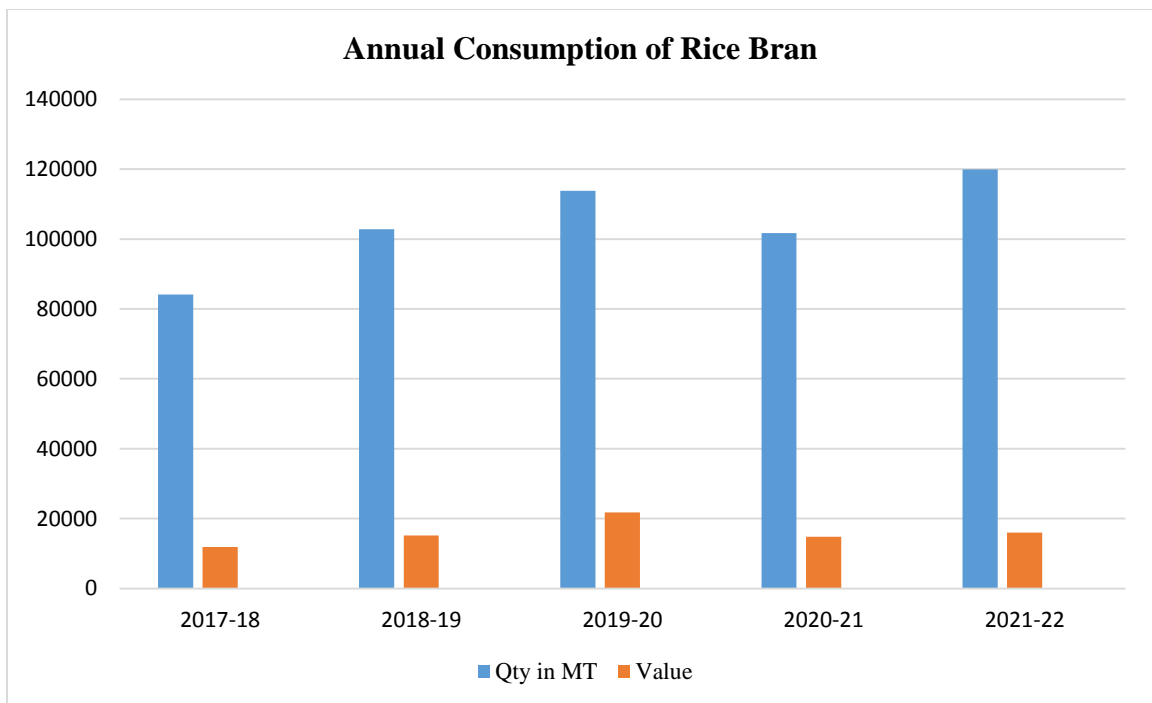


Chart No. 3.17.1 showing Annual Consumption of Rice Bran

INTERPRETATION

There's a general upward trend and a fluctuating pattern in the quantity of the commodity over the five-year period, with peaks in 2019-20 and 2021-22. In 2017-18, approximately 84,147 metric tons (MT) of rice bran were consumed, valued at 11,862.57 units. Consumption increased notably in subsequent years, with peaks in 2019-20 where consumption reached 113,776 MT, valued at 21,728.78 units. However, there was a slight decline in 2020-21 with consumption totaling 101,671 MT, valued at 14,807.97 units. This could be attributed to factors like market fluctuations, supply chain disruptions, or changes in consumer behavior possibly due to external events like the COVID-19 pandemic. By 2021-22, consumption rebounded to 119,916 MT, valued at 15,952.61 units.

3.18 ANNUAL CONSUMPTION OF MAIZE

Years	QTY in MT	Value
2017-18	37138.671	5955.67
2018-19	46586.600	8189.63
2019-20	42250.462	9526.44
2020-21	57196.758	9534.25
2021-22	60030.582	12016.40

Table No. 3.18.1 showing Annual Consumption of Maize

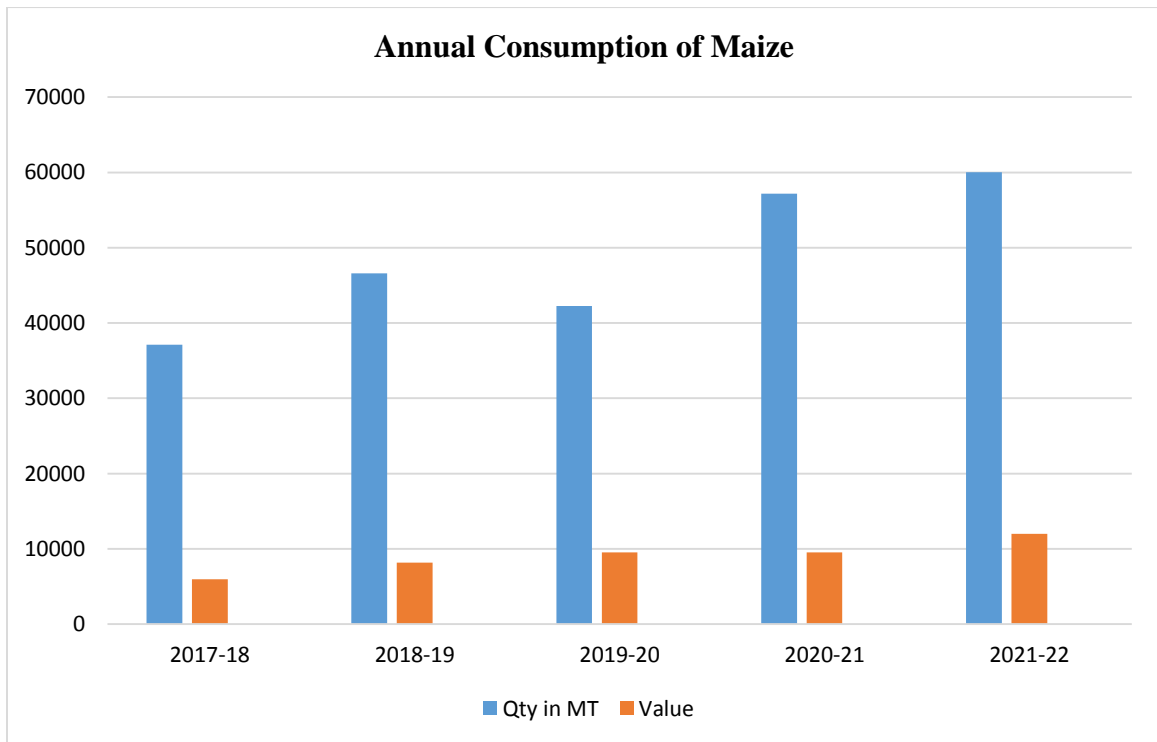


Chart No. 3.18.2 showing Annual Consumption of Maize

INTERPRETATION

The table presents the annual consumption of maize over a span of five years, from 2017-18 to 2021-22. In 2017-18, approximately 37,139 metric tons (MT) of maize were consumed, valued at 5,955.67 units. Consumption steadily increased over the following years, reaching 46,587 MT in 2018-19, valued at 8,189.63 units, and slightly decreasing to 42,250 MT in 2019-20, valued at 9,526.44 units. There was a significant increase in consumption in 2020-21, with 57,197 MT of maize consumed, valued at 9,534.25 units. This trend continued into 2021-22, with consumption rising to 60,031 MT, valued at 12,016.40 units. The data reflects varying levels of maize consumption, likely influenced by factors such as agricultural output, market demand, and economic conditions during each respective year.

Overall, the data suggests a consistent growth in both the quantity and value of maize consumption over the specified period, reflecting increasing demand and usage of maize.

3.19 ANNUAL CONSUMPTION OF RICE POLISH

Years	QTY in MT	Value
2017-18	11950.761	2636.82
2018-19	12617.847	2792.55
2019-20	11284.221	3001.83
2020-21	11598.605	2739.81
2021-22	12970.327	3625.64

Table No. 3.19.1 showing Annual Consumption of Rice Polish

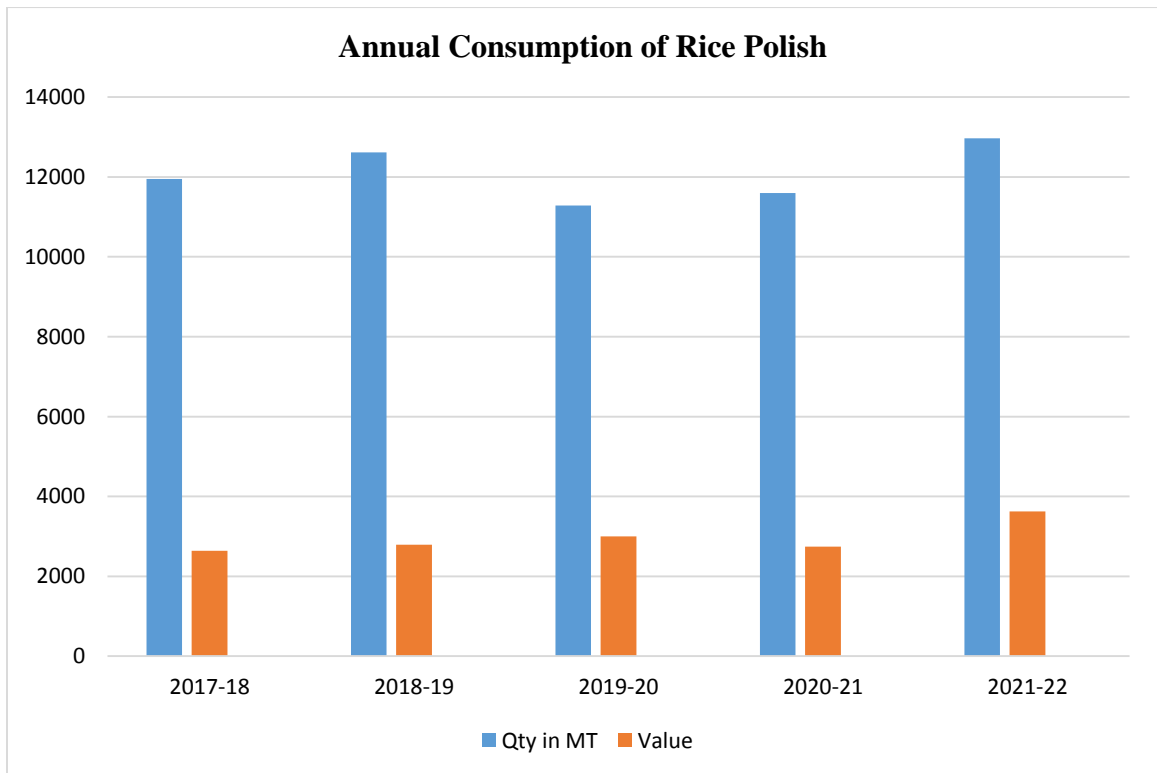


Chart No. 3.19.1 showing Annual Consumption of Rice Polish

INTERPRETATION

The table outlines the annual consumption of rice polish over a period spanning from 2017-18 to 2021-22. In 2017-18, approximately 11,951 metric tons (MT) of rice polish were consumed, valued at 2,636.82 units. Consumption saw a slight increase in 2018-19 to 12,618 MT, valued at 2,792.55 units. However, in 2019-20, consumption decreased to 11,284 MT, with a corresponding increase in value to 3,001.83 units. The trend continued with a minor rise in consumption in 2020-21 to 11,599 MT, valued at 2,739.81 units. By 2021-22, consumption of rice polish increased notably to 12,970 MT, valued at 3,625.64 units. These figures reflect fluctuations in rice polish consumption, influenced by factors such as agricultural production, market demand, and economic conditions during each respective year.

Overall there is a general trend of increasing and decreasing consumption, indicating potential shifts in demand or supply. The value of rice polish consumed also fluctuates over the years, showing both increases and decreases. Similar to the quantity, the value reflects changes in market conditions and prices.

3.20 ANNUAL CONSUMPTION OF COCONUT MEAL

Years	QTY in MT	Value
2017-18	15661.734	2352.75
2018-19	15713.943	2320.30
2019-20	10217.409	2177.00
2020-21	11390.610	2381.05
2021-22	15463.244	3827.66

Table No. 3.20.1 showing Annual Consumption of Coconut Meal

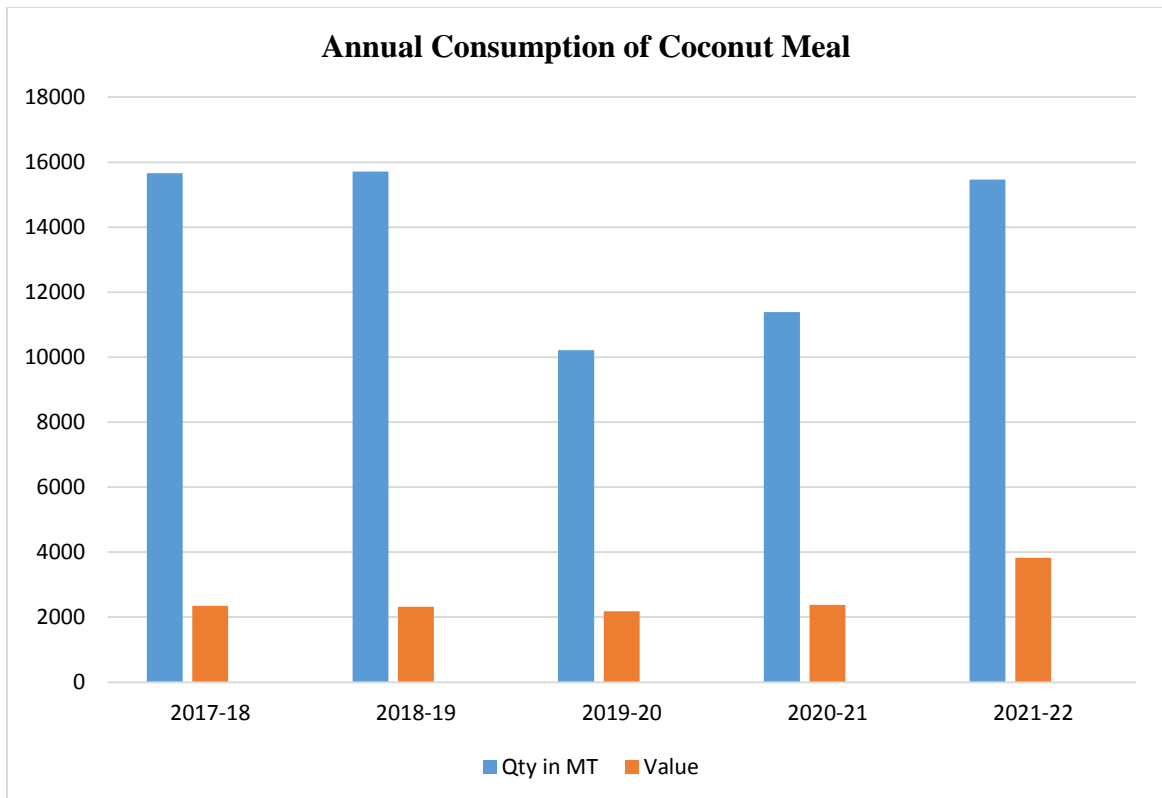


Chart No. 3.20.1 showing Annual Consumption of Coconut Meal

INTERPRETATION

The table presents the annual consumption of coconut meal over a five-year period from 2017-18 to 2021-22. In 2017-18, approximately 15,662 metric tons (MT) of coconut meal were consumed, valued at 2,352.75 units. Consumption remained relatively stable in 2018-19 with 15,714 MT consumed, valued at 2,320.30 units. There was a notable decrease in consumption in 2019-20 to 10,217 MT, valued at 2,177.00 units. However, consumption rebounded in 2020-21 to 11,391 MT, with a slight increase in value to 2,381.05 units. By 2021-22, consumption of coconut meal increased significantly to 15,463 MT, valued at 3,827.66 units. These figures indicate fluctuations in coconut meal consumption, likely influenced by factors such as agricultural production, dietary trends, market demand, and economic conditions during each respective year.

3.21 ANNUAL CONSUMPTION OF COTTON SEED EXTRACTIONS

Years	QTY in MT	Value
2017-18	9074.983	2003.81
2018-19	9058.866	2188.80
2019-20	5922.882	1699.70
2020-21	7129.486	2095.68
2021-22	6891.164	2888.03

Table No. 3.21.1 showing Annual Consumption of Cotton Seed Extractions

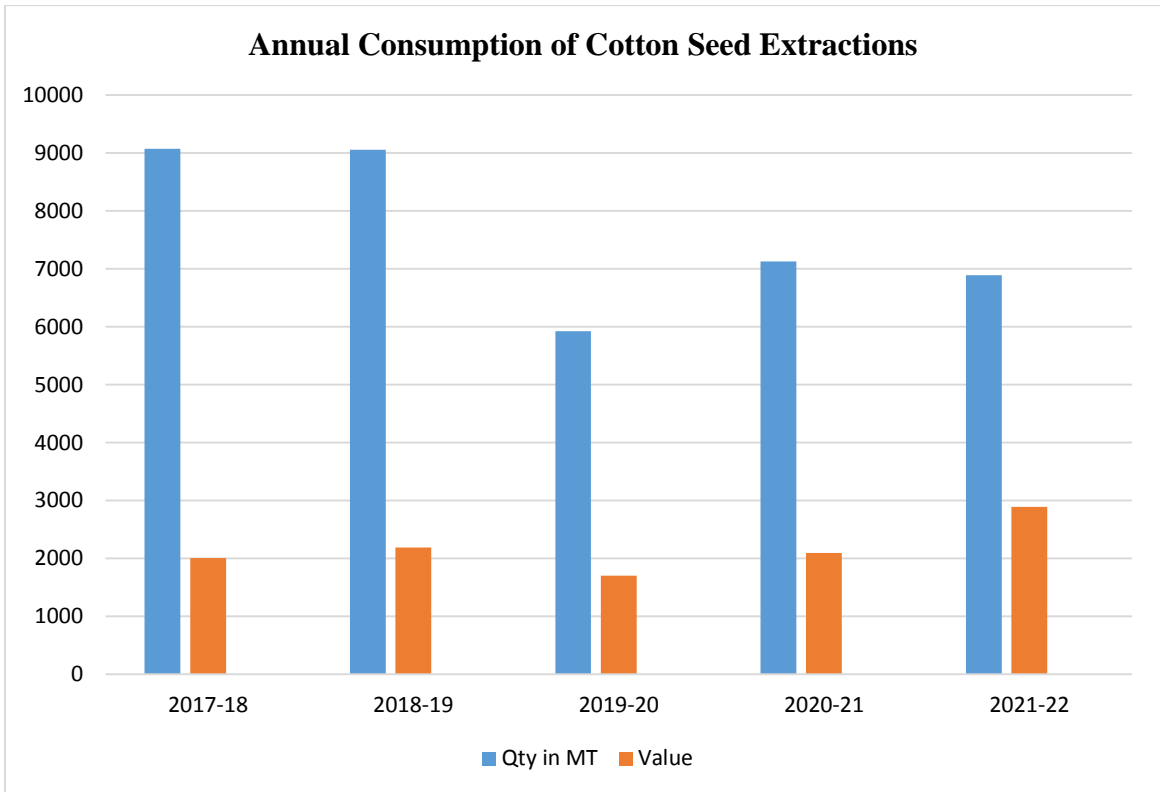


Chart No. 3.21.1 showing Annual Consumption of Cotton Seed Extractions

INTERPRETATION

The table details the annual consumption of cotton seed extractions over a period spanning from 2017-18 to 2021-22. In 2017-18, approximately 9,075 metric tons (MT) of cotton seed extractions were consumed, valued at 2,003.81 units. Consumption remained relatively stable in 2018-19, with 9,059 MT consumed, valued at 2,188.80 units. There was a noticeable decline in consumption in 2019-20 to 5,923 MT, valued at 1,699.70 units, possibly influenced by market dynamics or supply factors. Consumption rebounded in 2020-21 to 7,129 MT, with a corresponding increase in value to 2,095.68 units. By 2021-22, consumption of cotton seed extractions decreased slightly to 6,891 MT but saw an increase in value to 2,888.03 units. These figures illustrate fluctuations in consumption, reflecting changes in agricultural output, industry demand, and economic conditions throughout the years.

ECONOMIC ORDER QUANTITY

3.22 EOQ OF RICE BRAN

Years	Annual Consumption	Ordering Cost	Carrying Cost	EOQ
2017-18	84147.363	1350	100	1507.308
2018-19	102845.579	1500	120	1603.477
2019-20	113776.277	1500	150	1508.484
2020-21	101670.806	1600	175	1363.496
2021-22	119915.690	1600	200	1385.153

Table No. 3.22.1 showing EOQ of Rice Bran

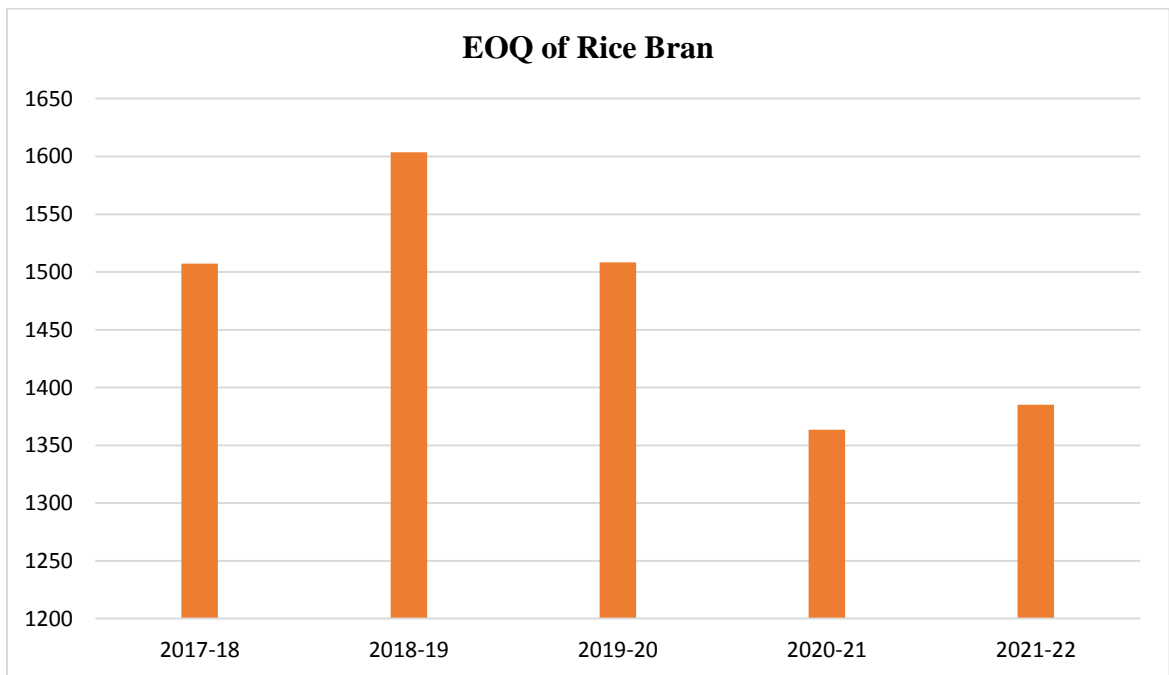


Chart No. 3.22.1 showing EOQ of Rice Bran

INTERPRETATION

The Economic Order Quantity (EOQ) data for rice bran over the past five years reveals fluctuations influenced by variations in annual consumption, ordering costs, and carrying costs. EOQ, which represents the optimal quantity to order that minimizes total inventory costs, ranges from 1,507.308 units in 2017-18 to 1,385.153 units in 2021-22. Generally, EOQ tends to decrease when annual consumption increases, reflecting economies of scale in ordering larger quantities. Higher ordering costs, observed at 1,600 units in 2020-21 and 2021-22 compared to previous years, contribute to slightly lower EOQ values in those periods. Conversely, fluctuations in carrying costs from 100 units in 2017-18 to 200 units in 2021-22 have a minor impact on EOQ variations. These insights underscore the importance of balancing ordering and carrying costs to optimize inventory management strategies for rice bran procurement over time.

3.23 EOQ OF MAIZE

Years	Annual Consumption	Ordering Cost	Carrying Cost	EOQ
2017-18	37138.671	1350	75	1156.283
2018-19	46586.600	1500	80	1321.740
2019-20	42250.462	1300	70	1252.718
2020-21	57196.758	1550	78	1507.714
2021-22	60030.582	1600	85	1503.321

Table No. 3.23.1 showing EOQ of Maize

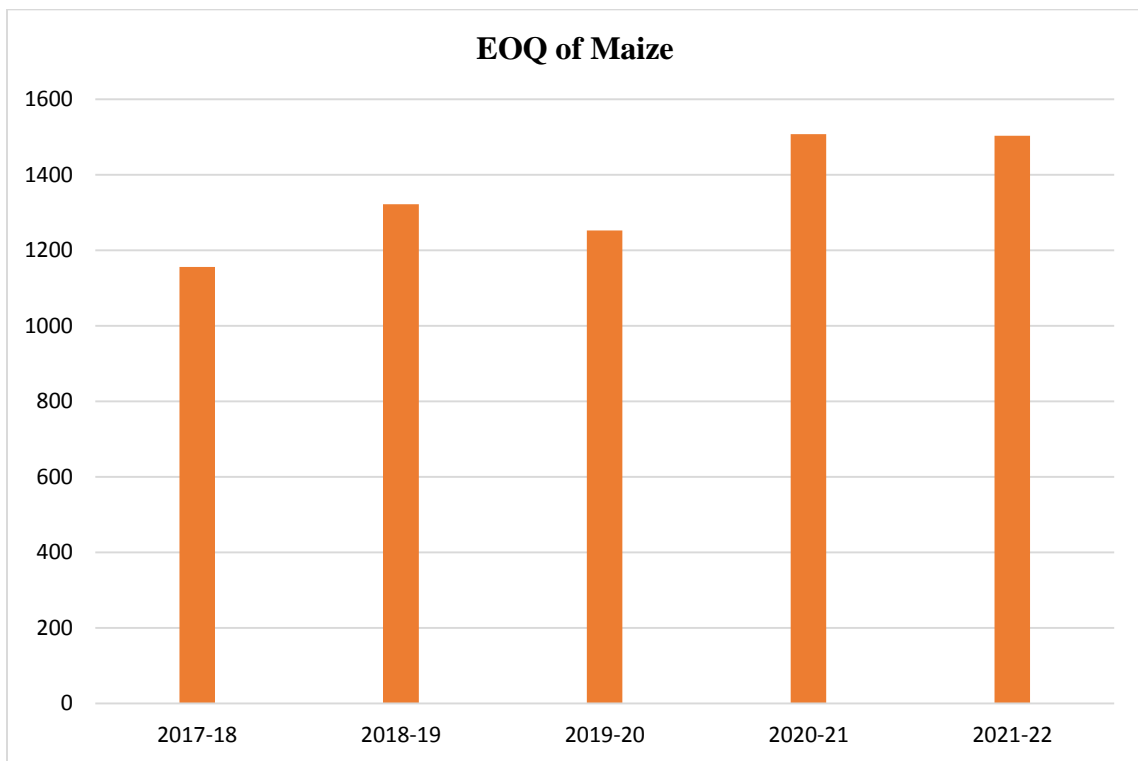


Chart No. 3.23.1 showing EOQ of Maize

INTERPRETATION

The EOQ of Maize ranges from 1,156.283 units in 2017-18 to 1,507.714 units in 2020-21, with slight fluctuations in subsequent years. Higher annual consumption, such as seen in 2020-21 and 2021-22, correlates with higher EOQ values, indicating economies of scale in larger order quantities to minimize total inventory costs. Ordering costs have fluctuated between 1,300 and 1,600 units, impacting EOQ values accordingly. Meanwhile, carrying costs, ranging from 70 to 85 units, have a moderate influence on EOQ variations. These insights highlight the dynamic nature of EOQ calculations in response to changes in consumption patterns and cost structures, essential for effective maize inventory management and cost optimization strategies over the years.

3.24 EOQ OF RICE POLISH

Years	Annual Consumption	Ordering Cost	Carrying Cost	EOQ
2017-18	11950.761	1400	75	667.953
2018-19	12617.847	1400	80	664.548
2019-20	11284.221	1450	90	602.994
2020-21	11598.605	1450	95	595.031
2021-22	12970.327	1500	100	623.786

Table No. 3.24.1 showing EOQ of Rice Polish

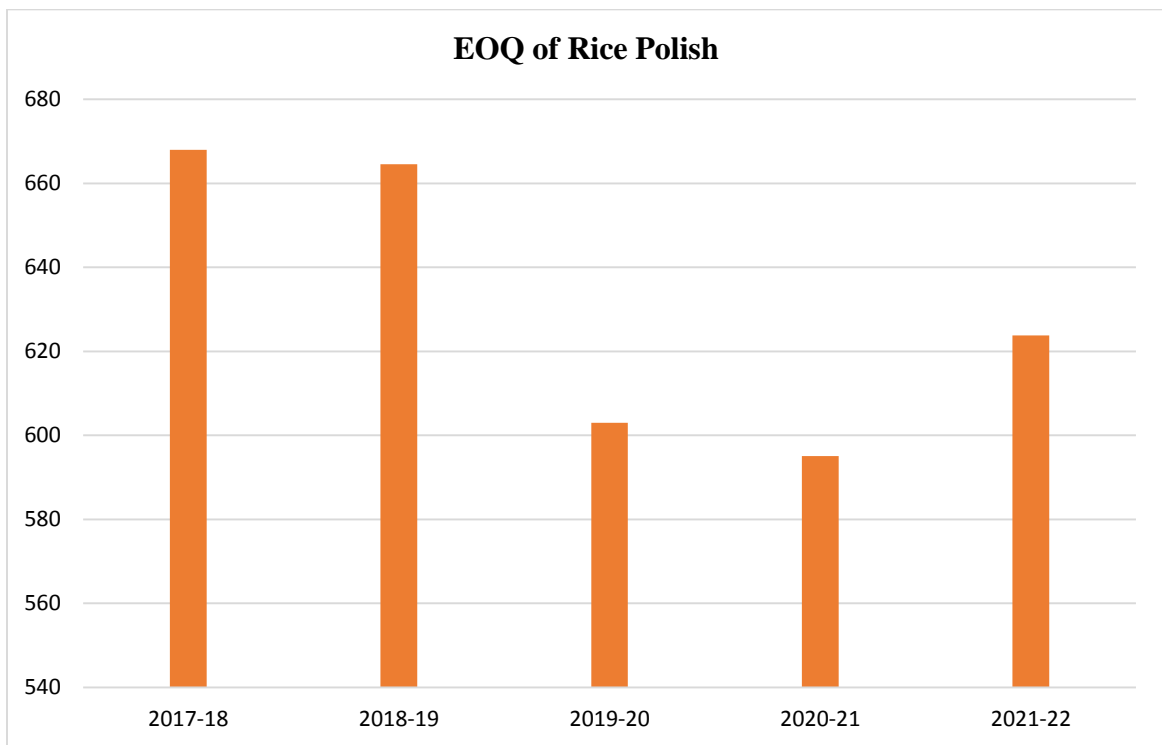


Chart No. 3.24.1 showing EOQ of Rice Polish

INTERPRETATION

The data provided for rice polish over the past five years shows consistent patterns in Economic Order Quantity (EOQ) calculations, which reflect the optimal quantities to minimize total inventory costs. EOQ values range from 595.031 units in 2020-21 to 667.953 units in 2017-18, with slight variations in between. Annual consumption fluctuates between approximately 11,284 to 12,970 units, influencing EOQ calculations. Ordering costs remain steady at 1,400 to 1,500 units, while carrying costs show a gradual increase from 75 units in 2017-18 to 100 units in 2021-22. These factors collectively determine the EOQ, where higher consumption and lower carrying costs generally lead to higher EOQ values. Understanding these trends is crucial for efficient inventory management, ensuring that rice polish is ordered in quantities that balance ordering and holding costs effectively across different fiscal years.

3.25 EOQ OF DI CALCIUM PHOSPHATE

Years	Annual Consumption	Ordering Cost	Carrying Cost	EOQ
2017-18	204.182	1300	120	66.512
2018-19	119.382	1350	115	52.942
2019-20	177.338	1350	135	59.554
2020-21	186.198	1350	138	60.357
2021-22	238.865	1300	140	66.603

Table No. 3.25.1 showing EOQ of Di Calcium Phosphate

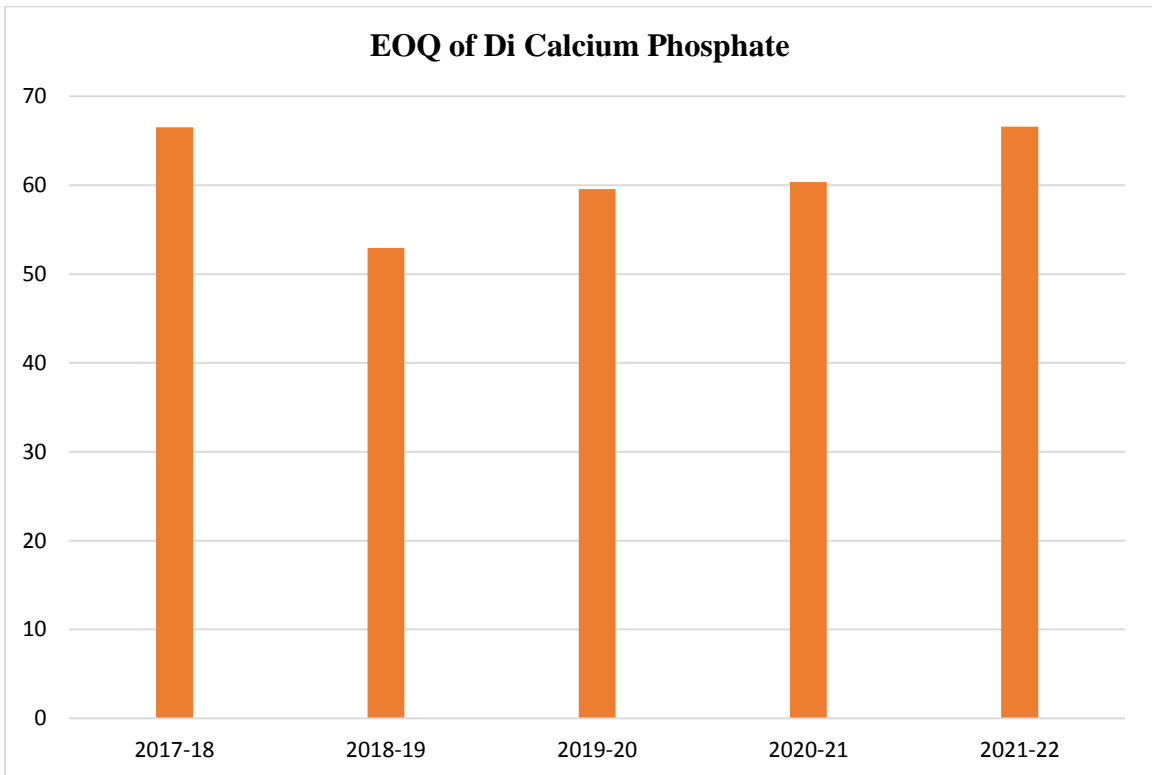


Chart No. 3.25.1 showing EOQ of Di Calcium Phosphate

INTERPRETATION

EOQ of Di Calcium Phosphate (DCP) range from 52.942 units in 2018-19 to 66.603 units in 2021-22, showing variability influenced by annual consumption, ordering costs, and carrying costs. Annual consumption fluctuates between approximately 119.382 units in 2018-19 to 238.865 units in 2021-22, impacting the EOQ calculations directly. Ordering costs remain relatively stable around 1,300 to 1,350 units, while carrying costs increase gradually from 115 units in 2018-19 to 140 units in 2021-22. These factors collectively determine the EOQ, where higher consumption and lower carrying costs generally result in higher EOQ values. Effective inventory management strategies should consider these dynamics to optimize procurement practices and minimize costs associated with DCP over the observed period.

3.26 EOQ OF CALCITE POWDER

Years	Annual Consumption	Ordering Cost	Carrying Cost	EOQ
2017-18	62.567	1350	123	37.059
2018-19	32.245	1350	125	26.391
2019-20	47.425	1300	120	32.055
2020-21	53.957	1400	125	34.765
2021-22	56.901	1400	125	35.701

Table No. 3.26.1 showing EOQ of Calcite Powder

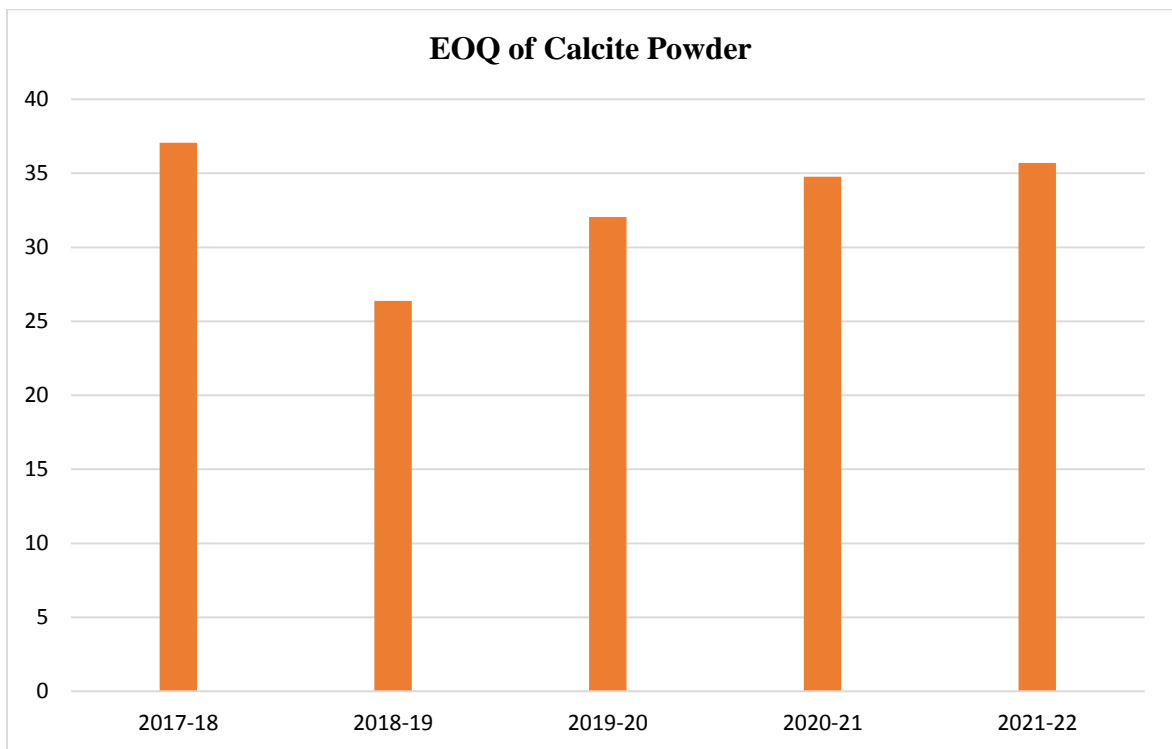


Chart No 3.26.1 showing EOQ of Calcite Powder

INTERPRETATION

EOQ values of Calcite Powder range from 26.391 units in 2018-19 to 37.059 units in 2017-18, showing variability influenced primarily by annual consumption, ordering costs, and carrying costs. Annual consumption fluctuates modestly between approximately 32.245 units in 2018-19 to 56.901 units in 2021-22, directly impacting EOQ calculations. Ordering costs remain consistent at 1,350 to 1,400 units, while carrying costs remain relatively stable around 120 to 125 units throughout the years. These factors collectively determine the EOQ, where higher consumption and lower carrying costs generally result in higher EOQ values. Effective inventory management strategies should leverage these insights to optimize procurement practices and minimize costs associated with Calcite Powder over the observed period.

3.27 ABC ANALYSIS

Item	Value	Annual Cumulative Value	Percentage Value	Category
Rice Bran	15952.61	15952.61	40.12	A
Maize	12016.40	27969.01	30.22	
Rice Polish	3625.65	31594.66	9.11	
Di Calcium Phosphate	130.58	31725.24	0.32	
Calcite Powder	2.74	31727.98	6.89	B
Packing Materials	376.52	32104.5	0.94	
Furnace Oil & Diesel	36.27	32140.77	0.09	
Chemicals	68.81	32209.58	0.17	
Lab Chemicals	8.15	32217.73	0.02	
Coconut Meal	3827.66	36045.39	9.62	
Cotton Seed Extractions	2888.03	38933.42	7.26	
Stores & Spares	739.52	39672.94	1.86	
Gunny & PP Bags	79.56	39752.5	0.20	C
Potassium Iodide	2.35	39754.85	5.91	
Manganese Sulphate	0.75	39755.6	1.88	
TOTAL	39755.6		100	

Category	No of Items	% of Items	% of values
A	4	26.67	79.77
B	7	46.66	24.99
C	4	26.67	9.85
TOTAL	15	100	100

Table No. 3.27.1 showing ABC Analysis

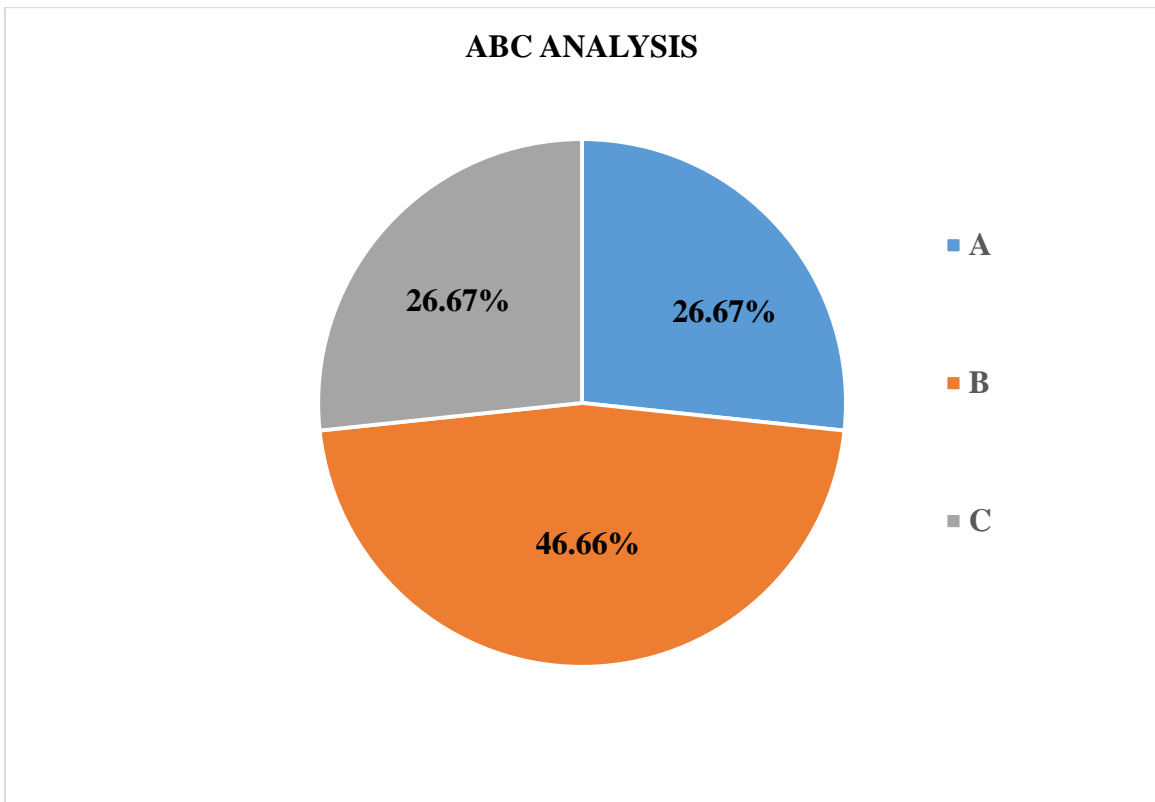


Chart No. 3.27.1 showing ABC Analysis

INTERPRETATION

The ABC analysis categorizes items based on their contribution to total inventory value and importance.

- **Category A**, comprising 26.67% of total items, holds the highest value share at 79.77%. It comprises of 4 items such as Rice Bran, Maize, Rice Polish and Di Calcium Phosphate which are typically considered high-priority items due to their significant contribution to the overall value. These high-priority items require close monitoring and efficient management to ensure their availability and optimal performance.
- **Category B**, with 46.66% of total items, contributes 24.99% to total value, encompassing medium-priority items such as Calcite Powder, Packing Materials, Furnace Oil & Diesel, Chemicals, Lab Chemicals, Coconut Meal and Cotton Seed Extractions. While they are not as critical as those in Category A, they still require regular monitoring and management to ensure smooth operations.
- **Category C**, representing 26.67% of total items, contributes 9.85% to total value, including low-priority items like Stores & Spares, Gunny & PP Bags, Potassium Lodide and Manganese Sulphate. They may have low individual value or demand, and thus, may not require as much attention in terms of inventory management compared to Categories A and B.

ABC analysis guides company to focus intensive inventory control on high-value Category A items, while adopting more flexible strategies for Categories B and C.

3.28 FSN ANALYSIS

PRODUCTS	QTY	FSN CLASSIFICATION
Midukki	112575.30	F
Elite	68212.110	
Dairy Rich Plus	43166.210	S
Keramin	329.831	
Milk Booster	258.363	
Regular	181.422	N
Malabari Premium	135.3	
Athulyam	1.750	
Kairali	1.230	
Kerabbit	1.113	

Table No. 3.28.1 showing FSN Analysis

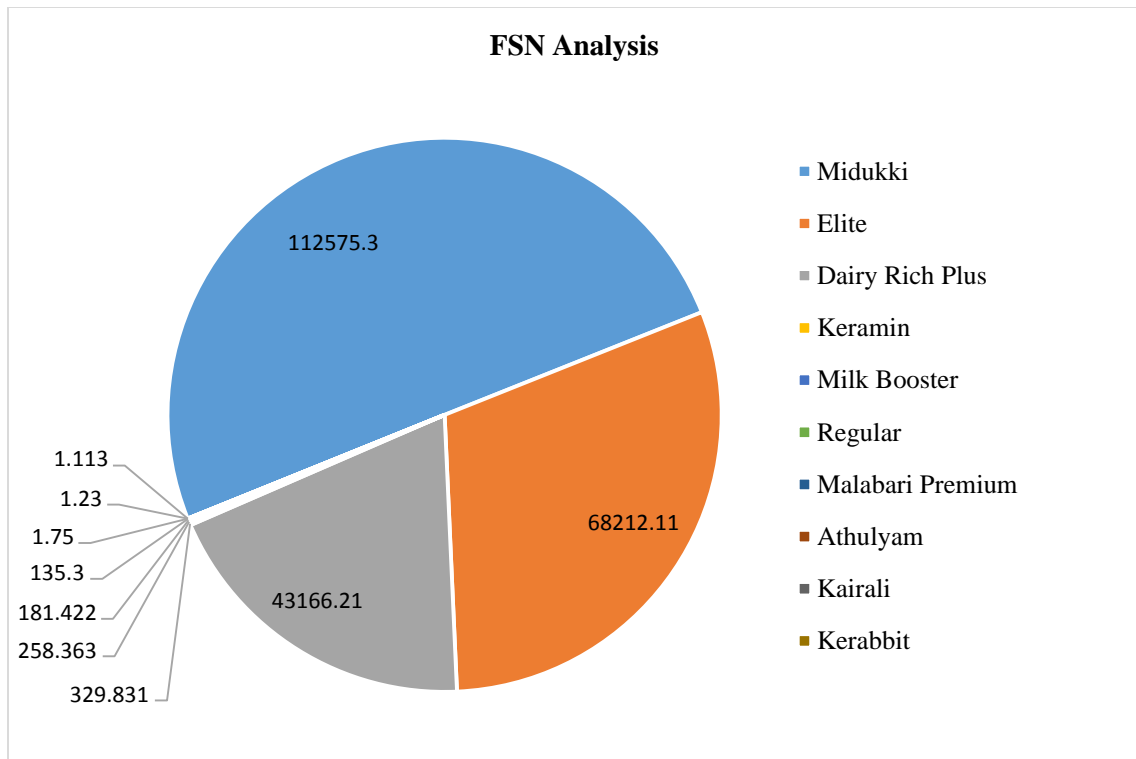


Chart No. 3.28.1 showing FSN Analysis

INTERPRETATION

- **Fast moving items (F)** like Midukki and Elite are likely top sellers and should be managed for high turnover to ensure availability and freshness.
- **Slow moving items (S)** such as Dairy Rich Plus, Keramin, and Milk Booster may not be as popular but still have steady demand. Managing these items involves balancing stock levels to avoid overstocking while meeting demand.
- **Non-moving items (N)** like Regular, Malabari Premium, Athulyam, Kairali, and Kerabbit might not be selling well or have very sporadic sales. These items might require attention to understand why they are not moving and whether they should be discounted, promoted differently, or discontinued.

3.29 CORRELATION ANALYSIS

Years	Average RM	Average WIP	Average FG	ROA
2017-18	1430.65	13.84	558.32	1.41
2018-19	2151.19	5.73	553.76	-2.5
2019-20	1682.81	3.77	354.25	-13.65
2020-21	1898.02	17.46	311.99	29.21
2021-22	2591.6	33.47	635.64	6.85

Table No. 3.29.1 showing Variables of Correlation Analysis

Inventory Type	Correlation with ROA	Interpretation
Raw Material	0.186453995	Weak positive correlation
Work In Progress	0.501709504	Moderate positive correlation
Finished Goods	-0.25233949	Weak negative correlation

Table No. 3.29.2 showing Results of Correlation Analysis

INTERPRETATION

- The weak positive correlation suggests that changes in raw material levels have a minor impact on ROA.
- The moderate positive correlation indicates that effective management of WIP might be beneficial for improving ROA.
- The weak negative correlation suggests that holding too much finished goods inventory might slightly reduce ROA, possibly due to increased holding costs or inefficiencies.

3.30 REGRESSION ANALYSIS

Statistic	Value
Multiple R	0.743646473
R Square	0.553010076
Adjusted R Square	-0.787959695
Standard Error	21.18225468
Observations	5

Table No. 3.30.1 showing Results of Regression Analysis

INTERPRETATION

- The positive Multiple R and R^2 suggest that there is a moderate positive relationship between the inventory management practices and the financial performance of Kerala Feeds Limited.
- The negative adjusted R^2 indicates serious issues with the model's fit and its ability to accurately predict ROA based on inventory management practices. This suggests caution in relying on the model's predictions.
- The high standard error further undermines confidence in the model's predictions, indicating that the model's estimates of ROA based on inventory management factors are imprecise.

In summary, the study shows a moderate relationship between inventory management and financial performance, but the negative adjusted R^2 and high standard error indicate limitations in predicting financial performance solely from inventory management.

CHAPTER IV
FINDINGS, RECOMMENDATIONS AND SUMMARY

4.1 FINDINGS

- The company has demonstrated strong and steady annual sales growth, achieving a 55.86% increase in sales revenue from 2017-18 to 2021-22.
- The inventory trend shows fluctuations, notably declining in 2019-20 but recovering and growing in subsequent years.
- The company's inventory turnover ratios fluctuated over the years, with notable improvements in 2019-2020 followed by stability, indicating varying efficiency in inventory management.
- The inventory conversion period improved in 2019-20 and stabilized in later years, indicating adjusted inventory practices.
- Raw material turnover ratios fluctuated, with improvements in 2019-20 followed by declines, indicating varying efficiency in the management of raw materials.
- The raw material conversion period varied, with efficiency improving in 2019-20 but declining in later years due to production and supply chain dynamics.
- WIP turnover ratio increased in the first three years and decreased in the last two, indicating shifts in work progress efficiency.
- The WIP conversion period varied, with significant efficiency improvements in early years but notable setbacks in 2020-21 and 2021-22, reflecting challenges in converting WIP into finished goods over time.
- The Finished Goods turnover ratio fluctuated over five years, with periods of improvement and decline, indicating varied inventory management performance.
- The finished goods conversion period of the company initially showed significant efficiency improvements, but later experienced fluctuations and slight increases, emphasizing the ongoing need for optimization.
- The inventory to current asset ratio varied, indicating differing inventory management efficiency over the years and allocation of current assets within the company.
- There was a significant imbalance between inventory and working capital, suggesting potential inefficiencies and financial risk.

- The inventory to sales ratio fluctuated, with a significant drop in 2019-20 due to COVID-19 disruptions, followed by recovery.
- The ROA ratio showed fluctuating profitability trends, with a notable turnaround in 2020-21.
- The ROE showed fluctuating profitability, with an increase of 659.37% in 2019-20, reflecting varied financial health relative to shareholder investments over time.
- Annual consumption of raw materials like rice bran, maize, rice polish, coconut meal, and cotton seed extractions varied over five years due to market demand, agricultural production, and economic conditions.
- EOQ calculations across various commodities like rice bran, maize, rice polish, Di Calcium Phosphate (DCP), and Calcite Powder highlight fluctuations influenced by annual consumption, ordering costs, and carrying costs, emphasizing the need for dynamic inventory management strategies.
- ABC analysis categorized 4 items as A, including Rice Bran, Maize, Rice Polish, and Di Calcium Phosphate, 7 items as B such as Calcite Powder, Packing Materials, Furnace Oil & Diesel, Chemicals, Lab Chemicals, Coconut Meal, and Cotton Seed Extractions, and 4 items as C items like Stores & Spares, Gunny & PP Bags, Potassium Iodide, and Manganese Sulphate.
- FSN analysis categorizes items into Fast moving items (F) like Midukki and Elite, Slow moving items (S) such as Dairy Rich Plus, Keramin, and Milk Booster, and Non-moving items (N) like Regular, Malabari Premium, Athulyam, Kairali, and Kerabbit.
- Correlations indicate that raw material levels minimally affect ROA positively, effective WIP management moderately improves ROA, and excess finished goods inventory slightly decreases ROA due to higher costs or inefficiencies.
- Regression analysis reveals a moderate positive relationship between inventory management practices and financial performance for Kerala Feeds Limited, but the negative adjusted R² and high standard error indicate limitations in the model's predictive accuracy for ROA based on inventory management alone.

4.2 RECOMMENDATIONS

- By increasing sales level and maintaining the required level of inventory the company can increase the inventory turnover ratio.
- Proper monitoring of raw material, work in progress and finished goods helps to increase the total turnover and also can reduce the conversion period of inventory.
- Company should continue to improve its raw material management to reduce costs and enhance production efficiency.
- Company should strive to maintain efficient production processes and minimize work in progress inventory.
- Company should maintain finished goods turnover trend to avoid excessive inventory holding costs.
- Measures should be taken to reduce the unnecessary blocking of funds in the current assets.
- Increase working capital efficiency to decrease the inventory to working capital ratio.
- The company should assess its inventory management practices to avoid excess stock and optimize sales.
- Increase ROA by maximizing asset efficiency through efficient maintenance, streamlined processes, and proactive monitoring.
- Increase ROE by focusing on increasing net income through higher profitability and efficient use of equity capital.
- Company must follow the EOQ for optimum order size that minimizes total inventory costs.
- There should be a tight control exercised on stock levels based on ABC analysis.
- Maintain high turnover with frequent restocking for fast-moving items, carefully balance stock levels for slow-moving items to avoid overstocking, and analyze non-moving items for potential promotions, discounts, or discontinuation.

4.3 SUMMARY

The study conducted at Kerala Feeds Ltd aimed to assess the effectiveness of inventory management on the company's financial performance. The findings reveal both positive trends and areas for improvement in the company's inventory-related metrics. Key recommendations include increasing sales while maintaining appropriate inventory levels to boost turnover ratios, closely monitoring raw materials and finished goods to enhance turnover and reduce conversion periods, and improving raw material management for cost reduction and production efficiency.

Other suggestions focus on efficient production processes, minimizing work in progress, and optimizing finished goods turnover to mitigate inventory holding costs. Measures to reduce unnecessary tied-up funds, enhance working capital efficiency, and adopt optimal inventory management practices were also emphasized. These actions aim to maximize asset efficiency, increase return on assets (ROA) and equity (ROE), and optimize inventory costs through strategies like EOQ, ABC, and FSN analysis.

Implementing these recommendations promises improved inventory turnover, reduced costs, heightened operational efficiency, enhanced financial performance, increased customer satisfaction, and a strengthened competitive edge in the market.

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APPENDIX

KERALA FEEDS LIMITED

CIN: U15331KL1995SGC009521

KALLETUMKARA, THRISSUR - 680683

STATEMENT OF PROFIT AND LOSS FOR THE YEAR ENDED 31ST MARCH 2018

Particulars	Note No.	Amount ₹ in Lakhs	
		Year ended 31.3.2018	Year ended 31.3.2017
I. REVENUE			
(a) Revenue from operations	20	36,864.73	40,193.00
(b) Other Income	21	153.87	1,387.81
Total Revenue		37,018.60	41,580.80
II. EXPENSES			
(a) Cost of materials consumed	22	28,515.67	36,376.84
(b) Changes in inventories of finished goods	23	34.85	(364.88)
(c) Employee benefit expenses	24	3,597.75	3,335.84
(d) Finance costs	25	170.90	150.21
(e) Depreciation and amortisation expenses	26	755.02	518.08
(f) Other expenses	27	3,695.16	4,539.61
Total Expenses		36,769.35	44,555.69
III. Profit before exceptional and extraordinary items and tax (I - II)		249.25	(2,974.89)
IV. Exceptional Items		-	-
V. Profit before extraordinary items and tax (III - IV)		249.25	(2,974.89)
VI. Extraordinary Items		-	-
VII. Profit/(Loss) for the year (V - VI)		249.25	(2,974.89)
VIII. Prior period adjustments	28	(29.70)	(0.43)
IX. Profit/(Loss) before tax (VII + VIII)		219.55	(2,975.32)
X. Tax expenses			
(a) Current tax		-	-
(b) MAT Credit availed		-	-
(c) Deferred tax		-	-
XI. Profit/(Loss) for the period from continuing operations (IX - X)		219.55	(2,975.32)
XII. Profit/(Loss) from discontinuing operations		-	-
XIII. Tax expenses of discontinuing operations		-	-
XIV. Profit/(Loss) from Discontinuing operations (after tax) (XII - XIII)		-	-
XV. Profit/(Loss) for the year (XI + XIV)		219.55	(2,975.32)
XVI. Earnings per Equity Share (₹)	29		
(a) Basic		567.97	(7,697.11)
(b) Diluted		567.97	(7,697.11)
Nominal value per equity share (₹)		10,000	10,000
Significant accounting policies	3		
Additional information	30		

KERALA FEEDS LIMITED

CIN: U15331KL1995SGC009521

KALLETUMKARA, THRISSUR - 680683

BALANCE SHEET AS AT 31ST MARCH 2018

PARTICULARS	Note No	Amount ₹ in Lakhs		Amount ₹ in Lakhs	
		AS AT 31.3.2018		AS AT 31.3.2017	
I. EQUITY AND LIABILITIES					
Share holder's funds					
Share capital	4	3,865.50		3,865.50	
Reserves & surplus	5	436.45	4,301.95	-612.10	3,253.40
Share application money pending Allotment					
Non-current liabilities					
Long term borrowings	6	2,070.00		2,587.50	
Deferred tax liabilities (Net)	7	16.88		16.88	
Other long term liabilities	8	212.16		186.82	
Long term provisions	9	701.03	3,000.07	608.90	3,400.10
Current Liabilities					
Trade payables	10	4,122.47		6,432.15	
Other current liabilities	11	5,236.83		2,493.97	
Short-term provisions	12	984.18	10,343.48	572.05	9,498.17
TOTAL			17,645.50		16,151.68
II. ASSETS					
1. Non-current assets					
a. Fixed assets					
1. Tangible assets	13	4,906.07		3,748.31	
2. Intangible assets	13	0.84		1.11	
3. Capital work-in progress	13	5,762.45	10,669.36	6,040.83	9,790.26
Long-term Loans and Advances	14	1,191.68	1,191.68	785.75	785.75
Other non-current assets					
b. Current assets					
Inventories	15	3,228.70		2,374.19	
Trade receivables	16	1,473.83		1,779.75	
Cash and cash equivalents	17	241.99		1,065.40	
Short-term loans and advances	18	421.96		313.69	
Other current assets	19	417.98	5,784.46	42.65	5,575.67
TOTAL			17,645.50		16,151.68
Significant accounting policies	3				
Additional information	30				

KERALA FEEDS LIMITED

CIN : U15331KL1995SGC029521
KALLETUMKARA, THRISSUR - 680 683

STATEMENT OF PROFIT AND LOSS FOR THE YEAR ENDED 31ST MARCH 2019

Particulars	Note No.	Amount ₹ in Lakhs	
		Year ended 31.3.2019	Year ended 31.3.2018
I. REVENUE			
(a) Revenue from operations	20	42,764.88	36,864.73
(b) Other Income	21	473.64	153.87
Total Revenue		43,238.52	37,018.60
II. EXPENSES			
(a) Cost of materials consumed	22	34,231.42	28,515.67
(b) Changes in inventories of finished goods	23	(9.49)	34.85
(c) Employee benefit expenses	24	3,840.37	3,597.75
(d) Finance costs	25	330.76	170.90
(e) Depreciation and amortisation expenses	26	710.02	755.02
(f) Other expenses	27	4,624.28	3,695.16
Total Expenses		43,727.36	36,769.35
III. Profit before exceptional and extraordinary items and tax (I - II)		(488.84)	249.25
IV. Exceptional Items		-	-
V. Profit before extraordinary items and tax (III - IV)		(488.84)	249.25
VI. Extraordinary Items		-	-
VII. Profit/(Loss) for the year (V - VI)		(488.84)	249.25
VIII. Prior period adjustments	28	(2.07)	(29.70)
IX. Profit/(Loss) before tax (VII + VIII)		(490.92)	219.55
X. Tax expenses			
(a) Current tax		-	-
(b) MAT Credit availed		-	-
(c) Deferred tax		-	-
XI. Profit/(Loss) for the period from continuing operations (IX - X)		(490.92)	219.55
XII. Profit/(Loss) from discontinuing operations		-	-
XIII. Tax expenses of discontinuing operations		-	-
XIV. Profit/(Loss) from Discontinuing operations (after tax) (XII - XIII)		-	-
XV. Profit/(Loss) for the year (XII + XIV)		(490.92)	219.55
XVI. Earnings per Equity Share (₹)	29		
(a) Basic		(1,269.99)	567.97
(b) Diluted		(1,269.99)	567.97
Nominal value per equity share (₹)		10,000	10,000
Significant accounting policies	3		
Additional information	30		

KERALA FEEDS LIMITED

CIN : U16331KL1995SGC009521
KALLETUMKARA, THRISSUR - 680 683

BALANCE SHEET AS AT 31ST MARCH 2019

PARTICULARS	Note No	Amount ₹ in Lakhs		Amount ₹ in Lakhs	
		AS AT 31.3.2019		AS AT 31.3.2018	
I. EQUITY AND LIABILITIES					
1. Share holder's funds					
a. Share capital	4	3,865.50		3,865.50	
b. Reserves & surplus	5	290.23	4,155.73	436.45	4,301.95
2. Share application money pending Allotment					
3. Non - Current liabilities					
a. Long term borrowings	6	2,246.73		2,070.00	
b. Deferred tax liabilities (Net)	7	16.88		16.88	
c. Other long term liabilities	8	215.52		212.16	
d. Long term provisions	9	750.10	3,229.23	701.03	3,000.07
4. Current Liabilities					
a. Trade payables	10	6,135.45		4,122.47	
b. Other current liabilities	11	4,931.50		5,236.83	
c. Short- term provisions	12	1,100.68	12,167.63	984.18	10,343.48
TOTAL			19,552.59		17,645.50
II. ASSETS					
1. Non-current assets					
a. Fixed assets					
i. Tangible assets	13	4,426.50		4,906.07	
ii. Intangible assets	13	0.56		0.84	
iii. Capital work-in progress	13	6,871.64	11,298.70	5,762.45	10,669.36
b. Long-term Loans and Advances	14	1,316.49	1,316.49	1,191.68	1,191.68
c. Other non-current assets					
2. Current assets					
a. Inventories					
b. Trade receivables	15	3,778.85		3,228.70	
c. Cash and cash equivalents	16	2,019.71		1,473.83	
d. Short-term loans and advances	17	263.98		241.99	
e. Other current assets	18	360.02		421.96	
	19	514.84	6,937.40	417.98	
TOTAL			19,552.59		5,784.46
Significant accounting policies	3				17,645.50
Additional information	30				

KERALA FEEDS LIMITED

CIN: U15331KL1995SGC009521

KALLETUMKARA, THRISSUR - 680683

STATEMENT OF PROFIT AND LOSS FOR THE YEAR ENDED 31ST MARCH 2020

Particulars	Note No.	Amount ₹ in Lakhs	
		Year ended 31.3.2020	Year ended 31.3.2019
I. REVENUE			
(a) Revenue from operations	20	49,114.48	42,764.88
(b) Other Income	21	302.55	473.64
Total Revenue		49,417.03	43,238.52
II. EXPENSES			
(a) Cost of materials consumed	22	42,207.89	34,231.42
(b) Purchases of Stock-in-Trade	23	-	-
(b) Changes in Inventories of finished goods	23	412.44	(9.49)
(c) Employee benefit expenses	24	4,105.07	3,840.37
(d) Finance costs	25	306.38	330.76
(e) Depreciation and amortisation expenses	26	591.68	710.02
(f) Other expenses	27	4,409.05	4,624.28
Total Expenses		52,032.50	43,727.36
III. Profit before exceptional and extraordinary items and tax (I - II)		(2,615.48)	(488.84)
IV. Exceptional Items		-	-
V. Profit before extraordinary items and tax (III - IV)		(2,615.48)	(488.84)
VI. Extraordinary Items		-	-
VII. Profit/(Loss) for the year (V - VI)		(2,615.48)	(488.84)
VIII. Prior period adjustments	28	(1.70)	(2.07)
IX. Profit/(Loss) before tax (VII + VIII)		(2,617.18)	(490.92)
X. Tax expenses			
(a) Current tax		-	-
(b) MAT Credit availed		-	-
(c) Deferred tax		-	-
XI. Profit/(Loss) for the period from continuing		(2,617.18)	(490.92)
XII. Profit/(Loss) from discontinuing operations		-	-
XIII. Tax expenses of discontinuing operations		-	-
XIV. Profit/(Loss) from Discontinuing operations (after tax) (XII - XIII)		-	-
XV. Profit/(Loss) for the year (XII + XIV)		(2,617.18)	(490.92)
XVI. Earnings per Equity Share (₹)	29		
(a) Basic		(6,770.61)	(1,269.99)
(b) Diluted		(6,770.61)	(1,269.99)
Nominal value per equity share (₹)		10,000	10,000

KERALA FEEDS LIMITED

CIN: U15331KL1995SGC009521

KALLETUMKARA, THRISSUR - 680683

BALANCE SHEET AS AT 31ST MARCH 2020

PARTICULARS	Note No	Amount ₹ in Lakhs		Amount ₹ in Lakhs	
		AS AT 31.3.2020		AS AT 31.3.2019	
I. EQUITY AND LIABILITIES					
1. Share holder's funds					
a. Share capital	4	3,865.50		3,865.50	
b. Reserves & surplus	5	-4,262.16	-396.66	290.23	4,155.73
2. Share application money pending Allotment		1,400.00	1,400.00		
3. Non - Current liabilities					
a. Long term borrowings	6	1,621.59		2,246.73	
b. Deferred tax liabilities (Net)	7	16.88		16.88	
c. Other long term liabilities	8	209.68		215.52	
d. Long term provisions	9	797.01	2,645.16	750.10	3,229.23
4. Current Liabilities					
a. Short-term borrowings		-		-	
a. Trade payables	10	8,615.75		6,135.45	
b. Other current liabilities	11	5,834.43		4,931.50	
c. Short- term provisions	12	1,052.01	15,502.19	1,100.68	12,167.63
TOTAL			19,150.68		19,552.59
ASSETS					
1. Non-current assets					
a. Fixed assets					
i. Tangible assets	13	3,879.27		4,426.50	
ii. Intangible assets	13	0.29		0.56	
iii. Capital work-in progress	13	7,108.12	10,987.68	6,871.64	11,298.69
iv. Intangible assets under development		0.00		0.00	
b. Non- Current Investments		0.00		0.00	
c. Deferred tax assets (Net)	7	0.00		0.00	
b. Long-term Loans and Advances	14	1,738.96	1,738.96	1,316.49	1,316.49
c. Other non-current assets					
2. Current assets					
a. Current investments		-		3,778.85	
a. Inventories	15	1,952.99		2,019.71	
b. Trade receivables	16	3,341.59		263.98	
c. Cash and cash equivalents	17	620.33		360.02	
d. Short-term loans and advances	18	233.18			
e. Other current assets	19	275.94	6,424.04	514.84	6,937.40
TOTAL			19,150.68		19,552.59
Significant accounting policies	3				

KERALA FEEDS LIMITED

CIN: U15331KL1995SGC009521

KALLETUMKARA, THRISSUR - 680683

STATEMENT OF PROFIT AND LOSS FOR THE YEAR ENDED 31ST MARCH 2021

Particulars	Note No.	Amount ₹ in Lakhs	
		Year ended 31.3.2021	Year ended 31.3.2020
I. REVENUE			
(a) Revenue from operations	20	49,563.57	49,114.48
(b) Other Income	21	289.71	305.54
Total Revenue		49,853.28	49,420.01
II. EXPENSES			
(a) Cost of materials consumed	22	35,053.91	42,207.89
(b) Purchases of Stock-in-Trade	23	-	-
(b) Changes in inventories of finished goods	23	(355.28)	412.43
(c) Employee benefit expenses	24	4,634.21	4,105.07
(d) Finance costs	25	359.81	306.38
(e) Depreciation and amortisation expenses	26	760.92	591.68
(f) Other expenses	27	4,583.52	4,412.03
Total Expenses		45,037.09	52,035.49
III. Profit before exceptional and extraordinary items		4,816.19	(2,615.48)
IV. Exceptional Items		-	-
V. Profit before extraordinary items and tax (III - IV)		4,816.19	(2,615.48)
VI. Extraordinary Items		-	-
VII. Profit/(Loss) for the year (V - VI)		4,816.19	(2,615.48)
VIII. Prior period adjustments	28	(2.76)	(1.70)
IX. Profit/(Loss) before tax (VII + VIII)		4,813.43	(2,617.18)
X. Tax expenses			
(a) Current tax		1,368.50	-
(b) MAT Credit availed		-	-
(c) Deferred tax		(388.35)	-
XI. Profit/(Loss) for the period from continuing		3,833.28	(2,617.18)
XII. Profit/(Loss) from discontinuing operations		-	-
XIII. Tax expenses of discontinuing operations		-	-
XIV. Profit/(Loss) from Discontinuing operations (after		-	-
XV. Profit/(Loss) for the year (XII + XIV)		3,833.28	(2,617.18)
XVI. Earnings per Equity Share (₹)	29		
(a) Basic		7,280.00	(6,770.61)
(b) Diluted		7,280.00	(6,770.61)
Nominal value per equity share (₹)		10,000	10,000
Significant accounting policies	3		
Additional information	30		

KERALA FEEDS LIMITED

CIN: U15331KL1995SGC009521

KALLETUMKARA, THRISSUR - 680683

BALANCE SHEET AS AT 31ST MARCH 2021

PARTICULARS	Note No	Amount ₹ in Lakhs		Amount ₹ in Lakhs	
		AS AT 31.3.2021		AS AT 31.3.2020	
I. EQUITY AND LIABILITIES					
1. Share holder's funds					
a. Share capital	4	5,265.50		3,865.50	
b. Reserves & surplus	5	(3,951.83)	1,313.67	(7,785.11)	(3,919.61)
2. Share application money pending Allotment					
		0.00	0.00	1,400.00	1,400.00
3. Non - Current liabilities					
a. Long term borrowings	6	1,015.79		1,621.59	
b. Deferred Tax Liabilities (Net)	13	0.00		16.88	
c. Other long term liabilities	7	420.96		3,732.63	
d. Long term provisions	8	1,138.35	2,575.10	797.01	6,168.11
4. Current Liabilities					
a. Short-term borrowings		-		-	
a. Trade payables	9	4,403.18		8,615.75	
b. Other current liabilities	10	6,110.61		5,834.42	
c. Short- term provisions	11	2,084.64	12,598.43	1,052.01	15,502.18
TOTAL			16,487.20		19,150.68
II. ASSETS					
1. Non-current assets					
a. Property, Plant and Equipment and Intangible Assets					
i. Tangible assets	12	7,066.42		3,879.27	
ii. Intangible assets	12	0.04		0.29	
iii. Capital work-in progress	12	99.32	7,165.78	7,108.12	10,987.68
iv. Intangible assets under development		0.00		0.00	
b. Non- Current Investments					
c. Deferred tax assets (Net)	7	0.00		0.00	
b. Deferred Tax Assets (Net)	13	371.48	371.48	0.00	-
b. Long-term Loans and Advances	14	2,041.62	2,041.62	0.00	0.00
c. Deferred tax assets (Net)					
				1,738.96	1,738.96
2. Current assets					
a. Current investments					
a. Inventories	15	4,325.07		-	
b. Trade receivables	16	1,751.37		1,952.99	
c. Cash and cash equivalents	17	199.51		3,341.59	
d. Short-term loans and advances	18	193.83		620.33	
e. Other current assets	19	438.54	6,908.32	233.19	
TOTAL			16,487.20	275.94	6,424.04
Significant accounting policies		3			
Additional information		30			19,150.68

KERALA FEEDS LIMITED

CIN:U15331KL1995SGC009521

KALLETUMKARA, THRISSUR - 680 683

STATEMENT OF PROFIT AND LOSS FOR THE TEAR ENDED 31ST MARCH 2022

Particulars	Note No.	Amount ₹ in Lakhs	
		AS AT 31.3.2022	AS AT 31.3.2021
I. REVENUE			
(a) Revenue from operations	23	57,459.79	49,563.57
(b) Other Income	24	345.41	289.71
Total Income		57,805.20	49,853.28
II. EXPENSES			
(a) Cost of materials consumed	25	45,028.54	35,053.90
(b) Purchases of Stock-in-Trade	23	-	-
(b) Changes in inventories of finished goods	26	(324.04)	(355.28)
(c) Employee benefit expenses	27	5,141.41	4,634.21
(d) Finance costs	28	319.68	359.81
(e) Depreciation and amortisation expenses	29	1,009.13	760.92
(f) Other expenses	30	5,556.13	4,583.52
Total Expenses		56,730.84	45,037.08
III. Profit before exceptional and extraordinary items		1,074.36	4,816.20
IV. Exceptional Items		-	-
V. Profit before extraordinary items and tax (III - IV)		1,074.36	4,816.20
VI. Extraordinary Items		-	-
VII. Profit/(Loss) for the year (V - VI)		1,074.36	4,816.20
VIII. Prior period adjustments	31	(9.37)	(2.76)
IX. Profit/(Loss) before tax (VII + VIII)		1,064.99	4,813.44
X. Tax expenses			
(a) Current tax		- 624.90	- 1,368.50
(b) Deferred tax		- (61.42)	- (388.35)
XI. Profit/(Loss) for the period from continuing		501.51	3,833.29
XII. Profit/(Loss) from discontinuing operations		-	-
XIII. Tax expenses of discontinuing operations		-	-
XIV. Profit/(Loss) from Discontinuing operations (after		-	-
XV. Profit/(Loss) for the year (XI + XIV)		501.51	3,833.29
XVI. Earnings per Equity Share (₹)	32		
(a) Basic		952.45	9,887.24
(b) Diluted		952.45	9,887.24
Nominal value per equity share (₹)		10,000	10,000

KERALA FEEDS LIMITED

CIN:U15331KL1995SGC009521

KALLETUMKARA, THRISSUR - 680 683

BALANCE SHEET AS AT 31ST MARCH 2022

PARTICULARS	Note No	Amount ₹ in Lakhs		Amount ₹ in Lakhs	
		AS AT 31.3.2022		AS AT 31.3.2021	
I. EQUITY AND LIABILITIES					
1. Share holder's funds					
a. Share capital	4	5,265.50		5,265.50	
b. Reserves & surplus	5	-3,450.32	1,815.18	(3,951.83)	1,313.67
2. Non - Current liabilities					
a. Long term borrowings	6	582.76		775.79	
b. Other long term liabilities	7	317.70		420.96	
c. Long term provisions	8	324.86	1,225.32	279.37	1,476.12
3. Current Liabilities					
a. Short-term borrowings		-		-	
a. Short - term borrowings	9	3,333.22		4,025.32	
b. Trade payables					
i. Total outstanding dues of micro enterprises and small enterprises	10	0.00		0.00	
ii. Total outstanding dues of creditors other than micro enterprises and small enterprises	10	3,597.69		4,403.17	
c. Other current liabilities	11	2,605.99		2,325.29	
d. Short- term provisions	12	3,113.95	12,650.85	2,188.93	12,942.71
TOTAL			15,691.35		15,732.50
II. ASSETS					
1. Non-current assets					
a. Property, Plant and Equipment and Intangible Assets					
i. Property, Plant and Equipment	13	6,269.92		7,066.42	
ii. Intangible assets	13	0.00		0.04	
iii. Capital work-in progress	13	134.20	6,404.12	99.32	7,165.78
b. Deferred Tax Assets (Net)	14	432.90	432.90	371.48	371.48
c. Long-term Loans and Advances	15	1,357.74	1,357.74	1,286.92	1,286.92
d. Other non -Current assets	16	33.70	33.70	31.72	31.72
2. Current assets					
a. Inventories	17	4,462.82		4,325.07	
b. Trade receivables	18	2,082.53		1,751.37	
c. Cash and cash equivalents	19	81.21		118.32	
d. Other Bank Balances	20	351.39		49.46	
e. Short-term loans and advances	21	235.46		193.84	
f. Other Current assets	22	249.48	7,462.89	438.54	6,876.60
TOTAL			15,691.35		15,732.50