

**AN ANALYSIS
OF
BIRATNAGAR MILK SUPPLY SCHEME
BIRATNAGAR**



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VIVA-VOCE SHEET

We have conducted the viva-voce examination of the thesis

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and found the thesis original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirements for Master's Degree in Business studies (M.B.S)

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DECLARATION

I hereby declare the thesis entitled "An Analysis of Biratnagar Milk Supply Scheme" submitted to central Department of Management; Tribhuvan University is my original work. It is done in the form of partical fulfillment of the requirement for the Master of Business Studies (MBS) underthe supervision of Dr. Udaya Raj Regmi.

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CONTENTS

Page No:

Recommendation

Viva-voce sheet

Declaration

Acknowledgements

Contents

List of Tables

List of Graphs

List of Abbreviations

Chapter-1: Introduction 1-10

- | | | |
|-----|--|----|
| 1.1 | Introduction to Dairy Development (DCC) | 1 |
| 1.2 | Introduction to Beratanagar milk supply scheme | 2 |
| 1.3 | Objectives of BMSS | 7 |
| 1.4 | Statement of the probleme | 7 |
| 1.5 | Objectives of the study | 8 |
| 1.6 | Signification of the study | 9 |
| 1.7 | Limitation of the Study | 9 |
| 1.8 | Organization or structure of the study | 10 |

Chapter- 2: Review of Literature 12-52

- | | | |
|-------|------------------------------|----|
| 2.1 | General concept of profit | 12 |
| 2.2 | Planning & forecasting | 14 |
| 2.3 | Profit planning | 15 |
| 2.4 | Planning Levels | 18 |
| 2.4.1 | Strategic Long-term planning | 18 |

2.4.2	Medium Term Planning	18
2.4.3	Short term planning	19
2.5	Profit planning process	19
2.5.1	Identification and evaluation of External variables	20
2.5.2	Developing of the Broad	20
2.5.3	Development of specific Goals for the Enterprise	21
2.5.4	Development & evaluation of company strategy	21
2.5.5	Executive management planning instruction	22
2.5.6	Preparation and Evaluation project plans	22
2.5.7	Development and Approval of strategic and Tactical Plans	23
2.5.8	Implementation of profit plan	24
2.5.9	Use of periodic performance Reports	25
2.5.10	Use of flexible expenses Budget	26
2.5.11	Implementation of follow-up	27
2.6	components of profit planning and control	27
2.7	Planning perspectives	29
2.8	Importance of profit planning and control	29
2.9	Development of profit plans theory	31
2.9.1	Budget as technique of planning and control	33
2.9.2	Objectives of Budget	34
2.9.3	Essential of Budgeting	35
2.9.4	Master Budget	36
2.9.5	Sales Budget plan	37
2.9.5.1	Sales planning Vs sales forecasting	38
2.9.5.2	Strategic Vs tactical sales plan	39
2.9.5.3	Development of sales plan	40

2.9.6	Production Budget/plan	40
2.9.6.1	General consideration in prodctction plan	41
2.9.6.2	Long Vs short-rang production plan	42
2.9.6.3	Developing the production plan	42
2.9.7	Materials and parts purchase pllicy	44
2.9.8	Labour Budget	45
2.9.8.1	Developing the direct Labour Budget	45
2.9.9	Overhead Budget	46
2.9.9.1	Manufacturing overhead Budget	47
2.9.10	Distributes (selling) Expenses Budget	47
2.9.11	Administrative expenses Budget	48
2.9.12	Capital expenditure Budget	49
2.9.13	Cash Budget	50
2.9.14	Flexible Budget	51
2.9.15	Completion and Implementation of profit planning & contros	52
2.9.15.1	Completion of the Annual profit plan	52
2.9.15.2	Implementing the profit plan	52
Chapter-3: Research methodology		55-57
3.1	General Introdction	55
3.2	Research Design	55
3.3	Periods covered	56
3.4	Nature and sources of data	56
3.5	Research variables	56
3.6	Data processing procedure & tools of analysis	57
Chapter-4 Data presentation and analysis		58-94
4.1	Milk collection plan and achievement	58

4.2	Production plan and achievement	65
4.3	Sales plan target and achievement	78
4.4	Intentory Plan	89
4.5	Profit & loss account of BMSS	90
4.6	Identification of cost variability and CVP analysis	91
4.7	Cost Volume Profit analysis	92
4.8	Major Findings	94

Chapter-5: Summary, Conclusion & Recommendation 96-99

5.1	Summary	96
5.2	Conclusion	97
5.3	Recommendation	99

BIBLIOGRAPHY

APPENDIX

LIST OF TABLES

<u>Table No:</u>	<u>Description</u>	<u>Page No:</u>
4.1.1	Milk Collection in BMSS	59
4.1.2	Milk Collection in BMSS	60
4.1.3	Milk Collection in BMSS	61
4.1.4	Milk Collection in BMSS	62
4.1.5	Milk Collection in BMSS	64
4.2.1	Milk Production target and achievement of BMSS	65
4.2.2	Dahi Production target and achievement of BMSS	66
4.2.3	Ghee Production target and achievement of BMSS	67
4.2.4	Paneer Production target and achievement of BMSS	68
4.2.5	Butter Production target and achievement of BMSS	70
4.2.6	Powder Milk Production target and achievement of BMSS	71
4.2.7	Cream Production target and achievement of BMSS	72
4.2.8	Budgeted and actual production of BMSS	73
4.2.9	Budgeted and actual production of BMSS	78
4.3.1	Milk Sales target and achievement of BMSS	79
4.3.2	Butter Sales target & achievement of BMSS	80
4.3.3	Paneer Sales target & achievement of BMSS	81

4.3.4	Yoghurt Sales target & achievement of BMSS	82
4.3.5	Cheese Sales target & achievement of BMSS	84
4.3.6	Ghee Sales target & achievement of BMSS	85
4.3.7	Budgeted and actual sales of BMSS	86
4.4	BMSS Inventory Plans	90

LIST OF FIGURE

<u>Fig. No</u>	<u>Description</u>	<u>Page No</u>
4.1.1	Milk Collection in BMSS	60
4.1.2	Milk Collection in BMSS	61
4.1.3	Milk Collection in BMSS	62
4.1.4	Milk Collection in BMSS	63
4.1.5	Milk Collection in BMSS	64
4.2.1	Milk Production achievement Percent of BMSS	66
4.2.2	Dahi Production achievement Percent of BMSS	67
4.2.3	Ghee Production achievement Percent of BMSS	68
4.2.4	Paneer Production achievement Percent of BMSS	69
4.2.5	Butter Production achievement Percent of BMSS	70
4.2.6	Powder Milk Production achievement Percent of BMSS	71
4.2.7	Cream Production achievement Percent of BMSS	73
4.2.8	Budgeted and actual production of BMSS	74
4.2.9	Budgeted and actual production of BMSS	77
4.3.1	Milk Sales achievement percent of BMSS	80
4.3.2	Butter Sales achievement percent of BMSS	81
4.3.3	Paneer Sales achievement percent of BMSS	82
4.3.4	Yoghurt Sales achievement percent of BMSS	83
4.3.5	Cheese Sales achievement percent of BMSS	84
4.3.6	Ghee Sales achievement percent of BMSS	85
4.3.7	Actual sales achievement percent of BMSS	87

List of Abbreviations

BMSS:	Biratnagar milk supply scheme
BEP:	Break Even Point
C.V.:	Coefficient of variation
C.V.P.:	Cost Volume profit
DDC:	Diary Development Corporation
FC:	Fixed cost
FY:	Fiscal year
i.e.:	That is
Kg.:	Kilogram
Ktm:	Kathmandu
S.D.:	Standard Deviation
Ltrs:	Liters
Rs.:	Rupees
MBO:	Management by objective
VC:	Variable Cost
PPC:	Profit planning & control

Chapter-1

Introduction

1.1 Introduction to Dairy Development Corporation (DDC):

Dairy Development Corporation was established in 2026 B.S. and is the pioneer in dairy development in Nepal. DDC is fully state owned corporation which was initiated for the economic advancement of the poor farming communities. This has now flourished into national wide movement with an annual collection of over 60 million liters per year from more than 150,000 milk producer farmers through 1200 milk cooperatives societies spread in 40 districts in Nepal. The central office of DDC is in Lainchour, Kathmandu.

DDC is totally owned by Nepal Government. It has also financial support in the form of foreign support. As a financial support, World Food Program has been supporting since 2030/2031 B.S. Similarly, New Zealand Government, Netherlands Government, U.S. Government, World Bank, and Danish Government are also providing financial support to DDC.

DDC has state of art infrastructure comprising of fully modern dairy plant, sixteen cheese manufacturing units, forty-eight milk chilling plants and highly qualified specialists. DDC is a precious asset in the economic development of the nation.

Dairy is recognized as an important food for poverty reduction and is accorded as a thrust area by the government of Nepal. DDC has made significant contribution in bridging the gap between the urban consumer and the rural milk producers.

Sizable increase in the milk production has forced the DDC to utilize milk in the best possible ways by massive diversification of the diary products.

DDC is the leading manufacturer of standardize pasteurized milk, full cream milk, sterilized flavored milk, yoghurt, ice-cream, yak cheese, cow milk cheese, cheese spread, mozzarella cheese, processed cheese, paneer, ghee, yak ghee, butter, lalmohan, rasbari, peda, and butter milk.

1.2 Introduction to Biratnagar Milk Supply Scheme (BMSS):

The Biratnagar milk supply scheme at Biratnagar is one of the projects of the DDC established in 2030 B.S. DDC's only one skimmed milk powder plant at BMSS has been established in 2041 B.S. and started production from 2051 B.S.

BMSS has been collecting cow milk and buffalo milk from various parts of eastern Nepal, mainly Fikkal, Kutidada, Tindhare, Laxmipur, Biblyate, Puwakhola, Shantidada of Ilam, Deurali of Pachthar, Chitre of Terathum, Hile of Dhankuta, and local areas. BMSS has been playing a vital role to uplift the economic status of rural farmers. So, it has been recognized as an effective tool for poverty alleviation and economic development of rural farmers.

The products prepared by Biratnagar milk supply scheme are as follows:

1. Standard milk
2. Yoghurt
3. Table Butter
4. Ghee

5. Paneer
6. Skimmed milk powder
7. Ice-cream
8. Flavored milk

BMSS has attempted following improvement.

- Improving the minimum quality of milk bought from the farmers, improved the financial condition of the corporation.
- Replaced the old machines and vehicles of the corporation and improved the running cost and improved the productivity.
- Modernized the account keeping system by introducing Computerized Accounting System and has a plan to computerize other activities of the corporation too.
- Reduced the cost by changing the specification of packaging film.
- Decreasing the losses acquired in refining, attempted to improve the financial condition of the corporation.
- Minimized the store loss and transportation loss etc.
- Evaluation and Inspection process has been made more effective.
- BMSS has set the policy to not to refund the goods once sold.
- BMSS uses its own vehicles for collecting milk from different places whereas rented transportation is used for selling its products at the local markets.

Human Resources:

Employees are the most precious assets and an organization can run smoothly only if it has good employees. BMSS also follows the same principle. General manger has been leading a group of young, experience, hardworking, and dynamic people. The management and the team of all the employees are successful in producing a good result due to cooperation with each other. BMSS has been trying to develop the skills of all the employees.

There are around 200 employees working in total in this corporation in which 34 are in administration, 42 are in collection, 68 in processing, 16 in sales totaling 160 and 18 in daily wages and 2 are in contract basis.

Production and Technology:

The traditional concept of working with limited service and goods does not exist at the present scenario. Due to the introduction of information technology and economic decentralization, there has been a huge demand of new, diversified, people-oriented and value-added products in the market.

An organization has to renovate and modernize itself from time to time according to the demand of time for its existence. Keeping this necessity of renovation and modernization in mind, considering timely working system, this corporation has been manufacturing new products. Sales counters have been managed to fulfill the demand of customers. BMSS has 2 sales counters where there are 9 employees of the corporation working to fulfill the demand of the customers. Among these 9 employees 4 of them have

been working at the center situated at Mahendra Chowk and 5 of them are working at Milk Bar Project which is situated at Kanchanbari itself.

Distribution Process:

BMSS has taken its product to the market with the help of different distributors. This corporation has been selling milk and milk products with the help of booths, retailer store, franchisee store, and distributors. In this corporation, there are 140 booths, 35 retailer, 8 franchisee store, and 5 distributors. Following necessary steps are followed for opening such.

Booths:

- There must be a minimum distance of 200 meters from one booth to other.
- A copy of citizenship, recommendation from municipality, business certification, etc.
- A charge of Rs. 1000.

Retailer Store:

- Has to register at VAT and PAN.
- A charge of Rs. 4000.

Franchisee store:

- In these stores, various products of only one brand are sold.
- Has to be registered at VAT.
- A charge of R. 10,000.

Distributor:

- There is only one distributor at one place.

- To be a distributor, one should have corporation's own vehicle, freezer, and other necessary equipments. Walking freezer is also necessary for this.
- A charge of Rs. 50,000.

Food Safety Management:

Food Safety Management has been implemented in BMSS. The Food Safety Management System implemented in BMSS shall cover:

"Manufacturing & Supply of Pasteurized Milk, Yoghurt, Table Butter, Ghee, Paneer, Skimmed Milk Powder & Ice-Cream" and "Receiving, cutting, weighing, and packaging of Kanchan Cheese, flavored milk and Supply."

BMSS in the food chain shall demonstrate its ability to control food safety hazards in order to ensure that all its scoped milk products are safe at the time of human consumption.

Requirements of ISO 22000:2005 has been accomplished at BMSS through the use of internal and/or external resources by:

- Planning, implementing, operating, maintaining and updating a food safety management system aimed at providing products that, according to their intended use, are safe for the consumer,
- Demonstrating compliance with applicable statutory and regulatory food safety requirements,
- Evaluating and assessing customer requirements and demonstrate conformity to enhance customer satisfaction,
- Effectively communicating food safety issues to our suppliers, customers, and relevant interested parties in the food chain by establishing Pre-requisite Program,

– Ensuring that the organization conforms to its stated food safety policy.

1.3 Objectives of BMSS:

1. Provide the rural farmers guaranteed market for milk by providing fair price.
2. Supply pasteurized milk and milk products to the market.
3. Develop network to organized milk collection system to meet the higher demand of milk and milk products.
4. Keep up the economic growth in rural community.
5. Develop systematic marketing system for pasteurized milk and milk products in urban area.

1.4 Statement of the Problem:

Government of Nepal has established different public enterprises during the different plan periods with different objectives. The objectives stated in various plan documents were accelerating the rate of economic growth, generation employment, economic equality, utilization of natural resources, contribution in government exchanger. Most of the public enterprises are not fulfilling the objectives because of less utilization of the capacity and ancient technology. At present, public enterprises are becoming the burden of government's budget, that is why question mark has been raised about the public enterprises.

We all know, for the optimum benefit, there should not be a huge difference between sales and production, always a balance

should be maintained between these two. Nowadays, the public enterprises are suffering from inaccurate estimation of sales and production. Both underproduction and overproduction add cost and decreases profit. In other word, there is no balance in sales and production, which has two results. First, sales is less than production; in this condition, the firm has more production but sales volume is very few, which invites the problems of overstocking of inventory (unsold products) that results in increase cost for managing inventory. Secondly, production is less than sales. In this case, there will be lack of stock for sales or there will be cost burden due to underproduction and sales cannot be made according to the demand which leads to loss of the customers as well as the reputation.

So, the main problem is how to co-ordinate between production and sales and also how to keep optimum level of inventory.

1. How does BMSS adopt the profit planning and control at present?
2. How to analyze the sales planning and inventory policy prepaid by BMSS?
3. Why is production level fluctuating?
4. Why is there difference between budgeted and actual achievement?
5. Is there efficient financial position?

1.5 Objectives of the Study:

The main objective of the study is as summarized below.

- Analyze the collection and production of BMSS.

- Analyze the sales according to goal.
- Analyze the profit planning.
- Analyze the financial performance of BMSS.
- Analyze the proper utilization of the resources.
- Provide the suggestions and recommendations for improving production and sales planning for BMSS.

1.6 Significance of the Study:

Co-ordination between sales and production is very important for manufacturing industry. Over and under production bring different problems which increases the cost and decrease profit. So, the researcher has thought that the study will be very important to improve the performance of Biratnagar milk supply scheme. The significances of the studies are as follows.

- The study will be helpful in analyzing the collection and sales of Biratnagar Milk Supply Scheme.
- This is a creative research about the related field which may provide material for the interested parties.
- Identify the problems and irregularities linked with BMSS.

1.7 Limitations of the Study:

The major limitations of the study are as follows.

- This study will focus on collection, production, and sales planning only.
- The study will be concentrated only on 5 years from 2063/2064 to 2067/2068 B.S.

- The study will be made by used of secondary data and some primary data collected by questioning the representatives of BMSS.
- The study does not assess the statement of broad objective, goals, basic strategies, planning premises, protect planning and financial plan.
- The method, theories, and standard employed in the study will have its own limitation as assumption.

1.8 Organization or Structure of the Study:

Organization of the study refers to the management of research work for the effective analysis. The study will be divided into five chapters as mentioned below:

I. Introduction: This chapter deals with the general background of the study, introduction of corporation and its objectives, statement of problem, objectives, importance, and limitations of the study.

II. Review of Literature: Review of literature explains the basic information related to the study. It deals with the theoretical concept of production, sales, and profit planning and control. This chapter gives definition, explains the meaning, and speaks about type and strategies.

III. Research Methodology: This chapter followed to achieve the purpose of the study has been described. It includes research design, nature and sources of data, population and sample, data gathering method and instrument and data processing.

IV. Presentation and Analysis of Data: This chapter includes the tabulation and analyzing the collected data through different sources.

We use various analysis tools and techniques here based on the analysis of the research.

V. Summary, Conclusion, and Recommendation: This includes the theme of the whole study. At last, few recommendations for the improvement of the sales and production planning and other plan performance for BMSS.

At the end of the study, bibliography, appendix, and questionnaires are also incorporated.

Chapter-2

Review of Literature

2.1 General concept of profit

Usually profit is not earned itself. It should be managed while management plans to earn profit; it is known as profit planning. Profit planning is a part of planning of an enterprise. Before discussing the profit planning in detail, it would be relevant to make some discuss of profit.

Profit is one of the most important factors which are regarded measure of success of an organization. In simple sense the excess of income over the cost of production is profit. Profit has been interpreted in various ways. "An economist will say that profit is the reward of entrepreneurship for risk taking. A labour leader might say that it is a measure how efficiently labour has produced and that provides a base for negotiation a ways increase. Investors will view it as a gauge of return on his/her money. An internal revenue agent might regard, it is a base for determining income taxes. The accountant will define it simply as the excess of firm's revenue over expenditure of producing is given fiscal period." (Richard M. Lynch & Robert w. Willimson, Third Edition PP 99)

"Economic theories on profit may be put in three broad groups. The first looks upon profit as the reward for bearing risks and uncertainties, the second view, profit as a consequence of frictions of imperfection in the competitive adjustment of the economic to dynamic changes, the third sees profit as the reward for successful innovation" (Joel Dean, 1977, p6) "Profit is the reward for bearing risks of enterprises, the risks venturing in business, the

risks of owning something in hope of selling it later." (John H. Myres, pp250)

According to risk theory, profit is the factor payment for taking risks. This theory believes in the concept that higher the risk higher the profit. To the second group of theories profit appears because the economy can not adjust itself to change in cost and demand immediately. Profit results because of this equilibrium and imperfect competition. To the third group of theorists, profit is the remuneration for innovative task performed by businessman. The innovative entrepreneur puts new ideas in the business and hence level to rewards for his works i.e. profit.

Actually above theories tell only a part of story. Economists say that profit is the reward for discharging all the above three functions, namely: risk bearing, market imperfection and innovation.

"The efficiency of management is reflected upon the volume of profit. It is a signal for the allocation of resources and a yardstick for judging managerial efficiency" (p.v. Kulkarni 1985, p 245)
"Planning is the conscious recognition of the futurity of present decision" (P.F. Drucker, vol 5 1959, p 338).

Planning is the process of development enterprises objectives and selecting a future course of action to accomplish them. It includes (a) establishing enterprises objectives. (b) developing premises about the environment in which they are to be accomplished (c) selecting a course of action for accomplishing the objectives and (d) initiating activities necessary to translate plans into action and (e) current re-planning to correct current

deficiencies" (Ileenn A. Welsch, Ronald D. Hilton Poul N. Gordeon, 1992, p3)

"Planning is the risk that is performed in advance of taking actions. It is actually anticipatory decision making even though not all forms of decisions making are planning" (R.L. Ackoff, 1970). Better planning is one of the frontiers of better management" (I.S.Mac Alpine 1976, p1)

In this way, planning is deciding in advance of available alternative. "It reduces uncertainty and provides direction to the employees by determining the course of action in advance" (I.M. pandey 1994 p 247). But it is noted that "Planning can not be, of course, guarantee profit in all circumstances, but it can provide safeguard" (Mac-Alpine 1976p-1)

2.2 Planning & Forecasting

Planning is deciding in advance what is to be done in future. Planning is the feed forward process to reduce uncertainty about the future. The planning process is the feed forward process to reduce uncertainty about future. The planning process is based on the conviction that management can plan its activities and conditions the state of the enterprise determines its destiny. Planning is a systematic method of thinking out acts and purpose before hand. It is the first essence of management and all other functions are performed within the framework of planning. It is the basis foundation of profit plans.

Planning should start by deciding and defining the objectives of the company, making sure in the process that there are compatible with the skills and resources of the under taking. Planning is

essential to accomplish goals. It reduces uncertainty and provides right direction to the employees by determining the course of action in advance. Formal planning indicates the responsibility of management and provides an alternative to grouping without direction. Planning on the other hand, involves the determination of what should be done, how the goal may be reached and what individuals are units are to assume responsibility and be held accountable.

Planning is the process of developing enterprise objectives and selecting future courses of action to accomplish them. It includes.

- i. Establishing enterprises objectives.
- ii. Developing premises about the environment in which they are to be accomplished.
- iii. Selecting a course of action for accomplishing the objectives.
- iv. Initiating activities necessary to translate plans into action plan.
- v. current re-planning to correct current deficiencies (Glenn et al. 1990:3)

2.3 Profit Planning

After discussing about the profit and planning, it becomes easier to know that what profit planning is. Simply profit planning is planning for future operation in such a way as to maximize the profit. It is a managerial process, which helps management to perform planning function effectively. A comprehensive profit planning is also known as broad budgeting schedule developed in

financial statement. Profit Planning deals with the development of objectives, specification of short-term goals and development of strategic and tactical profit plan. It is an importance approach developed to facilitate the effective performance of management process.

"The concept of comprehensive profit planning encompasses systematic integrated approaches of profit planning and strategic planning. The descriptive term comprehensive profit planning used other some contexts are business budgeting, managerial budgeting and others budgeting" (Glenn, 1990:31)

Profit planning means the development and acceptance of objectives and goals and moving or organization efficiency to achieve the objectives and goals. Profit planning is not a separate technique that can be through of the separated independently of the total management process. The broad concept of profit planning entails on integration of numerous managerial approaches and the techniques that might be exploited such as sales forecasting, sales quota system capital budgeting, cash flow analysis, cost volume profit analysis variable cost budget etc. profit plan or budget is a comprehensive statement of the intention, expressed in financial terms, for the operations of the firm for a short period. It is a plan of the firm's expectations and used as a basis for measuring and controlling the actual performance of manager and their units.

"Profit planning or budgeting is a forward planning and involves the preparation in advance of quantities as well as financial statement to indicate the intention of management in respect of various aspects of the business. Profit planning in fact is a

managerial techniques and it is a written plan in which all aspects of business operation with respect to define future period are included. It is a formed statement of policy, plan, objectives and goals established by the top management in respect of some future period. Profit planning is predetermined detail plan action developed and distributed as a guide the current operation as performed. Thus, we can say that profit planning is a tool which may be used by the management in planning the future course of action and in controlling the actual performance" (Gupta, 1990:521).

"The profit planning and control involves:

- Development and application of broad and long term objectives of the enterprises.
- The specification of enterprise goals.
- Development of strategic long-range profit plan in broad terms.
- Specification of a tactical short range profit plan detailed by assigned responsibilities (division, department products).
- Establishment of a system of periodic performance reports detailed by assigned responsibilities.
- Development follows up procedures (Glenn et al., 1990:30).

At last we conclude profit planning refers to the organization techniques and procedures were by long range, short range plan are formulated, considered and approved, responsibility for execution is delegated, flexibility to meet changing is provided, progress in working the reported deviation in operations are analyzed and corrective action requires to reach the desired objectives is taken.

2.4 Planning Levels

2.4.1 Strategic Long-term Planning

Long range planning covers five years and more varying with the enterprises sometimes extended beyond 10 years. Long range planning is one of the most difficult time spans involved in planning. As many problems in short range planning cannot be treated due to the absence of clear sense of direction and the practices, which a comprehensive long-rang plan provides.

To be successful a long range plan provides achieve the following objectives:

- In corporate the engineering department's development and support expenses for new product features.
- Review the plant capacity, personal requirement in light of start up products and existing plant capitalization.
- Identify future capital requirement for developing departments, the manufacturing process and support departments such as management information system and the building structures.
- Reflect changes in cash requirement for salaries, materials, capital etc.
- Consider what impact will be in inflation fringle, benefits, product cost and in overseas operations, the projected impact of exchange will have on the long-range profitability of plant (Glenn et al., 1990:82-83).

2.4.2 Medium Term Planning

The medium term planning covers of 2 to 3 years. Medium term planning is used mainly to determine the allocation of resources among completing activities and to revise.

Medium term planning often takes the forms of budgeting in which each division; department or unit is allocated certain resources during the coming years. These allocations are based in fact on forecasting of demand, cost, financial position and competition. The important and frequency of medium term planning make it worth while to spend more effort and employ more elaborate prediction than in the case for shorter time horizons. Often it may be wise to use more than one method in order to check and compare accuracy of results.

2.4.3 Short Term Planning

It is also called tactical plan. It is to be developed for short period of time. The short term planning is selected to confirm to fiscal quarters or year. Because of practical needed for conforming plans of according periods and the some what arbitrary limitation of the long range to three to five years is usually based as been indicated on the certainty over long period makes planning of questionable value. Short-range planning is a limited five dimension usually it covers one year time period. Management uses it as a substantial part of long range and medium range plan.

2.5 Profit planning process

Profit planning process should involve periodic consistent and depth replanning so that all operations should carefully re-examination and re-evaluated. There are several steps in profit planning process which is discussed below.

2.5.1 Identification and evaluation of External Variables

It is basic function of profit planning process. In this stage the profit planning process focuses on (a) identifying and (b) evaluating the impact or effect of external environment, which will have significant impact on the enterprises. As the management planning focuses on the best possible manipulation of controllable and non-controllable variables are considered separately. This is done in order to minimize the potential unfavorable impact.

A particularly significant phase of this analysis includes the evaluation of the present strength and weakness of the enterprise. Planning must start with objectives and realistic understanding of the present status of products services, markets, profit and return on investments, cash flow, and availability of capital, production capabilities and the competences of both management and non management personnel. So, analysis and evaluation of the environmental variables must be a continuing concern of management. These activities should involve all executive managers, who in turn should export various staff groups to provide data and recommendations (Glenn et al.. 1990:74-75).

2.5.2 Developing of the Broad Objectives of the Enterprise

In this stage of the statement of objectives should express the mission, vision and ethical character of the enterprise. Its purpose is to provide identity, continuity of purpose and definition. However, the statement of broad objectives normally should not specify the quantitative goals. Rather, it should be narrative expression of the purpose, objectives and philosophical character of the business. It

should be signed for wide dissemination and should be believable, which means, in the long run the company's action must be harmony with the statement (Glenn et al. 1990:75-76).

2.5.3 Development of Specific Goals for the Enterprise

In this stage of process bring the statement of broad objectives into sharper focus and to improve from the realm of general information to more specific planning information it provides both narrative and quantitative goals that are definite and measurable. There are specific goals that relate to the enterprise as a whole and to the major responsibility centers. Executive management should exercise leadership in this planning phase so that there will be realistic and clearly articulated framework within which operations will be conducted towards common goals. This statement of specific goals should define such operational goals as expansion or contraction of products and services lines, geographical areas, share of the market by major products service lines, growth trends, production goals, profit goal's profit margins, return on investment and case flow. When the goals are specific they could offer basis for performance measurement (Glen et al., 1990:77-78).

2.5.4 Development and Evaluation of Company Strategy

The purpose of developing and disseminating enterprises is to find the best alternatives for attaining the planned broad objectives and specific goals. Strategic focus on "how", therefore they outline a plan of action for the enterprise. Executive management must be creative and directly involved in the development of new strategies

and in the adaptation of currently on going strategies in harmony with the relevant variable with which management must cope. While developing the basic enterprise, the executive must focus on identification of the critical areas that influence the long-range success of the enterprise. Critical area should be pinpointed through evaluation concern to executive management, periodic reassessment of the strategies is essential in the light of a careful analysis of all relevant variables and their probable future impact on the enterprise (Glenn et al., 1990: 78-79).

2.5.5 Executive Management Planning Instructions

This phase involves communication of the substantive plan to middle and lower management level. It explains the broad objectives, enterprise goals, strategies and any other to develop the strategic and tactical profit plans. The executive planning instruction issues by the top management communicate the planning foundation that is necessary for the participation of all levels of tactical profit plans for the upcoming budget year. At this point of planning process, the foundation has been established to articulate the broad and specific objectives of the enterprise and the strategic that facilitate their attainment (Glenn et al., 1990:79).

2.5.6 Preparation and Evaluation of Project Plans

Project plans encompass periodic plans and project plan for improvement of present products, new and expanded physical facilities, and entrance into new industries, exit from products and

industries, new technology and other major activities that can be separately identified for planning purpose.

The nature of projects is such that they must be planned as separate units. In planning for a project, the time span considered must normally be the anticipated life span of the project. Projects approved must then be timed into the strategic and tactical profit plans. In addition to any going projects, management should encourage on a continuing basis project proposals from any source within the enterprise. Consistent with the approach, during the formal planning cycle, management must evaluate and decide upon the plans status of each project in process and select any new projects to be initiated during time dimensions covered by the upcoming strategic and tactical profit plans (Glenn et al., 1990:79-80).

2.5.7 Development and Approval of Strategic and Tactical Plans

When the managers of the various responsibility centers in the enterprise receive the executive management planning instructions and the project plans, they can begin intensive activities to develop their respective strategic and tactical profit plan. The strategic long-range plan and the tactical short-range profit plan are usually developed at the same time. It is generally seen that the executive management develops the strategic and tactical profit plans but the backlash of this practice is that this denies the full participants by middle managers in the planning process. And this can give rise to unfavourable behavioural effects. So, here we assume a participatory planning and the manager of each responsibility centers have

received instructions of the executive managements. Now the manager of each responsibility center to develop a strategic long-range profit plan and in harmony with the long range plan, a tactical short range profit plan. However, a certain format and procedural instructions should be provided by a centralized source to establish the general format, amount of detail, and other relevant procedural and format requirement essential for aggregation of the plans of the responsibility centers into the overall profit plans.

After the completion of the two profits plans the approval must be initiated. This process involves approval, disapproval or revision based on action by executive management or presentation and justification by the managers of the responsibility centers to the next higher level of authority (Glenn, et al., 1990:80-81)

2.5.8 Implementation of Profit Plan

Implementation of management plans that have been developed and approved in planning process involves the management function of leading subordinates in attaining enterprise objectives and goals. Thus effective management at all levels requires that enterprise objectives, goals, strategies and policies be communicated and understood by subordinates. There are many facets involved in management leadership. However, a comprehensive profit planning and control programme may aid substantially in performing this function. Plans, strategies and policies developed through significant participation establish to foundation for effective communication.

The plans should have been developed with the managerial conviction that they are going to be met or exceeded in all major

respects. If these principles are effective in the development process, the various executive and supervisors will have a level of clear understanding of their responsibilities and the expected level of performance, which will ultimately lead to effective implementation of profit plans (Glenn, et al., 1990:84-85).

2.5.9 Use of Periodic Performance Reports

As profit plan are being implemented during the period of time specified in the tactical plan, periodic performance reports are needed. These performance reports are prepared by the accounting department on a monthly basis. Also some special performance reports are prepared more often on "as needed" basis. These performance reports (a) compare actual performance with planned performance and (b) show each difference as a favourable performance variation.

A clear distinction must be made between external and internal financial reports. Internal report can be further classified as (a) statistical reports that give the basic quantitative internal statistics about the operation of the enterprise; (b) special managerial reports about none recurring and special problems; and (c) periodic performance reports. The latter reports focus on dynamic and continuous control tailored to the assigned managerial responsibilities. These reports are primarily repetitive, short-term reports developed for each of the responsibility centers. Short-term performance reporting is essential for effective control.

2.5.10 Use of Flexible Expenses Budget

The flexible expenses budget is also referred to as the variable budget, sliding scale budget; expenses control budget and formula budget, which applies only to expenses. It is completely different from profit plan but it is used to complement it. It gives realistic information about expenses that make it possible to compute budget amount for various output volumes or rates of activities in each responsibility center. To do this the flexible budget provides a formula for each expense in each responsibility center. The formula gives the relationship of each expense to output in the center. Each formula includes a constant expenses factor and a variable expenses rate. To apply this concept in a department, each expense must be classified into the three categories (a) fixed expenses, (b) variable expenses, (c) semi-variable expenses. In the case of a fixed expense the variable rate is zero and in the case of a variable expense, the constant factor is zero and in the case semi-variable expenses, there is a value for both the constant factor and the variable rate.

Flexible expenses budget formulas can be used in two phases of the PPC process (tactical profit Plan). If the flexible expenses formulas are developed concurrently with the strategic and tactical profit plan, they are used to compute the budgeted expenses amounts in the tactical profit plan. This is done by multiplying the planned output or activity of each responsibility center by the related variable expenses rate for each center and then adding any fixed cost for the center. Flexible expenses budgets are usually constructed early in the budget planning period because, as indicated, they

provide cost data for the tactical profit plan (Glenn, et al., 1990: 86-87).

2.5.11 Implementation of Follow-up

Follow-up is an important part of effective control. Because performance reports are based on assigned responsibilities, they are the basis for effective follow-up action. It is important to distinguish between the causes and effect. The performance variation are effects (the result) and the management must determine the underlying causes. The identification of cause is primarily a responsibility of line management. Analysis to determine the underlying causes of both favourable and unfavourable performance variances should be given immediate priority. In the case of favourable performance variance, after identifying the basic cause as opposed to the result, an alternative for corrective action must be selected and the corrective actions be implemented. If performance variances are favorable, the underlying causes should be identified and this is helpful improving efficiency (Glenn. et al., 1990:88).

2.6 Components of Profit Planning and Control (PPC)

PPC is formed from different components as per Welson Hillton and Gordon which are discussed as below:

A. The substantiative plan

1. Broad objectives of the enterprise.
2. Specifics enterprise goals
3. Enterprise strategies
4. Executive management planning instructions.

B. The financial plan

1. Strategic (long range) profit plan.

- a. Sales, cost and profit projections
- b. Major projects and capital additions
- c. Cash flow and financing
- d. Personnel requirement

2. Tactical (Short range) profit plan

- a. Operatives plan

Planned income statement

- i. Sales plan
- ii. Production plan
- iii. Administrative expenses budget
- iv. Distribution expenses budget
- v. Appropriation types of budget (i.e. research and development promotion, Advertising)

- b. Financial position plan

Planned balance sheet

- i. Assets
- ii. Liabilities
- iii. Owner's equity

C. Cash flow plan

- d. Variable expenses budget-out put expenses formula, fixed variable and semi-variable expenses.
- e. Supplementary data (e.g. cost volume profit analysis, Ratio analysis)
- f. Performance reports (including any special reports) each month level and as needed.

g. Follow up, corrective action and re-planning reports.

2.7 Planing perspectives

While profit plan is prepared various problems are to be faced by the management. Welsch,Hilton Gorden have mentioned some problems in planning .

1) Long range planning has been confusion about its real nature and a tendency to pursue long range planning on an informal ad hoc basis.

2) Failure to distinguish between strategic (long range) planning and forecasting planning is fundamental managerial activity that includes specific decisions about the objectives, goals and strategies of the enterprise whereas forecasting is to predict a problem outcome from given set of circumstance for a specified period in the future.

3) Another common problem in partial planning NO attention is given to developing comprehensive plans that cover all factor of expected future operations.

4) Problems relate to the definition of long-range profit plan because some companies refer to their annual profit plan as long range planning.

(Ibid (summarized p-94)

2.8 Importance of PPC

After knowing the meaning and process of profit planning control it is useful to know about it's importance. It can be adapted to any business at any condition. It is very important to emphasize on developing positive reinforcement, improving motivation,

developing goals coping with the effect of budgetary pressure, resolving budget padding problems and using budget control. There are some importance of profit planning and control, which are shown below (Glenn. et al., 1990:60-61).

1. It focuses early consideration of basic policies.
2. It requires adequate and sound organization structure: that is there must be a definite assignment of responsibility for each function of enterprise.
3. It compels all member of management from topdown, to participate in the establishment of goals and plans.
4. It compels departmental managers to make plans in harmony with the plans of other departments and of the entire enterprise.
5. It requires that management put down in figures what is necessary for satisfactory performance.
6. It requires adequate and appropriate historical accounting data.
7. It compels management to plan for the most economical use of labour, material and capital.
8. It instills at all levels of management the habit of timely, careful and adequate consideration of the relevant factors before reaching important decisions.
9. It reduces cost by increasing the span of control because fewer supervision are needed.
10. It frees executives from many day-to-day interval problems thought precetermined policies and clear-cut authority relationship. It thereby provides more executive time for planning and creative thinking.

11. It tends to remove the cloud of uncertainty that exists in many organizations, especially among lower levels of management, relative to basic policies and enterprise objectives.
12. It pinpoints efficiency and inefficiency.
13. It promotes understanding among members of management of their co-workers problems.
14. It forces management to give adequate attention to the effect of general business conditions.
15. It forces a periodic self-analysis of the company.
16. It aids in obtaining bank credit; banks commonly require a projection of future operations and cash flows to support large loan.
17. It checks progress or lack of progress toward the objectives of the enterprises.
18. It forces recognition and corrective action (including rewards).
19. It rewards high performance and seeks to correct unfavourable performance.
20. It forces management to consider expected future trends and conditions.

2.9 Development of profit plans theory

Functional budget help prepare the profit plan. So researcher has to take some ideas of budget "A budget is a comprehensive and co-coordinated plan expressed in financial terms for the operation of resources of a enterprise for some specific period in the future".

(James M fremgen, 1973 p144). The word budget is used of many kinds of statements of future plans and expectation, varying enormously in their firm and content, the use to which they are put and even their names. It is statement of objective as well as a forecast or an estimate. "Budget is a detailed quantitative plan to guide the firms operation in the near future." (Lynch and Williamsn p142). A budget is a place of action of achieved, stated objectives based on predetermined series of related assumption. "Budget in quantitative and usually financial expression of plans that is they allocate resources to activity" (John R. Schermerhern J.R., p178). A budget is a quantitative expression of a plan of action and an aid to coordination and implementation budgets may be formulated for the organization as whole or for any sub unit. Budgeting includes sales, production, distribution and financial aspects of an organization. Budget programs are designed to carry out a variety of functions, planning, evaluating performance, coordinating activities, implementing plans, communicating motivating and authorizing actions. Budget is written plan for the future. A firm without financial goals may find it difficult to make proper decisions. A form with specific goals in the form of a budget makes many decisions ahead of time. A budget helps a form to control its cost by setting guidelines for spending money for unneeded items because they know at all costs will be compared to the budget. If cost exceed the budget many even grounds for dismissal. A budget helps to motivate employees to do a good job. This is particularly true when employees help in setting up the budget. "The concept of a comprehensive budet covers its use in planning, organizing and

controlling all financial and operating activities of the firm in the forthcoming period. (Lynch & Williamson. p 142).

Budget is defined as "It is the detailed estimate of the cost of stated policy and the expected income to be raised profit" (Halsall p44). Simply stated the process of preparing and using budgets to achieve management objectives is called budgeting. More specially, a comprehensive profit planning and controlling or budgeting is a systematic formalized approach for stating and communicating the firm's expectations and accomplishing the planning, coordination and control responsibilities of management in such a way as maximize the use of given resources" (Pandey p 246).

In this way "The procedure for preparing plan in respect of future financial and physical requirement is generally called planning or budgeting".

2.9.1 Budget-as technique for planning and control

Functional budgets are techniques for planning and controlling the profit of any enterprises. Desired profit is planned in budgeting. Budgeting is realistic statement of income and cost objectives for a year. It is a plan against which the ensuring actual performance is compared so as to achieve control by deducting and correcting of standard performance. "Profit does not emerge of their own accord, they have to be influenced by management. The quality by size of the profit figures at the end of the financial year. For its own protection and in the interests of the business management must plan to make profit and the accepted basis for this is the annual budget, properly supported by long term strategic planning and operational

planning." (Mac-Alpine. p26) Budgets are instruments of planning and physical and financial control. "It has been recognized as the accepted procedure for profit planning" (Mac-Alpine. p2). "A budget imposes operational standards with account ability for performance and it must be set with these objectives in view. Therefore the aim of every company should prepare its budgets meticulously systematically and factually and as in instrument of management control." (I bid pp. 27-28). Budgeting control is a system has been define4d as "It is the establishment of budgets relating the responsibilities of executives to the requirement of a policy and the continuous comparison of actual with budgeted results, either to secure by individual action the objectives of that policy or to provide a basis for revision" (P.V. Rathnam, 1994, p7). The common object of budgetary control is to formulate policies aimed at objective established after the consideration of the possible course of events in the future and to provide a mean for the constant comparison of actual progress towards this goal against the preconceived results" (A.W. Willsmore, 1960: 3-4)

2.9.2 Objective of budget

The purpose of budgeting in the context of an annual budget is to project as accurately as possible the sales income: expenditure and profit for the ensuring year. This is the principle objectives and all other requirement of budgetary stem form it" (Mac-Alpine p40).

Following are the basic objectives of budget which has been mentioned by Ratham:

- i. It is a plan of actions and serve as a declaration of policies.

- ii. It defines the objectives for all the speculative.
- iii. It provides a means of co-ordination and communication
- iv. Budget facilitates centralized control with delegated authority and responsibility.
- v. It provides a comparison of actual performance with budgets.
- vi. Only the exceptions are reported to management so that corrective action can take in order to achieve the objectives laid down by the management (Ratham 1994 p7)

2.9.3 Essential of budgeting

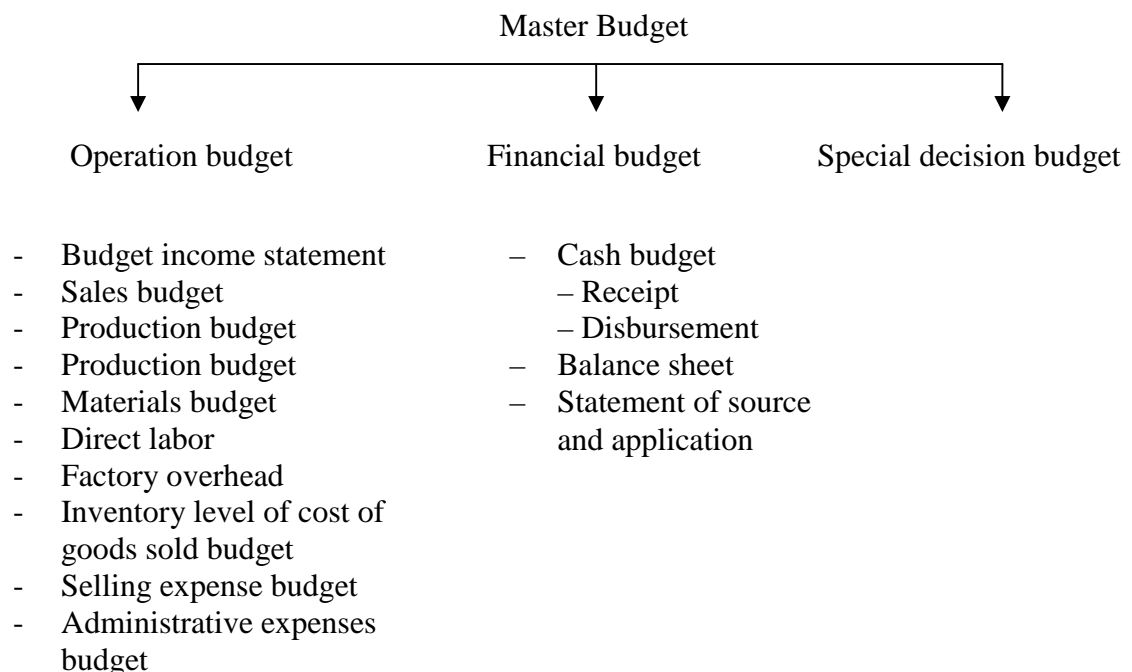
"A Successful and sound budgeting system is based upon certain prerequisites. These prerequisites represent management attitude, organization structure and managerial approaches necessary for the effective and efficient application of the budgeting system.

- a. Top management support
- b. Clear and realistic goals
- c. Assignment of authority and responsibility
- d. Creation of responsibility centers
- e. Adaptation of the accounting system (responsibility accounting)
- f. Gull participation
- g. Effective management
- h. Budget education
- i. Flexibility (I.M.Pandey 1994. pp248-249)

2.9.4 Master Budget

"The complete budget for a firm is often called the master budget. A master budget is a summary of functional budgets and thus it shows the overall budget plan and profit or loss during the budget period." (Rathnam, p31). "In the process of preparing budget, company should prepare several functional budget. Such functional budgets are mainly sales budget, production budget, materials budget and usages budget, labour budget, expenses budget, cash budget and so on. The summarization of all those functional budgets into a statement is necessary to calculate the overall income and expenditures of the company. Such overall budget is known as master budget." (J.H. Halsall. p99)

A master budget consists of three types of budgets:



The preparation of master budget is not an easy task. Some steps to prepare a master budget are:

- Forecast demand for production and or service

- Identify cost pattern for responsibility centers
- Estimate production costs.
- Specify operating objectives
- Develop sales budget.
- Develop a production budget
- Develop a purchasing budget.
- Develop a budget for responsibility centers.
- Formulate a profit plan
- Compare profit plan with operating objectives
- Formulate a projected cash budget
- Prepare a projected statement of financial position

A detailed profit plan can be formulated with the help of various functional budgets. This process starts with the preparation of sales budget and end with the completion of budgeted profit and loss account and the Balance sheet.

2.9.5 Sales Budget/Plan

Sales budget is the starting point for the development of profit plan. "Sales budget is one of functional or operating budget and essentially a forecast of sales to be effected in a budget period. In fact sales budget defines the quantities and values of expected sales in total as well as product wise and area wise during a definite future period. Sales budget forms the fundamental basis for other functional budgets and it is needed to coordinate the production function with expected demand for a particular product. The preparation of sales budget requires forecast of quantities to be sold and also the standard prices at which these quantities may be sold"

(Gupta S.P. p 537). It has "Three parts a. the planned volume of sales at the planned sales price per unit for each product b. The sales promotion plan and c. The sales/ distribution expenses plan". (welach, Hillton, Gordon. p 135). "A comprehensive sale planning includes strategic and tactical sales plans. A sales plan incorporates such management decisions as objective, goals, strategies etc".

The purpose of a comprehensive sales plan are to :

- a. Reduce future uncertainty about the future revenue.
- b. Incorporate management judgement and decisions in planning process.
- c. Provide necessary information for other parts of PPC
- d. Faciliate management's control of sales activities" (Ihanendra Fageo, Keshab Koirala, 2056p-1)

2.9.5.1 Sales planning Vs sales forecasting

"Sales planning and forecasting often are confused. Although related, they have distinctly different purpose. A forecast is not a plan rather it is a statements/quantified assessment of future continuous about particular subject i.e. sales revenue based on one or more explicit assumption. A forecast should view as only one into the development of a company may accept, modify or reject the forecast. A sales plan incorporates management decisions that are based on the forecast other inputs and management judgment about such related items are sales volume prices sales efforts, productions, and financing. A sales forecast is converted to a sales plan when the management has brought to bear management judgment, planned strategies, commitments of resources and the managerial

commitment to aggressive action to attain the sales goal. Sales forecasting is a technical function." (Welch, Hillton Gordon. p172).

A sales forecasting has to be translated into a sales budget and here a number of factors have to be taken into consideration". (Mac-Alpine p66). A sales plan is not condition whereas forecast is conditional.

2.9.5.2 Strategic Vs Tactical sales plan

"A comprehensive sales plan includes two separate but related plans- the strategic and the tactical sales plan." (Welsch, Hillton, Gordon ; 172). A strategic sales plan is long-term sales plan. It usually covers 5 to 10 years of period. Bu tactical sales plans are usually developed as annual amounts. The long-term sales plan uses broad grouping of products with separate condition of major and new products and services. Long-term sales plan usually involves in depth analysis of future market potentials, which may be built up from a basic foundations, such as population changes, state of the economy, industry projection and finally a company objectives. A tactical sales plan is used for short time horizon in a company. It is to plan sales for twelve months into the future, detailing the plan initially by quarters. At the end of each month or quarter throughout the year, the sales plan is restudied and revised by adding a period in the future and by dropping a period just ended. Short-term sales plans must be structured by marketing responsibility for planning and control purpose. A short-range sales plan should include non-considerable details whereas a long range plan should be in broad terms". (Welsch, Hillton Gordon (Summarized) pp173-174)

2.9.5.3 Development of sales plan

To develop a comprehensive sales plan the following process should be followed:

1. Developing management guidelines for sales planning.
2. Prepare a sales forecast.
3. Assemble other relevant data.
4. Develop the strategic and tactical sales plans.
5. Secure managerial commitment to attain the goals in the comprehensive sales plan." (Welsch, Hillton Gordon, Summarized, pp172-182)

2.9.6 Production budget/plan

"Production budget is prepared after the sales budget. It is based on sales forecasts". (I.M.Pandey, p260). "The production plan involved determining the number of each product that must be manufactured to meet planned sales and maintain the planned inventory level of finished goods". (Welson, Hilton Gordon. p136). "It is prepared on the basis of a) sales budget b) plant capacity c) Opening inventory of finished goods d) required closing inventory of finished goods and e) policy of the management. Production budget is divided into monthly budgets for the purpose of production planning". (Rathnam. p14-15). The production budget can be represented in this way:

Sales volumes \pm finished goods inventory change = production requirement

"The production budget specifies the planned quantity of goods to be manufactured during the budget period. To develop the

production budget the first step is to establish policies for inventory levels. The next step is to plan total quantity of each product that is to be manufactured during the budget period. The third step is to schedule this production by interim periods. A complete production plan should show budget data classified by a) products to be centers in the manufacturing process." (Welsch, Hillton Gordon pp 212-13)

2.9.6.1 General consideration in production plan

"The production plan represents the implication of planned sales volume for planned production volume as a basis for planning the various aspects of the manufacturing functions, plant capacity requirements direct labour requirement and cost and factory overheads.

To develop the production plan, manufacturing executives must resolve the problems of co-ordinating sales, inventories and production so that the lowest possible overall cost results. The importance of co-ordination of production planning can not be overemphasized because it affects so many decisions relating to cost, capital commitments, employees and so on. Decision required to develop the production plan include the following considerations:

- a. Total production requirement (By product for the budget period).
- b. Inventory policies.
- c. Plant capacity policies.
- d. Adequacy of manufacturing facilities.
- e. Availability of direct material, purchased components and labor.

- f. Length of processing time
- g. Economic lots or runs
- h. Timing of production throughout the budget period by product and responsibility centers. (Welsch, Hillton Gordon pp213-214)

2.9.6.2 Long Vs short-rang production plan

"Planned levels of production are important long range and short range issues. To develop long range production plan, broad estimates of production levels are necessary to plan plant capacity requirements (involving capital addition), factory cost structures, personnel requirements and cahs flows. For long –range profit planning purposes only major increases or decreases in inventories need to be taken into accounts. Short-range production plan should be in harmony with the time dimension used in the short range profit plan. It should be an annual production plan detailed by products and by months or quarters. Also the production activities should be planned by responsibility centers within the manufacturing decision". (Welsch, Hillton Gordon p-214)

2.9.6.3 Developing the production plan

Production plan is developed considering the a) inventory policy b) total quantity of each that is to be manufactured and c) scheduling the produciton by interim period. "Interim produciton must be planned to i) provide sufficient goods to meet intrim sales requirment ii) keep inventory level within policy constraints and iii) manufacture the goods as economically as possible. Thus an

efficient production plan should represent optimum coordination between sales requirement, essential inventory level and stable production levels." (Welsch, Hillton Gordon p215) Production plan is calculated by this formula:

<i>Planned sales</i>	<i>xxx units</i>
<i>Add: closing inventory</i>	<u><i>xxx units</i></u>
<i>Total requirement</i>	<i>xxx units</i>
<i>Less: Opening inventory</i>	<u><i>xxx units</i></u>
<i>Planned production</i>	<i>xxx units</i>

The number of raw materials units to be purchased for the manufacturing process. "A purchase budget gives the details of materials purchase to be made in the budget peirod." (Rathnam p 15). Themain aim of purchase budget is to plan purchase budget is to plan purchase so that the organization should not have neither excess nor sortage inventory which creates large investment. "To ensure that the appropriate amount of rqw materials and component parts will be in hand at the time required and to plan for the cost of such materials and parts, the tactical short term profit plan should include a) A detailed budget that specifies the quantity and cost of such materials and parts and b) A related budget of materials and parts purchases. Planning for raw materials and parts usually requires the following four heads:

- a. Materials and parts budget
- b. Materials and parts purchase budget
- c. Materials and parts inventory budget
- d. Cost of materials and parts used budget". (welsch, Hilton Gordon. pp 240-241)

2.9.7 Materials and parts purchase policy

Management policy with respect to purchase and inventory should be specified by giving answer of two questions: a) How much to purchase at a time? and b) when to purchase? The first question is answered by economic order quantity (EOQ) approach.

EOQ refers to the quantity of a single purchase order which gives maximum economy in purchasing any material. It is also referred as optimum ordering quantity. It is ascertained by taking into consideration the following cost:

– Ordering cost

– Carrying cost

$$EOQ = \sqrt{\frac{2AO}{C}}$$

Where, A=Annual purchase

O= Ordering Cost

C= Carrying Cost

Just-in-time:

It is an integrated set of activities designed to achieve the high volume production using minimal inventories of raw materials, work-in-process, and the finished goods. Materials arrive at the workstation just when needed. Just-in-time is also based on the logic that nothing will be purchased until it is needed. There should be closed relationship with the suppliers of materials and parts, who supply it whenever demanded.

2.9.8 Labour Budget

Direct labor budget is the estimation of planned direct labor hours and cost. "The direct labor budget includes the planned direct labor requirement necessary to purchase. The types and quantities of outputs planned in the production budget. The primary reasons for using a separate direct labor budget are to provide planning data about the amount of direct labor, required number of direct labor/employees needed, labor cost of each unit and cash flow requirements." (Welsen Hilton Gordon p 280-281). Usually direct labor hours budget and direct labor budget are prepared separately. Direct labor budget might be used for a variety of purpose. The most important of them are a) To help the development of recruitment policies b) To identify training and education needs and c) To provide a framework for wage negotiations for both skilled and unskilled.

2.9.8.1 Developing the direct labor budget

"Direct labor budget should be developed by responsibility centers interim period and products. It depends primarily on the a) Method o wage payment b) Types of production process involved c) availability of standard labor times and d) adequacy of the cost accounting records relating to direct labor cost. Basically following three approaches are used to develop the direct budget:

- a. Estimate the standard direct labor hours required for each unit of each product that estimate the average wage rate by department cost centers on operation. Multiply standard time per unit of product by the average hourly wage rate, giving the

direct labor cost per unit of output for the development cost centre or operation. Multiply the units of output planned for the department, cost centre or operation by the direct labor cost rate to obtain the total direct labor cost by product.

- b. Estimate ratio of direct labor cost to some measures of output that can be planned realistically.
- c. Develop personnel tables by enumerating personnel requirement (including cost) for direct labor in each responsibility centers." (Welscn, Hilton Gordon pp 281-282)

2.9.9 Overhead budget

Next step in the PPC, overhead (Expenses) budget should be developed. "To maintain reasonable expenses level to support the objectives and planned programmes of the enterprise, expenses planning should not focus on decreasing expenses, but rather in better utilization of limited resources. Expenses planning and control should focus on the relationship between expenditures and the benefits derived from those expenditures. The desired benefits should be viewed as goals and sufficient reswources must be planned to support the operating activities essentials for their accomplishment". (Welsch, Hillton Gordon p302) There are three broad categories of expenses: manufacturing overhead, distribution expenses and general administrative expenses.

"Knowledge of cost behavior is essential in cost planning and control. It is the response of a cost to difference volumes of output when expenses are viewed in relation to change in out put". (Fago, koirala. p94) There are three distinct expenses:

- a. Fixed Expenses: - Those expenses that are constant in total, regardless of fluctuation in output.
- b. Variable Expenses: - Those expenses that change in total directly with change in output.
- c. Semi-variable Expenses: - Those expenses that are neither fixed nor variable change in the same direction but not in proportionately.

2.9.9.1 Manufacturing overhead budget

"Manufacturing overheads is a part of total production cost not directly identifiable with specific products or jobs. Manufacturing overheads consists of a) Indirect materials b) Indirect labor and c) all other miscellaneous factory expenses." (Welson, Hilton Gordon pp307). "To plan cost of goods manufactured all the manufacturing overhead costs are to be allocated to production. The following steps should be taken while manufacturing overhead budget is developed.

- a. Selecting of appropriate activity base.
- b. Computing total volume of work.
- c. computing overhead rate for each production
- d. Computing overhead cost per unit for each product
- e. Transferring overhead rate per unit to products.

2.9.10 Distribution (Selling) Expenses budget

"Distribution expenses include all costs related to seeing, distribution and delivery of products to the customer. Fundamentally, the top marketing expenses has the direct responsibility for planning the optimum economic balance among a)

The sales budget b) The advertising budget and c) The distribution expenses budget. Therefore, PPC views sales advertising and distribution expenses as one basic problem because these three aspects are interrelationship." (Welson, Hilton Gordon pp 313-314). "Mainly, there are two types of selling expenses a) Sale office expenses, which cover the cost of salesman and their administrative support b) Sales direction and promotion expenses, which covers the cost of directing the sales effort and promotional charges such as advertising." (Halsall p63). Distribution expenses budget should separately be developed by responsibility centers at interim time period.

2.9.11 Administrative expenses budget

"Administrative expenses include those expenses other than manufacturing and distribution. They are incurred in the responsibility centers that provide supervision of service to all functions of the enterprise rather than in the performance of any one function. Each administrative expense should be directly identified with responsibility centers and the centre manager should be responsible for planning and controlling the expenses. This budget should be based on past experience, plans, programs adjusted for anticipated changes in management policy and general economic conditions as helpuf. Because most administrative expense are fixed." (Welson, Hilton Gordon Pp 316-317)

2.9.12 Capital expenditure budget

Capital expenditure often called capital budgeting. "Capital budgeting is the process of planning and controlling the strategic and tactical expenditures of expansion and contraction of investment in operating assets." (Welsch, Hillton Gordon p399). The capital expenditures budget is an important part of a comprehensive profit plan. It is directly related to a company's operating assets specially the expenditure other than operational assets that will a) Help earning future revenue or b) Reduces future costs. Capital expenditures include such fixed assets as property, plant, equipments, major renovations and patents. Typically, capital expenditure projects involve large ammount of cash, other resources and debt that are tied up for relatively long periods of time. CApital expenditures are investments because they require the commitment of resources today to receive higher economic benefits (i.e. Profit) in the future. (Welsch, Hillton Gordon pp394-395). "Capital budgeting may be defined as the firm's decision to invest it's current funds most efficiently in the long term assets in anticipation of an expected flow of benefits over a series of years." (I.M. Pandey p 334) "The essence of capital investment analysis is in comparing the benefits that occur over a period of time with the amount invested. The comparison is made with a view to judging or not the benefits are at least as high the amount invested". (Van Horne, James c 1976)

Basically two methods are set to measure the capital investment.

1. Discounted cash flows (DCF) method
 - a. Net present value (NPV)

- b. Internal rate of return (IRR)
- C. Profitability Index (PI)
- 2. Short cut and simple method:
 - a. Pay back period (PBP) method
 - b. Accounting rate of return (ARR) method.

2.9.13 Cash budget

"The cash budget is forecast of expected cash receipt and payments for a future period." (Rathnam. p275). A cash budget is summary statement of the firm's expected cash inflows and outflows over a projected time period. "Cash budgeting is an effective way to plan and control the cash flows, assess the cash needs and effectively use excess cash. A cash budget shows the planned cash inflows, outflows and ending position by interim periods for a specific time span. It basically includes two parts: a. the planned cash receipts (inflows) and b. the planned cash payments (outflows). Planning cash inflows and outflows give the planned beginning and ending cash position. It will indicate: a. the need for financing problems/cash deficits or b. The need for investment planning to put excess cash to profitable use." (Welson, Hilton Gordon p433-434)

"Planning includes consideration of how to improve cash flows. The management should focus in a. The cash collection process to speed up cash collection, b. The cash payment process to slow down the payment of cash and, c. The investment policies for the immediate investment of cash balance to maximize interest earnings." (Welsch, Hillton Gordon pp454-455)

2.9.14 Flexible budget

Flexible expenses budget focus on both planned expenses and the control of expenses. Its concept is complimentary to the actual profit plan. Flexible budgets directly relates only to expenses. Flexible budgets are also called variable/dynamic/activity/ output adjusted expenses budget. The fundamental concept of flexible budgets for expenses are incurred because of a) The passage of time b) Output or productive activity or c) a combination of time and output or activity. Application of this concept means that:

- Expenses must be identified as to their fixed and variable components when related to output or productive activity.
- Expenses must be reasonably related to output or productive activity.
- Output or production activity must be reliably measurable.
- Flexible budget formulas for each expense must be for a specified time period and for a specified relevant range of output or productive activity.
- For planning and controlling purpose flexible budget formulas must be developed for each expense user responsibility centre in an enterprises.

Thus flexible budget has three specific uses:

- a. Preparing the expenses budgets for the tactical profit plan.
- b. Provide expenses goals.
- c. To prepare the monthly performance reports.

2.9.15 Completion and Implementation of profit planning and control

2.9.15.1 Completion of the Annual Profit plan

The development of an annual profit ends with the planned income statement, the balance sheet and the planned statement of changes in financial position. These three statements summaries and integrate the details of plans developed by management for the period. They also repost the primary impacts of the detailed plans developed by management for the period. They also report the primary impacts of the detailed plans on the financial characteristics of the firm. Before redistributing the completed profit plan, is generally desirable to recast certain budget schedules so that technical accounting mechanics and Jargon are avoids as much as possible. The redesigned budget schedules should be assembled in one logical order, reproduced and distributed before the first day of the up-coming budget period. The profit plan completion date is important. Issuance of a profit after the beginning of the budget period is one sure way of destroying much of tic budget potential. Timely copulation to the planning budget suggests the needs for a nudged manner.

2.9.15.2 Implementing the profit plan

The final test of whether the effort and cost in developing a profit plan are worthwhile is its usefulness to management. The plan should be developed with the conviction that the enterprises is going to exceed all major objectives. Participations enhance communication. If this principle is to be effective the curious

executives and supervisors should have a clear understand of their responsibilities. The copied of the complete profit plan should be prepared and distributed to the members of executive management. Normally, distribudion of the completed plan should be limited to vice presidents and to the heads of the certain staff groups. The guiding principle in establishing the distribution policy might be expressed to provide one copy to each member of the management term according to his or her overall responsibilities, taking into account the problem of security. The distribution policy should allow distribution of pars, or segments, of the profit plan to middle and lower management. For example, a sales district supervisor would not be given a copy of the entire budget. But should receive those parts that apply to his particular responsibility, such as the sales budget, and advertising budget for his district, after distribution of the profit, plan, a series of profit plan conferences should be held. The top executive discusses comprehensively the plans, expectation and steps in implementation. At this top-level meeting the importance of action flexibility and continuous control may well be emphasized. In particular, it must be realized by each manager, that the budget is a tool for their use. The profit plan, no matter how well designed and how well carefully drawn cannot manage, in the final analysis people, not budgets perform the management functions use of a profit plan as a guide to action and performance, directed toward attaining or bettering the goals qualified in the annual profit plan required continuous management effort and attention.

Similar conference should be conducted untill all levels of management are reached. Each executive and supervisor must

clearly understand his particular responsibilities. The conference should and, if conducted properly, will tend to ensure action support for the objectives. Basically, this is a phase of communication from the top down a generally neglected phase in management.

The profit plan provides the managers of each responsibility center an approved operating plan for his center, thus the planning budget becomes the basis for current operation and exert considerable coordinating and controlling effects.

Performance must be measured and reported to management. Execution of the plan is assured through control. Procedures must be established so that accomplishment, or failure, is immediately known. On this basis action can be taken to correct or minimize any undesirable effects. Short-term performance reposting is essential.

The flexibility of the key aspect of the budget implementation to view the profit plan as an inflexible blueprint of operations is to invite trouble. Obviously, it is impossible during the planning phase to anticipate all contingencies each day may present contingencies not anticipate in the plans. Therefore, current adjustments must be made in operating plans despite the ordinary budget. The budget should not be viewed as restrictive influence but rather as a specification of the goals of the entity. Certainly every advantage should be taken as it arises despite its not having been anticipated in the budget. Taking advantage of favourable opportunities as they arise is primary responsibility of the management.

CHAPTER- 3

RESEARCH METHODOLOGY

3.1 General introduction

Research methodology is basically the methods processes tools & technique applied in the entire process of a scientific research. It is the way to solve systematically about research problem "Research methodology refers to the various sequential steps to adopt by a research in studying a problem with certain objective in view (kothari, 2000:39). It helps to analyze, examine & interprat various aspect of research work such as sales & production planning and other aspects related to profit planning in the research work.

This research work is mainly based on secondary data. To some extent even primary data are also collected .This study intends to analyze how effectively the concept of PPC is being applied in case of BMSS.

3.2 Research Design

Research design means definition procedure & technique which guide to study & Propounds way for research through analysis of data. It is the overall operational pattern of framework of the project that stipulates what informations is to be collected which sources by what procedure. If it is a good design, it will insure that the information obtained is relevant to research questions & that it was collected by objective.

The main objective of this study is to analyze the effectiveness if application of profit planning concept in BMSS. Analysis will be

made with respect to planned production and actual production, degree of actual figure examines the cost structure etc. Therefore, the study is closely related to draw the picture of profit trend their BEP analysis and to evaluate collection, production & sales planning as well as other accounting statement.

3.3 Periods covered

There are two types of times period in profit planning i.e. long range & short range. For short range planning, it has taken one year's period activities of BMSS. And long range trends are taken from fiscal year 2063/64 to 2067/2068.

3.4 Nature and Sources of Data

Actual data or information is very important of any research work. To fulfill the objectives of this study, the researcher has been used primary as well as secondary data. Primary data are collected through interview with official staffs. And secondary data has been collected from the different reports and published document of BMSS, magazine, publication of the National planning commission, statistical survey and the official accounting and planning records of BMSS. The questionnaires will be shown in the appendix at the end of this study, which is used for collecting information about BMSS.

3.5 Research Variables

The research variable of this study is mainly related with the accounting statement of BMSS. Collection, production, sales, inventory, purchases, profit & loss statement & cash flow related to

long-term and short term period of BMSS are the main research variable of this study.

3.6 Data processing procedure & tools of analysis

Data collected from various sources are managed, analyzed and presented in proper tables, graphs diagrams, percentage. Interpretation and explanations are made wherever necessary. To analyse the collected data, financial and statistical tools are used. Financial tools mainly used are cost-volume-profit analysis, ratio analysis. Similarly the statistical tools are used mean, correlation, regression, coefficient of variance, standard deviation, percentage graphs and diagrams.

Some statistical tools formulae are as follows;

(1) Arithmetic mean (A.M.) $(\bar{X}) = \frac{\sum X}{N}$

(2) Standard Deviation (S.D.) $= \sqrt{\frac{\sum (X - \bar{X})^2}{N}}$

(3) Correlation of coefficient (r) $= \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}}$

(4) Coefficient of variance (C.V.) $= \frac{S.D._x}{\bar{X}}$

(4) Regression equation $y = a + bx$

Chapter-4

Data Presentation and Analysis

Introduction

The main objective of this study is to search highlight the use and application of profit plan in the sphere of BMSS. To accomplish this objective, this chapter will analyze the various aspects of profit planning and their actual accomplishment. Effort has been made to paint out the reasons of deviations between actual and target result.

As it has been already described that two types of profit plans are prepared. They are long term (Strategic profit plan) and short term (tactical) profit plan. Virtually, this study is focused mainly on short term profit plan because BMSS is not practicing the long term profit plan. Accounting year begins from first Shrawn to the last of Ashad.

Here all collection sales, production and other related figures and data of previous year are to be presented. Calculated and analyzed to find the overall financial trend and condition for this case, it takes the financial figure of five years covering from 2063/64 to 2067/68.

4.1 Milk collection of BMSS

Now a days, BMSS has been collecting milk from different places. Mainly Fikkal, Kutidada, Tindhare, Laxmipur, Biblyate, Puwakhala, Shantidada of Illam, Deurali of Pachthar, chitre of Terathum. Hile of Dhankuta and local areas. But in past year 2063 to

2066, BMSS also collected milk from Jhapa, Kanchanpur, Salakpur. But in this time, BMSS has not taken milk from this place.

The following table and figure show placewise milk collection

4.1.1 Place wise milk collection in BMSS of 2063/64

Table No: 4.1.1

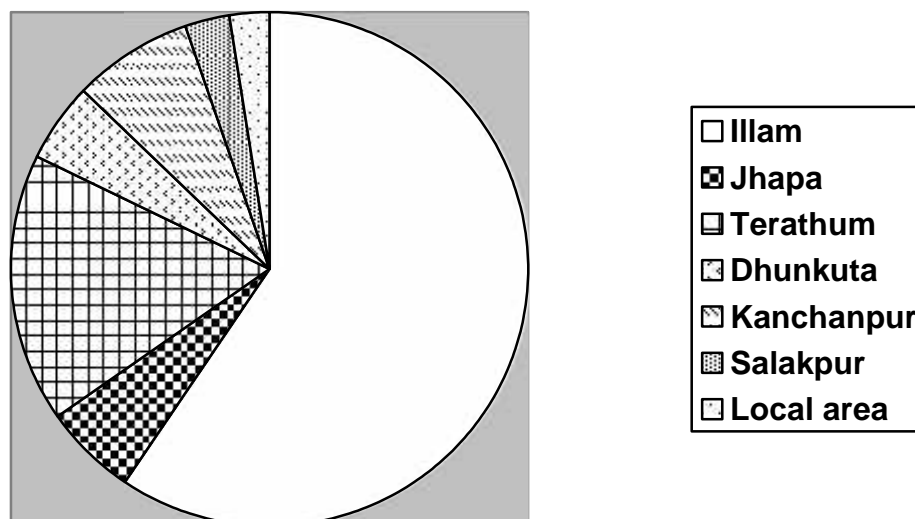
Places' Name	Collection in liter	Percent (%)
Illam	5468800	59.51
Jhapa	515600	5.61
Terathum	1558500	16.96
Dhankuta	475000	5.16
Kanchanpur	675000	7.34
Salakpur	276000	3.00
Local area	220000	2.39
Total	9188900	100

Sources: BMSS Collection department

The above table shows that the 59.51% part of milk collection from Illam which is greater than other area. Similarly milk collection from Jhapa is 5.61%, from Terathum 16.96%, Dhankuta 5.16%, Kanchanpur 7.34%, Salakpur 3.00% and local area 2.39%

Fig 4.1.1

Pie chart shows the milk collection of 063/046



4.1.2 Place wise milk collection in BMSS from 2064/065

Table No: 4.1.2

Places' Name	Collection in liter	Percent (%)
Illam	6015680	60
Jhapa	567160	6
Terathum	1714350	17
Dhankuta	522500	5
Kanchanpur	742500	7
Salakpur	303600	3
Local area	242000	2
Total	10107790	100

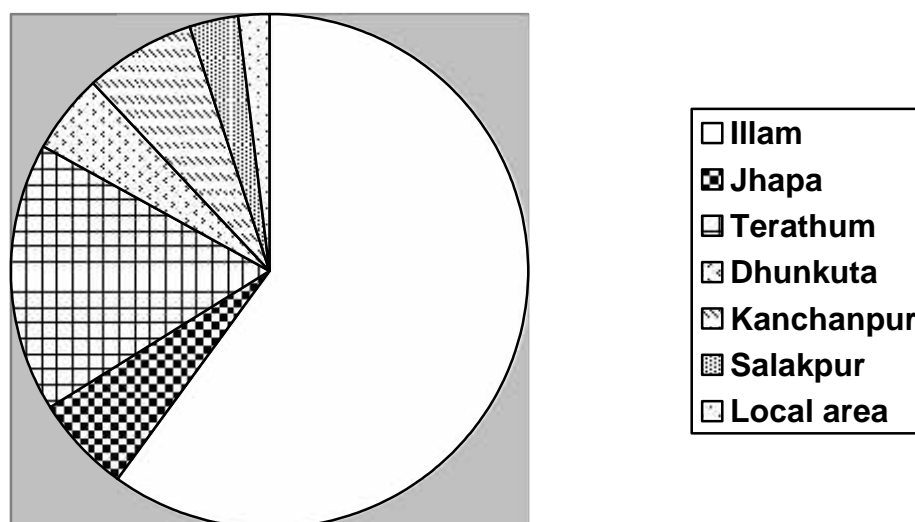
Sources: BMSS Collection department

The above table shows that the highest collection from Illam which is greater collection from other places. The lowest collection

is from local area. The presentation of above table will be more clear and effective by following chart.

Fig: 4.1.2

Pie chart shows the place wise milk collection of 2064/065



4.1.3 Place wise milk collection in BMSS 2065/066.

Table : 4.1.3

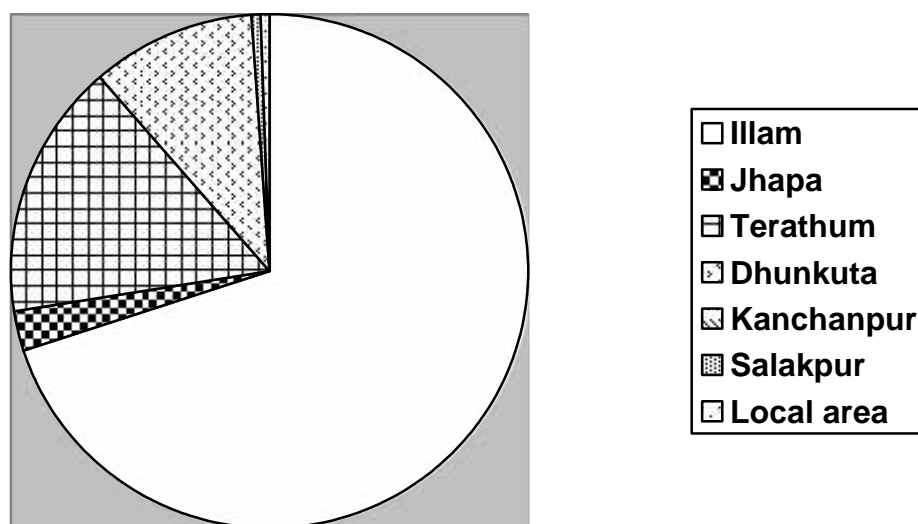
Places' Name	Collection in liter	Percent (%)
Illam	7051107	70.10
Jhapa	247756	2.46
Terathum	1604251.5	15.94
Dhankuta	1045440.5	10.39
Kanchanpur	8418.5	0.08
Salakpur	38032.5	0.38
Local area	63172.5	0.63
Total	1005817.5	100

Sources: BMSS Collection department

The above table shows that the highest collection from Illam which is greater collection from other area. The lowest collection from Kanchanpur, Salakpur, Local area. The presentation of above table will be more clear and effective by following chart.

Fig. 4.1.3

Piechart shows the place wise milk collection in BMSS 2065/066



4.1.4 Place wise milk collection in BMSS of 2066/067

Table No: 4.1.4

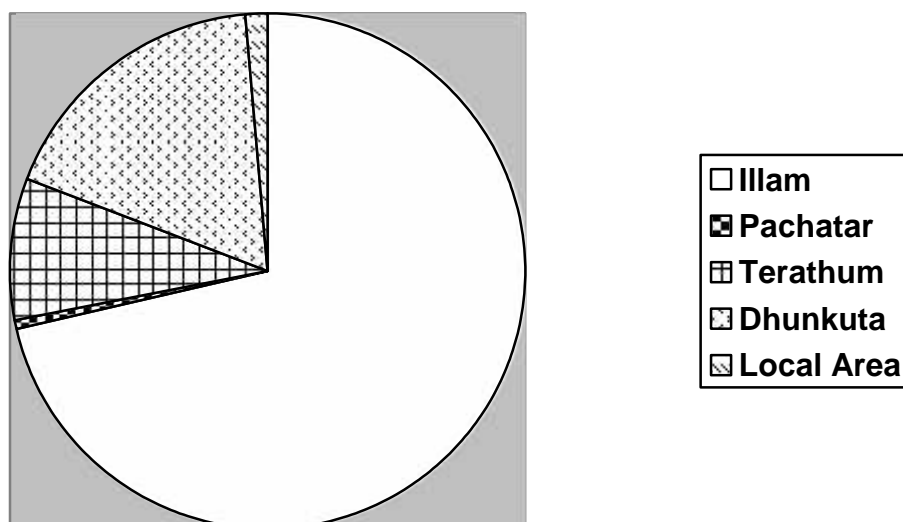
Places' Name	Collection in liter	Percent (%)
Illam	8384453	71.29
Pachtar	79525.5	0.67
Terathum	1056440	8.98
Dhankuta	2074061.5	17.63
Local area	164999	1.40
Total	11759479	100

Sources: BMSS Collection department

The above table shows that highest collection from Illam which is greater than other places. The lowest collection is from pachatar and local area. The presentation of above table will be more clear and effective by following chart.

Fig.4.1.4

Pie chart shows the place wise milk collection in BMSS of 2066/067



4.1.5 Place wise milk collection in BMSS of 2067/068

Table No: 4.1.5

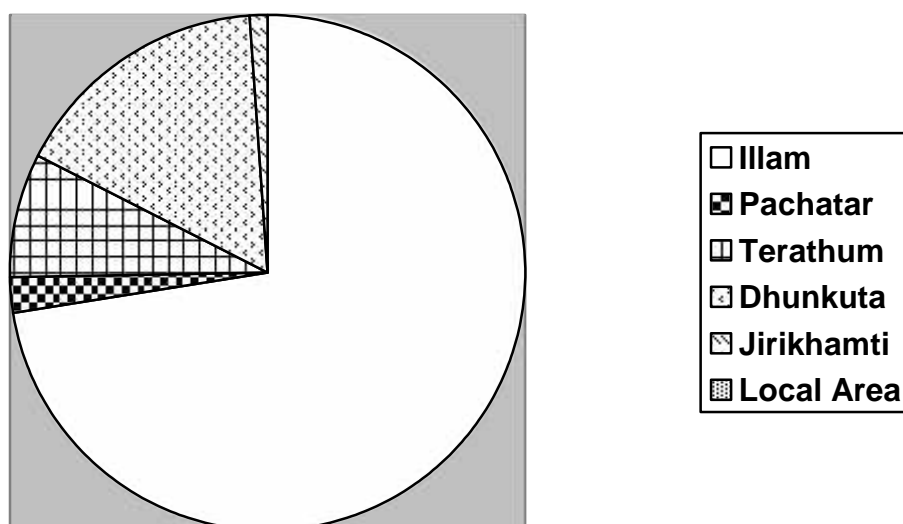
Places' Name	Collection in liter	Percent (%)
Illam	8991220	72.35
Pachtar	299812	2.41
Terathum	953687	7.67
Dhankuta	2052201.5	16.51
Jirikhanti	121959.5	0.98
Local area	8283.5	0.06
Total		100

Sources: BMSS Collection department

The above table shows that highest collection from Illam which is greater than other places and the lowest collection from Jirikhanti & local area.

Fig 4.1.5

Pie Chart shows place wise milk collection in BMSS of 2067/068



4.2 Production plan and achievement

Production management is the process of effective planning and regulating the operation of the section of all enterprises, preparation of production plan is important things for developing profit plan.

Production unit= planned sales+final inventory- initial inventory

The following table shows the production target and actual achievement of different product in liter & kg, on table and fig. no. 4.2.1 to 4.2.7 and table and fig no 4.2.8 and 4.2.9 is shown 5 years budgeted and actual production

4.2.1 Five year milk production target and achievement of BMSS

Table No: 4.2.1

(In liters)

Financial Year	Target	Achievement	Achievement (%)
2063/064	16742699	14609221	87.25
2064/065	18106380	13810675	76.27
2065/066	17878512	15489945	86.64
2066/067	17460365	18208350	104.28
2067/068	19597580	18598494	94.90

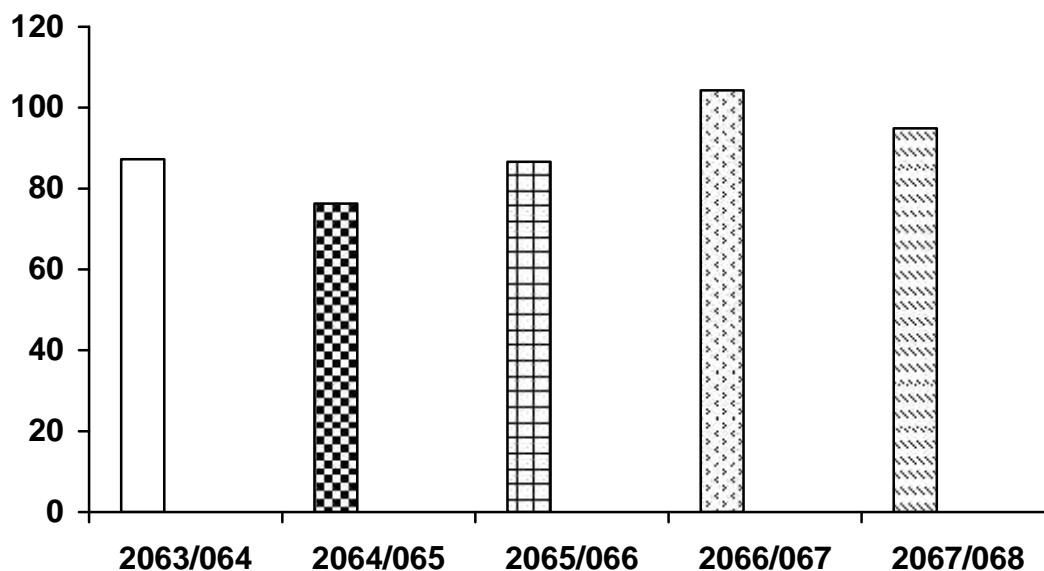
Sources: BMSS Annual Report

The above table shows that BMSS five year milk production plan according to target. This table shows 87.25% achievement in year 2063/064, 76.27% in year 2064/065, 86.64% in year 2065/066, 104.28% in year 2066/067 and at last 98.90% improvement in year

2067/068. In year 2066/067, this table shows grater production than target.

Fig 4.2.1

Five year milk production achievement percent of BMSS



4.2.2 Five year Dahi production target and achievement of BMSS

Table No 4.2.2

(In liters)

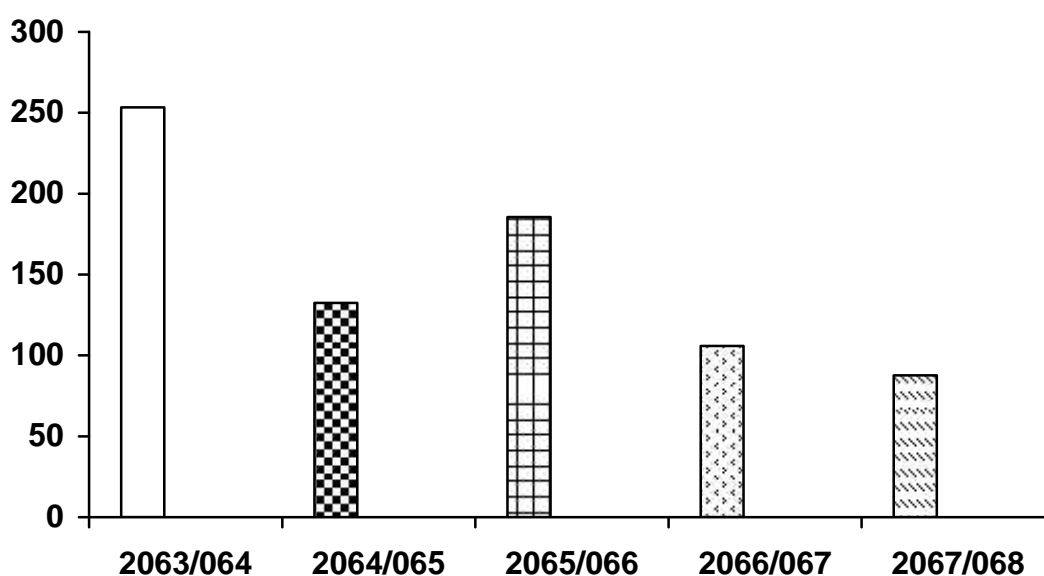
Financial Year	Target	Achievement	Achievement (%)
2063/064	321600	814825.8	253.36
2064/065	742600	983691.0	132.46
2065/066	449000	833248.1	185.57
2066/067	858000	908535.2	105.88
2067/068	1172400	1028300.2	87.70

Sources: BMSS Annual Report

The above table shows that BMSS five year achievement of Dahi production according to target in above table all year achievement is greater than target except f/y2067/068. High achievement of dahi production in year2063/64 and low production in year 2067/068.

Fig 4.2.2

Five year Dahi Production achievement percent of BMSS.



4.2.3 Five year Ghee production target and achievement of BMSS

(In liters)

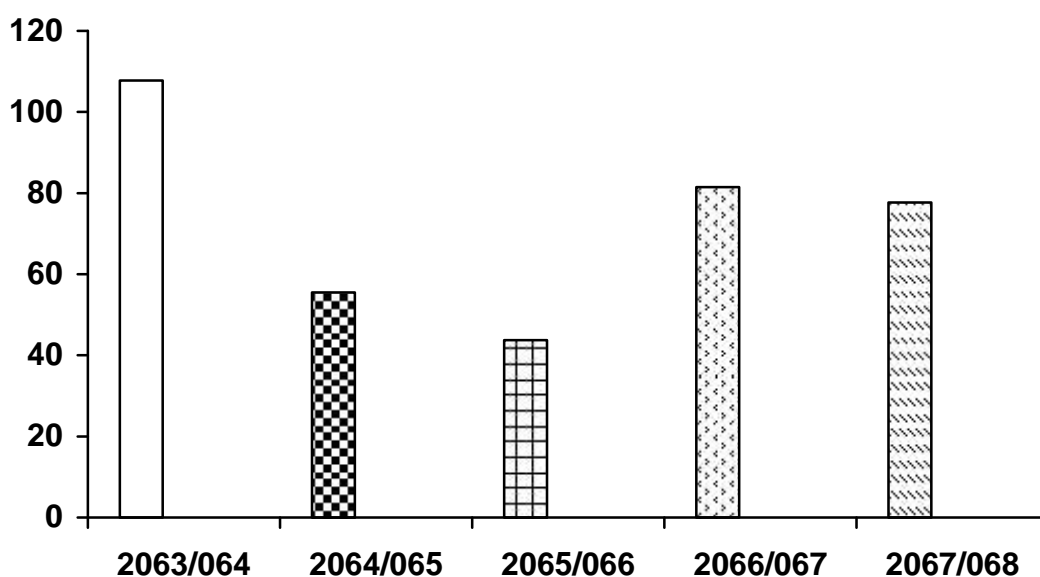
Financial Year	Target	Achievement	Achievement (%)
2063/064	337621	363978.5	107.80
2064/065	408120	226609.8	55.52
2065/066	402661.0	175979.0	43.70
2066/067	298820.0	243504.0	81.48
2067/068	332967.0	258672.0	77.68

Sources: BMSS Annual Report

The above table shows higher production in year 2063/064 than other year. And lowest production in year 2065/066. The presentation of above table will be more clear and effective by following figure.

Fig4.2.3

Five year Ghee production achievement percent of BMSS



4.2.4 Five year paneer production target and achievement of BMSS

(In kg)

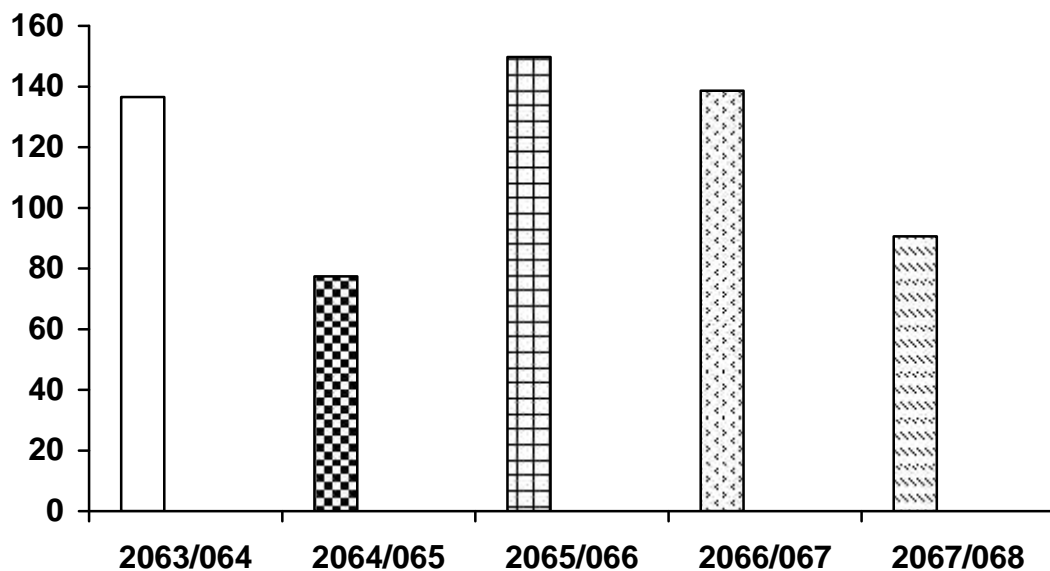
Financial Year	Target	Achievement	Achievement (%)
2063/064	7500	10239.8	136.53
2064/065	16800	13000.1	77.38
2065/066	18100	27095.0	149.69
2066/067	21000	29105.0	138.59
2067/068	37400	33873.4	90.57

Sources: BMSS Annual Report

The above table shows that 2063/046 achievement is higher than this year target, the achievement present of this year is 136.53 and other year 2064/65 production is 149.69%, F/Y 2065/066 production is 149.69%, F/Y 2066/067 Production is 138.59% and F/Y 2067/68 production is 90.57%

Fig 4.2.4

Five year paneer production achievement percent of BMSS



4.2.5 Five year Butter production target and achievement of BMSS

Table 4.2.5

(In kg)

Financial Year	Target	Achievement	Achievement (%)
2063/064	434462	330941.1	76.17
2064/065	515822	251896.7	48.83
2065/066	454341	215030.7	47.32
2066/067	346998	289654.6	83.47
2067/068	382765	235874.0	61.62

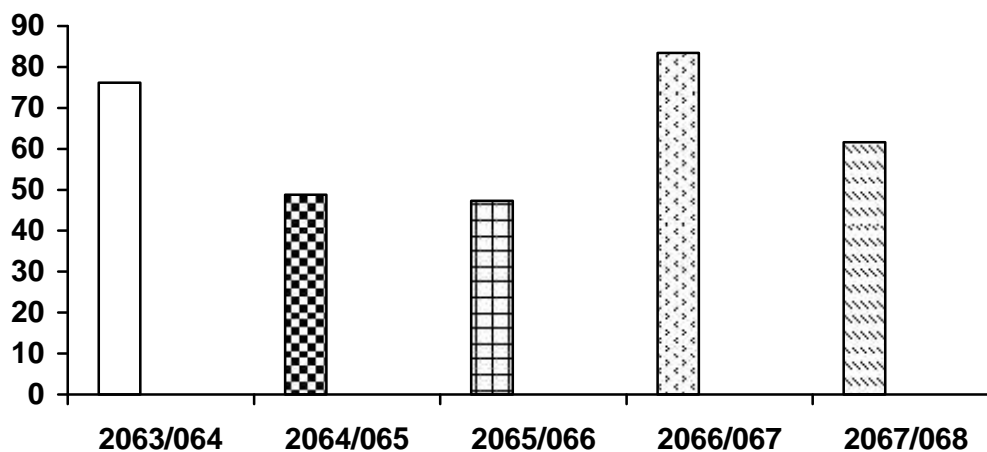
Sources: BMSS Annual Report

The above table shows that all achievement are below than target. F/Y 2063/64 Production is 76.17%, 2064/65 production is 48.83, 2065/66 production is 47.32%, 2066/067 production is 83.47% and last year production is 61.62%

Five year Butter production achievement percent of BMSS

Fig:

4.2.5



4.2.6 Five years powder milk production Target & achievement of BMSS

Table No: 4.2.6

(In kg)

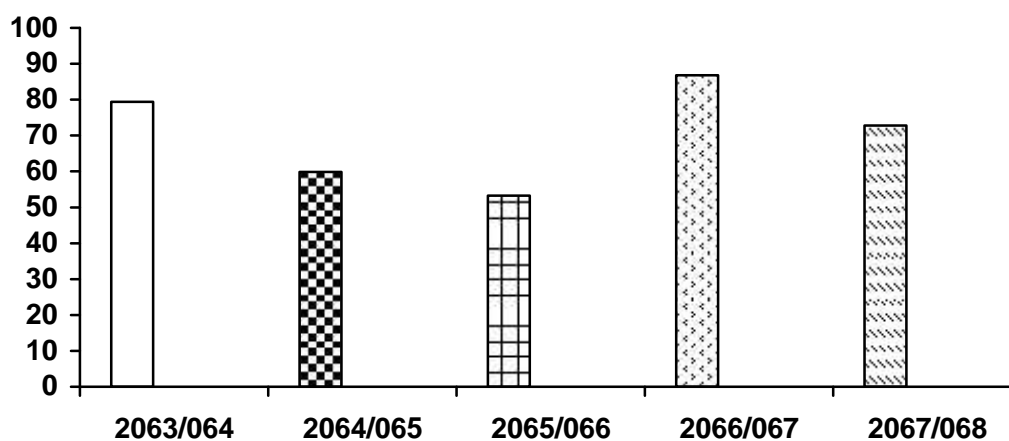
Fiscal Year	Target	Achievement	Achievement (%)
2063/064	635795	505075.0	79.43
2064/065	711625	425950.0	59.85
2065/066	644232	343425.0	53.30
2066/067	5830130	506150.0	86.81
2067/068	623232	453775.0	72.80

Sources: BMSS Annual Report

Above table shows that all achievement are below than target. The highest production is all f/y 2066/067 and lowest production if of 2065/066. Above table will be more clear and effective by following figure.

Five years powder milk production achievement percent of BMSS

Fig-4.2.6



4.2.7 Five year cream production target and achievement of BMSS

Table No: 4.2.7

(In kg)

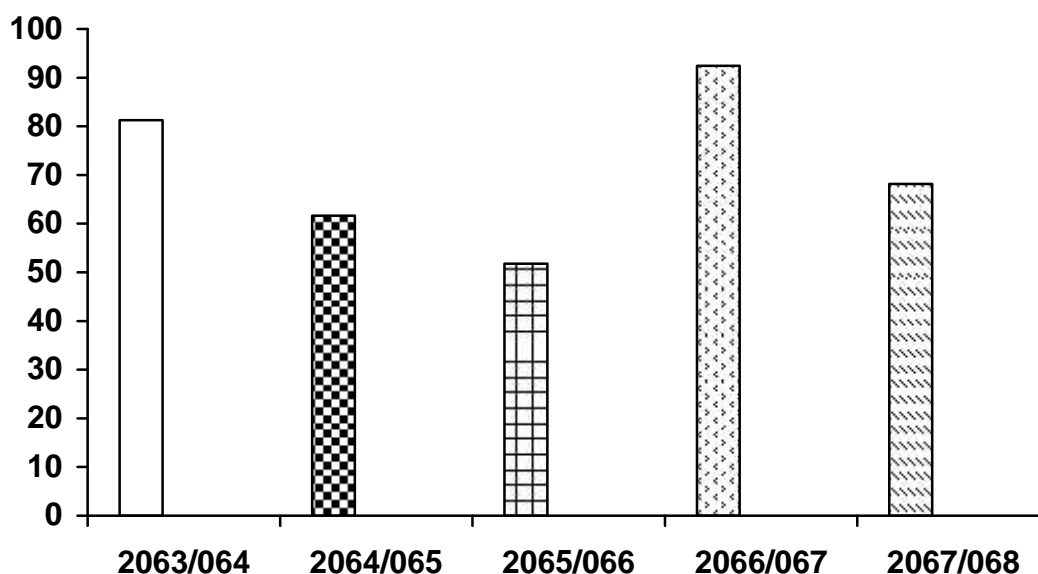
Financial year	Target	Achievement	Achievement (%)
2063/064	1036956.0	842758.3	81.27
2064/065	1047010.0	645373.5	61.63
2065/066	1083547	561020.0	51.77
2066/067	828659	765855	92.42
2067/068	913665.0	622610	68.14

Sources: BMSS Annual Report

Above table shows that all production achievement are lowest than target. The achievement is lowest on f/y2065/66 and highest on f/y 066/67. The presentation of above table will be clearer and effectives by following figure.

Five year cream production achievement percent of BMSS

Fig-4.2.7



4.2.8 Five years Budgeted and actual production (Milk, Yoghurt, ghee, cream) unit in liters of BMSS

Table No: 4.2.8

Financial year	Budgeted (X)	Actual (Y)	Achievement (%)
2063/064	18438876	16630783.6	90.19
2064/065	20304110	15666348.5	77.15
2065/066	19813720	17060192.1	86.10
2066/067	19445844	20126244.2	103.49
2067/068	22016612	20508076.2	93.14

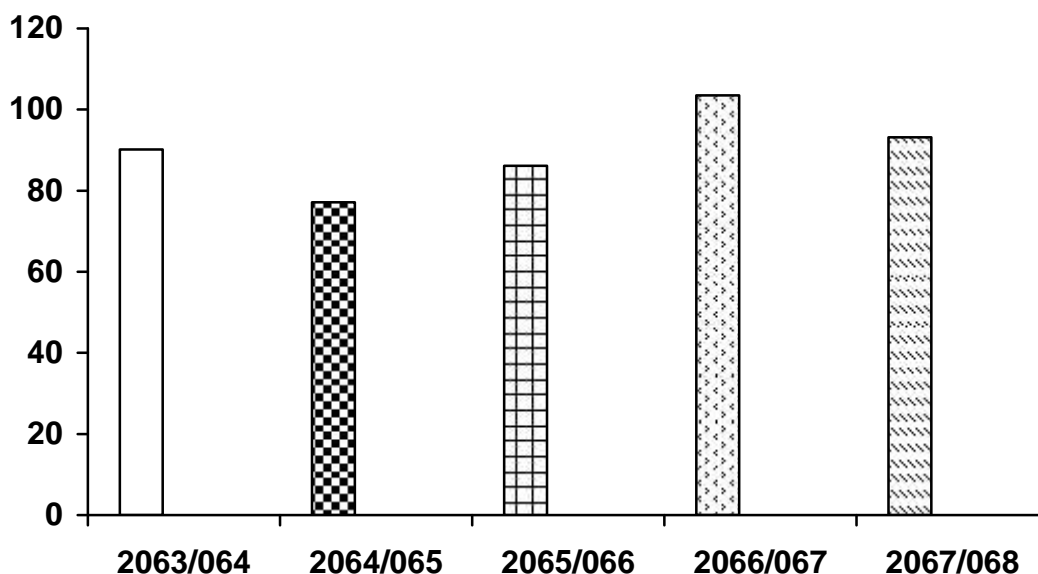
Sources: BMSS Annual Reports

The above table shows that all the actual production are below than the budgeted production except in F/Y 2066/067. The gap between budgeted and actual production is not more than 25%. The achievement is lowest in F/Y 2064/065 and highest in f/Y 2066/067.

The above table data can be presented in figure which will be more effective than table.

4.2.8 Five years achievement percent of Milk, Yoghurt, ghee, cream of BMSS

Fig- 4.2.8



For finding out of the nature of variability, we can calculate different type of statistical tools like mean, standard deviation, coefficient of variance and co-relation of coefficient. The calculation of these figures is shown in appendix – 1, the summarizing result of Appendix-1 is below:

(Unit in liters)

Particular	Budgeted Production	Actual Production
Mean	200.03	179.98
Standard deviation	11.78	19.47
Coefficient of variation	5.88%	10.81%

From the above calculation, it is clear that budgeted productions are more constant than actual production and actual productions are more fluctuation than budgeted production because C.V. of actual production is higher than budgeted production.

A statistical tool, correlations of coefficient (r) can be used to analyze the relationship between budgeted production and actual production. For this purpose budgeted production (x) are assumed to be independent variable and actual production (Y) are assumed to be dependent variable. It is assumed that actual production will increase if budgeted production is increased or vice versa. It means there is positive correlation between budgeted and actual production.

The probable Error (P.E.) of the correlation coefficient is applicable for the measurement of reliability of the computed value of the correlation coefficient ' r '.

If $r < P.E.$, the value of ' r ' is not significant no matter have high ' r ' value is i.e. there is evidence of correlation between the variables. If $r > P.E.$ the value of ' r ' is significant i.e. correlation is significant.

The details calculation of ' r ' & P.E. of ' r ' is presented in Appendix-1, Here, we can calculated in summarize form of ' r ' and P.E. in following ways:

Calculation of karl person's correlation coefficient (r)=0.475

Calculation of probable Error (P.E.) of correlation coefficient (r)=0.23

This figure of the nature of ' r ' shows that there is positive correlation between budgeted and actual production. The actual production will change in the same direction of the change in

budgeted production. Here, $r > P.E./i.e. r(0.475) > P.E. (0.23)$, So the value of r is definitely significant.

Some assumption of Karl person's correlation coefficient ' r ' the numerical measurement of of relationship between the two variables is denoted by the symbol of ' r ' whose values ranges from -1 to +1.

If ' $r=0$ ', there is no relationship between the variables.

If ' $r < 0$ ', there is negative relationship between the variables.

If ' $r > 0$ ', there is positive relationship between the variables.

If ' $r = +1$ ', The relationship is perfectly positive.

If ' $r = -1$ ', the relationship is perfectly negative.

Source: Shrestha, etal. 2057:318

4.2.9 Five years budgated and actual production (Butter, Paneer, powder's milk) of BMSS

Table No: 4.2.9

(Unit in kg)

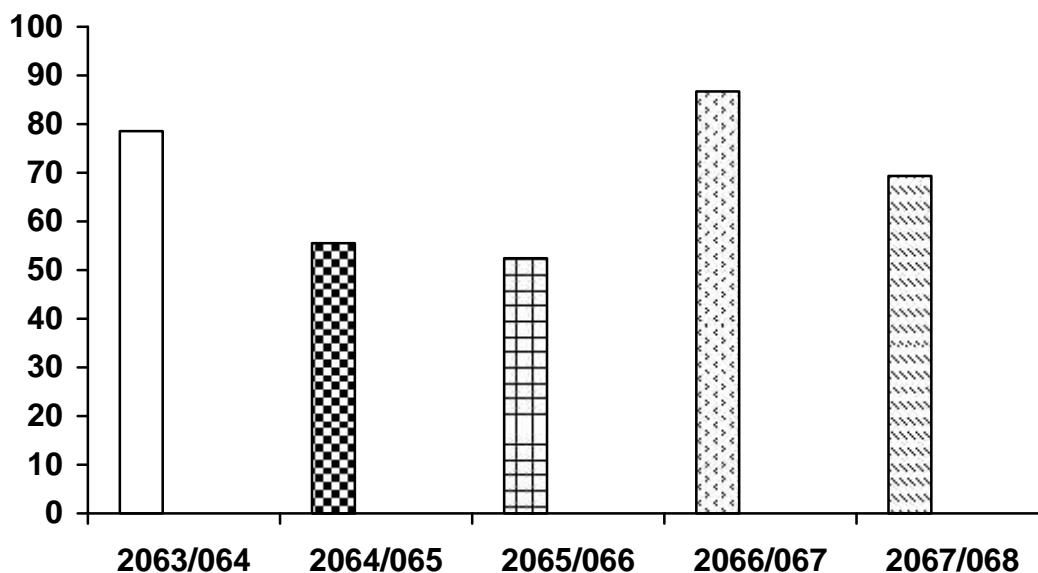
Fiscal year	Budgeted (X)	Actual (Y)	Achievement (%)
2063/064	1077757	846255.9	78.52
2064/065	1244247	690846.8	55.52
2065/066	1116673	585550.7	52.43
2066/067	951011	824909.6	86.74
2067/068	1043397	723522.4	69.34

Source: BMSS annual report

The above table shows that the actual productions are below than than the budgeted production the lowest achievement on F/Y 2064/065 and highest on F/Y 2066/067. The presented of above table will be more effective by following figure.

**Five years achievement percent of Butter, Paneer, powder milk
of BMSS**

Fig 4.2.9



For finding out of the nature of variability, we can calculate different type of statistical tools like mean, standard deviations coefficient of variation and correlation of coefficient. The details calculation of these figures are shown in Appendix-2. Now summarizing result of appendix-2, we have;

Particular	Budgeted Production	Actual Psroduction
Mean	1086.61	734.21
Standard deviation	96.00	94.73
Coefficient of variation	8.28%	12.90%

From the above calculation, it is clear that actual productions are more variables than budgeted production. Hence the coefficient

of variation of actual production 'r' is higher which means the budgeted production is more constant or homogeneous.

A statistical tool, correlation of coefficient (r) can be used to analyze the relationship between budgeted and actual production. For this purpose budgeted production (x) are assumed to be independent variable and actual production (y) are assumed to be dependent variable.

The details calculation of 'r' and P.E. of r is presented in Appendix-2. Here we can calculate in summarize form of 'r' and P.E. in following way:

Karl Persan's correlation coefficient (r)=-0.530

Probable error (P.E.) of correlation coefficient (r)=0.176

The figure of the value of 'r' shows that there is perfectly negative correlation between budgeted and actual production. Here $r < P.E.$ i.e. $(-0.530) < (0.176)$. So, the value of 'r' is not significant at all. So, it is dboubtful that whether actual production will go on same direction of budgeted produciton at all condition.

4.3 Sales plan target and achievement

Sales planning or budgeting is the basic functions of all other profit planning. It provides basic management decisions about marketing or market situation sales are primary sources of cash in flow and all other functional budget or planning, which are prepared on the basis of sales plan. It is directly related with all business activities. So, sales plan should be realistic and proper.

Sales planning are prepared on the basis of sales forecasting which depend on different factors of market situations. The

preparation of sales plan involves the different taps, which are as follows;

- i. The marketing plan
- ii. The advertising and promoting plan
- iii. The selling expen budget.

Sales budget is prepared by product, by provides and by sales territory. The outer all responsibility of preparing sales budget is upon the sales manager although chief executive should also be involved in such activities.

BMSS has only short-range sales plan for the coming fiscal year. Sales budget prepared by product, by region and by time. BMSS has produces different products that can be measured in liter and kg. BMSS has supplied its production from 140 bottles, 35 retailer, 8 franchisee stere, and 5 distributors.

4.3.1 Five year milk sales target and achievement of BMSS

Table No: 4.3.1

(In Rs.)

Financial year	Target	Achievement	Achievement (%)
2063/064	103524240	80104716.75	77.37
2064/065	108933000	90090685.5	82.70
2065/066	141283348.8	141196023.5	99.93
2066/067	163610258.6	160160865	97.89
2067/068	203175773.6	195078248	96.01

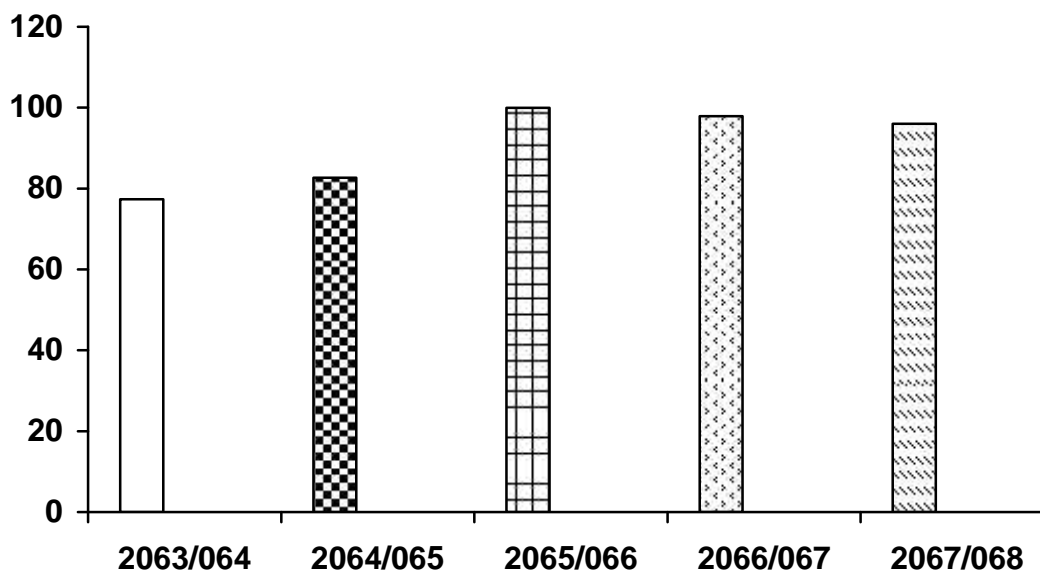
Sources: BMSS Annual Report

The above table shows that the actual achievement of sales are below than target sales of all period. The achievement is lowest on F/Y 2063/64 and highest is on F/Y 2065/66. The gap between target

and achievement is not more than 25%. The presentations of above figure will be more clear and effective by following figure.

Fig 4.3.1

Five year milk sales achievement percent of BMSS



4.3.2 Five years Butter sales Target and achievement of BMSS

TableNo: 4.3.2

(In Rs.)

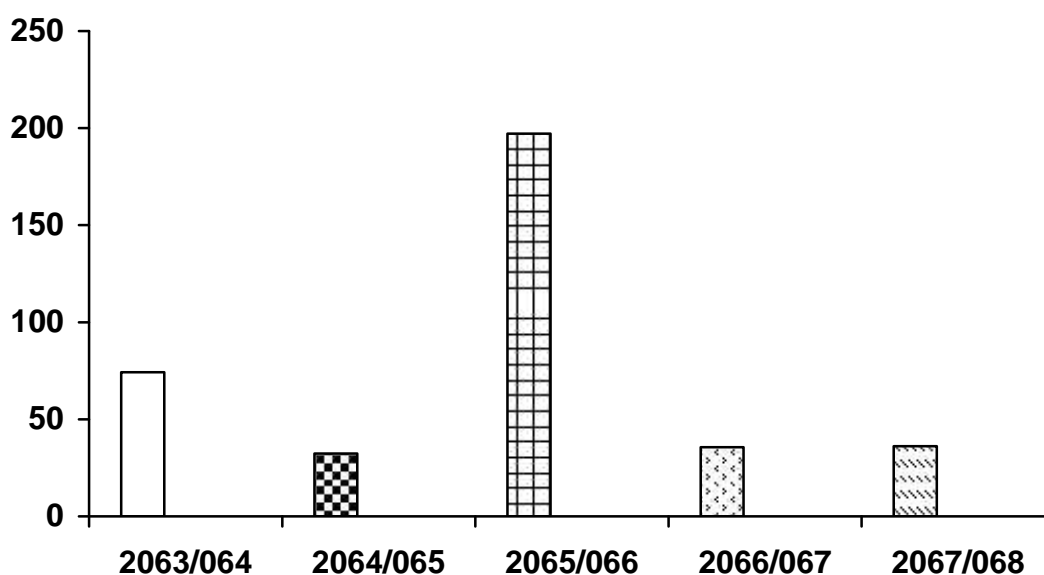
Financial year	Target	Achievement	Achievement (%)
2063/064	2183685	1622578.94	74.30
2064/065	5726000	1850100.75	32.31
2065/066	1555694.66	3066315.97	197.10
2066/067	6126403.79	2180042.5	35.58
2067/068	6799319.16	2459228.75	36.16

Sources: BMSS Annual Report

The above table shows that highest sales achievement on F/Y 2065/66. In this year achievement is greater than target. In other F/Y achievement is lowest than target. The presentation of table will be more effective by following figure.

Five years Butter sales achievement percent of BMSS

Fig 4.3.2



4.3.3 Five year paneer sales target and achievement of BMSS

Table No: 4.3.3

(In Rs.)

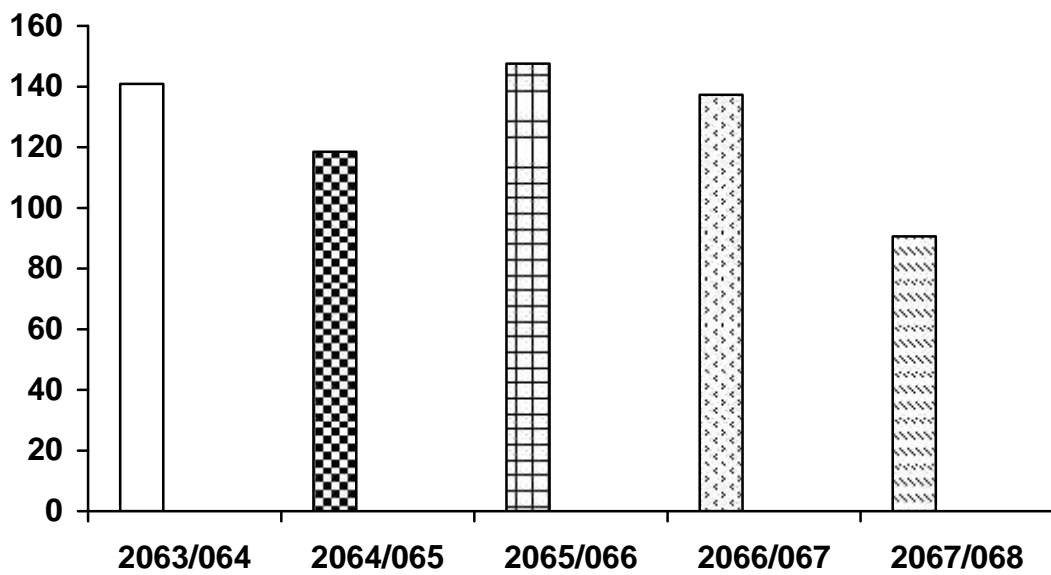
Financial Year	Target	Achievement	Achievement (%)
2063/064	1186396	1671637.66	140.90
2064/065	2713000	3214307.67	118.47
2065/066	3777097.84	5574328.64	147.58
2066/067	5819271.77	7990497.5	137.31
2067/068	11710970.37	10606694.75	90.57

Sources: BMSS Annual Report

The above table shows that all year achievement are highest than target except on F/Y 2067/68. The highest sales achievement on F/Y 2065/66 and lowest achievement on 2067/68. The presentation of table will be more effective by following figure.

Five year paneer sales achievement percent of BMSS

Fig. 4.3.3



4.3.4 Five year Dahi (yoghurt) sales target and achievement of BMSS

Table No: 4.3.4

(In Rs.)

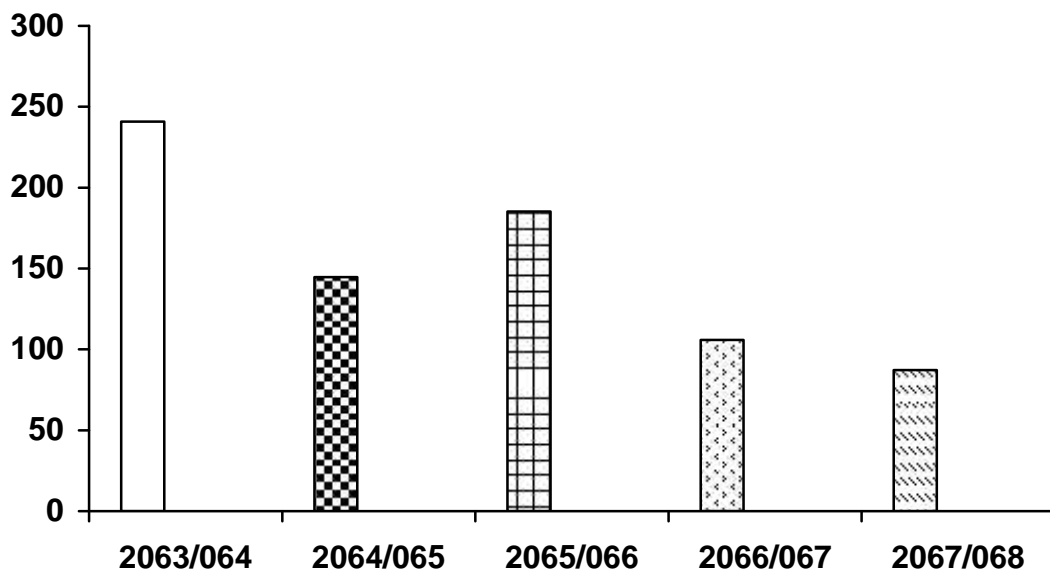
Financial Year	Target	Achievement	Achievement (%)
2063/064	11647455	28058337.41	240.89
2064/065	27952000	40422348.45	144.61
2065/066	22792227.5	422.2355.9	185.16
2066/067	48633852.23	51449837.3	105.79
2067/068	70749415.22	61761711	87.29

Sources: BMSS Annual Report

Above table shows that all year sales achievement highest than target except all F/Y 2067/68 achievement. This year achievement is only 87.29% but other year highest achievement are on F/Y 2063/64 is 240.89% on f/y2064/65 is 144.61% on f/y 2065/66 is 185.16% on F/Y 2066/67 is 105.79%

Five year Dahi (yoghurt) sales achievement percent of BMSS

Fig4.3.4



4.3.5 Five year cheese sales target and achievement of BMSS

Table No: 4.3.5

(In Rs)

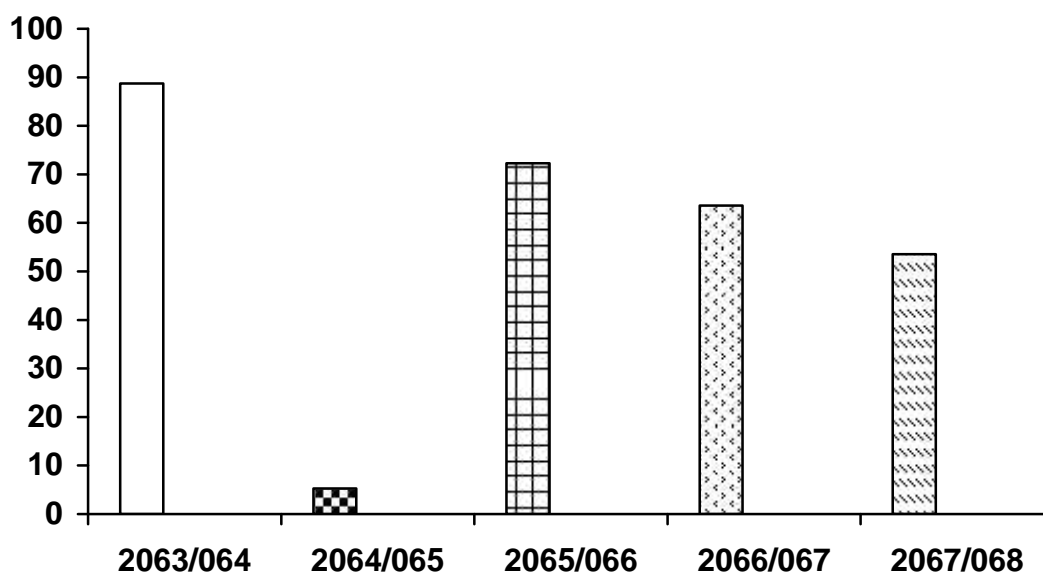
Financial year	Target	Achievement	Achievement (%)
2063/064	886100	786458.51	88.75
2064/065	1203000	63237.59	5.25
2065/066	1347670.36	974117.7	72.28
2066/067	1430796.00	909342.4	63.55
2067/068	1506152.84	806582.5	53.55

Sources: BMSS Annual Report

Above table shows that all year sales achievement are lowest than target sales. The achievement is lowest on F/Y2064/65 and highest on F/Y 2063/64. The presentation of above table will be more clear and effective by following figure.

Five year cheese sales achievement percent of BMSS

Fig 4.3.5



4.3.6 Five years Ghee sales Target and achievement of BMSS

Table No: 4.3.6

(In Rs)

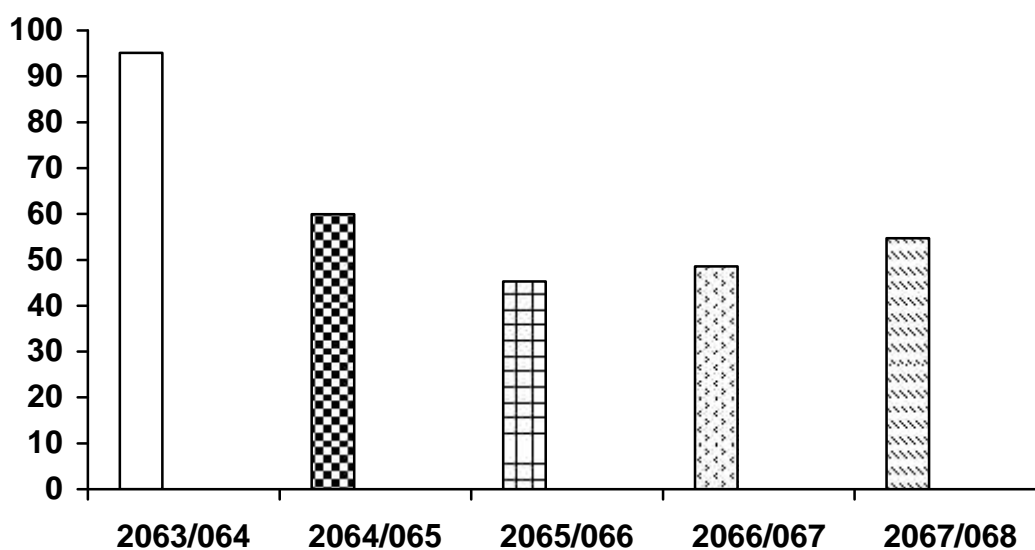
Financial Year	Target	Achievement	Achievement (%)
2063/064	27227749	25896029.36	95.10
2064/065	41910000	25108942.69	59.91
2065/066	55019459.45	24919184.78	45.29
2066/067	67093622.74	32589568.00	48.57
2067/068	73925381.43	40427395.50	54.68

Sources: BMSS Annual Report

Above table shows that all year sales achievement are lower than target sales. The achievement is lowest on F/Y 2065/066 and highest on F/Y 2063/064. The presentation of above table will be clearer and effective by following figure.

Five years Ghee sales achievement percent of BMSS

Fig 4.3.6



The above table and figure have shown the target sales and actual achievement of different product in which sales is in amount. So we can found the actual achievement is less than planning. But, now, I will study the budgeted and actual sales achievement from product in account. So the following table shows budgeted and actual sales in amount.

4.3.7 Five years budgeted and actual sales of milk and milk production of BMSS

Table No: 4.3.7

(In Rs.)

Financial year	Budgeted (X)	Actual (Y)	Achievement (%)
2063/064	148373354	138512264.03	93.35
2064/065	190894000	161300173.8	84.49
2065/066	225775497.6	218439086.89	96.75
2066/067	293258065.5	256851308.70	87.58
2067/068	374944461.2	314494024	83.87

Sources: BMSS Annual reports

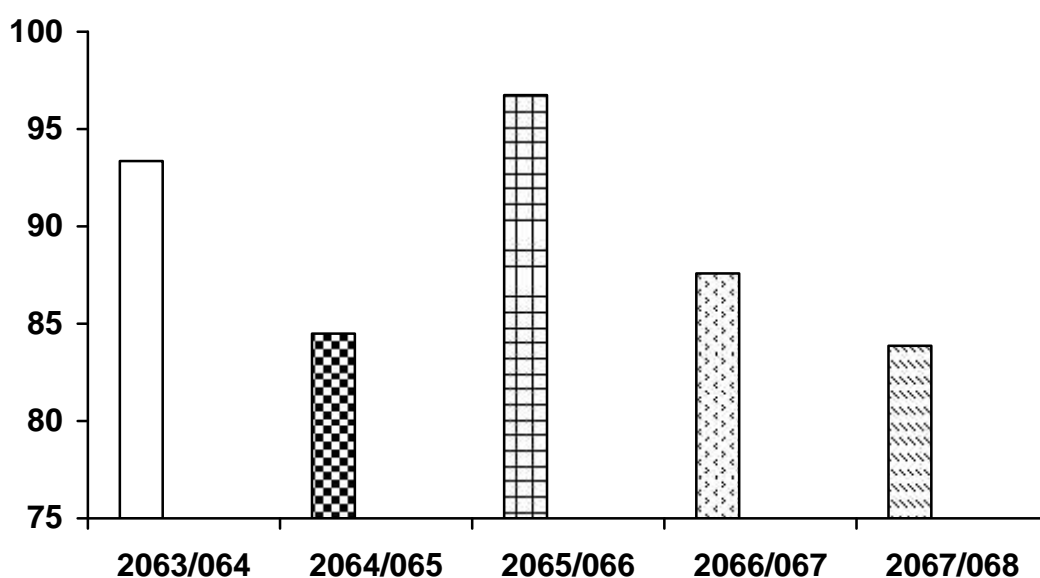
The above table shows that the actual sales are below than the budgeted sales on all fiscal years. The gap between budgeted and actual sales are fluctuated which means the sales target is develop without considering the previous years sales achievement while preparing the sales budget for coming year. Previous year sales performance should also be considered in account. But in BMSS, the

planning is neither made on basis of the past year sales trend nor all research market situation nor demand forecast.

The presentation of the above figure will be more effective by following figures.

Five years milk and milk production sales achievement percent of BMSS

Fig 4.3.7



For finding out of the nature of variability, we can calculate different types of statistical tools like mean, standard deviations, coefficient of variation and correlation. The detail calculation of these figure are shown in appendix-3. That summarizing result is shown below:

Particular	Budgeted Sales (x)	Actual sales (y)
Mean	2466.48	2179.19
Standard deviation	797.92	638.02
Coefficient of variation	32.35%	29.27%

Sources: BMSS Annual Report

From the above table budgeted sales is more variable than actual sales or actual sales is constant than budgeted sales because e.v of budgeted sales is higher than actual sales.

"The relationship between two (i.e. dependent and independent) variables are called simple correctation. The most important method of measuring the correlation between the two variable is Karl- persons co-efficient of correlation". Here a statistical tool correlation of coefficient \textcircled{R} can be used to analyze the relationship between budgeted sales and actual sales. For this purpose budgated sales (x) is assumed to an independent variable and actual sales (y) is assumed to be dependent variable. It is assumed that actual sales will inerease if budgeted sales is inerease vice- versa. It means there is positive correlations between budgeted and actual sales.

"The probable error (P.E) of the correlation is applicable for the measurement of reliability of the computed value of the correlation coefficient 'r'.

If $r < P.E.$, the value of 'r' is not significant no matter have high 'r' value is i.e. there is no evidence of correlation between the variables.

If $r > P.E.$ the value of 'r' is significant i.e. there is evidence of correlation between the variables. (Shrestha etal, 2057:325)

The detail calculation of 'r' and P.E. is presented in Appendix-1. Here, we can calculate is summarized from of 'r' and P.E. in following way:

Calcuation of Karl Person's correlation coefficient (r)=0.98

Calculation of probable Error (P.E.) of correlations coefficient
(r)=0.0119

This figure of the value of 'r' shows that there is positive correlation between budgeted and actual sales. The actual sales will change in the same direction of the change in budgeted sales.

Here, $r > P.E.$, i.e. $r(0.98) > P.E. (0.0119)$, so the value of 'r' is definitely significant. So, it can be said that actual sales will go on some direction of budgeted sales.

4.4 Inventory plan

Inventory includes the stock in hand i.e. raw material, goods in process and finished goods. A certain level of inventory is needed for operation. When production is more than sales, the level of inventory is increased so on the inventory level will decrease when sales is more than production. If the producer is not hold the inventory, he will not supply his products when consumer demand is made so the cause for holding inventory are to continue their work and to supply finished goods regularly. In this fact, it is clear that inventory is necessary but the question is how much invest on inventory? We must minimize the inventory cost. The nature of industry and raw materials affect the size of inventory. If the materials is seasoned then the production activities are operate only few months of a year, at this situation the size of inventory will automatically large i.e. sugar mills, Jute mills etc.

In case of BMSs, almost production would not store for a long time i.e. milk, yoghurt, cream, cheese etc. The following table shows the actual inventory level of finished goods.

4.4 Biratnagar milk supply scheme (5 year total inventory)

Table No: 4.4

(In Rs)

Fiscal year	Opening inventory	Closing inventory
2063/064	13264172.20	13431865.69
2064/065	13431865.69	3413918.00
2065/066	3413918	9672380.26
2066/067	9672380.26	15800642.08
2067/068	15800642.08	16167409.22

The above table shows that the inventory has been fluctuated in different fiscal year. The closing inventory in F/Y 2064/065 was decrease than last year closing inventory. Similarly in F/Y 2065/066 inventory increased by 64.70% than in F/Y 2066/67 inventory increased by 38.78% and F/Y 2067/078 inventory is also increased. In this calculation, it is known that closing inventory is more fluctuating in different period. The higher investment an inventory minimizes the profit. So, BMSS should consider minimizing the inventory all that level where deduction of inventory would not affect the regular sales.

4.5 Profit and loss account of BMSS (income statement)

Profit and loss account is a statement prepared to find out the net profit or net loss during the given period. It is prepared after preparing the all functional budget at the end of the each year. BMSS does not prepared profit and loss account because profit and loss account of all schemes together is prepared by DDC. For this case, BMSS prepares the statement of trail balance and it is provided

to DDC. Here, the researcher has prepared the profit and loss account himself on the basis of trail balance in order to correctly analyze the profit/loss position which is presented below:

Particular	2063/064	2064/065	2065/066	2066/067	2067/068
<u>Income:</u>					
Sales Revenue	138512264	161300174	218439086	256851308	314497989
Other income	581517	558522	21848	–	–
Inter Project Sales	140277444	121488795	100050205	186435987	201777878
Total income (A)	279371225	283347491	318511139	443287295	516275867
<u>Expenses:</u>					
Raw material	1056341	–	–	–	–
Milk Purchases	142489496	152311024	200195935	272220213	296942122
Collection Cost	19848211	21180967	27320870	34164509	40790787
Processing cost	43816451	50562195	63307117	272763118	89853373
Sales Cost	6442302	6679289	8702327	10461377	11565006
Administrative cost	8022187	9243679	10009734	10594424	13132833
Depreciation	12000000	11918429	11299565	10389214	10651430
Gratuity	3888517	12445266	10760503	12909070	8681795
Inter Project Milk Purchase	39423371	22936420	3170161	24929632	17689158
Inter Project other product purchase	21491070	5960281	1520122	3958858	29319371
Interest expenses	5411000	5410992	–	–	–
Total exp. Before adj. of stock	303888946	298648601	336286334	452390415	492238441
Add: opening stock	13264172	13431865	3413918	9672380	158006428
Loss: closing Stock	(13431865)	(3413918)	(9672380)	(15800642)	(16167409)
Total exp. After Adj. of stock (B)	303721253	312080466	330027872	446262153	491871674
Net Profit (A-B)	-24350028	-28732975	-11516733	-2974858	24404193

The above table shows that the profit trend of BMSS was very poor before the F/Y 2067/068. The reason behind such loss is high cost of production, high quantity of closing stock and high administrative expenses. But on F/Y 2067/068 that situation is improving. So we can conclude that if this situation will be more satisfactory, it may earn more profit.

4.6 Identification of cost variability and cost volume profit analysis

Cost variability is considered as a technique for planning and controlling of cost. Cost variability is the cost behaviours. So, cost

variability must be identified for cost planning and control. All cost occurred in the industry should be separated into following categories according to their behaviour:

1. Fixed Costs: Those expenses which are constant in total regardless of fluctuation in production quantity.
2. Variable cost: Those expenses that change in total directly with the change in output or activity.
3. Semi-variable cost: Those neither expenses which are neither fixed nor variable expenses, means they change in the same direction but not proportionally.

4.7 Cost volume profit analysis (BEP analysis)

Cost volume profit analysis is an analytical tool for studying the relationship between cost i.e. fixed and variable. BMSS has not analysed its financial performance by using this tool. It is very difficult to analyze using this technique because BMSS has not adopted the systematic costing system and classification of cost behaviour. Thus BEP analysis of BMSS is based on the following assumption;

- a. It is based on pl account of F/Y 2066/067.
- b. Activity base is selected in term of sales revenue.
3. Calculation is based on total cost not on production.
4. Fixed cost, variable cost and sales revenue are assumed to be constant.
5. Opening and closing inventory are not changed.
6. Non-operating income and expenditure are not included in total revenue.

For BEP analysis we assume that collection expenses and processing expenses as a variable cost and sales expenses, administrative expenses, gratuity expenses, depreciation and interest on loan as a fixed cost. We get the following figure from profit and loss account of F/Y 2066/067 after segregation of expenses into fixed and variable.

Total sales- 443287 (in thousand)

Variable cost- 106927(in thousand)

Fixed cost-44354(in thousand)

1. Calculation of profit volume ratio (p/v ratio)

This ratio shows the proportion of contribution margin and sales.

The formula is

$$\begin{aligned} \text{P/V ratio} &= 1 - \frac{\text{Variable cost}}{\text{Sales}} \\ &= 1 - \frac{106927}{443287} \\ &= 0.758 \\ &\text{or } 75.8\% \end{aligned}$$

2. Calculation of Break Even Point(BEP)

$$\begin{aligned} \text{BEP} &= \frac{\text{Fixed cost}}{\text{P/V Ratio}} \\ &= \frac{44354}{0.758} \\ &= \text{Rs. } 58514.51 \text{ (in thousand)} \end{aligned}$$

3. Calculation of margin of safety

$$\begin{aligned} &= \frac{\text{profit(loss)}}{\text{P/V Ratio}} \\ &= \frac{-(2974858)}{0.758} \\ &= -3924614 \end{aligned}$$

Thus the calculation of break even analysis revealed that the BMSS is not operating at break even point. It has operated below the break even point on the basis of present cost structure. It indicates that BMSS is with high cost. The main reason of such thing is large amount of collection process selling and administrative expenses. Other reason is BMSS should neither set the break even point nor accepted the BEP analysis On the other hand; BMSS is operating under low capacity so it is not difficult to increase production and sales to meet the BEP.

4.8 Major findings

- a. BMSS have no long range (strategie) profit plan lack of budgeting experts and so effective program to attain goal.
- b. There is lack of participative management and MBO (management by objective) in BMSS.
- c. BMSS has not collected all milk offered by farmers and not able to provide the loan to the farmer's requirement.
- d. There are others some private dairies which are competing with BMSS.
- e. All productions don't sale in market i.e. it is internally consumed by employees and workers.
- f. BMSS has not applied effective inventory policy but being the more demand of milk product, there is not problem for over stocking.
- g. BMSS has been suffering from loss but possibility of making profit is more than this if BMSS improves its weakness.
- h. The gap of actual production and actual sales is high.

- i. Demand of milk and milky production in urban area is very high.
- j. BMSS has not practiced of applying the statistical tool.

CHAPTER-5

Summary, Conclusion & Recommendation

5.1 Summary

BMSS is one of the projects of DDC established in 2030 B.S. It has been collecting milk from different part of easstern Nepal BMSS has been playing a vital role to uplift the econamics status of rural farmers. The main objective of this study is to know about profit planning, sales & production planning. Profit planning is the important tool of management for planning, implementing and controlling of any business activities. So on sales and production planning is a basic function of profit planning & control. I have devided this study in 5 chapters. In first chapter I have studied about DDC & BMSS introduction and its objectives, statement of problems, its significant & limitation. In second chapter, I have studied about profit planning, planning levels, profit planning process, importance, development of profit plans etc.

In third chapter of the study discussed about various research methodologies use for the study, basically research methodology have signifies the research design, nature & sources of data, research variable, data processing procedure etc. In forth chapter, I have studied the collection, budgeted & actual data of production & sales, and accounting statements of BMSS.

The statistical tool like percentage, mean, standard deveation, variation, correlation used and financial tools like cost volume profit analysis has been used to analyze the data. At last, in fifth chapter, I have studied the result of fourth chapter i.e. summay, conclusion and recommendation.

5.2 Conclusion

After studying this problem, I have concluded some points which are listed below:

- (1) BMSS does not make a long term plan but it prepares short term plan which is usually called as budget. The time period covered by the budget is one year, which is detailed by interim periods.
- (2) BMSS makes sales plan only for the coming year for its major products. In case of milk, actual sales is always below the target, for the rest of the product actual sales is either equal or more than the target on the average production of achievement to target is highly fluctuating, specially in case of ghee and and butter. Actual sales and target sales should be positively correlated but here is low corelation in case of ghee & milk. Satisfactory correlation exists in case of Dahi.
- (3) For manufacturing organization, purchase budget is essential. It helps to inform the suppliers about the demand of organization. But incase of BMSS, purchase budget is not prepared.
- (4) BMSS prepares labour budget but without taking sufficient information. It doesn't contain information on labour times and labour expenses. Thus, it is highly incomplete labour budget over staffing is found in BMSS.
- (5) BMSS doesnt prepare capital expenditure budget, comprehensive cash budget although transactions are performed in term of cash. And BMSS also doesn't prepare flexible budget.

- (6) Book of accounts are not prepared on scientific basis in BMSS. Being a manufacturing organization, it has to prepare its accountancy on scientific basis. Practice of separating cost as fixed and variable is not followed. There is no practice of preparing profit and loss account and balance sheet. In absence of such account, real picture of organization remains unknown.
- (7) Transportation facility plays a very vital role in the success of distribution management. At BMSS, vehicles used for collection exceeds the vehicles for distributives.
- (8) BMSS has geographically short channel structure. Thus, it has developed market with the help of booths, retailer store, and franchisee store & distributives. In this corporation, there are 140 booths, 35 retailers, 8 franchisee store and 5 distributives. BMSS is ignoring motivation of channel members. Development of the channel members' capabilities is not given any importance.
- (9) The packaging of milk is satisfactory at the present with ½ liter plastic pouches, crates, jars, cups etc. The other dairy products are also well packaged but their labeling is unattractive. And its warehousing facility is also satisfactory.
- (10) BMSS being part of DDC, a government undertaking, has no authority as regards to policy formulation. It requires following the set guidelines determined by the central office. Price and promotion strategy is all centrally determined. BMSS enjoy no freedom in this regard.

- (11) Inventory management is traditional because of lack of trained human resources. During festival, reason the stock of milk is increased in anticipation of sales and transportation cost. Similarly ghee is also produced in excess and stock.
- (12) BMSS has been found to be running at a loss during the study period. Poor inventory management of milk and milk products and high administrative, distributes, production and collection cost are among the major reason for negative profitability.

5.3 Recommendation

After analyzing the overall aspect of BMSS, I felt I can suggest for some recommendation that which will be very usefull to BMSS for improving its weakness and identifying its apportunities to get success in compititive environment.

- (1) BMSS should follow the participative management for planning & decision making and also applied MBO
- (2) BMSS is suggested to prepare long term and short term budget for all major activities, like sales, production, purchase etc.
- (3) BMSS should expand the collection and distribution scheme on more places. And it should provide the loan for rural poor farmer to keep cattle.
- (4) There should be effective advertising policies to inform about the dairy product and its quality for consumers.
- (5) Production budget should be prepared by interim time-periods. Such production budget will help industry to plan

necessary raw materials and other essential producing factors at appropriate time.

- (6) The book of accounts should be prepared on scientific basis. It must be able to show fixed cost, variable cost etc. at different stage of processing. It should identify the controllable and non-controllable variables.
- (7) BMSS should prepare overhead budgets so that it can control the expenses. And cash budget should also be developed which helps to save the industry from cash deficit and misuse of cash.
- (8) BMSS is suggested to prepare its profit and loss a/c and balance-sheet and flexible budget to show as its periodical picture.
- (9) Cost reduction is the effective way to increase the industry's profitability. Therefore, cost reduction programs should be introduced for each responsibility centers.
- (10) BMSS should introduce scientific inventory management to ensure regular and uninterrupted supply of raw materials as well as finished goods. The problem of over and under stocking can also be tackled if such technique are used.
- (11) It should not stop to produce its product and due to technical problems that could result negative impact on its customer.
- (12) BMSS must improve the middle men capacity in order to strengthen and bring efficiency in the distribution network.
- (13) There should be optimum use of vehicles. Old vehicles must be replaced. Seeing market range, the fleet of vehicles must be

increased so that timely collection and distribution can be achieved.

(14) BMSS should reduce different loss-processing loss, store loss, transpiration loss etc. And it also reduces over staffing system.

(15) The environmental auditing system should be established by using environmental experts.

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APPENDIX-1

Let, Budgeted production = X (liters in Lakh)

Actual production = Y (Liters in Laks)

F/Y	X	Y	x(x-\bar{x})	y(Y-\bar{y})	x²	y²	xy
2063/064	184.38	166.30	-15.65	-13.49	244.92	181.98	211.11
2064/065	203.04	156.66	3.01	-23.32	9.06	543.82	-70.19
2065/066	198.13	170.60	-1.9	-9.38	3.61	87.98	17.82
2066/067	194.45	201.26	-5.58	21.28	31.13	452.83	-118.74
2067/068	220.16	205.08	20.13	25.1	405.21	630.01	505.26
Total	1000.16	899.9			693.93	1896.62	545.26

i. Calculation of Anthmetic mean (\bar{x})

$$\begin{aligned} \text{A.M. } (\bar{x}) &= \frac{\sum x}{N} \\ &= \frac{1000.16}{5} \\ &= 200.03 \end{aligned}$$

$$\begin{aligned} \text{A.M. } (\bar{y}) &= \frac{\sum y}{N} \\ &= \frac{899.9}{5} \\ &= 179.98 \end{aligned}$$

ii. Calculation of standard Deviation (S.D)

$$\begin{aligned} \text{S.D.}_x &= \sqrt{\frac{\sum x^2}{N}} \\ &= \sqrt{\frac{693.93}{5}} \\ &= 11.78 \end{aligned}$$

$$\begin{aligned}
 \text{S.D.}_y &= \sqrt{\frac{\sum y^2}{N}} \\
 &= \sqrt{\frac{1896.62}{5}} \\
 &= 19.47
 \end{aligned}$$

iii. Calculation of coefficient of Variance

$$\text{C.V.}_X = \frac{\text{S.D.}_x}{x} \times 100 = \frac{11.78}{200.03} \times 100 = 5.88\%$$

$$\text{C.V.}_Y = \frac{\text{S.D.}_y}{y} \times 100 = \frac{19.47}{179.98} \times 100 = 10.81\%$$

iv. Calculation of Karl Persom's Correlation of coefficient (r)

$$\begin{aligned}
 &= \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}} \\
 &= \frac{545.26}{\sqrt{(693.93)(1896.62)}}
 \end{aligned}$$

$$= \frac{545.26}{1147.22} = 0.475$$

v. Calculation of probable error (P.E.) of correlation of coefficient

$$\begin{aligned}
 r &= \frac{0.6745(1-r^2)}{\sqrt{N}} \\
 &= \frac{0.6745[1-(0.475)^2]}{\sqrt{5}} = 0.23
 \end{aligned}$$

APPENDIX-2

Let, Budgeted production=X (kg in 000)

Actual production=Y(kg in 000)

F/Y	X	Y	x(X- \bar{x})	y(Y- \bar{y})	x ²	y ²	xy
2063/064	1077.75	846.25	-8.86	112.04	78.49	12552.96	-992.61
2064/065	1244.24	690.84	157.63	-43.37	24847.21	1880.95	-6836.41
2065/066	116.67	585.55	30.06	-148.66	903.60	22099.79	-4468.71
2066/067	951.01	824.90	-135.6	90.69	18387.36	8224.67	-2297.56
2067/068	1043.39	732.52	-43.22	-10.69	1867.96	114.27	462.02
Total	5433.06	3671.06			46084.62	44872.64	-24133.33

i. Calculation of Anthmetic mean (\bar{x})

$$\begin{aligned} \text{A.M. } (\bar{x}) &= \frac{\sum x}{N} \\ &= \frac{5433.06}{5} \\ &= 1086.61 \end{aligned}$$

$$\begin{aligned} \text{A.M. } (\bar{y}) &= \frac{\sum y}{N} \\ &= \frac{3671.06}{5} \\ &= 734.21 \end{aligned}$$

ii. Calculation of standard Deviation (S.D)

$$\begin{aligned} \text{S.D.}_x &= \sqrt{\frac{\sum x^2}{N}} \\ &= \sqrt{\frac{46084.62}{5}} \\ &= 96.00 \end{aligned}$$

$$\begin{aligned}
 \text{S.D.}_y &= \sqrt{\frac{\sum y^2}{N}} \\
 &= \sqrt{\frac{44872.64}{5}} \\
 &= 94.73
 \end{aligned}$$

iii. Calculation of coefficient of Variance

$$\text{C.V.}_x = \frac{\text{S.D.}_x}{x} \times 100 = \frac{90.00}{1086.61} \times 100 = 8.28\%$$

$$\text{C.V.}_Y = \frac{\text{S.D.}_y}{y} \times 100 = \frac{94.73}{734.21} \times 100 = 12.90\%$$

iv. Calculation of Karl Persom's Correlation of coefficient (r)

$$\begin{aligned}
 &= \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}} \\
 &= \frac{-24133.33}{\sqrt{(46084.62)(44872.64)}} = \frac{-24133.33}{45474.59} = -0.530
 \end{aligned}$$

v. Calculation of probable error (P.E.) of correlation of coefficient

$$\begin{aligned}
 r &= \frac{0.6745(1-r^2)}{\sqrt{N}} \\
 &= \frac{0.6745[1-(-0.530)^2]}{\sqrt{5}} \\
 &= 0.176
 \end{aligned}$$

APPENDIX-3

Let Budgeted sales = X (Rs. in Lakh)

Actual Sales=Y (Rs. in Lakh)

F/Y	X	Y	x(X- \bar{x})	y(Y- \bar{y})	x ²	y ²	xy
2063/064	1483.73	1385.12	-982.75	-794.07	965797.56	630547.16	780372.29
2064/065	1908.94	1613.00	-557.54	-566.96	310850.85	321443.64	316102.87
2065/066	2257.75	2184.39	-208.73	5.2	43568.21	27.04	-1085.39
2066/067	2932.58	2568.51	466.1	389.32	217249.21	151570.06	181462.05
2067/068	3749.44	3144.94	1282.96	965.75	1645986.36	932673.06	1239018.62
Total	12332.44	10895.96			3183452.19	2036260.43	2515870.44

i. Calculation of Anthmetic mean (\bar{x})

$$\begin{aligned}\text{A.M. } (\bar{x}) &= \frac{\sum x}{N} \\ &= \frac{12332.44}{5} \\ &= 2466.48\end{aligned}$$

$$\begin{aligned}\text{A.M. } (\bar{y}) &= \frac{\sum y}{N} \\ &= \frac{10895.96}{5} \\ &= 2179.19\end{aligned}$$

ii. Calculation of Standard Deviation (S.D)

$$\begin{aligned}\text{S.D.}_x &= \sqrt{\frac{\sum x^2}{N}} \\ &= \sqrt{\frac{3183452.19}{5}} \\ &= \sqrt{636690.43}\end{aligned}$$

$$= 797.92$$

$$\begin{aligned} \text{S.D.}_y &= \sqrt{\frac{\sum y^2}{N}} \\ &= \sqrt{\frac{2035260.43}{5}} \\ &= 638.16 \end{aligned}$$

iii. Calculation of coefficient of variance (C.V)

$$\text{C.V.}_X = \frac{\text{S.D.}_x}{x} \times 100 = \frac{796.92}{2466.48} \times 100 = 32.35\%$$

$$\text{C.V.}_Y = \frac{\text{S.D.}_y}{y} \times 100 = \frac{638.16}{2179.19} \times 100 = 29.28\%$$

iv. Calculation of Karl Pearson's correlation of coefficient

$$\begin{aligned} (r) &= \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}} \\ &= \frac{2515870.44}{\sqrt{(3183452.19)(2035388.43)}} \\ &= \frac{2515870.44}{2545498.33} \\ &= 0.98 \end{aligned}$$

v. Calculation of probable error (P.E) of correlation of coefficient (r)

$$\begin{aligned} &= \frac{0.6745(1-r^2)}{\sqrt{N}} \\ &= \frac{0.6745[1-(0.98)^2]}{\sqrt{5}} = \frac{0.6745(1-0.9604)}{2.2360} = 0.0119 \end{aligned}$$

APPENDIX – 5

Supplementary Research questionnaires

Name of the Respondents.....

Position

Department.....

Tenure of service

Sex..... Academic

qualification.....

Professional

Please tick as (\surd) on the one or more boxes and fill in the blanks as per question required.

1. What were the specific objectives of BMSS?

a. Expansion (.....)

b. Optimum capacity utilization (.....)

c. Return all capital employed (.....)

d. Net profit margin on sales (.....)

e. Other if any (.....)

2. Are they achieving new?

Yes (.....) No (.....)

3. Are they satisfactory or favourable?

Yes (.....) No (.....)

4. Would you mention the financial position of BMSS?

a. very good (.....) b. good (.....) c. Satisfactory (...)

d. Poor (.....)

5. If poor, would you mention the cause?

- a.....
- b.....
- c.....
- d.....

6. What management system is applied in BMSS in phase of planning, decision making and controlling?

- a. Participative management ()
- b. management by objectives MBO ()
- c. Centralize Decision ()
- d. Autocratic management ()

7. On what basis sales and production budget is prepared?

- a. Large range ()
- b. Short range ()

8. Who are responsible for preparing sales plan?

- a.....
- b.....
- c.....
- d.....

9. What pricing method is accepted?

- a. Cost plus pricing ()
- b. Marginal pricing ()
- c. Other methods ()

10. How does BMSS sales its product?

- a. Cash ()
- b. Credit ()
- c. Both ()

11. What is the distribution channel of BMSS?

- a. producer- consumers ()
- b. Boothman- Consumer ()

