

Sales Planning Of Public Enterprises in Nepal

[A case study of Dairy Development Corporation]

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RECOMMENDATION

This is to certify that the Thesis

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SALES PLANNING OF PUBLIC ENTERPRISES IN NEPAL

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DECLARATIONS

I hereby, declare that the work reported in this thesis entitled "**SALES PLANNING OF PUBLIC ENTERPRISES IN NEPAL: A STUDY OF DAIRY DEVELOPMENT CORPORATION**" Submitted to office of the Dean, Faculty of Management, Tribhuvan University is my original work done on the form of Partial fulfillment of the requirement of the Master's Degree of Business Studies (M.B.S). Under the supervision of **Mr. Shiva Prasad Pokharel** of Patan Multiple Campus.

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LIST OF ABBREVIATIONS

| | |
|-------|-----------------------------------|
| B.S. | Bikram Sambat |
| BEP | Break Even Point |
| DDC | Dairy Development Corporation |
| Defn. | Definitions |
| Edn. | Editions |
| F/Y | Fiscal Year |
| FAO | Food and Agriculture Organization |
| GDP | Gross Domestic Product |
| HMG | His Majesty Government |
| k.g | Kilograms |
| Ktm. | Kathmandu |
| Lit. | Litres |
| Ltd. | Limited |
| MPAS | Milk Product Association System |
| No. | Number |
| P.E | Probable Error |
| PEs | Public Enterprises |
| PPC | Profit Planning and Control |
| Resp. | Respectively |
| Rs. | Rupees |

CHAPTER I

INTRODUCTION

1 Background of the study

Nepal is an interesting country lying in the laps of the Himalaya. The exotic land is blessed with a lot of unspoiled natural beauty. The amazing altitude variation corresponds to the range of inexhaustible flora and fauna. The spirit of the diverse ethnic group, their culture, custom and dialects pulsate in the natural surroundings of the majestic Himalaya, rugged mountains, lush valleys and the dense tropical forests. The amazing historical monuments, art and architecture, the colorful festivals and a distinctive combination of ancient and modern are common in the cities. Nepal offers the fascination of a totally different world.

Nepal is termed as 'agricultural country'. Every family keeping cattle's like cow, buffalo, goat, etc which has been the member of the household in the country. It was not taken as the source of income in the early days. But at present days cattle farming has become the source of income due to their various purpose values. Every year the world bank publishes the financial position of the people of the world country wise .the report of the year 2007,Nepal ranks as one of the world's poorest countries with per capita income as GDP per capita towards the bottoms , the country's per capita income was US \$ 340. So, uplifting the living standard of people is difficult without proper industrialization. Industrialization takes time so for country like ours should adopt the 'agriculture' as the means of prosperity. Within the 'agriculture' field also dairy and dairy products can be the major tools for uplifting the living standard of the people.

The principal organization for the dairy development in Nepal has the Dairy Development Corporation (DDC) establishment under the Corporation Act in 1969 (2026 B.S). The DDC was created, as full government owned corporation under the ministry of Agriculture with the responsibility of overall development of dairy industry in Nepal.

“Processing of dairy products within the rural households and cottage type undertaking has long history in Nepal. Processing methods are simple and labor intensive

process is done for a number of purposes i.e. to preserve the milk to produce marketable products e.g. ghee, to produce traditional dishes which are used by the households and during festivals, livestock farming has been a traditional enterprises in Nepalese farmers and has mostly been carried on in sufficient household scale and thereby benefited them as the secondary source of income.”¹

The history of dairy development in the organized sector is not long. Systematic dairy development in Nepal began in 1952 when HMG/N requested assistance from FAO of the United Nation in trying to better utilization of milk produces in the mountain region in the country.

To decentralize the milk collection processing and supplying of milk and milk products through the kingdom to the benefit of both the milk producing farmers and consumers scattered through the kingdom altogether six milk supply scheme were established on phase wise basis. They are as Kathmandu Milk Supply Scheme (KMSS), Biratnagar Milk Supply Scheme (BMSS), Hetauda Milk Supply Scheme (HMSS), Lumbini Milk Supply Scheme (LMSS), Madhya Paschimanchal Milk Supply Scheme (MPMSS), Milk Product Production and Sales Supply Scheme (MPPSSS).

In a view of national welfare, the objectives of the corporation is to bring timely progress in the collection, sterilization, conservation, sales and distribution of dairy and dairy products with modern and scientific method for the economic enlistment of the producer and protection of health of the consumer with more efficiency and readiness.

The DDC is a public enterprise created with the aim to increase the milk production, in the rural areas by collections and available quantity of milk, process and distribute it on the urban population at socially acceptable prices as a commercially viable operation. DDC's main objectives are:

- i. Bring improvement in production, collection, processing, preservation sales and distribution of milk and milk product in modern and scientific way.

¹Corporation co-ordination Council, “*Profiles of PEs in Nepal*” HMG Nepal, June 1978, p-87

- ii. Provide a reliable market outlet and fair price to milk producer.
- iii. Supply pasteurized milk and other dairy products to urban consumer at reasonable prices.
- iv. Organize, promote and extend milk collection, production processed milk and milk products to meet demand in urban areas.
- v. Organize and promote milk product's association (MPAS)

Public enterprise have been universally establishing in most developed countries like the USA, Britain, and France as well as in developing countries like India, Nepal and Sri Lanka among others. Indeed, PE's have become important and seeming for developing countries.

The growth of PE's has indicated a significant change in economic social thinking among government since the 19th and early 20th century. The concept was born out to two situations:

1. Lack of Private investment capital.
2. Lack of Skill and professional maturity among private entrepreneurs.

Thus, government policy makers have adopted the establishment of PEs as and instrument for social-economic development. Generally "PEs are autonomous bodies which are carried and manage by the government and which provide goods and services for a price and ownership with the government which should be 51% or more to make an entity. Planning is the first function of management. It is performed continuously because the passage of time demands both re-planning and making new plans. Moreover, current feedbacks often necessitate newly planned actions to:

- a) Current performance differences.
- b) Cope with unanticipated events, that are unfavourable and
- c) Take advantage of new developments.

Management planning is the process that includes the following 5 (Five) Phases:

1. Establishing enterprise objectives and goals.
2. Developing premises about the environment of the entity.
3. Making decisions about the courses of action.
4. Initiating actions to activate the plans and
5. Evaluating performances feedback for re-planning management planning provides the basis for performing the four other functions: Organizing, Establishing, Leading and Controlling.

Specially, planning means setting goals and picking out what appears to be the way to meet the goals.

“Sales plan is the first and most difficult plan to prepare. It is the starting point for the preparations of the comprehensive profit planning and control. All the other budgets are dependent upon the sales budgets. The sales budget is usually presented in both units and dollars of sales revenue. The preparation of sales budget is dependent upon the sales forecast. A variety of methods are used to forecast the sales for the budget period the actual sales for past periods serve as an excellent guide to forecasting future sales. The D.I system should be used to prepare and analyzing the actual sales by region, territory, salesman, types of customers etc.”²

The sales planning process is a necessary part of PPC because:

- a) It provides for the basic management decisions about marketing and
- b) Based on that decision, it is an organized approach for developing a comprehensive sales plan. If the sales plan is not realistic, most of the other parts of the overall profit plan also are realistic. The sales plan is the foundation for periodic planning in the firm; because practically all other enterprise planning is built on it. The primary source of cash is sales. The capital additions needed, the amount of expenses to be for planned, the manpower requirements, and the production levels and other important operational aspect depends on the volume of sales.

² Arthur W. Holmes, Meier Robert A and Pabrt Donald F “*Accounting for control Decisions*” Texas amtin Business publishing 1970, p.687

A comprehensive sales plan includes two separate but related plans, the strategic and tactical sales plans. A comprehensive sales plan in corporate management decisions as objectives, goals, strategic and premises. These translate into planning decision about planned volume (Units or Jobs) of good and services, prices, promotion and selling efforts.

Strategic and Tactical Sales Plans Compared:

“In harmony with a comprehensive profit plan both strategic long term and tactical short-term sales plan must be developed. Thus the usual case is a 5-10 yr. Strategic sales plan and due a year tactical sales plan. Many sales and resources involving like span of many years' basic strategic and major decisions that involve commitments of resources and long like spans are difficult to stop. Sometimes it may be helpful to view the development of due long range and short range sales plan as separate activities, however, they must be integrated because the short range sales plan should dovetail with the strategic long range plan in all major respects.”³

Brief Introduction to DDC.

DDC is an organization, which has been established for collecting milk from different rural areas of the country and supply the milk and milk products to the people of urban area in cost effective and efficient way. DDC was established in the year 2026 B .S under H.M.G's (then) corporation Act 2021 B .S. DDC has been running Milk processing factories in 5 different cities, 42 chilling centers in 40 different districts, and 9 Cheeses production centers in the mountains regions. Currently DDC has been collecting more than 3 lakhs liter of milk per day from the farmers and producing the milk products. Nepal is an Agricultural country, so, with the growth in population, urbanization and increasing demands of nutritious food and knowledge growing the people demand for milk and milk products is increasing day by day. DDC has been providing opportunity for 150,000 farmers and their family in poultry farming and in dairy production. Similarly, around 12,000 people have been engaged in collection of milk, co-operative management, milk carriage, milk and milk products sales. So, DDC has provided employment opportunity to these people and still to many with the time. Milk processing factories has been established in Kathmandu, Biratnagar,

³ Glenn A.Welsch 5th e.d. op. cit. p. 173

Hetauda, and Lumbini as different milk project. Around 510 technicians (including officers and assistant) and around 290 administrative staffs (including officers and assistant) are serving under different project of DDC. Different milk products like milk, powder milk, Makhan, Ghee, Curd, Paneer, Cheese, Cream, Ice-cream etc are being produced by DDC.

1.7 Statement of the problem

It is the known fact that Nepal is a developing and mountainous country as well as agricultural country. Agriculture is the main occupation of most of the Nepalese people. Poultry farming, fishery, beekeeping, cattle farming etc are main areas of agriculture. Most of the people in the country rely on agricultural production for their livelihood. Country's geographical feature is such that cattle farming can be promoted as one of the major economic agenda for uplifting rural economy. Cattle farming, poultry can be promoted from plain regions to high mountainous region. Currently, cattle farming are playing as important role in fulfilling basic needs of the rural area's people.

Except cattle farming, Nepal has scope on tourism sector because of its natural beauty and lots of variations in culture, religion, and tradition and geographical built of a country. In one hand population of country is increasing while the agricultural production is not enough to hold the increasing population's demand. So, cattle farming had been better sources for milk and meats, which are the basic foods for health, as food is needed for survival.

The population of Nepal is around 2,80,00,000. Most of the people lives in rural areas. But the latest trend of immigrating people from rural areas to town areas has increased the demand of milk and other dairy products. Milk is necessitated for every people. From the view point of health aspect milk and milk products are the major sources of nutrition. Therefore, the demand of milk and milk product are ever increasing. So, DDC which was established in 2026 B.S under 2021 Corporation Act has lots of Challenges, duty to fulfill the demands of urban areas people for milk and milk products.

DDC's head office is in Lainchour, Kathmandu. Different 6 projects are being run in different cities of the country. Different dairy products are produced according to the demands of the market.

“Public enterprises were established to prepare the infrastructure service to promote the exports, to control the price in favour of the nation, to contribute in national surplus, to provide employment opportunities, to provide required goods, services and contribute in national development as well as to assist in the country's economic advancement.”⁴ DDC is also establishment for this purpose.

Providing milk and its products to the consumers in fair cost and in effective way is the main objective behind the establishment of DDC in Nepal. DDC has been collecting milk from 41 districts under different projects run under it. Most of the PE's produce only goods but are unable to obtain the required goods for production as well as sufficient market area and their products are in condition of damage. But, DDC has no such problem in selling its dairy products. In recent days there has been establishment competition of DDC with the other dairies. So, DDC is the competition with the other dairies for the market as well as getting milk from the farmers. In the past it was a sole producer of milk and milk products (officially). There was a kind of monopoly and there was no problem in market (i.e. selling of its products). But, the scenario has been changed now. People in rural areas these days are encouraged in commercial cattle farming. They produce milk products and milk themselves and sell them in local market. So, DDC is facing some problems.

In this research work, researcher's aim is to find the answer of the following questions.

- 1) To what extent is the process of sales planning followed by DDC .
- 2) What is the situation of sales activities?
- 3) What is the effectiveness of DDC in the implementation of Sales Plan?
- 4) What kind of problem is facing by DDC in Nepal and why is it unable to provide milk and its products properly?

⁴ 8th plan HMG, National Planning Commission P.698

1.8 Objectives of the study

The objectives of this study are to raise the practice of sales planning system and its effectiveness, applied by DDC.

The specific objectives of the study can be stated as follows.

- a) To identify the sales planning process of DDC.
- b) To examine the formulation and implementing procedure of sales plan in DDC.
- c) To evaluate the variance between budgeted and actual sales of the DDC.
- d) To examine the effectiveness of sales plan in DDC.
- e) To suggest and recommend for improvement of the planning system in DDC.

1.9 Justification of the study

Profit planning has become an important technique in the use of managerial decision making in business enterprises. But it is not possible without the proper planning of sales. Sales planning are the major instruments, which minimize future uncertainty, maximize profit and optimum utilization of the resources. The main purpose of the sales planning is to provide necessary information for developing other elements of a comprehensive profit plan. Therefore this study may be useful to entrepreneurs, to decision makers, to policy makers, to further researchers.

1.10 Limitation of the Study

The main limitation of the study is as follows:

-) This study is mainly based on the published secondary data and no attempt has been made to examine the reliability of the data. Similarly set of questionnaire distributed to the managerial level staffs and interview taken to related persons of central office of DDC and feedback from that has been used as primary data.
-) The study is based on 8 years data from 058/59 to 065/66.
-) Limited time and resources.
-) This study is concentrated in the sales planning of DDC so it does not cover all other areas of DDC.

1.11 Organization of the study

The organization of the study has followed five separate chapters which are as follows:

Chapter I: This Chapter includes background, statement of the problem, objectives of the study, justification of the study, limitation of the study, organization of the study.

Chapter II: This Chapter includes the conceptual framework and literature review.

Chapter III: This chapter includes the research, research design, population and sample, the sampling procedure, the data gathering procedure, the statistical procedure and data analysis procedure.

Chapter IV: Presentation and Analysis of data is presented in this chapter which includes managerial process analysis, sales target and achievement, sales forecast, major findings.

Chapter V: This Chapter includes Summary, Conclusion and Recommendation of the research work.

CHAPTER II

REVIEW OF LITERATURE

This chapter provides some glimpses on the literature that is available in the topic. Especially, it covers a comprehensive review of the published and unpublished worked by academicians and scholars. The purpose of the literature review is to ensure that no important variable is ignored has past been found repeatedly to have had an impact on the problem.

2.1. Conceptual Revised

This is the first section of this chapter which is devoted mainly to describe theoretically the profit planning procedures relating to the sales planning in the public enterprises.

2.1.1 Brief Background of DDC

The principal organization of dairy development in Nepal has the Dairy Development Corporation (DDC) established under the corporation act in 1969. The DDC was created, as a full government opened corporation under the Ministry of Agriculture with the responsibility.

Dairy Development Board (DDB) and the Dairy Development Section (DDC) were dissolved and a Dairy Development Corporation (DDC) was constituted under the corporation's act 2021 B.S (1964 A.D) HMG/Announced the constitution of DDC through Nepal Gazette dated 2026 (1969), Kartik 18th. The preamble says: " In order to maintain the health and wealth being of the consumers and promote services in a modern , scientific and co- ordinate ways, of milk production, collection, processing conserving and marketing of milk and milk products, a dairy development corporation has constituted." DDC started functioning from 1st Shrawan 2026 B.S (16th July 1969) with its head office Lainchour. The objectives of the corporation were laid as under:

- ❖ Provide a guaranteed market and fair price to milk producers.
- ❖ Supply pasteurized milk and other dairy product to urban consumers at reasonable price.

- ❖ Organize, promote and expand milk collection, production to bring self-sufficiency in milk and milk products in order to meet the local demand and substitute imparts of dairy products.⁵

In keeping with its objectives, DDC was responsible both for development and expansion of dairy industry and at the same time to operate commercially with the principle of no profit no loss. It was quite successful in this regard. The DDC began with milk processing plant at Lainchour. The plant had capacity of processing 1080 litres of milk per hour. There were also three yak Cheese factories in the alpine belt under a separate scheme called Cheese Production and Supply Scheme (CPSS).

DDC has been collecting cow, buffalo and Yak/Cahuri milk from 40 districts. Its present milk collection network has spread from Panchthar in the east, Surkhet in the West. DDC has been playing a special role in contributing to uplift the economic status of rural farmers. Thus dairying has been recognized as an effective tool for poverty collection and economic development of rural farmers. For example, in the FY 2055/056. DDC had a turnover worth of Rs. 1400 million out of which Rs. 893 million directly reached the rural farmers as milk payment.

DDC provides qualitative milk and milk products to the consumer at national level. The demand of the milk is increasing day by day because of high quality and hygiene. DDC is totally owned by the government. World Food Program (WFP), Government of New Zealand USAID and Danish Government have been the major donors of the corporation. DDC could not buy all the milk offered by the farmers especially during the flush season. As a consequence, it had to impose milk holiday on certain day during the period. On the other hand, during the lean season DDC had been importing Skimmed milk powder to meet the consumer's demands. To mitigate this problem a skimmed milk powder plant was established in 1994 A.D to substitute import milk powder. Since, the FY 2055/56 B .S DDC started export of the milk to the boarder areas of India.

⁵ National Dairy Development Board, ' *History of Dairy Development in Nepal*' April 2001, p.31

DDC has been producing different products. Some of the products are Pasteurized milk, Dahi (Yoghurt), Butter, Paneer, Ice-cream, Cream, Cheese, Skimmed milk powder (SMP), Dairy sweet: a) Peda, b) Lalmohan, c) Rasbari etc.

DDC has 6 milk supply scheme for milk production and distribution, which are Kathmandu Milk Supply Scheme (KMSS), Biratnagar Milk Supply Scheme (BMSS), Hetauda Milk Supply Scheme (HMSS), Lumbini Milk Supply Scheme (LMSS), Milk Product Production and Sales Supply Scheme (MPPSS), and Madhya Pashimanchel Milk Supply Scheme (MWMSS). Out of these milk supply scheme Pokara milk Supply scheme has been privatized but the collecting procedure of milk, cooling center of milk, milk producing co-operative groups are still left so it has been considered.

Defining of Public Enterprises

Governments of developing countries have generally a strong urge to develop and modernize their economics at the factor place and more importantly on a rational and socially desired footing. Therefore, they found it necessary to take substantial initiative in promoting economic and social development through the planning and development of public sectors activities. Thus, “Public enterprises” came to be widely accepted as effective tools for accelerating the achievement of socio-economic goals.

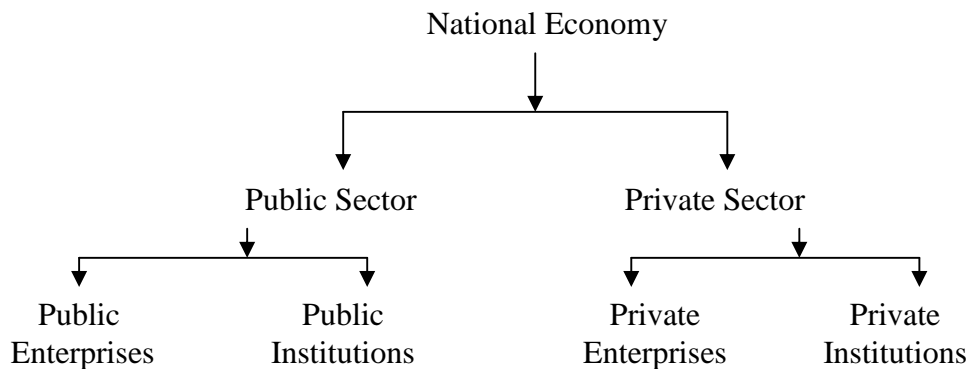
Meaning of the term “PEs continues to remain vague and varying. It is rightly said that public enterprises is a notable for very untidy concept.” PEs general word which make very difficult reality. There is no authorities internationally accepted definition of the term public enterprises. It is each country’s prerogative to draw the line between public enterprises and other government organizations and activities.

Though PE generally has legal autonomic as joint stock company as a statutory corporation as a co-operative society or as a society under the societies registration Act, it is not and essential ingredient of public enterprises.⁶

⁶ Narayan Laxmi “ *Principles and practice of Public Enterprises Management*” S. Schand and Company Ltd. New Delhi: 1982. P.1

In brief PEs is an organization which is owned by public authorities to the context of 50% or more is under the top management business character and its markets its output in the shape of goods and services for a price.

In nature and scope of PEs can be conceptualized in the framework of the following diagram which attempt to represent all institutionalized activities in mixed enterprises into four segments.



2.1.2 Position of DDC in Public Enterprises

Public enterprises were established for to prepare infrastructure service, to help in controlling the price situation, to create opportunities for employment, to increase government revenues and to contribute significantly in the national development as well as to assist in the country's economic achievement, DDC is one of the public enterprises which was also established to fulfill those objectives.

The government wholly own DDC its management and operation are also fully controlled by the government. As a matter of fact, the basic philosophy behind Corporation Act is neither to earn profit nor to run the operation in a commercial manner. The objective is to run the activities through a corporation which otherwise should have been operated by the management. It is only for the shake of continence that the corporation is created. It is almost like government whether DDC can be run as a commercial entity under the present legal set up.

DDC is also one of the public enterprises created with the aim to increase the milk production in the rural areas by collecting and available quality of milk. Process and

distribute it to the urban population at socially acceptable prices as a commercially viable operation.

Domestic animals keeping are playing a major role in the total agricultural activity of the country. The contribution of this sub-sector to the gross Domestic Product (GDP) of Nepal is about 26.4%, which is as significant as the other sub-sector of the country's agricultural system.⁷ The contribution of milk production to the GDP is 6%. Thus the milk production is an important activity.

Most of the people of Nepal are engaged in the agriculture. Number of disguised unemployment is high in Nepal. So, the dairy farming may be an important occupation for the people to reduce the degree of unemployment. Organized commercial dairy farming i.e. DDC can largely help the people to generate income for them and hence to raise national income.

According to the Asian development bank, due to improvement to agricultural and industrial estate, in 2000, the GDP in Nepal has increased by 6.4%. This increment was 4.4 % in 1991. In the recent years also the increment is justifiable although there are many obstacles and problems being faced by the country⁸.

Large numbers of people are unemployed in Nepal. If the country is able to increase dairy farms, it will certainly help to solve such chronic unemployment problem to some extent. DDC, is closely related to agriculture where the higher portion of population of Nepal engage in agriculture it has important role to play in the economic development of Nepal.

In the year of its existence, DDC was fulfilling its objectives as an agent of rural development and supply of dairy products to the urban population but its operations were commercially, not viable and as a result losses were accumulated.

The production of milk and dairy and dairy products increased by 3.5% to 1048040 metric tones in FY 1997/98 compared to 1012160 metric tones in the previous FY. In

⁷ Rastriys Samachar Samiti, Gagan Rastriya Dainik., Baisak 7, 2058, Barsa 3, Aanka 92.

⁸ Centra Bureau of statistics and agriculture statistic division F/Y 2000

the FY 1998/99, the production of milk and dairy products is expected to increase by 2.4% to 1.02940 metric tons compared to the previous year.⁹

Table No. 2.1

Production of Milk and Milk Product (in Metric Tones)

| Year | Amount |
|-----------|---------|
| 1995/96 | 961.56 |
| 1996/97 | 1012.12 |
| 1997/98 | 1048.04 |
| 1998/99 | 1724.62 |
| 1999/2000 | 1097.02 |
| 2000/01 | 1124.13 |
| 2001/02 | 1158.78 |
| 2002/03 | 1214.48 |
| 2003/04 | 1252.12 |
| 2004/05 | 1318.26 |

Source: Agriculture statistics Nepal, CBS and Agriculture Statistics Division, NOA, FY 2004 & 2005

2.1.3 The Sales planning is the part of Profit Plan Programme

Sales plan is the first stage of budget. It is the 'nerve center' of the operating budget. It is the backbone of the development of profit plan, without the preparation of sales plan the profit plan is incomplete and is to like as dame. After sales budgeting, the Profit plan start. It is the first and essential element of profit plan without preparation of sales plan, profit plan can't be forwarded. Being the foundation of entire budgeting, it determines to large extent the success or failure of a budget. Unless the budget is developed with reasonable accuracy all the estimates in the operating and financial budgets will be misleading therefore, preparation of sales plan is very important to profit plan program. So, sales plan is called end and means of profit plan, which, is the sources for production budget and cash budget. The sales plan is the foundation for periodic planning in the firm because practically all other enterprises are built on

⁹ Economic survey of the FY 2000/2001 HMG/N Ministry of Finance 2001.

it. The primary sources to be planned. The manpower requirement the production level and other important aspects depend on the volume of sales.

"The sales planning process is a necessary part of Profit Plan Programme because (a) it provides for the basic management decision about marketing, and (b) based on these decisions. It is an organized approach for developing a comprehensive sales plan. If the sales plan is not realistic, most if not all of the other parts of the overall profit plan are not realistic. Therefore, if the management believes that a realistic sales plan cannot be developed; there is little justification for PPC."¹⁰

2.1.3 Direction of Goal and People

Goal Orientation

Both business and non-business especially must have objectives and goals. Especially In business, the primary goal orientations are 1) Return on investment and 2) Contribution to the economic and social improvement of the boarder environment. Likewise, especially in non-business have specific objectives, such as the accomplishment of a given mission within specified cost constraints. In both cases, it is essential that the mangers of the endeavors, as well as other interested parties, know the objectives and goals. Otherwise, effective environment guidance of the activities performed is impossible. Thus, the responsibilities of management to specify and articulated goals and objectives are fundamentally identical in business and no business enterprises.

People Orientation

The success of the firms-businesses or other organizations- depend on the people associated with the enterprise. These people include both the managers and the other employees, because all of these individuals are significantly involved in the attainment of enterprise objectives. Thus, "People constitute the most critical part of management- not land, buildings, equipment or materials. Developing an effective

¹⁰ Glenn A.Welsch, 5th ed. Op.Cit p.2

staff, providing a positive working climate and positively motivating people determine in large measure, the success of most enterprises.”¹¹

2.1.5 Profit Planning and Control (PPC)

Profit planning is the important managerial tools used to plan and control business operation. “The term comprehensive profit planning and control is defines as systematic and formalized approach for performing significant phase of the management planning and control functions. Specially, it involves:

- 1) The application and application of board and long – range objectives for the enterprise.
- 2) The specification of enterprise goals.
- 3) A long-range profit plan developed in broad terms.
- 4) A short-range profit plan detailed by assigned responsibilities (Division, products, projects)
- 5) A system of periodic performances report detailed by assigned responsibilities.
- 6) Follow up procedures.”¹²

“Profit planning is an example of short-range planning. This planning focuses on improving the profit especially from particular product over a relatively short period. Therefore, as used here, it is not the same as corporate planning of cost rendition program.”¹³

Profit planning in fact is managerial technique and a profit plan is such a written plan in which all aspects of business operations with respect to definite future periods are included. It is a formal statement of policy, plan, objective and goal established by top management in respect of some future period. Profit planning is a predetermined details plan of action developed and distributed as guide to current operation and as a

¹¹ IBID

¹² Glenn A.Welsch Ronald. W.Hilton and Paul N.Gordon Op.Lit p.1

¹³ Terry George, "Management Accounting" 1992, P.521.

partial basis for the subsequent evaluation of performance. Thus can say that profit planning is a tool, which may be used by the management in planning the future course of actions and in controlling the actual performance.

In someway, profit planning has ultimate objective and goals assignment of responsibilities to fulfill the objectives, implementation of plan and the follow-up procedures for correction and adjustment in planning.

2.1.6 Long-Term and Short Term Profit Planning

While preparing a systematic profit plan, two types profit plans are developed:

- i) Strategic (Long-Term) Profit Plan
- ii) Tactical (Short Term) Profit plan.

Strategic (Long-Term) Profit Plan takes a time horizon of Two or more than Two years in future and the later for short period. A part of this plan is more or less informal as presented by tentative commitments made by the executive committee in the organizational planning season. “The long –Range plan covers all the key areas of anticipated activity sales, expenses, research and development, capital expenditure, cash, profit and return on investment.”¹⁴

The tactical (Short-Term) or operational profit plan is developed by participative by all management levels. It can actually be viewed as the first year of the strategic profit plan. It is detailed plan for the enterprise and for each of its responsibility centers. It defines the enterprise objectives to develop programmed policies and performance expectations. It involves timing that is intermediate range to short-range. It focuses on level of assigned authority and responsibility and provides “budget information” for performance report.

2.1.7 Projection of Sales Plan

One of the most important elements is a budgetary control is a realistic sales estimate that is based an analysis of past sales and the present market. Let, the sales variables are often the budget component that is the most difficult to predict with reasonable

¹⁴ Glen A.Welsch Ronald. W.Hilton and Paul N.Gordon Op.Cit p.132

precision. The demand for an entity's product or services normally depends on forces and factors largely beyond the scope of management's control. In most instances, this uncertainty makes expected sales that focal point of planning process.¹⁵

The task of preparing the sales budget is usually approached from two different angles.

1. Judging and evaluating external influence and
2. Considering internal influence: These two influences are brought together in a workable sales budget. External influences include the general trend of industrial activity, actions of competitions, government policies, price-level expectation, purchasing power of the population, population shift and charged in buying habit and modes of living. Internal influences are sales trends factory capacity new products, plant expansion, seasonal products, sales estimates and establishment of quotes for sales people and sales territories.¹⁶

During the Budget period, sales budget is a projection of sales. It lays down the sales potentials in turn of quality value period area or product etc. It shows estimate of sales either gross or net sales. It is compiled after careful analysis and estimation of sales, selling allowances and selling and distribution expenses. Basically a sales budget is based on sales forecasting which the responsibility of the sales manager is. The basic information for budgeting production costs, selling and distribution expenses. Basically a sales budget is based on sales forecasting which the responsibility of the sales manager is. The basic information's for budgeting production costs, selling and administrative expenses are also provided by the sales budget: Opening inventory of finished Goods+ Production units (planned) = Total unit available - closing stock of finished Goods = Planning of actual sales¹⁷

Sales Plan is the starting point in the preparation of comprehensive profit and control. All the other plans and budgets are dependent upon the sales budget. The budget is usually presented in both units and dollars of the sales revenues or sales volume. The

¹⁵ Eugene A. Imhoff, jr. "Sales Forecasting system" Montravale N.J National Association of Accountants, 1986, pp 5-6.

¹⁶ Usry Milton F. Hammer Lawrence H. and Adolph Matz ' Cost Accounting Planning and control '9th Ed. South western Publishing Co. P. 432.

¹⁷ Jhalak Ram, Adhikari, Unpublished Dissertations on " Profit Planning in public Utilities enterprises of Nepal" Submitted to faculty of Management. P.N Multiple Campus, Pokhara March 2002, p.67)

preparation of sales plan is based upon the sales forecast. A variety of methods are used to forecast the sales for the planning period.¹⁸

The primary purposes of sales planning are:

-) *To reduce uncertainty about future revenue.*
-) *To incorporate management judgments and decisions into the planning process(e.g in the marketing plan)*
-) *To provide necessary information for developing other element of a comprehensive profit planned.*
-) *To facilitate management's control sales activities*

A comprehensive sales plan includes strategic and tactical sales plan. A comprehensive sales plan in corporate such managerial decision as objective, goal, strategies and premises. These translate into planning decision about planned volume (unit or jobs) of goods and services, prices, promotion and selling efforts. In harmony with the comprehensive profit plan, both strategic long-term and tactical short –term sales plan must be developed. Thus the usual case is a five or Ten years for strategic sales plan and a one year for tactical sales plan.¹⁹ Comprehensive sales planning includes the following compartment: Management guidelines, sales forecast and other relevant information, and plans for marketing advertising and distribution expenses. It is the foundation of profit plan.

2.1.8 Control of sales and expenses.

The development process and top management committee to a realistic sales plan provides the foundation for effective control of sales effort and distribution expenses, we have emphasized that the several components of the sales plan should specify management responsibilities because this is the basis for effective control.

Control is the sales function should be viewed as a comprehensive activity encompassing sales volumes, sales revenues, and promotion costs and distribution

¹⁸ Arthur W. Holmes, Robert A. Neir and Donald F. Pabst "Accounting for Control Decision" Texas, p.687.

¹⁹ Welsch, 5th Ed. Op. Cit. pp.172-173.

expenses. Effective control requires that both sales volume and distribution expenses be viewed as one problem rather than two separate and diverse issues. The sales plan gives the goals that are to be attained but the sales function. The top marketing executive has overall responsibility for control of the sales activities. Normally sales quotes for sales person should be consistent with the sales plan. Although in some cases, somewhat below realistic expectations however, in such case the sales goals, expenses budgets, and other objectives include in the sales plan and should be realistic expectation control in the sales function, as in all other functions is attained by management action.²⁰

The sales goals (Volume and Rs revenues), promotion plan (planned expenditure), and distribution activities (distribution expenses) are basic goals. These are relatively broad goals, which suggest the need for numerous short-term and specific standards as fact of the total control effort of the management. Example of specific standards that may be used for sales control purposes are:

- 1) Number of calls per period per sales person.
- 2) Number of new customers.
- 3) Number of new qualified prospects,
- 4) Dollar of direct selling expenses per sales person.
- 5) Number of order not honored.
- 6) Number of orders or calls made.
- 7) Dollars sales quotes per sales person per period.
- 8) Average size of orders.
- 9) Selling expenses as a percentage of sales Dollars.

Effective control of selling activities also requires periodic performance report by responsibility that includes both sales and expenses. Performance report should

²⁰ Welsch, 5th Ed. Op. Cit. pp.185-187.

normally by prepared and distribution on a monthly basis however, certain critical sales activities (e.g. sales made) the marketing function should be prepared by the financial executive's staff and distributed soon after the end of the period.

The performance report should be comprehensive for each responsibility center e.g. the sales district performance report should show.

1. Performance is generating sales revenue.
2. Performance is controlling district distribution expenses and
3. Performance of other related activities under the direct control of the district sales manager. The performance report should compare actual result with planned result and report the variances. Normally, the report should show both the period just ended and cumulative to date performance reports should be consistent with the pyramiding principle. That is the performance report for the lowest level of management should report specific revenues and expenses by detailed classifications (product is the case of sales and nature in the case of expenses) for each higher level of management the pyramiding effect requires summary performance reports that show totals by responsibility center.

2.1.9 Fundamentals of Profit Planning and Control.

The foundation for profit planning and control is that, the management must have fully confidence in its ability to established realistic objectives and to device efficient strategies to attain those objectives for the enterprise.

“PPC offers a practical, systematic and proven approach to the management process, properly viewed PPC is a comprehensive system to coordinate all aspects of the management process carefully knitting together the loose end of management and operation all- inclusive concept of PPC process is frequently minimized of completely overlooked in much of the literature and discussion the subject”.²¹

The fundamental concept of PPC includes the underlying activities or tasks that must generally be carried out to attain maximum usefulness from PPC. These fundamentals have never been confined. The concept and techniques of PPC have wide application

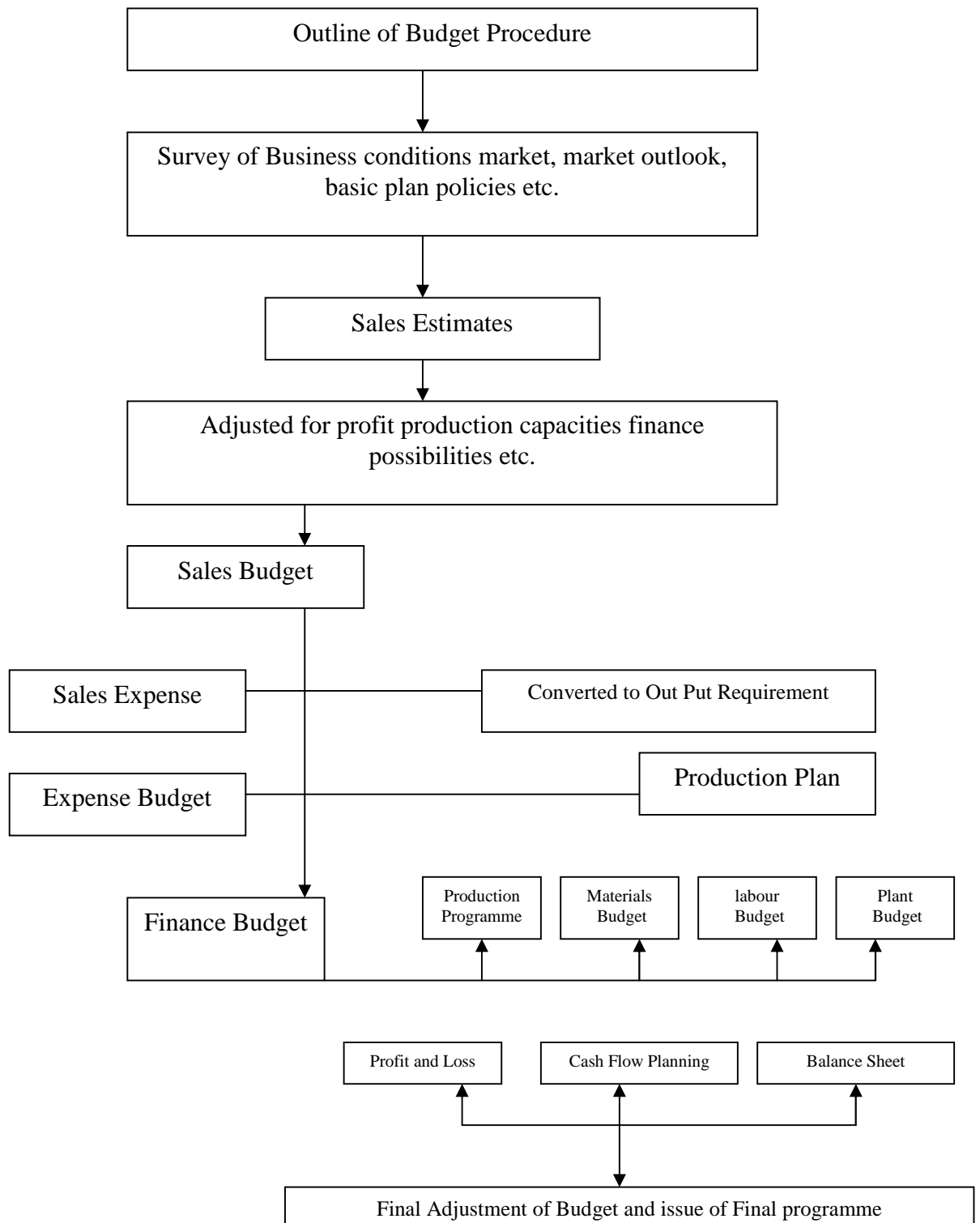
²¹ Welsch, 4th Ed. Op.Cit. p.29.

in individual business enterprises governmental unit charitable organization and virtually all group activities.

2.1.10 Fundamental Distinction of Planning

1. **The mechanics of PPC-** Mechanics are such matter as design of budget schedules clerical methods of completing such schedule and routing computations.
2. **The techniques of PPC-** The techniques are special managerial and methods of developing in formation for managerial use the design making process. The techniques are made varying from the simple to the sophisticated. Some of the more commonly used techniques are methods forecasting sales volume, break-even analysis, resource determination, cash flow analysis and variable budget procedure.
3. **The fundamental of PPC-** The fundamental concern effective implementation of the management process in reasonably complex endeavors. The fundamental represent desirable management orientations activities and approaches necessary for proficient and sophisticated application of comprehensive profit planning with regarding sales plan.

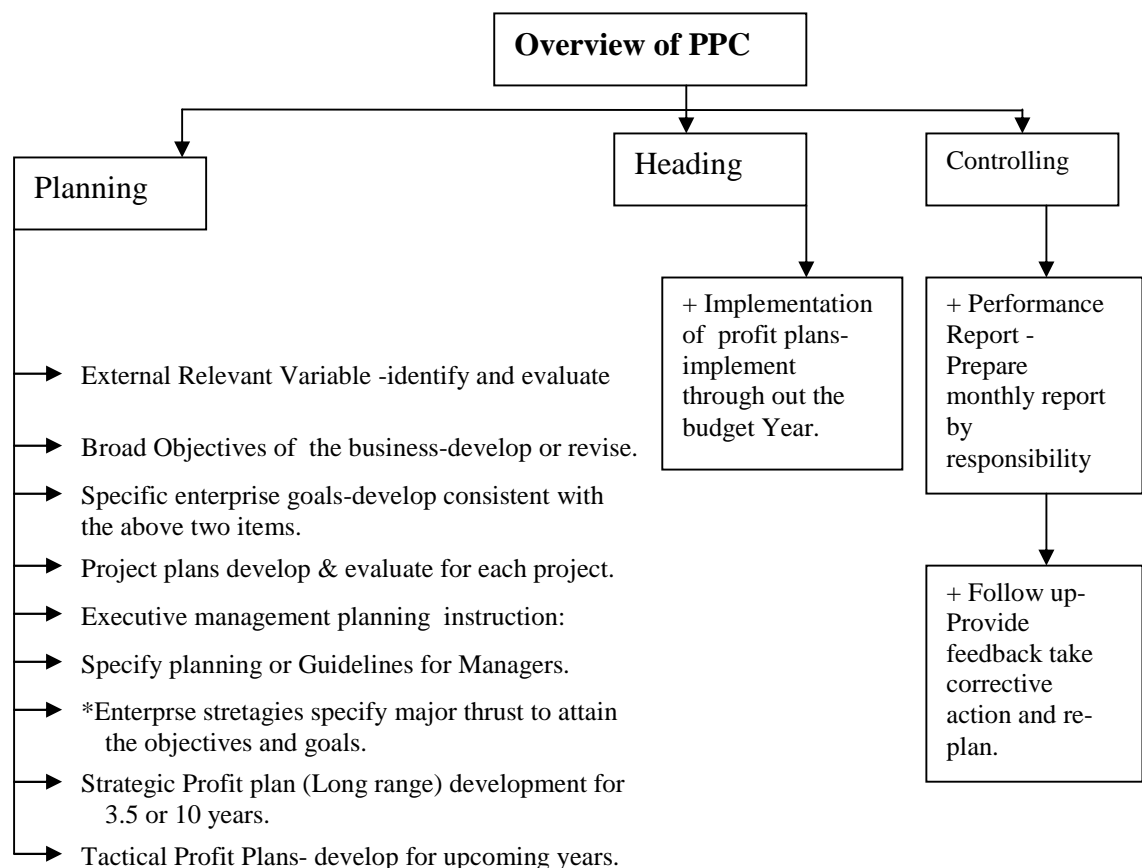
2.1.10.1 Outline of the fundamental concept of PPC.



2.1.10.3 Planning and Control Process.

Planning and control process is a continuous is process of any enterprises development. It is like a cycle; therefore, it is never ended. It is necessary integrates the planning, leading and controlling function of management. A PPC program includes more than the traditional idea of a periodic or Master budget. Rather it encompasses the application of a number of related management concepts through a variety of approached techniques and sequential steps. The term comprehensive means:

1. The application of the broad concept of profit planning and control tp all phases of operations is an enterprise and
2. The application pf the total system approach



The planning process should involve periodic consistent and is – deptic- planning so that all aspects of operations are carefully re-examined and re-evaluated. It is repeated each budget year. Thus all the basic steps in the planning phase would be reviews and evaluated annually.

2.1.10.3 Component of typical PPC program, (for a given year)

The previous written eleven steps of PPC process are closely related them to the six PPC components are given below. ²²

The substantive plan.

1. Broad objectives of the enterprise.
 2. Specific enterprise goals.
 3. Enterprise Strategies.
 4. Executive management planning instruction,(Planning premises).
- B. The financial plan
1. Strategic Long-range profit plan
 - i. Sales, cost and profit projections
 - ii. Major projects and capital additions.
 - iii. Cash flow and financing.
 - iv. Personal requirements.
 2. Tactical short-range (annual) Profit plan
 - i. Operational Plan: Planed income statement.
 1. Sales plan
 2. Production (or merchandise purchase) plan.

²² Welsch, 5th op.Cit. p.74

3. Administrative expense budget.
 4. Distribution expenses budget.
 5. Appropriate-type budgets (e.g. Research and development promotion, advertising.)
- ii. Financial- Position planed balance sheet.
- a. Assets
 - b. Liabilities
 - c. Owner's equity
- c. Variable expenses budgets:

Output expenses formulas.

D. Supplementary data:

(E.g. Cost volume profit Analysis, Ratio Analysis)

E. Performance Reports: Each month-end and as needed.

F. Follow up, corrective action and re-planning.

2.1.11 Components of a Comprehensive Sales Plan ²³

| | Component | Strategies | Tactical Plan |
|---|--|---|--|
| 1 | Management policies and assumption | Board and general | Detailed and specific for the year. |
| 2 | Marketing plan(Sales and service revenues) | Annual amount, major groups | Detailed by product and responsibility |
| 3 | Advertising sand promotion plan | General, by year | Detailed and specific for the year |
| 4 | Distribution (selling) expenses plan | Total fixed and total variable expenses by year | Fixed and variable expenses by months and by responsibility. |

²³ welsch, 5th ed. Op. cit p.176

2.1.12 Management Policies and Assumptions

- A. The substantive plan: The substantive plan is represented by the
- Board objectives of the enterprises.
 - Specific enterprise goal.
 - Enterprise strategies.
 - Executive Management planning instructions (Planning Premises.)

2.1.12.1 Development of the Broad objectives of the Enterprise

The statement of board objectives should express enterprise the mission, vision, and ethical character of the enterprise. Its purpose is to provide enterprise identity, continuity of Purpose and definition. One research study listed the purpose of the statement essentially as follows.²⁴

- 1) To define the purpose of the company.
- 2) To clarify the philosophy-character of the company.
- 3) To create a particular climate within the business.
- 4) To set down the guide for managers so that the decision they make will reflect the best interest of the business with fairness and justice to those concern.

Development of the board objectives of the enterprise is a responsibility of executive management. Based on a realistic evaluation of the relevant variables and an assessment of the strengths and weakness of the organization, executive management can specify or restate this phase of the PPC process.

2.1.12.2 Development of specific Goals for the Enterprise

The purpose of this step is to bring the statement of board objectives into sharp focus statement to more from the health of general information to the confines of internal management. This component of profit planning program details specific short range

²⁴ Glenn A.Welsch, 5th Ed. Op.cit. p.78

and long range goals for the enterprise. This step provides definite and measurable goals for the enterprise and for each of the major subdivision for both the strategic long range profit plan and for the tactical short range profit plan annual. The statement of specific goals shows define such operation goal goats as expansion 7 or contraction of product and service lines, geographic areas, share of the market by major product service lines, grown trends, production goats, profit margins and return investment. These specific goals in large measure are quantified and specified for each major subdivision of the enterprise.²⁵

2.1.12.3 Development and Evaluation of Enterprise Strategies

The company strategies are the basic thrusts, ways and tactics that will be based to attain planned objectives and goals. A particular strategy may be short term or long term, the purpose of developing and disseminating enterprise strategies is to find the best alternative for attaining the planned broad objectives and specific goals strategies focus on "How" therefore, they one line a plan of action for the enterprise. Executive management must be creative and directly involved in the development of new strategies and in the addition of currently on going strategy in harmony with the relevant variables with which management must cope. In the development of basic strategies for the enterprise, executive management must focus on identification of the critical areas that influences the ling-range success of the enterprise. Critical areas should be pinpointed through evaluation of relevant variables. Here are some actual examples of basic strategies.

- 1) Increase long term market Penetration by using technology to develop new product & improve current proudest.
- 2) Emphasize product quality and price for the top of the market.
- 3) Expand marketing to all states in the USA. The company will not enter foreign markets in the foreseeable future.
- 4) Market with law price to expand Volume (Units)
- 5) Use both institutional and local advertising program to build market share.

²⁵ Deba Raj Poudel Unpublished Disseration "*Profit Planning of Public enterprises*" a case study of NTC. Submitted to Central Department of Management , T.U Ktm. September, 2001.

- 6) Improve employee morale and productivity by initiating a behavior management program.²⁶

2.1.12.4 Preparation of Planning Premises

Planning premises explain the broad objectives enterprises goals, enterprises strategies, and any other executive management instruction needed to develop the strategic and tactical profit plans. Planning premises, issues by the top management communicate the planning foundation that is necessary for the participation of all levels of management in the development of the strategic and tactical profit plan for the up coming but get Yr. executive leadership is fundamental in developing and articulating this planning foundation, including the formation of relevant strategies consequently at this point in the planning process, the foundation has been established to articulate the broad and specific objectives of the enterprises and strategies that facilitated their attainment.²⁷

2.1.13 Marketing Plan

B. The Financial plan: The financial plan is represented by the

- i. Strategic long-term profit plan
 - a. Sales, cost and profit projections.
 - b. Major projects and capital additions.
 - c. Cash flow and financing
 - d. Personal requirement.
- ii. Tactical short-range (annual) Profit plan
 - a. Operating Plan

Planned income statement:

- sales plan

²⁶ Glenn A. Welsch, 5th ed. Op.cit p. 78.

²⁷ Glenn A. Welsch 5th Ed. Cit. p. 79.

- production (or Merchandise Purchase) plan
- Administrative expenses budget.

The process of developing a realistic sales plan should be unique to each company because of the company's characteristics its product its distribution channel the competence of its marketing group. For different participative approaches sales force composite (Maximum Participation) is widely use.

2.1.13.1 Sales Force Composite

This approach emphasizes the judgment and executive of the sales force because of provides for a series evaluation and approval. A high level of participation, form the bottom up, is emphasized. The approach is limited primarily to tactical short-term sales planning. It can be outlines as follows:²⁸

- 1) The home sales office provides districts sales offices with a record of previous sales and any new or revised managerial policies that are relevant to the sales districts in marketing sales estimates for the planning period. Usually, the historical sales data are listed o a started from the provide space to record the estimate sales.
- 2) Sales person are requested to fill in their estimate bases on the historical data and their knowledge of the particular territory and customers sales person are usually asked to base their estimate on current economic condition. When a sales person provides dollar estimate as well as units, the current selling prices are usually applied.
- 3) Estimate made by the sales persons are reviewed by the district sales manager. The form previously mentioned provides space or revision of each sales person's estimate the district manager. Each district sales manager to the top sales executive transmits the two estimates by a specified date.
- 4) The various district estimates are reviewed and revised by the top sales executives significant revision should be discussed with the district sales managers concerned. The top sales executives may also convert the quantity

²⁸ Glenn A.Welsch 5th Ed. Op.cit. pp 179-180

estimate to dollar estimates by applying unit selling prices consistent with the revised managerial pricing policies. The sales executives working in cooperation with the company economist or with others, who have responsibility for appraising the general economic outlook, adjust the sales estimates for these factors. Because general economic conditions can effect, the sales potential markedly serious consideration must be given to this important factors in developing the sales plan.

- 5) The tentative sales plan is then presented to the executive committee and to the president for consideration and tentative approval. At this level, the results of steps 2 and 3 are considered and may result in revision. The deliberations at this level should be primarily concerned about the soundness of the unit and dollar estimates and may result in
 - a. Tentative approval.
 - b. Tentative approval with certain changes or.
 - c. Instruction for a complete or partial reconsideration of the sales potentials. The sales plan is also judged by whether it is within the capacities of the company
- 6) After tentative approval, copies of the tentative sales plan are distributed to the managers other functional sub-division so that other planning activities can be stated. As the overall profit plan is developed, it may be necessary to reconsider the tentative sales plan in some respects. This balancing of consideration, and the resulting revision in the profit plan as it is being developed, should provide a realistic plan of operation for the company.
- 7) The final plan is distributed through the sales function. It is then the basis for sales quotas and day by day planning in sales activities. In this approach, the promotion, advertising and distribution expenses components are concurrently developed during the process, as out lines above for the total marketing plan.

2.1.14 Advertising and Promotion Plan/Distribution (Selling) Expenses.

- Production (or merchandise purchase) plan.
- Administrative expense budget.
- Distribution expense budget.
- Approval type budget.(eg. Research and development, promotion, advertising)

Sales division Manager Composite: This approach emphasizes the responsibilities of the district or product sales managers rather than the individual sales person. This approach is commonly used for short-term sales planning. It operates in a manner almost identical with that outlined above for the sales force composite approach except that the initial sales estimates are prepared by the sales managers rather than by the sales persons. Thus method is widely used by companies of all sizes.

A variation of this approach is based on an informal survey of the principal customers of the company. Under this approach sales are estimated on the basis of reports prepared by special company representatives who contact customers for the primary purpose of evaluating their future needs. From the sales forecasts available and the information gathered by special representatives and interpreted through their personal observation and Judgment, initial sales estimated for each geographical sales division or product is developed. These estimates are hence adjusted to take into account basic information that the higher sales manager has about such factors as expected economic conditions, population trends, purchasing power, and other conditions that may affect the market. In addition consideration should be given to sales of the last year or two and to stock holdover on the part or customer outlets. This method is useful in situations where the number of customers is limited.²⁹

2.1.15 Planning Distribution (Selling) Expenses

Distribution expenses include all costs related to selling distribution and delivery of products to customers. In many companies this cost is significant percentage of expenses careful planning of such expenses effects the profit potential of the form..

²⁹ Glenn A.Welsch 5th Ed. Op.cit. pp 181

Two primary aspects of planning distribution expenses are as follows:³⁰

- 1) Planning and distribution: In the development of the tactical profit plan, it is essential that a favourable "Economic balance" be achieved between sales effort (Expenses) and sales result (revenue).
- 2) Control of distribution Expenses: A circle from planning consideration, it is important that serious effort be given to controlling distribution expenses. Control is especially important, since (a) distribution expenses are frequently a significant portion of total expenses and (b) both sales management and sales personal trend to view such expenses lightly, in some cases extravagantly, such as entertainment expenditures. Distribution expenses control involves the same principles of control as manufacturing overhead. Control must be built around the concepts of (a) responsibility centers and (b) expenses objectives.

Fundamentally the top marketing executive has the direct responsibility for planning the optimum economic balance economic (for profit potential) between (1), the sales budget (2) the advertising budget, and (3) the distribution expenses budget. Therefore, profit Planning and control views, advertising and distribution expenses as one basic problem rather than as three separate problems. This view is logical because of the interrelationships between them. The sales budget rests solidly upon the promotional program. The amount of expenditure to get a given amount of sales revenue is limited. The practice of some companies of starting with a sales goal, then budgeting a fixed percentage of those revenues of sales overhead, another fixed percentages for direct marketing expenses, and still another fixed percentage for advertising is not a positive management approach to a serious planning problem. In contrast the sales executives in well managed companies, working as a group, develop the marketing and marketing promotional, and distribution expenses plans simultaneously. Next, the expenditure essential to carryout the promotional, marketing, a distribution phase planned. These expense estimates then become as important part of the input data for the profit plan. Although practice various, these decision input are separately included in (1) the promotion and advertising plan and (2) the budge of selling expenses.

³⁰ Glenn A. Welsch 5th Ed. Op.cit. pp 313-314

Distribution expenses include two major types: 1) home-office expenses and 2) field expenses. From the planning and control point of view, these expenses must be planned by responsibility center.

In some cases, the planning structure should follow the basis on which the sales effort is organized. The concepts of controllable versus non-controllable cost fixed versus variable costs and itemization by types of expenditure should be in planning & controlling distribution expenses.

Preparing Distribution (selling) expenses Budgets: Distribution expenses are not product costs and are not allocated to specific products. A separate distribution expenses plan should be developed for each responsibility center in the distribution function. Typically this would encompass "Home-Office" center and "Field" Center. The top marketing executive has the overall responsibility for developing the distribution expenses plans or budgets. Following the principle of participation the management of each responsibility center should be assigned direct responsibility for that department's distribution expenses plan. Thus, the promotion manager should be responsible for developing the promotion plan, as the field sales managers should be responsible for developing both their marketing plans and their distribution expenses budget. The distribution expenses budgets should separately identify controllable and non-controllable expenses, and these budgets should be detailed by interim time period. The distribution expenses budgets prepared by the sales managers should be on a planned volume of activity or output. Usually the preferable activity base for the various responsibility centers in the distribution function is sales dollars.³¹

Various approaches are used to determine the promotion and advertising appropriation. The more commonly used approaches can be characterized as (a) arbitrary appropriation (b) all-available funds (c) competitive parity, (d) Percentage of sales, (e) fixed per unit, (f) previous years profits, (g) Return on investment and (h) the task methods.³²

The promotion and advertising budget should be the direct responsibility of the advertising manager. The detailed promotion budget should be presented to the

³¹ Glenn A. Welsch 5th Ed. Op.cit. pp 314-315

³² IBID

committee along with the sales budget. These two plans should be approved or disapproved as a unit. In this way, the budget department receives red-tailed and approved promotion budget for incorporation into the over or profit plan.³³

2.1.16 Planning Administrative expenses

Administrative expenses included those expenses other than manufacturing and distribution. They are incurred in the responsibility centers that provide supervision of and service to all function of the enterprise, rather than in the performance of any one function. Because a large portion of administrative expenses is fixed rather than variable, the nation persists that they cannot be controlled. Aside from certain top management salaries, most administrative expenses are determined by management decision. It is common to find administrative expenses are determined by management decision. It is common to find administrative expenses "top heavy" when measured by the volume of business done. In recent years some informed observers have expressed the opinion that a developing characteristic of industry in the United States is the relative high cost of administration. These expenses, along with, labour costs, have frequently made it difficult to price products competitively in the international markets. Market administrative expenses are closed to top management; therefore, there is strong tendency to overlook their magnitude and effect on profits. Each administrative expense should be directly identified with the responsibility center, and the center manager should be responsible for planning and controlling the expenses. This fundamental of expenses control is especially important for administrative costs because there is often a failure to pinpoint responsibility for expenses of a general nature. For this and other reasons, many companies have found it helpful to apply the fixed variable expense concept to administrative expenses. In such cases, the variable expenses are usually related to total sales dollars.³⁴

2.2 Review of Previous Research Work

The previous research studies helps to provide the foundation to the present study. The purpose of literature review is thus to find out what research studies have been conducted in one's chosen field of study and what remains to be done. In this study

³³ IBID

³⁴ Glenn A. Welsch 5th Ed. Op.cit. pp 316

has been included those study which related to DDC from various research but very few dissertation have been submitted to this fields of profit planning of Nepalese public enterprises with their objective, findings of Nepalese public enterprises with their objectives, findings conclusion & recommendations which are as follows:

Tilak Bahadur Thapaliya³⁵ : Thapaliya has submitted a research about comprehensive budgeting in manufacturing enterprises. For this study 'Dairy development corporation 'a public enterprise has been taken into sample. The present study highlights the application of detailed and systematic approach of profit planning and analysis the effectiveness, problems and solution of the problems in prospects of DDC.

A research work conducted by Tilak Bahadur Thapalia (2001, T.U) on "A study of DDC" has following objectives:

-) To analyze the marketing (Sales) plan.
-) To evaluate the financial performance of DDC.
-) To trace out a practice of profit planning process adopted in DDC.
-) To point out the suggestions and recommendation for improving profit plan.

Mr. Thapaliya has pointed out various findings based on the analysis of data and information; few major findings of the study are as follows:

- 1) The management of DDC applied annual sales and production budget. There is a substantial gap between sales target in planning and achievement each year.
- 2) Objectives of DDC are not clear and measurable. Top-level management executive are only involve in planning and decision.
- 3) DDC's sales are increasing trend. It is lacking of autonomous suffering from over staffing and corruption, lack of moral and motivation in employees.
- 4) DDC should try to avoid losses of milk and quality of milk while collecting the milk through MPAS and MPCS.

³⁵ Tilak Bahadur Thapaliya, Unpublished dissertation "A study of comprehensive Budgeting in Manufacturing Enterprises" 'A case study of Dairy development Corporation" Submitted to Sankar Dev campus , Department of Management T.U. 2001, April.

- 5) DDC should focus on the milk products market. It should think to increase the market of the other milk market to subsidize the loss incurred through selling of the market.
- 6) Purchasing price of milk set by government is accordance with the recommendation of NDDB. Price of the other products are set by DDC.
- 7) There is poor policy as to sales, production, and inventory and material budgets. Attention towards cost structure and control programme is not existed.
- 8) There is not complete and comprehensive budgeting system. DDC does not prepare the long-term strategic profit plan but prepares a short-term plan which is referred as budget the time period covered is one year generally detailed by time.
- 9) There is not intra and inter department co-ordination and lack of co-ordination with other concerned authorities.
- 10) DDC does not fix the target for specific goal for the budgeted period, eg. Growth objective, capacity utilization, return on capital are not targeted to achieve some specified level. DDC has not adequately considered controllable and non-controllable variables affecting it.

Surendra Raj Poudel³⁶: Poudel, has submitted a research about ‘Sales Planning in Dairy Development Project, Pokhara Branch in Year 2004. The main objective of his study is to examine the managerial process of DDC, Pokhara and to examine the effectiveness of sales planning. The special objectives area as follows:

-) To examine the formulation and implementing procedure of sales plan DDP, Pokhara.
-) To identify the managerial process of DDP, Pokhara.
-) To suggest and recommend the systematic sales plan for DDP, Pokhara.

³⁶ Surendra Raj Poudel, Unpublished Dissertation “*A study sales planning on Dairy Development Project in Nepal*” ‘A case Study of Dairy Development Project, Pokhara Milk Supply Scheme” T.U. 2004.

His study pointed out various finding bases on sales analysis of data and information's, major findings of the conclusion of the study are as follows:

- 1) To achieve the basic objectives, DDC has not been clearly defining its main objectives in annual goal or target.
- 2) DDC has not followed participate management, even middle level of management or not participated in policy making.
- 3) In Nepalese manufacturing Public Enterprises plan are prepared on adhoic basic, which is also applicable in case of DDC, Pokahara. Without the analysis of environment the objectives are set by the DDC, which are not suitable for appropriate.
- 4) The board of directors is the powerful body of any enterprises which handles the overall activities. In this project, it has interfered in day to day activities and high interferes in long term policies.
- 5) Research and development and growth of sales a e still not are targeted.
- 6) Sale plan is a primary of profit planning other planning depends upon sales plan but DDP, Pokhara depends or production plan.
- 7) The project has no prepared any plan to encourage the milk producer. There is conflict between project and milk producer farmers as well other milk collecting co-operation agencies. Farmers are not satisfied the mark price of milk.
- 8) There is only annual target is supplied by the top management for major department. There are no details and formal guidelines to the lower level management or departmental manager for the purpose of developing profit plan which also seen in DDP, Pokhara.
- 9) The DDP, Pokhara is mainly considerable to “expending and satisfaction of Consumer” by its dairy products but not seriously think about the research and development and growth of sales due to lack of budget.
- 10) The planned as actual data can be compared with the help of performance report. The project ahs not prepared such performance report continuously by the analysis it is found that the dairy products cheese is very bad punier is better other products are goods.

- 11) The project is distributing its products to the consumers through 160 sales booth, 1 sale shop and 4 dealers and also through different dairy producing co-operative limited.
- 12) One o the important reasons of failure to achieve the establishment objectives of the Nepalese PEs is lack of two-way communication system, which is equally application is this project also.

Prakash Pahari³⁷ has submitted a research about “Profit Planning of dairy Development Corporation” in year 2000. The main objective of present study is to examine the technique or approaches of comprehensive profit planning system apply by DDC ands to the achievement of planning. The special objectives are as follows;

-) To examine the present profit planning premises adopted by DDC.
-) To analyze the various functional budgets that is prepared by DDC.
-) To evaluate the variance between budgeted and actual achievement of the enterprises.
-) To sketch the trends of profit and loss of DDC.
-) To provide the suggestions and recommendations for improving the profit planning.

For accomplishing the above stated objectives Mr.Pahari has taken a time period for 5 years from F/Y2051/52 to 2055/56.Data were taken from secondary as well as primary. Various statistical tools have been used to analyse the data. His study pointed various findings based on the analysis of data and information’s; few major findings of the conclusion of the study are as follows:

- 1) DDC has planned only short terms plan rather than long-term planning. The time covered only for one year.
- 2) DDC has collected milk by only 398 district and distributed their products only a few urban cities.

³⁷ “*Profit Planning in dairy Development Corporation*” a dissertation submitted as a partial fulfillment of MBA Degree to the Faculty of management, Shankar Dev Campus, T.U, Nepal, 2000

- 3) The collection, production and sales of milk products have smoothly increasing trends.
- 4) DDC has not able to grant the loan to the farmer's requirement.
- 5) DDC has not collected all the milk offered by the farmer's especially during the flush season. On the other hand, it has purchase skimmed milk powder from foreign countries during the lean period.
- 6) DDC has not tried to adopt the new technology for the improvement of quality of products.
- 7) There is not separate planning department and there are no planning experts, so that planning is made only on adhoic basis.
- 8) A systematic flow plan hasn't prepared.
- 9) The corporation has not prepared the periodic performances report.
- 10) The top-level executives are only involves in planning and decision making task and lower level participation is not encourages.
- 11) There is no performance of reporting, rewarded and punishment system and completely ignored the variance analysis.
- 12) DDC has not plan to evaluate the profitability of each product separately. It is not able to drop the less leader products. There is not clear record product's contribution on profit.
- 13) The pricing policies of the corporation are not scientific and the government directly interferes to the price of raw milk and milk products.
- 14) There is not proper co-ordination between collections, production, inventory and sales department. Due to the above causes sometime the supply is lower than demand and sometimes they destroy their products.
- 15) The corporation has not been trying to meet BEP, in fact the actual sales is lower than break even sales.

Lokendra Narayan Shrestha³⁸ : Shrestha has submitted a research about comprehensive budgeting process in public enterprises of Nepal. For this study 'Dairy Development Corporation' a public enterprise has been taken into sample. The basic objective of this research has been to analyze the sales and promotion budgeting in DDC. The special objectives are as follows:

-) To analyze the budgeting system of DDC.
-) To analyze the profit planning process of DDC.
-) To evaluate the financial performance of DDC.
-) To interpret the trend of P/L.
-) To provide valuable suggestions and recommendation for improvement of the planning system in DDC.

The period selected for this is for only seven years i.e. from F/Y 2053/054 to 2059/60. Data were taken from primary source as well as secondary. Various statistical tools have been used to analyze the data. Mr. Shrestha, has pointed out various findings based on the analysis of data and information's; few major findings of the conclusion of the study are as follows.

-) DDC has not practice of variance analysis.
-) The actual sales are lower than BE sales on research period that means it has not considered BEP.
-) DDC has been suffering the political pressure on employee's selection. Almost employees are appointed by the government directly rather than evaluation of candidate's ability.
-) DDC has not separate planning department and planning expert.
-) DDC has not collected all milks offered by farmers. It has not able to grant the loan to the farmer's requirement.
-) The gap between actual production and actual sales is high.

³⁸ "*Study of Sales and production budgeting in Dairy Development Corporation*", a dissertation submitted as a partial fulfillment of MBS Degree to the Faculty of Management. Public Youth Campus, T.U, Nepal, 2005.

-) Only top level executives are involved in planning and decision-making task and lower level participation is not encouraged.
-) There is no performance reporting system, so that reward and punishment would be given
-) A systematic cash flow plan has not been prepared.
-) There is poor policy as to sales , production, inventory and materials budgets, attention towards cost structure and control programmers is not existed.

Sanjay Kumar Jha³⁹ : Mr.Jha has submitted a research about “Profitability analysis of Public enterprises. For this study ‘Dairy Development Corporation’ a public enterprise has been taken into sample. The basic objective of this research has been to analyze the Functional Budgets on sales and promotion sector as well as profitability and efficiency of DDC. The special objectives are as follows:

-) To analyze the functional budgets on sales and production sector of DDC
-) To analyze the profitability and efficiency of the DDC
-) To analyze target and its achievement along with their reason of deviation.
-) To find out material used by DDC.
-) To point out valuable recommendations and suggestions based on analysis.

The period selected for this is for only seven years i.e. from F/Y 2000/01 to 2004/05. Data were taken from primary source as well as secondary. Various statistical tools have been used to analyze the data. Mr. Jha has pointed out various findings based on the analysis of data and information’s; few major findings of the conclusion of the study are as follows.

-) DDC is suffering from the loss and loose is in increasing trends with sales

³⁹ “*Profitability Ananalysis of public Enterprises(Case study of DDC0*”, a dissertation submitted as a partial fulfillment of MBS Degree to the Faculty of Management. Nepal Commerce Campus, T.U, Nepal, 2006.

-) Due to high amount of accumulated loss, shareholders fund of DDC showed very less value in most of the study period.
-) The fluctuation trend of financial structure shows that DDC has been facing problems of financial structure.
-) The co-operation prepared its financial statement on the traditional basis.

Jay Raj Pant⁴⁰ : Mr.Panta has submitted a research about “A study on leverage analysis of Dairy Development Corporation”. For this study ‘Dairy Development Corporation’ a public enterprise has been taken into sample. The basic objective of this research has been to supply pasteurized milk and milk product to urban customer with fair price and market provided to Farmer. The special objectives are as follows:

-) To provide a guaranteed market to the rural farmer at a fair price.
-) Supply pasteurized milk and milk product to urban customers
-) Develop and organize milk collection system to meet increasing demand for pasteurized milk and milk product.
-) Develop and organize marketing system for milk product in urban area.
-) Bring improvement in production, collection, processing, preserving sales and distributions of milk and milk produces in modern and scientific way, while keeping in view the goals of promoting national welfare minting productions incentive to farmers and preserving consumer’s health.

The period selected for this is for only five years i.e. from F/Y 2001/02 to 2005/06. Data were taken from primary source as well as secondary. Various statistical tools have been used to analyze the data. Mr. Pant has pointed out various findings based on the analysis of data and information’s; few major findings of the conclusion of the study are as follows.

⁴⁰ “A study on leverage analysis of Dairy development Corporation” a dissertation submitted as a partial fulfillment of MBS Degree to the Faculty of Management. Nepal Commerce Campus, T.U, Nepal, 2006.

) The study shows that like in other public enterprises DDC is also not having any special and specific objectives for the comprehensive financial statements. So capita structure is not based on realistic expectations. Either it is unrealistic or over ambiguous.

Saroj Wagle⁴¹ : Mr.Wagle has submitted a research about “Revenue planning and management of manufacturing public enterprises in Nepal” For this study ‘Dairy Development Corporation’ a public enterprise has been taken into sample. The basic objective of this research has been to minimize the differences between Target and achievement sales as well as to increase the revenue by the help of sales, management skill, and best sales plan. The special objectives are as follows:

-) To analyze the functional budgets on sales and production sector of DDC
-) To analyze the profitability and efficiency of the DDC
-) To analyze target and its achievement along with their reason of deviation.
-) To find out material used by DDC.
-) To point out valuable recommendations and suggestions based on analysis.

The period selected for this is for only five years i.e. from F/Y 2061/062 to 2065/066. Data were taken from primary source as well as secondary. Various statistical tools have been used to analyze the data. Mr. Wagle has pointed out various findings based on the analysis of data and information’s; few major findings of the conclusion of the study are as follows.

-) DDC has not achieved its budgeted sales in the entire fiscal years mentioned above because of the fluctuating trend of pricing system, instable political condition and growing factory overhead.
-) After purchasing milk from farmer owned organization, DDC supplies processed milk and products at a reasonable price on a regular basis and provides the

⁴¹ Revenue Planning and Management of manufacturing Public enterprises in Nepal” a dissertation submitted as a partial fulfillment of MBS Degree to the Faculty of Management. Nepal Commerce Campus, T.U, Nepal, 2009.

suppliers of whole milk with safe market. But, there is no proper management to supply sufficient milk in the urban areas.

-) DDC produces different kinds of Milk products such as butter, Dairy Ghee/Yak ghee, curd, Cheese, Icecream, Paneer, Skimmed milk powder and Rasbary.
-) There is no fixed practice and policy of fixing price; the DDC used to add 10 to 15 percent profit on cost price in different products. DDC needs the revision of its pricing policies and strategies.
-) The profit volume ratio shows the proportion of fixed cost is low and the variable cost is very high. If the variable cost is reduced to some extent. The profit can be increased.
-) No fines are charged for the late payment in case of overdue credit amount.
-) DDC has no satisfactory achievement of specific goal. No full autonomy, over staffing, under capitalization and corruption are the main cause of low achievement.

Critical analysis:

By the study and analysis of the previous research work it is found that the objectives of the DDC are assigned by Nepal Government as well as there is not adequate coordination and realization of objectives between the different level of managers. The communicating system among the different level managers is very weak. The Nepal Government taken the authority in every activities of the corporation, less interfere in monitoring and evaluating, punishment and rewarding system according to their performance is negligible. The planning system is in traditional way, there is not adequate study about external and internal relevant factors, not tried to adopt the new technology for the improvement of quality of products, it has not plan to evaluate the profitability of each product separately. There is not clear record of each product contribution on profit. There is not complete and comprehensive budgeting system. There is little practice of profit planning so must be necessary to practice the comprehensive profit planning and control.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction

The basic objectives of this study is to highlight the degree of application of profit planning concept of manufacturing public enterprises with respect to different plans or budgets, especially for sales plan. In order to attain the objectives maintained in this research study, the following methodology have been employed.

3.2 Research Design

A research without a pre-drawn plan is like an ocean voyage without Mariner's compass. So, the use of research design guides to a study to proceed in the right direction. The research work has followed historical as well as descriptive research design to analyze and to interpret the collected data and information.

The present work is related with the qualitative (Managerial planning Process) and quantitative plans and account of DDC. So, analytical approach has been adopted. The qualitative aspect of research, such as effectiveness of profit planning process for sales, view of top personal of DDC and the theoretical prescription are explained in words where necessary.

3.3 The Population and Sample.

The research work is related with sales planning aspect of dairy development corporation. So the total present number of public enterprises in Nepal is the population of this study.

Due to various constraints, like time, resources, etc the researcher has conveniently selected only one PE for the purpose of the research work, which is DDC.

3.4 Period covered

Profit planning has two dimensions long-range and short-range for strategic long range planning the researchers have analyzed seven years data from F/Y 058/59-065/66, the tactical short-range plans covered the data details of one year 064/65.

3.5 The data gathering procedure

The required data and information are collected from the secondary as well as primary sources. As far as practicable both primary and secondary data has been collected.

Primary Data: the primary data comprises those interviews taken with the staffs of DDC and the questionnaire provided to the staffs of DDC, Central office.

Secondary Data: the secondary data are gathered from sources such as official reports of DDC, magazines and publications, journals, concern documents, sales budgets and achievements, previous studies made in this field etc.

3.6 Methods of Data Analysis:

The collected raw and crude data are managed and analyzed in proper table and format. Interpretation and explanations are made wherever necessary.

To analyze the collected data statistical tools such as mean, S.D, Correlation coefficient, coefficient of variation, percentage etc are used, and financial tools are also applied wherever necessary.

3.6.1 Mean: Mean, also known as arithmetic's average, is the most common measure of central tendency and may be define as the value which we get by dividing the total of the values of various items in series by the total number of items

We can work it out as under

$$\text{Mean } \bar{X} = \frac{X_1 + X_2 + X_3 + \dots + X_n}{n}$$

Where, \bar{X} = the symbol we use for mean

| = summation, X_i = value of i th item $X_i, I = 1, 2, \dots, n$

n = total number of items.

3.6.2 Karl Pearson's coefficient of correlation: It is most widely used tool to measure the relationship between two variables. It is denoted by 'r'. In this research work, the coefficient of correlation we calculated in order to examine relation between targeted and actual data in various items.

The basic purpose of computing coefficient of correlation is to justify whether the planned data significant for future activities or not and whether the actual data are far from targeted data or not. So, to find out the position of both targeted and actual data we can use these tools.

It is calculated by using following formulas:

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where $x = X - \bar{X}$

$y = Y - \bar{Y}$

r = Co-relation coefficient.

the value of correlation coefficient lies between +1 and - 1, +1 denotes the perfect positive correlation, '0' denotes there is no correlation and '-1' denotes the negative correlation between the two variables i.e. actual and budgeted data.

3.6.3 Probable Error (PE) of the coefficient of correlation: P.E of 'r' is very useful in interpreting the value of 'r' and is worked out as under for Karl Pearson's Coefficient of correlation. It is calculated as

$$PE(r) = 0.6745 \frac{r \sqrt{1-r^2}}{\sqrt{n}}$$

Where r = correlation coefficient.

n = number of items.

3.6.4 Standard deviation (S.D): It is the most widely used measure of dispersion of a series and is commonly denoted by the symbol 'σ' (Sigma). Standard deviation is defined as the square-root of the average of square of deviations. In the present context standard deviation is calculated for actual data as well as budgeted data's of different milk products. It is worked out as under:

$$\text{Standard deviation} = \sqrt{\frac{\sum (X_i - \bar{X})^2}{N}}$$

and $\sqrt{\frac{\sum y^2}{n}}$

Where $y = X_i - \bar{X}$

3.6.5 Coefficient of variation (C.V): it is define as mean sum of square of the variety values from the arithmetic mean. It is obtained by using the formula:

$$C.V = \frac{\sigma}{\bar{X}} \times 100\%$$

Where C.V. = Coefficient of Variation

σ = Standard deviation

\bar{X} = Arithmetic Mean

3.6.6 Regression Analysis

Regression is the determination of statistical relationship between two or more variable. The regression used in the study determines the statistical relationship between independent variable X (i.e. Budgeted sales) and dependent variable Y (i.e. Actual sales). The basic relationship between X and Y is given by; $Y_c = a + bx$

Where, Y_c denotes the estimated value of Y for given value of X.

3.6.7 Time Series Analysis

"Time series analysis shows the relation between two variables, one being the time. It helps in understanding the past behavior of a variable in the time series. Further, it helps in future forecasting and evaluating the present accomplishment."

$$Y = a + bx,$$

$$\text{The calculated, } a = \frac{y}{n} \qquad b = \frac{xy}{x^2}$$

3.7 Research variables:

The substantial plan, financial plan and sales of dairy products mainly relating to long-term and short-term period of DDC are the variables of the present study.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Chapter IV (Data Presentation and Analysis) has been divided into two parts. First part deals with the managerial process i.e. implementing procedure of sales plan in DDC. Analysis of Implementation procedure based on Data analyses which are collected from top and middle level staffs through distributing questionnaires. 25 questionnaires were distributed, in average among this 15 responses have been received and the managerial activities for planning sales have been analyzed with the help of their responses and the second part is concerned with analysis of the development of sales planning and its implementation.

4.2 Managerial process

Analysis of managerial process i.e. formulation procedure of sales planning in DDC.

4.1.1 Objective formulation

Objective is the major thing of each and every Organization as well as enterprises. DDC has also its own objectives for operational purpose. Most of the activities of the enterprises are centralized within the objectives. Every public enterprise has its own separate objectives to meet the government's target. DDC is one of the public enterprises of Nepal, which has its own objectives for its long-term destiny.

The researcher distributed a list of questions of managerial activities to the top and middle level managers of DDC, Central Office. All the responses indicated that there are clearly defined goal and objectives.

4.1.10 Planning and clarity of objectives.

The objectives of the different enterprises may be the different and different procedure can be applied to fulfill the objective which can be achieved as short run and long run. Without proper planning, it is difficult to achieve the goals and objectives. The objectives should be clearly defined and the planned should be systematic. The respondents indicated with 100% that the goals and objectives are clearly written and defined.

Table 4.1**Planning and Clarity of Objectives**

| Objectives{goals} | Rank wise no. of response (1 for less priority to 5 for more priority) | | | | | Mean weight | Overall rank |
|--------------------------------|--|---|---|---|---|----------------|-----------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| a. Profit maximization | | 3 | 3 | 6 | 3 | 3.60 | 1 |
| b. Share price maximization | 1 | 3 | 4 | 5 | 2 | 3.27 | 4 |
| c. Sales maximization | | 3 | 4 | 4 | 3 | 3.50 | 2 |
| d. Value Maximization | | 3 | 6 | 4 | 2 | 3.33 | 3 |

The respondents gave the first priority to “Profit Maximization” with overall mean 3.6 and second priority to “Sales Maximization” with mean 3.5. Similarly the least priority has been given to “Share Price Maximization” with overall mean 3.27, among the four objectives. The respondents gave the moderate priority to “Value Maximization” which seen in table 4.1

4.1.11 Duty and responsibility

The achievement of goals and objectives of any enterprises depends on its managerial activities. The managerial activities may be effective only when the duties and responsibility of the different level personnel are made clear.

Table 4.2**Duties and Responsibilities of Employees.**

| Objectives | No. of Response | Total No. of responses | Percentage |
|-----------------------------------|-----------------|---------------------------|------------|
| Clearly and adequately defined | 14 | 15 | 93.33 |
| Ambiguously defined | | | |
| inadequately defined | | | |
| not defined at all | | | |
| unknown | 1 | | 6.67 |

93.24% of respondents indicated the duties and responsibilities of employees are clearly and adequately defined. Only one respondent seem to be unknown about it, which is shown in table 4.2.

4.1.12 Interference in policies:

The policy of each enterprise may be different but it should focus to its goals and objectives. It indicated that the duties and responsibilities of the personnel to achieve the goals and objectives. DDC have also formulated certain policies; such policies can be effective if they are properly applied.

Table 4.3

Interference in Policies

| Objectives | No. of Response | Total No. of responses | Percentage |
|----------------------|------------------------|-------------------------------|-------------------|
| Day-to-day operation | 2 | 15 | 13.33 |
| Weekly | -- | | 20.00 |
| Monthly | 3 | | 13.33 |
| Quarterly | 2 | | 53.33 |
| Long-term policies. | 8 | | |

The respondents indicated that the board of directors of DDC highly interfering in long-term policies with 53.3% responses similarly,20% respondents gave the opinion that there is interference in monthly activities but less interference in day-to-day operations policies with 13.3%. The management has given autonomy for the day-to-day operation, which is shown in table 4.3

4.1.13 Involvement and commitment of Management

The management of any enterprises set goals, objectives and centralized its activities to achieve them in certain time, the personnel of different levels should be involve in management for setting and achievement of the goals and objectives of the enterprises .

Table 4.4**Involvement and Commitment of Management**

| Level of Mgmt. | No. of Response | Total No. of responses | Percentage |
|-------------------------|------------------------|-------------------------------|-------------------|
| Top level management | 8 | 15 | 53.33 |
| Middle level management | -- | | 6.67 |
| Lower level management | 1 | | 40 |
| all of them | 6 | | |

The goals and objectives of DDC have been clearly defined, but objective with 53.3% responses. Middle level management is completely ignored for the commitment of goals and objectives. Second priority have been given to ‘all of them’ i.e. (top, middle and lower level management) with 40% response. Only one respondent gave the ‘lower level management’ for commitment of goal and objectives which are shown in table 4.4

4.1.14 Operational activities of sales plan of the enterprises:

The operational activities enterprises develop the somany plans to achieve their goals and objectives. The sales plan is an important part of the overall planning process. Among the different operational activities, the respondents of DDC gave the first priority to “quality of product” with overall mean weight of 4.73. Similarly 2nd and 3rd priority has been given to managerial knowledge of market and “location of sales center” respectively. Least priority has been given to “political system”.

Table 4.5**Operational Activities of Sales Plan**

| Operational Activities | Rank wise no. of response (1 for less priority to 5 for more priority) | | | | | Mean weight | Overall rank |
|-----------------------------------|---|---|---|---|----|-------------|--------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| a. Information system | 1 | 3 | 2 | 5 | 3 | 3.43 | 4 |
| b. Technology used | 2 | 5 | 3 | 1 | 3 | 2.86 | 6 |
| c. Trainees sales force | 2 | 6 | 3 | 3 | -- | 2.50 | 7 |
| d. Managerial Knowledge of market | -- | 3 | 2 | 7 | 3 | 3.67 | 2 |
| e. Effective sales strategy | -- | 4 | 5 | 4 | 2 | 3.27 | 5 |
| f. Quality of product | -- | - | 1 | 2 | 12 | 4.73 | 1 |
| g. Political System | 4 | 6 | 2 | 2 | 1 | 2.33 | 8 |
| h. Motivational; employees | 2 | 1 | 6 | 3 | 3 | 3.27 | 5 |
| i. Location sales center. | 1 | 3 | 2 | 4 | 5 | 3.60 | 3 |

4.1.15 Component of preparing Sales Budget.

The overall responsibility of preparing sales budget is upon sales manager, although other departmental manager including chief executive should also be involved in formulation and development of ideal and realistic sales budget. All organizational operational are directly linked with the sales budget thus sales budget should be prepare as realistic as possible.

Generally, four steps or components are involved in preparing of sales budget. They are:

- a. *The sales forecast.*
- b. *The marketing plan.*
- c. *The advertising expense budget.*
- d. *The selling expenses budget.*

Table 4.6**Component in Preparing Sales Budget**

| Components | Rank wise no. of response | | | | | Mean weight | Overall rank |
|----------------------------|---------------------------|---|---|---|----|-------------|--------------|
| | 1 | 2 | 3 | 4 | 5 | | |
| a. Sales Forecast | 2 | 2 | 3 | 5 | 3 | 3.33 | 3 |
| b. marketing Plan | 1 | 2 | 3 | 2 | 7 | 3.80 | 1 |
| c. Advertising plan | 4 | 4 | 2 | 5 | -- | 2.53 | 4 |
| d. Selling expenses budget | 1 | 2 | 4 | 2 | 4 | 3.46 | 2 |

Out of above four components in preparing sales budget, the respondents gave the first priority to “marketing plan” with overall mean 3.8, 2nd priority to “selling expense budget” with overall mean 3.46 and least priority to “advertising plan” with the overall mean 2.53, which is shown in table no. 4.6

Table 4.7**Comparative Study of Sales Component on the F/Y 2065/66**

| Product Year | Planned sales in Units | Advertising Expenses | Distribution / Selling Expenses(in total) |
|--------------|--|----------------------|---|
| 065/66 | Milk 66969974 ltrs Curd 282306 Ltrs Makhan 3319000 Kgs Cheese 270200 Kgs Ghee 1047000 Kgs Paneer 161750 kgs Ice-cream 160600ltrs Cream 25920 Ltrs | Rs.3535118.69 | Rs.65670000 |

Table 4.7 indicate that advertising expenses is not for the sales increasing just the formality even though the advertisement expenses is increasing trend. It is not

effective. Not effectively done by using proper media and proper way. To increase much budget for promotional or advertising expenses.

Table 4.8

Detailed marketing Plan of DDC

| Project | Selling No. of Booth | No. Of Dealers | selling shop | No. of distributors |
|----------------|-----------------------------|-----------------------|---------------------|----------------------------|
| KMSS | 1066 | | | |
| BMSS | 122 | 36 | 2 | 3 |
| HMSS | 185 | 4 | 2 | 1 |
| PMSS | 254 | 4 | 1 | 1 |
| NPMSS | -- | | | |
| LMSS | 47 | 8 | 1 | - |
| MPPSSS | -- | - | 3 | 5 |
| Total | 1420 | 48 | 8 | 8 |

Source DDC.

Table 4.8 indicates that there are altogether 1420 selling booths, 48 no of dealers, DDC has 8 own selling shops of milk and milk products, 11 franchise and 8 distributors in the country. DDC has selling network throughout the country, mostly based in the urban areas .As private dairies are emerging there is a huge competition for DDC. DDC is also increasing its selling centers, keeping in view the growing competition.

4.1.16 Monitoring and evaluating the sales budget

There must be correlation among all the departments, to achieve the goals and objectives in certain time period. Evaluating and monitoring process should be applied time to time.

Table 4.9**Monitoring and evaluating the sales budget**

| Level of Mgmt. | No. of Response | Total No. of responses | Percentage |
|-------------------|-----------------|------------------------|------------|
| Marketing Manager | 3 | 15 | 20.00 |
| Chief Executive | 2 | | 13.33 |
| both of above | 9 | | 60.00 |
| Unknown | 1 | | 6.67 |

For evaluating and monitoring the sales budget, the responses gave the first priority to ‘Both of them’ (Marketing manager and Chief Executive) with 60%. By the response it seems that only one response was unknown about the system, which is shown in table 4.9.

4.1.17 Responsibility in preparing sales budget.

Sales budget is one of the important budgets of all the budgets. If it is not realistic all the budgeting procedure are also misleading. Therefore the person, who are mainly concerned in the preparing for sales budget must be responsible and careful.

Table 4.10.**Responsibility in Preparing Sales Budget**

| Responsibilities | No. of Response | Total No. of responses | Percentage |
|---------------------|-----------------|------------------------|------------|
| Marketing Manager | 4 | 15 | 26.67 |
| Chief Executive | 2 | | 13.33 |
| other dept. Manager | 0 | | |
| All of them | 9 | | 60.00 |

For the responsibility in preparing sales budget the respondents gave high priority to “All of them” (i.e. chief Executive, marketing manager and other department manager) with 60%. Similarly 26.64% to marketing manager. None of the response was with the other dept. manager. Only 2 respondents gave the priority to Chief executive. In the same extent, it seemed that the responsibility in preparing sales budget is scientific which is shown in table no. 4.10.

4.2 Analysis and developing the sales plan.

The sales planning is a necessary part of profit plan because it provides for the basic management decision about the marketing and based on that decision, it is an organized approach for developing a comprehensive sales plan. If the sales plan is not realistic, then all of other parts of the over-all profit plan will not be realistic. Therefore, if the management believes that a realistic sales plan cannot be developed; there is little justification for the profit plan.

There is high possibility for sales or marketing in Nepal for milk and milk products, Supply side is more important than demand side because the Nepalese manufacturing PEs are not in position to fulfill the national demand. The demand of milk and milk products in urban site of Nepal is very high than the supply of milk and its products; this is the situation of market in Nepal.

The manufacturing PEs in Nepal is facing many difficulties for the planning of sales. The public enterprises have a chronic problem of top-level management commitment and serious attention and resource planning. In an enterprise, fixing the sales target without consideration of enterprises objectives, strategies and sales forecasting techniques is common in practice in PEs of Nepal.

4.2.9 Long-range sales plan of Dairy Products

4.2.10 Table 4.11

| S.No | Product | 2058/59 | 2059/60 | 2060/61 | 2061/62 | 2062/63 | 2063/64 | 2064/65 | 2065/66 |
|------|------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1 | Milk Sales Target (Ltrs) | 61,961,000.00 | 64,217,000.00 | 65,465,000.00 | 69,050,000.00 | 64,481,000.00 | 60,237,901.00 | 57,574,768.00 | 66,969,974.00 |
| | Achievement | 57,764,000.00 | 58,676,000.00 | 54,492,000.00 | 59,317,000.00 | 58,983,000.00 | 57,629,187.00 | 54,725,306.00 | 58,922,472.00 |
| | (Achievement %) | 93.23 | 93.86 | 87.82 | 85.9 | 92.68 | 85.55 | 87.25 | 87.98 |
| 2 | Makhan Sales target (Kgs) | 351,800.00 | 311,000.00 | 318,000.00 | 288,000.00 | 195,500.00 | 252,000.00 | 276,000.00 | 282,306.00 |
| | Achievement | 302,000.00 | 287,000.00 | 232,000.00 | 170,000.00 | 189,600.00 | 209,135.00 | 232,254.00 | 241,783.40 |
| | (Achievement %) | 85.84 | 92.28 | 72.96 | 59.03 | 96.98 | 82.83 | 84.15 | 85.65 |
| 3 | Curd Sales target (Ltrs) | 935,000.00 | 951,000.00 | 1,101,000.00 | 1,182,000.00 | 850,150.00 | 1,348,850.00 | 1,996,000.00 | 3,319,000.00 |
| | Achievement | 1,006,000.00 | 1,057,000.00 | 1,102,000.00 | 985,000.00 | 904,000.00 | 1,704,684.00 | 2,122,546.00 | 3,282,810.00 |
| | (Achievement %) | 107.59 | 111.15 | 100.09 | 83.33 | 106.33 | 126.38 | 106.34 | 98.91 |
| 4 | Cheese Sales target (Kgs) | 225,000.00 | 181,000.00 | 184,000.00 | 241,000.00 | 230,800.00 | 251,317.00 | 283,000.00 | 270,200.00 |
| | Achievement | 145,000.00 | 150,000.00 | 161,000.00 | 143,000.00 | 184,000.00 | 151,075.00 | 193,034.30 | 222,534.00 |
| | (Achievement %) | 64.44 | 82.87 | 87.5 | 59.34 | 79.72 | 60.01 | 68.21 | 82.36 |
| 5 | Ghee Sales target (Kgs) | 752,000.00 | 899,000.00 | 943,000.00 | 917,000.00 | 983,100.00 | 805,231.00 | 876,000.00 | 1,047,000.00 |
| | Achievement | 931,000.00 | 842,000.00 | 704,000.00 | 644,000.00 | 913,000.00 | 834,040.00 | 868,992.00 | 987,256.00 |
| | (Achievement %) | 123.8 | 93.66 | 74.66 | 70.23 | 92.87 | 103.5 | 99.2 | 99.2 |
| 6 | Paneer Sales target (Kgs) | 43,360.00 | 48,000.00 | 67,000.00 | 132,000.00 | 120,960.00 | 156,610.00 | 151,000.00 | 161,750.00 |
| | Achievement | 49,000.00 | 62,000.00 | 70,000.00 | 50,000.00 | 83,000.00 | 85,196.00 | 97,093.00 | 126,165.00 |
| | (Achievement %) | 113.01 | 129.17 | 104.48 | 37.88 | 68.62 | 54.4 | 64.3 | 78 |
| 7 | Ice-Cream Sales target (Kgs) | 35,000.00 | 39,000.00 | 42,000.00 | 81,600.00 | 100,700.00 | 163,350.00 | 169,000.00 | 160,600.00 |
| | Achievement | 31,000.00 | 32,000.00 | 38,000.00 | 39,000.00 | 85,000.00 | 54,546.00 | 157,592.50 | 154,782.00 |
| | (Achievement %) | 88.57 | 82.05 | 90.48 | 47.79 | 84.41 | 33.39 | 93.25 | 96.38 |
| 8 | Cream Sales target (Ltrs) | 38,000.00 | 32,000.00 | 28,000.00 | 39,000.00 | 22,800.00 | 32,950.00 | 17,000.00 | 25,920.00 |
| | Achievement | 27,500.00 | 24,700.00 | 21,500.00 | 53,700.00 | 17,300.00 | 13,923.00 | 13,985.90 | 22,709.60 |
| | (Achievement %) | 72.37 | 77.19 | 76.79 | 137.69 | 75.88 | 42.25 | 82.27 | 87.61 |

Table 4.11 shows that there is no realistic and scientific sales plan. The sales plan is rarely satisfactory for the some product and not good for few products. In only few year and few products the achievement has been greater the target. But, in most of the year and products actual sales is below than target and sometimes –target sale have not deals with actual sales. There is neither continuous increment nor decrease. It seems that the performance of planning section of DDC is poor and it prepares the sales plan on adhoic basis. DDC is unable to forecast the future. There is the weakness of the organization.

Above table is further separated more effectively by the following tables and bars and they have been analyzed.

4.2.10.1 Milk Sales Target and Achievement (in Ltrs) From F/Y058/59 to 065/66.

Table 4.12

Milk Sales Target and Achievement (in ltrs.)

| Fiscal Year | Target | Achievement |
|-------------|----------|-------------|
| 2058/59 | 61961000 | 57764000 |
| 2059/60 | 64217000 | 58676000 |
| 2060/61 | 65495000 | 54492000 |
| 2061/62 | 69050000 | 59317000 |
| 2062/63 | 64481000 | 58983000 |
| 2063/64 | 60237901 | 57629187 |
| 2064/065 | 57564821 | 54725306 |
| 2065/066 | 66969974 | 58922472 |

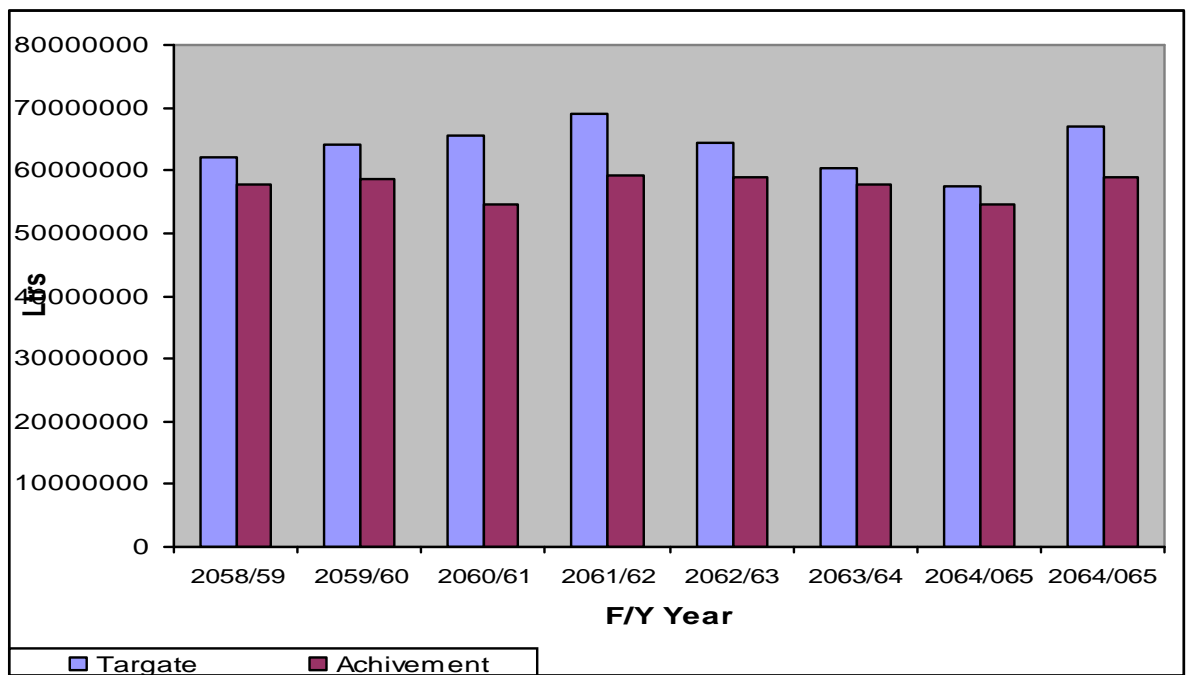
Source DDC

According to table 4.12, it is clear that the ratio of achievement of the targeted is not consistent. There is neither continuous increment in the achievement nor decrease. The best achievement is in Year 059/60, which is 93.86% of the target and the worst achievement is in year 063/064 by 85.55 %.In Year 065/066 the achievement sales percentage is little higher then year 064/065 so that The management (board) of DDC is try to meet the expected goal but as the number of private dairies are increasing and competition is going very optimal level so the result is not come as desired but by increasing achievement percentage so it seems to good.

The sales target with achievement of milk sales is shown by the bar graph by the figure 4.1

Figure 4.1

Figure showing bar graph of sales target with achievement of milk sales.



4.2.10.2 Makhan Sales Target and Achievement (in kgs) From F/Y058/59 to 065/66.

Table 4.13

Makhan Sales Target and Achievement (in kgs.)

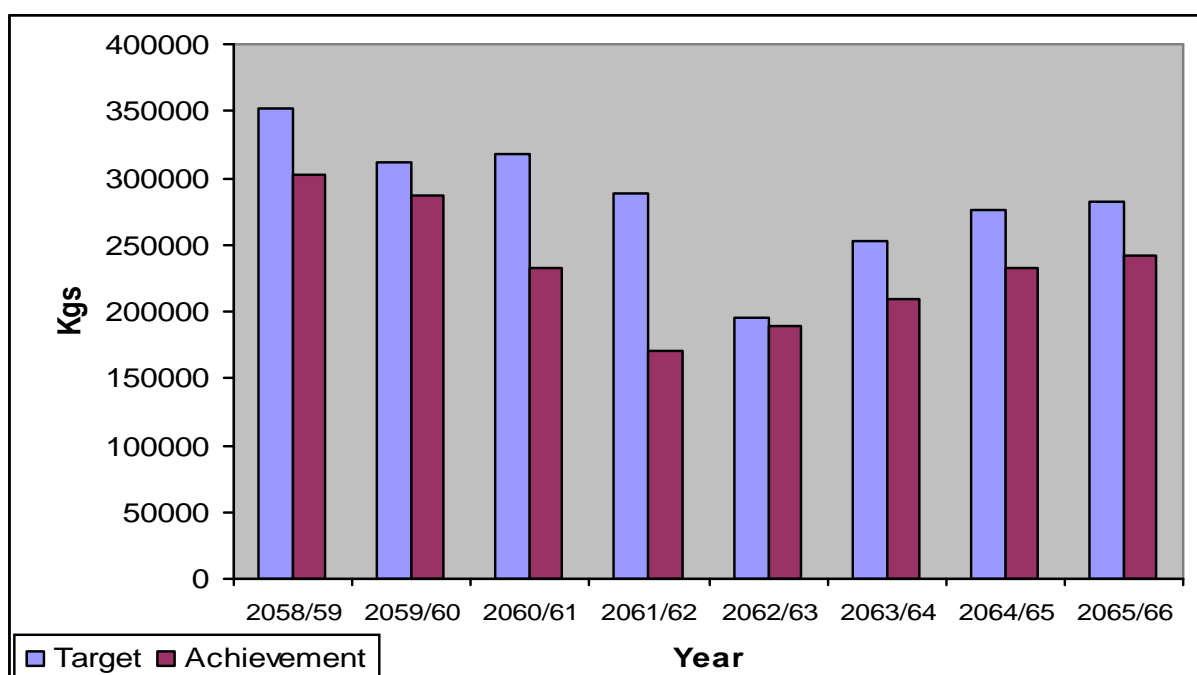
| Fiscal Year | Target | Achievement |
|-------------|--------|-------------|
| 2058/59 | 351800 | 302000 |
| 2059/60 | 311000 | 287000 |
| 2060/61 | 318000 | 232000 |
| 2061/62 | 288000 | 170000 |
| 2062/63 | 195500 | 189600 |
| 2063/64 | 252000 | 209135 |
| 2064/65 | 276000 | 232254 |
| 2065/66 | 282306 | 241783.4 |

Source DDC

Table 4.13 shows that the target and achievement of sales of Makhan is not satisfactory. The best achievement is in year 2059/60, i.e. 93.86% of the target as well as the Year 2065/66 the sales achievement of the Makhan higher then the previous year achievement so the Management take care quality and distribution to get the best achievement of Makhan sales

Fig 4.2

Figure showing bar graph of Makhan’s sales target with achievement



4.2.10.3 Curds sales target and achievement (in Ltrs) From F/Y 58/59 to 065/66.

Table 4.14

Curds sales target and achievement (in ltrs.)

| Fiscal Year | Target | Achievement |
|-------------|---------|-------------|
| 2058/59 | 935000 | 1006000 |
| 2059/60 | 951000 | 1057000 |
| 2060/61 | 1101000 | 1102000 |
| 2061/62 | 1182000 | 985000 |
| 2062/63 | 850150 | 904000 |
| 2063/64 | 1345580 | 1704684 |
| 2064/65 | 1996000 | 2122546 |

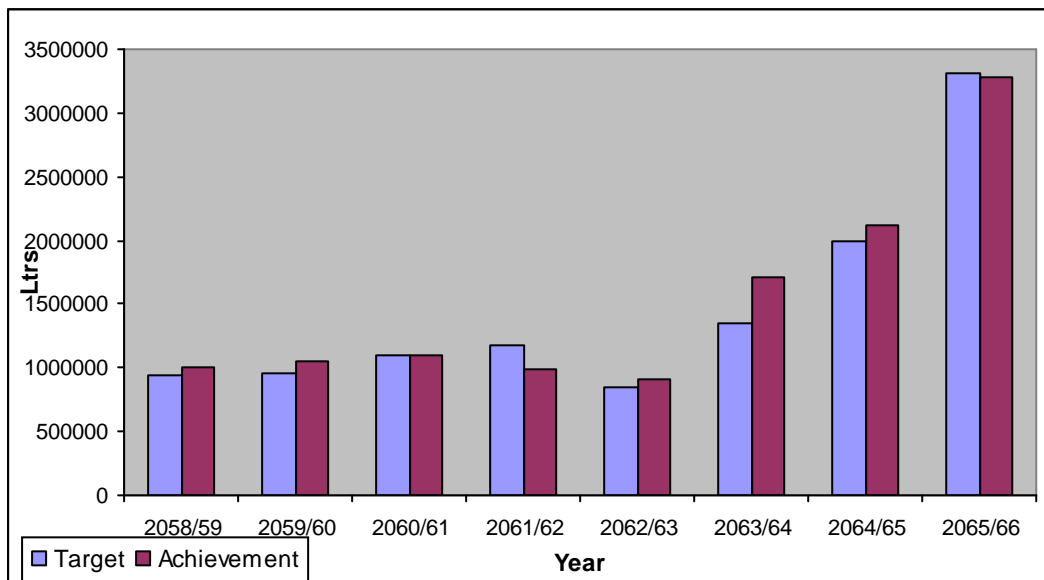
| | | |
|---------|---------|---------|
| 2065/66 | 3319000 | 3282810 |
|---------|---------|---------|

Source DDC

From table 4.14, it can be said that the sales of curd is good. Achievement is extremely well. The target is gradually increasing. Except in the year 2061/62, and 2064/065. The achievement is greater than expected but the year 2064/065 and 2065/066 the achievement of curd is lower then last year so the management should take care of Quality and distribution for tackle the coming challenges from private dairies etc.

Figure 4.3

Figure showing bar graph of Curd sales target with achievement (in ltrs.)



4.2.10.4 Cheese sales target and achievement (in kgs) From F/Y 58/59 to 065/66.

Table 4.15

Cheese sales target and achievement (in Kg)

| Fiscal Year | Target | Achievement |
|-------------|--------|-------------|
| 2058/59 | 225000 | 145000 |
| 2059/60 | 181000 | 150000 |
| 2060/61 | 184000 | 161000 |
| 2061/62 | 241000 | 143000 |
| 2062/63 | 230800 | 184000 |

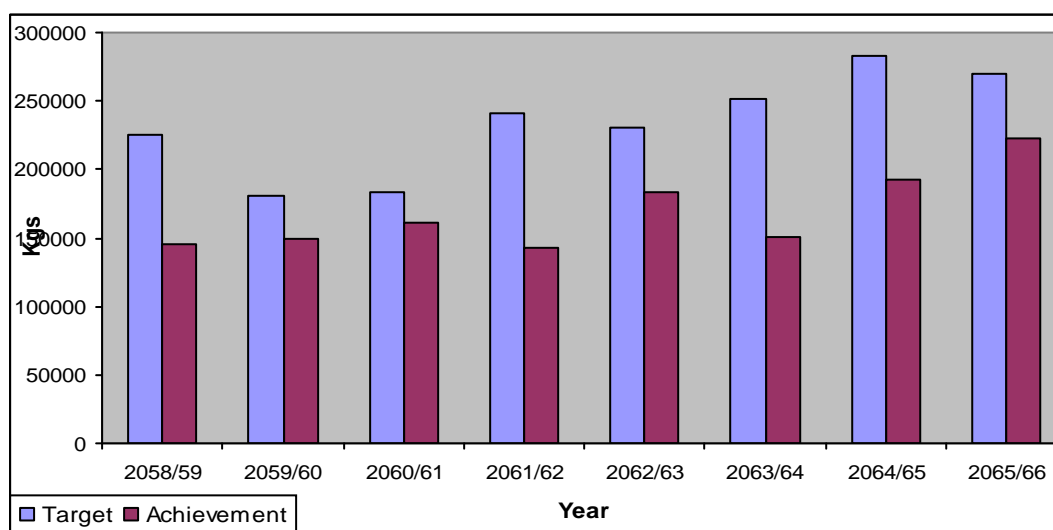
| | | |
|---------|--------|--------|
| 2063/64 | 251320 | 151075 |
| 2064/65 | 283000 | 193034 |
| 2065/66 | 270200 | 222534 |

Source DDC

From table 4.16, it is seen that the planning does not prove to be good as there is not good achievement in any year. The achievement is always less than the targeted or budgeted. The evaluation of the achievement of the running year is the key to plan for the next, which is not applied here. The best of achievement is in year 2060/61 which is (87.5%) although it is less than targeted. The Year 2064/065 and 2065/066, achievement is higher than the previous year but it is not enough to satisfy so the management takes care to raise the better achievement, which is allocated by budget sales.

Figure 4.4

Figure showing bar graph of Cheese sales target with achievement



4.2.10.5 Ghee Sales Target and Achievement (in kgs) From F/Y 58/59 to 065/66.

Table 4.16

Ghee Sales Target and Achievement (in kgs.)

| Fiscal Year | Target | Achievement |
|-------------|--------|-------------|
| 2058/59 | 752000 | 931000 |
| 2059/60 | 899000 | 842000 |
| 2060/61 | 943000 | 704000 |
| 2061/62 | 917000 | 644000 |

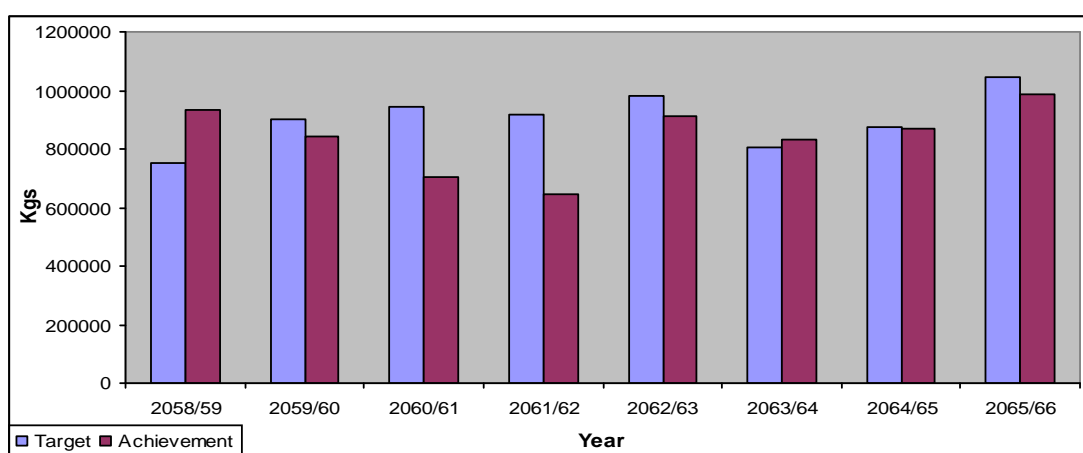
| | | |
|---------|---------|--------|
| 2062/63 | 983100 | 913000 |
| 2063/64 | 805231 | 834040 |
| 2064/65 | 876000 | 868992 |
| 2065/66 | 1047000 | 987256 |

Source DDC

Table 4.16 shows that the achievement of ghee sales is increasing from year 2061/062. The achievement sales exceed targeted in the year 2058/59 and 2063/064 but in other years it is less than targeted. Although in the year 2062/63 the achievement is not satisfactory (i.e. more than 90% of the targeted) as well as the year 2064/065 the achievement sales is lower then the previous year achievement and The year of 2065/066 the achievement sales is equal with previous year achievement so To preserve the previous status to make the plan to compete the future challenges from private dairies.

Figure 4.5

Figure showing bar graph of Ghee sales target with achievement



4.2.10.6 Paneer sales target and achievement (in kgs) From F/Y 058/59 to 065/66.

Table 4.17

Paneer sales target and achievement (in kgs.)

| Fiscal Year | Target | Achievement |
|-------------|--------|-------------|
| 2058/59 | 43360 | 49000 |
| 2059/60 | 48000 | 62000 |

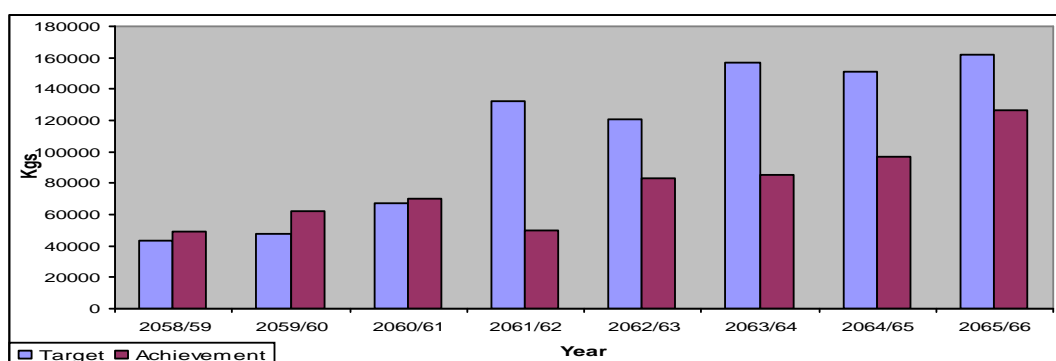
| | | |
|---------|--------|--------|
| 2060/61 | 67000 | 70000 |
| 2061/62 | 132000 | 50000 |
| 2062/63 | 120960 | 83000 |
| 2063/64 | 156610 | 85196 |
| 2064/65 | 151000 | 97093 |
| 2065/66 | 161750 | 126165 |

Source DDC

Tale 4.17 shows that the achievement in the year 058/59,059/60,060/61 is excellent whereas in the year 061/62, 062/63, 063/64 achievement is not satisfactory. It is far behind than targeted. There need to be revision in sales planning of paneer. In Year 2063/064 the achievement percentage is only around 54.40% which represent the very vast different in budgeted and achievement sales but The Year 064/65,065/66 achievement percentage is increasing so it seems to going satisfactory achievement. To increase achievement percentage to preserve good quality and distribution channel where the private sector producing better quality product or their marketing is good so the management should adopt perfect planning system otherwise sales will decrease and will not meet the targeted sales.

Figure 4.6.

Figure showing bar graph of Paneer sales target with achievement (in kgs.)



4.2.10.7 Ice-Cream Sales target and achievement (in Ltrs) From F/Y 058/59 to 065/66.

Table 4.18

Ice-Cream Sales target and achievement (in Ltrs.)

| Fiscal Year | Target | Achievement |
|-------------|--------|-------------|
| 2058/59 | 35000 | 31000 |

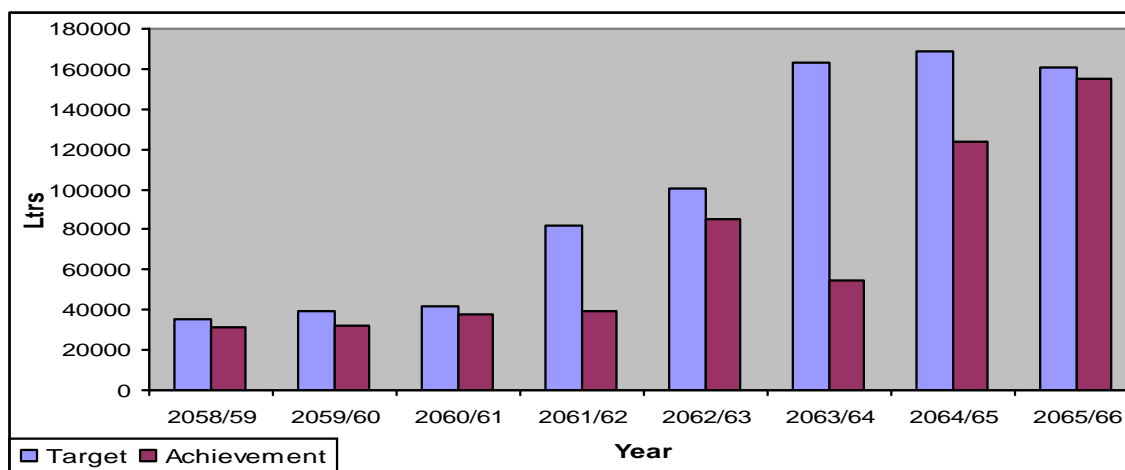
| | | |
|---------|--------|--------|
| 2059/60 | 39000 | 32000 |
| 2060/61 | 42000 | 38000 |
| 2061/62 | 81600 | 39000 |
| 2062/63 | 100700 | 85000 |
| 2063/64 | 163350 | 54546 |
| 2064/65 | 169000 | 123793 |
| 2065/66 | 160600 | 154782 |

Source DDC

Table 4.18, reflects that the sales of ice-cream's achievement is never meeting the target in any year. The achievement from 058/59 to 063/64 is always less than targeted and the year 2063/064 the achievement is too low (33.39%) so the data represent the Ice-Cream production and selling mechanism is too poor, only 33.39% achieve with targeted but in year 2064/065 and 2065/066 the achievement is better then previous year so there need a review in ice-cream's sales. This is huge upon down May many reason like neck to neck competition of the private sector and poor marketing. If the mechanism is not change it will be going down wards.

Figure 4.7

Figure showing bar graph of ice-cream sales target with achievement (Ltrs.)



4.2.10.8 Cream sales Target and Achievement (in Ltrs) From F/Y 058/59 to 065/66.

Table 4.19

Cream Sales Target and Achievement (in ltrs.)

| Fiscal Year | Target | Achievement |
|-------------|--------|-------------|
| 2058/59 | 38000 | 27500 |

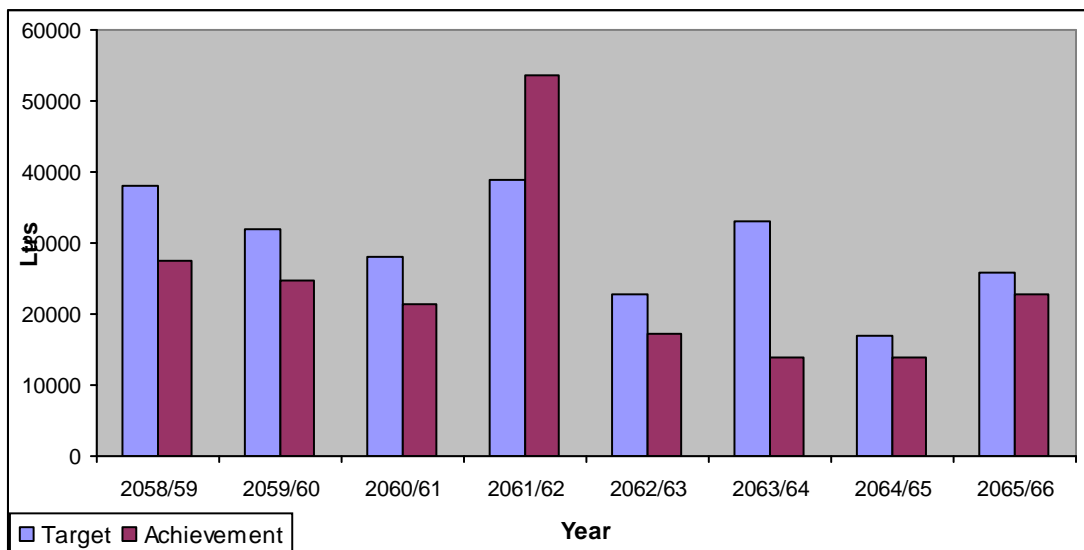
| | | |
|---------|-------|---------|
| 2059/60 | 32000 | 24700 |
| 2060/61 | 28000 | 21500 |
| 2061/62 | 39000 | 53700 |
| 2062/63 | 22800 | 17300 |
| 2063/64 | 32950 | 13923 |
| 2064/65 | 17000 | 13985 |
| 2065/66 | 25920 | 22709.6 |

Source DDC

Table 4.19 shows that in the F/Y 2058/59 and 2061/62 the sales of cream has been extremely good i.e. achievement in more than target but in the other years it is less than targeted and year 2064/065 and 2065/066 the achievement is higher than previous year achievement. From 2062/063, Targets and achievement both are gradually decreasing order except year 2064/065 and 2065/066 so the management should take attention upon it.

Figure 4.8

Figure showing bar graph of Cream sales target with achievement



4.2.11 Karl Pearson's Coefficient of Correlation (r)

In data analysis and examining activities the projected and planned data are comparatively fitted in various forms. The basic purpose of computing coefficient of

correlation is to justify whether the planned data are significant for future activities or not and whether the actual data are far from targeted data or not. So to find out the position of both targeted and actual data we can use this tool. It is also called trend study. It has been calculated in appendix no (10-17)

Probable error (P.E) of the coefficient of correlation:

P.E of 'r' is useful in interpreting the value of 'r'. If 'r' is more than P.E, there is correlation. If 'r' is more than 6 times it's P.E. and greater than +0.5 then is considered significant.

Table 4.20.

Coefficient of correlation and Probable error of coefficient of correlation:

| Appendix No | Dairy Products | Coefficient of correlation | Probable error of Coefficient of Correlation |
|--------------------|-----------------------|-----------------------------------|---|
| 10 | Milk | 0.58 | 0.1574 |
| 11 | Makhan | 0.703 | 0.1787 |
| 12 | Curd | 0.981 | 0.0088 |
| 13 | Cheese | 0.642 | 0.1400 |
| 14 | Ghee | 0.064 | 0.2374 |
| 15 | Paneer | 0.7008 | 0.1213 |
| 16 | Ice-Cream | 0.000067 | 0.353 |
| 17 | Ceam | 0.6737 | 0.13 |

Table 4.20 shows that there is a positive correlation between planned milk and actual milk sales, targeted and actual Makhan sales, targeted and actual curd sales, actual and targeted cheese sales, actual and targeted paneer, actual and targeted ice-cream and targeted and actual cream. Among of these, there is high degree of positive correlation between planned ice-cream and actual ice-cream sales , planned mahkan and actual makhan sale, planned milk and actual milk sales because it is greater than 0.50. Other items like paneer and cream is satisfactory performance of curd and cheese is highly satisfactory. Table 20 shows that there is a negative correlation between planned ghee and actual sales of ghee as it are less than 0.

Probable error of items Ghee is greater than their correlation coefficient. Which is not significant? This is not the good sign for the company (DDC) for this (Ghee) product.

Table 4.21**Total budgeted sales and total actual sales of milk and milk products (in Rs. Lakhs)**

| Years | Budgeted sales (Rs). | Actual Sales (Rs.) | Variance Amt. | Variance % |
|-------------------------------------|----------------------|--------------------|---------------|------------|
| 2058/59 | 14905.02 | 14519.11 | 385.91 | 2.66 |
| 2059/60 | 15959.06 | 15454.48 | 504.58 | 3.26 |
| 2060/61 | 17393.45 | 15358.1 | 2035.35 | 13.25 |
| 2061/62 | 19281.64 | 15896.63 | 3385.01 | 21.29 |
| 2062/63 | 19873.33 | 17126.81 | 2746.52 | 16.04 |
| 2063/64 | 19635.49 | 15899.16 | 3736.33 | 23.50 |
| 2064/65 | 19268.38 | 16326.58 | 2941.8 | 18.02 |
| 2065/66 | 19311.12 | 17193.26 | 2117.86 | 12.32 |
| Correlation of Coefficient = 0.8311 | | | | |

Source DDC

Table 4.21 indicates the total amount of budgeted sales Rs. (In Lakhs) and total actual sales Rs.(in lakhs). It shows that budgeted sales are always higher than the actual sales. There has been improvement in actual sales in recent years.

The calculated correlation coefficient between total budgeted sales and actual sales is 0.83 (shown in appendix 18) which shows that there is highly positive correlation between them. There is variance between the budgeted sales and actual sales from the year 2058/59 to 2065/66, which is unfavourable. The highest amt. of variance is in the year 2063/64, which is 23.50%. The less variance is in the year 2058/59 which is 2.66%.

Table 4.22**Simple regression analysis of Total Actual Sales and Total Budgeted Sales****Rs. (in Lakh).**

| F/Y | X | Y | X ² | Y ² | XY |
|---------|----------|----------|----------------|----------------|---------|
| 2058/59 | 14905.02 | 14519.11 | 10879549.8 | 2110210.18 | 4791465 |
| 2059/60 | 15959.06 | 15454.48 | 5037224.75 | 267585.06 | 1160985 |

| | | | | | |
|------------|-----------|-----------|-------------|------------|------------|
| 2060/61 | 17393.45 | 15358.1 | 656077.725 | 376586.27 | 497061.22 |
| 2061/62 | 19281.64 | 15896.63 | 1162523.33 | 5645.46 | -81012.187 |
| 2062/63 | 19873.33 | 17126.81 | 2788545.14 | 1334126.06 | 1928800.3 |
| 2063/64 | 19635.49 | 15899.16 | 2050777.94 | 5271.67 | -103976.05 |
| 2064/65 | 19268.38 | 16326.58 | 1134105.19 | 125892.80 | 377856.69 |
| 2065/66 | 19311.12 | 17193.26 | 1226963.29 | 1492046.98 | 1353028.8 |
| Sum | 145627.49 | 127774.13 | 24935767.12 | 5717364.48 | 9924208.74 |

$$a = 127774.13/8 = 15971.76$$

$$b = 9924208.74/24935767.12 = 0.397$$

We get the regression line: $Y = a + bX$ $Y_c = 15155.82 + .397X$

Table 4.222 indicates that 'a' and 'b' are constant values which are 15155.82 and .397 respectively. 'X' is the independent variable, which represents budgeted sales and 'Y' is the dependent variable that is actual sales amount. 'Y' depends on the value of 'X'.

4.2.12 Sales forecast

Sales can be forecasted with taking the base value of previous year's sale. Here the researcher has forecasted the sales of milk with the help of least square method.

Table 4.23

Trend lines of sales of milk (in 00000')

| Fiscal Year | y | x | x ² | xy |
|-------------|----------------|----------|----------------|--------------|
| 2059/60 | 586.76 | -3 | 9 | -1760.28 |
| 2060/61 | 544.92 | -2 | 4 | -1089.84 |
| 2061/62 | 593.17 | -1 | 1 | -593.17 |
| 2062/63 | 589.83 | 0 | 0 | 0 |
| 2063/64 | 576.29 | 1 | 1 | 576.29 |
| 2064/65 | 557.25 | 2 | 4 | 1114.5 |
| 2065/66 | 589.22 | 3 | 9 | 1767.66 |
| Sums | 3926.86 | 3 | 28 | 15.16 |

Where y = Actual sales of milk,

x = time.

Fiscals year 062/63 is the assumed as base year therefore the value of x or mid-time is zero, negative before the base year and positive after the base year.

$$Y = a + bx,$$

The calculated,

$$a = \frac{y}{n} = 560.98,$$

$$b = \frac{xy}{x^2} = 0.54$$

Substituting the value in straight line equation, we have,

$$y_c = a + bx ,$$

$$y = 560.98 + 0.54x$$

Table 4.24

Sales forecast value of milk sales (in lakhs)

| Fiscal Year | a | b | X | trend value |
|-------------|--------|------|----|-------------|
| 2059/60 | 560.98 | 0.54 | -3 | 559.36 |
| 2060/61 | 560.98 | 0.54 | -2 | 559.9 |
| 2061/62 | 560.98 | 0.54 | -1 | 560.44 |
| 2062/63 | 560.98 | 0.54 | 0 | 560.98 |
| 2063/64 | 560.98 | 0.54 | 1 | 561.52 |
| 2064/65 | 560.98 | 0.54 | 2 | 562.06 |
| 2065/66 | 560.98 | 0.54 | 3 | 562.6 |
| 2066/67 | 560.98 | 0.54 | 4 | 563.14 |

The trend line in table 4.22 shows that there will be positive sales figure for future.

The sale of milk is in increasing trend for the coming years. If the situation favors, the sales performance of milk is definitely going to be good.

4.2.4 Statistical tools and interpretation

To examine consistency of budgeted and actual sales of “Dairy products” in different years, statistical tools as arithmetic mean, standard deviation and coefficient of variation have been calculated (detailed is given in appendix.)

Table 4.25**Statistical summary of Actual & Targeted Sales Dairy Products.**

| component | Milk | | Makhan | | Curd | | Cheese | | Ghee | | Paneer | | ice-cream | | Cream | |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|--------|--------|--------|
| | Budget | Actual | Budget | Actual | Budget | Actual | Budget | Actual | Budget | Actual | Budget | Actual | Budget | Actual | Budget | Actual |
| Mean (X) | 631.08 | 576.90 | 3.12 | 2.552 | 9.84 | 9.885 | 2.102 | 1.528 | 8.84 | 7.462 | 68.76 | 53.45 | 98.91 | 73.99 | 29.45 | 24.415 |
| S.D | 31.258 | 15.041 | 0.539 | 0.5093 | 1.0907 | 0.7031 | 0.244 | 0.142 | 0.921 | 1.399 | 38.01 | 18.302 | 54.87 | 50.183 | 7.043 | 11.97 |
| C.V(%) | 4.95 | 2.61 | 17.28 | 19.96 | 11.08 | 7.11 | 11.61 | 9.27 | 10.42 | 18.75 | 55.28 | 34.24 | 55.47 | 67.83 | 23.92 | 49.02 |

Table 4.23 shows that actual sales are more deviated from the targeted sales in the case of milk, Paneer and cream. We know that higher the value of coefficient of variation, higher the degree of variability in nature of data. It can be said that there is significant gap between weakness of top-level management (i.e. board of directors and CEO regarding, the reading in internal and external variables of organization which effects the performance of the organization. These problems needs to be **summoned** in time and should be taken necessary steps. Products like Makhan, Ghee, Ice-Cream and cream has the coefficient of variation of actual sales more than the coefficient of variation of the products. This shows that sales performances of these products are not satisfactory. The sales of milk, curd, cheese and paneer is quite satisfactory.

4.2.5 Variance Analysis

Variance analysis is comparison process between actual and budgeted result, is the integral part of the control process. Reporting of variance between actual results and targeted or budgeted figures is a basic feature of performance reports. Analysis of variance guide planner to continue favorable results and to make good decision or review over the unfavourable situations. A careful management study should be made to determine the underlying cause for significant variance. Following steps are taken while analyzing variance.

-) Standards should be developed for labour, sales, profit etc.
-) Comparison between actual result and standard should be made to find variance.
-) Causes should be analyzed and diagnosed as controllable and uncontrollable.
-) Responsibility and accountability should be assigned to related center and authorized personnel should be made accountable for controllable causes of unfavorable variances.

Nepalese public enterprises have not well developed system of determining standard or overhead, expenses, yields, sales and profit only rough comparison between targets and actual sales made.

4.2.6 Trend of Profit /Loss in DDC

Table 4.26

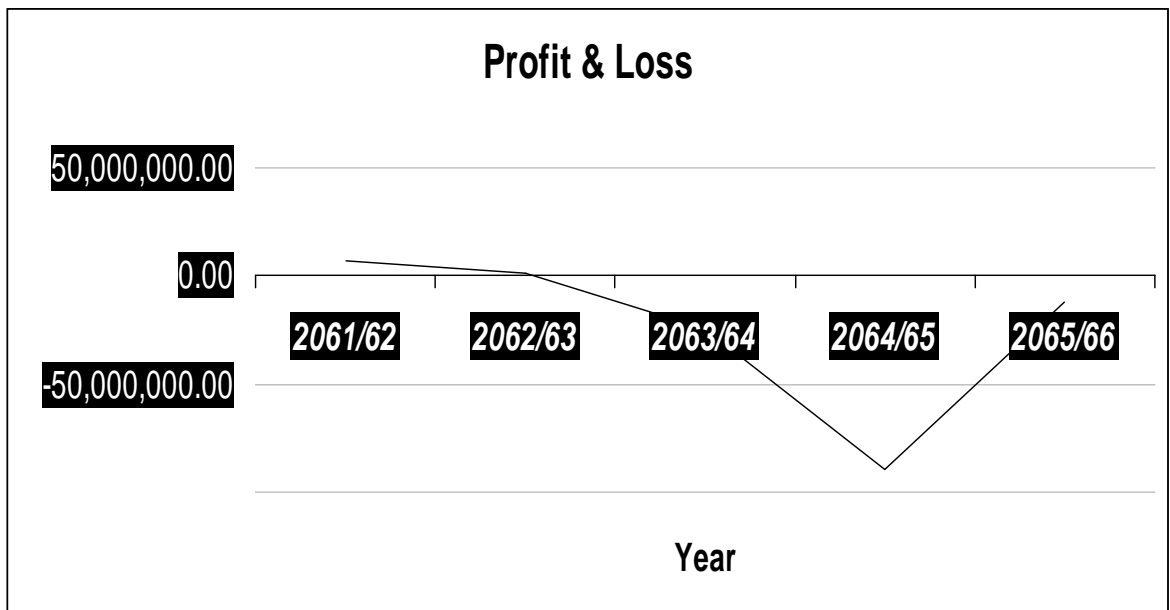
Profit and loss trend (in Rs.)

| Fiscal Year | Profit & Loss |
|-------------|-----------------|
| 2058/59 | (7,61,32944.24) |
| 2059/60 | 8,931,871.41 |
| 2060/61 | 1,41,17594.06 |
| 2061/62 | 7,367,717.44 |
| 2062/63 | 826,000 |
| 2063/64 | (24608946.97) |
| 2064/65 | 89790181.57) |
| 2065/66 | (12341685.24) |

Table no 4.24 shows that like other PEs of Nepal, DDC is always suffering from the chronic disease i.e. loss occurrence. Although there has been positive indication since the year 059/60 to 062/63 i.e. profit is generating. But the year 063/64 to 064/65 still there is a huge negative figure i.e. loss occurrence. And also there is a huge amount of accumulated loss in DDC. This small amount of profit in past can't help in recovering those big amounts of loss. So, the management needs to be aware of that. These losses are occurring due to lack of commitment, political interference, marketing strategy etc. correction is needed in time as DDC has lots of possibility to grow and make profits. The effectiveness of sales planning process can be viewed through profit/loss trend also. For generating good profit, DDC should have effective sales planning. There must be control of cost of production, promotional work should be effective.

Figure 4.9

Profit and Loss Trend in DDC



4.2.7 Tactical (short-term) sales budget

For the coming year's twelve months, short term sales budget in a company is prepared. The short-term sales budget includes a detailed plan for each major product and for grouping of minor products. Short-term sales plan are usually developed in terms of physical units or jobs and in sales and service rupees. Short-term sales plan must also be structured by marketing responsibility for planning purposes. Short-term sales plan may involve the application of technical judgment plays a large part in their determination.

The amount of detail in tactical sales plan is a function of the company's environment characteristics. A short-term sales plan should include considerable details. There need to be a co-ordination among the entire department which mainly related sales plan. A short term sales budget for year 064/65 is given in appendix.

4.2.8 Major findings of the study.

After the study and analysis of the study of sales planning in DDC different facts have been found out by the researcher. DDC is one of the PEs of Nepal so here also plans are prepared on adhoic basis. Without the analysis of environment the objectives are set by DDC, which are not suitable or appropriate. There is a great demand of milk and milk products in the urban area. DDC's work is to systematize the collection of milk and produce the milk and products and distribute it to the people.

Mostly DDC is collecting milks from different remote village areas of the country and distributing it to the urban area. There has been establishment of many private diaries which does the same .So there is a neck-to-neck competition with these Diaries. DDC sets the targets but it is unable to meet that target due to the lack of commitment and effective marketing policy. Now the time has come that DDC should make market studies on Demand supply and pricing of milk and Dairy products should be carried out. There have been no effective research and development unit, which need to be strengthened and enabled. Some other major findings are listed as below:

- 1) DDC is not preparing the systematic periodic performance reports detailed by assigned responsibilities for accomplishing the planning objectives.
- 2) By the analysis, there is no systematic and realistic sales plan. The sales planning is rarely satisfactory for some product but not for all. In most of the cases actual sales is far behind the targeted sales.
- 3) The company prepared the sales budget without studying the environmental scanning. There is no co-ordination between the various departments sales forecast; marketing plan, advertising plan etc are the main component of sales budget. Sales forecast and advertising has been ignored. The sales department has no clear concept about the sales forecast.
- 4) The achievement of milk, Makhan, cheese and ice-cream is always less than the targeted in different years. The actual has never bothered to exceed the targeted sales. The sales of curd, Paneer, cream is satisfactory.
- 5) There is always variance (unfavourable) in between targeted and actual sales except in some cases. The achievement percentage of milk sales is highest achievement in 059/060 (i.e. 93.86% of targeted), for Makhan the highest achievement is in the year 062/63 which is 96.98%of the targeted sales. For the

ghee in the year 058/59 & 2063/064 the actual sales has been exceed the targeted but not in other years. For Paneer achievement is 129.17 % in 2059/060 the highest achievement, for ice-cream 96.38% in 065/66, for curd achievement is quite exciting, except in the year 058/059,059/060 2061/062, 2062/063, 2063/064 and 2064/065 it has exceed the targeted sales. For cream the achievement % is quite mixed. The highest achievement % is in 061/62 (i.e. 137.69%) and 87.61% in 065/66.

- 6) There is positive correlation between actual sales and targeted sales of dairy products like milk, makhan, curd, cheese, paneer, ice-cream and cream. Among of these items, there is high degree of positive correlation between the targeted and actual sales of makhan, ice-cream and milk. There is negative correlating between targeted and actual sales of ghee which is not good for company.
- 7) Least square straight line sales trend of DDC shows that the sales will be gradually increase in the future if present efforts are frequently being improved.
- 8) There is positive correlation (i.e. 0.83) between the total budgeted sales and total actual sales in Rs. amount of the milk and milk products of the DDC.
- 9) In the year 058/59, 063/64,064/65 and 065/66 there are losses in DDC. From the year 059/60 there has been achievement of profit. The figure of loss is very big so that these small amounts of profit are not enough to fulfill. And also the F/y 064/065 and 2065/066 there is a vast difference between three year losses so that there is a positive signal. There must be review in sales planning, control of cost etc.
- 10) The expenses made for promotion or advertising is less and also it has not been used effectively. The promotional expense is about 4 to 5 % of the total selling expense. Promotional works are mostly located in Kathmandu valley only. In the other urban cities, promotional works are less than required.
- 11) The effectiveness of sales plan in DDC is just satisfactory. It can be seen from P/L of the company, the variances between the targeted sales and the actual sales of milk and milk products. Sales planning must be more effective than it is in current situation. The effectiveness of sales plan can only help overall profit planning and overall development of corporation.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

We know that Nepal is a least developed and poor country. Nepal is also called as agricultural country. More than 81% of the Nepalese people rely on agriculture. Poultry farming Fishery, bee keeping, cattle farming etc are main areas of agriculture. Due to the geographical feature of our country, cattle farming can be promoted from plain to high mountainous area. To promote the living standard of the people and fulfill the basic needs, cattle farming are playing an important role in the country. Keeping this fact in mind, the government of Nepal had set up the Dairy Development Corporation DDC, established under the corporation act in 1969 or (B.S 2026).

The DDC is a public enterprises created with the aim to increase the milk products on the rural areas by collecting available quantity of milk, process and distribute it to the urban population at social acceptable prices as a commercially viable operation. In the early days or years of its existence DDC was fulfilling its objectives as an agent of rural development and suppliers of dairy products to the urban population but its operations were commercially not viable and as a result losses were accumulated.

Comprehensive profit planning and control or budgeting continuous to be of prime importance in virtually all organization. Profit plans can be broadly divided into two groups as functional plan and financial plan. Functional plan includes sales plan, production plan, raw materials plan, direct labour plan and expenses plan, financial plan includes cash flow plan, capital expenditure plan projected income statement and projected balance sheet. For the smooth operation of the any enterprises comprehensive profit planning and control should be strongly applied, it is one of the most important management tools use to plan and control a business.

Sales plan is the first foundation of the profit plan. It is like as the "nerve center" of the human being. The sales plan should be worked out on a sound and reasonably detailed basis as all the other budgets are dependent upon the sales budget. It should reflect seasonal influences and any anticipated irregularities in sales. It should be broken down not only into time periods but also into geographical or areas of

responsibility by the use of sales quotas. The sales plan should be realistic, prepared by the well-skilled planner, who have knowledge about the marketing and applied the statistical knowledge about the marketing and applies the statistical tools properly. A comprehensive sales plan include two separate but related plans the strategic and tactical sales plan and identified the component of the comprehensive sales plan.

The present study has been analyzed and examined the degree of application profit planning (sales plan) and its effectiveness in Nepalese PEs with the special reference of Dairy development Corporation in Nepal.

For the purpose of analyzing 7 years long term budgets data from FY 2058/059 to 2065/66 and a short term budget data 2064/65 of dairy product has been taken/. Data have been collected from sources, primary and secondary. Primary data are collected with the help of staffs interview and structured questionnaire. To analyze and examine the collected data several statistical methods or tools have been used as: percentage method, arithmetic mean, standard deviation, coefficient of variation, correlation, regression analysis, least square analysis. Similarly, financial tools such as variance analysis have also been used according to their need.

Related literatures have been reviewed which consists about books, report, periodical articles and government official publication etc and 6 dissertations. A general concept had been given in conceptual; framework. This research paper consists of five main chapters.

- i). Introduction
- ii). Review of Literature
 1. Conceptual revised.
 2. Review of previous research work.
- iii) Research Methodology.
- iv) Data presentation & analysis.
- v) Summary conclusion & recommendations.

Various internal (management problems) and external (political, economical) problems has suffered Nepalese public and private enterprises in formulating and implementation profit plans. DDC set its financial plans according to Nepal Government plans and policies. However, the lower level management as well as most of the top-level management is unaware about such specific goals. DDC has only the practice of setting long and short term plan sales, production and collecting milk. In general, PEs has a little more practice of formulating and implementing profit plans. Although Nepalese PEs has to face more problems in formulating and implementations profit plans.

5.2 Conclusion

In Nepalese manufacturing PEs goal and objectives are written but not adequate and are not properly follow up the development of the enterprise. Without goals and objectives there is no basic foundation for planning. Without planning there is no fulfillment of goals and objectives. Their goals are generally set in accord to Nepal government's plan. But most of the managers are unaware of it. So these specific plans are not achieved as desired. DDC has not been clearly defining its main objectives in annual goals or target for achieving the basic objectives. There is no defined such operational as expansion and contraction of product line, geographic areas, share of market growth of trends etc all the departmental goals and target are fixed in paper but not in action.

DDC has not followed participatory management, even middle level of management are not participated in policy making. Only top level of management is directly involved in policy making. The organization pattern of DDC is divided in various department and sub-department and various managers are involved in it as departmental managers. The philosophy of PPC is each organization should be divided in various departments and branches each department of responsibility managers have to given the authority to determine own departmental objectives, goals, targets accord to organizational destination. But the (project) managers of DDC have not got enough authority to determine their own objectives, destination and goals. The Nepalese manufacturing PEs plans are prepared on ad-hoc basis, which is also applicable incase of DDC without the analysis of environment the objectives are set by the DDC, which are not suitable or appropriate.

Like in other PEs in Nepal, there is only annual target is supplied by the top management for the major department. There is no details and formal guidelines to the lower level management or departmental manager for the purpose of developing profit plan which also seen is DDC. Proper communication is lacking between the top order and lower order. Interference in day to day activities is less and high interference in long term policies from the board of directors. As manpower is the most important resources for any enterprises for achieving enterprise's goal and objectives the responsibilities and duties of employees in DDC, are adequately defines but there is lack of self-commitment of employees towards the organization process. There is lack of research and development and growth of sales due to lack of proper planning and adequate budget.

The preparation of sales budget is just satisfactory. There is no coordination between the various departments sales forecast marketing plan, adverting plan etc are the main component of sales budget. The demand of milk and milk product in urban areas of Kathmandu valley is very high than supply of milk and its products. Supply is insufficient in compare to the demand. Except of the milk supply, for other milk products, the sales plan is rarely satisfactory. There is no systematic and realistic sales plan. There is neck to neck competition between other emerging dairy product industries and DDC, in the valley and other parts of country as well. So for better sales, advertising should be effective DDC should invest on more advertising strategies.

The project has not prepared any plan to encourage the milk producers. There is conflict between DDC and milk producer farmer as well as other milk collecting co-operative agencies. Farmers are not satisfied with the mark prices of milk. Sales planning are a primary plan of profit planning, other planning depends upon sales plan DDC mostly depends on production plan. For generating more profit sales planning with effective advertisements are most. But DDC is mostly focused on the production planning.

The sales plan are prepare on traditional and ad-hoc basis due to lack of skilled and expert planners. Therefore they are unable to forecast the future accurately which result the planning section to be poor. It can be concluded that DDC's performances is

satisfactory. Some positive indications are being observed. But there are lots of areas to be kept in mind and improved.

5.3 Recommendation

In the course of the research work, of sales planning in DDC in Nepal, many weakness, and different measures to be implemented by DDC for its development, progress and improvement were found and they have been recommended here. These recommendations are based on study and hoped that these will prove to be useful to the management of the corporation and other who are concerned with it.

- 1) Now the time has changed, so DDC should be operated in commercial basis. It should revised and make a study of its products and if there is any loss-oriented product, that should be promoted, advertised , if positive result is not obtained then dropped out. DDC should be revising the price of its product.
- 2) Corporation should develop the profit planning process systematically. There should be effective planning of substantive plan and financial plan to achieve the goals and objectives of the enterprise. it may be impossible without long-term and short term planning.
- 3) There must be communication, co-ordination and participation of different levels of management as well as other employees in formulation and evaluation of enterprises goal and objectives.
- 4) Only top level managers should not be involved in decision making, there must be the participation of lower level personnel too. Decision making process is a group effort or an integrated process.
- 5) The performance evaluation should be established in DDC.
- 6) Government should not interfere on DDC. Government should give autonomy responsibility and authority to the management of DDC. It is always seen that the board members of corporations are changed with the change in government that should be avoided.

- 7) DDC should consider demand. Market study while making the plan. It should also consider the price; supply and policies of other private dairies DDC should attract the booth centers and consumers towards its products.
- 8) DDC should be made more cooling center so that DDC able to reserve the milk and milk product on over production time and supply it to on more demand time. this way the major problem of nepali farmer “Milk Holyday” will be solved as well as the demand of customer will fulfill by own quality product .
- 9) The enterprise should define its goal and objectives clearly among the different levels of management. The management should select the goals and objectives on the basis of their needs.
- 10) The duties and responsibilities of the employees should be defined on a clear-cut way. It would be better that the right person in proper place can perform the work effectively.
- 11) Regular and continuous supervision will be needed for selling people/Staff. Proper awareness programme needed as well as directly or indirectly proper supervision is needed to maintain the quality.
- 12) Monitoring and evaluating system should be scientific, regular and appropriate. Highly interfering policy should be avoided. Punishment and rewarding system must be continuously followed with non-ambiguously according to their performance.
- 13) For the better planning and budgeting process (Task) persons having adequate practical and theoretical knowledge about budgeting profit planning and control should be appointed in planning and budgeting section. Training workshops and other programs should be held time to time to provide knowledge about PPC (Especially sales strategies) to the managers and other employees.
- 14) DDC should cut down the unproductive expenses.
- 15) DDC should consider the sales plan on the time of planning production.

- 16) The sales manager should be appointed a well trained, qualified and, having knowledge of market study.
- 17) To develop the annual sales plan, to management must take decision about product line development and marketing activities. It is recommended that the policies must respond to such issues as the following that which products should be dropped? What type of modifications should be made on packing? Is quality maintained is being good or not? These different policy decisions about both the long-term and short term sales plan will usually have a major effect in plan in others of the project, such as plant capacity, financing, territorial expansion and research.
- 18) There is neck-to-neck competition with the private dairies so proper advertising campaigns, publicities, product varieties or other promotional tools should be effective for achieving goals and objectives of DDC.
- 19) Systematic periodic performance report in detailed should be prepared by DDC by assigned responsibilities for accomplishing the planning objectives.
- 20) Sales achievement is too below the sales target. Necessary steps should be taken to those products sales and marketing which have negative correlation. A systematic approach of profit planning is needed.
- 21) Market studies on demand supply and pricing should be carried out. The cost of milk production should be assured research and development unit of DDC should be strengthened and enabled to carry out such studies.
- 22) To meet the desired sales target, DDC should try to increase collection centers, sales centers and media support (i.e. advertising) for publicity of its products. DDC should be ready to face the neck-to-neck competition from the private dairies and international milk products. It is possible if government, board of directors of DDC, and all the staffs come together and make a commitment for the upliftment of DDC.

Appendix I

This Questionnaire has been prepared for conducting a study titled “A study of Sales Planning in DDC” as a partial fulfillment for the degree of Master in Business Studies. Please choose the best which you think is the appropriate on your opinion.

Questionnaire

Personal Details

Name :

Post,(please specify the field):

1) Are the goals/objectives of DDC definite?

Yes [] No. []

2) The goal/objectives are committed to:

a. Top level management []

b. Middle level management []

c. Lower level management []

d. All of the above []

3) Does the board of directors interfere in the following policies?

Yes [] No []. If yes, to what extent?

Day-to-day transaction []

Weekly []

Monthly []

Quarterly []

Long term policies []

4) Please rank to what extent do you think the following objectives are achieved?

| Objectives | Min1 | 2 | 3 | 4 | 5 |
|---|------|---|---|---|---|
| Broad and long-term goals(strategic goals) | | | | | |
| Long range profit plan developed. | | | | | |
| Short range profit plan developed (in details) | | | | | |
| System of periodic performance report (in details) | | | | | |
| Follow up procedure | | | | | |

5) Duties and responsibilities of employee:

- a. Well defined []
- b. Ambiguously defined []
- c. Inadequately defined []
- d. Not defined at all []
- e. Unknown []

6) Rank the following operational activities of sales plan in DDC. (5 for top priority and 1 for least priority)

| Objectives | Min 1 | 2 | 3 | 4 | Max 5 |
|-----------------------------------|-------|---|---|---|-------|
| a) Information system | | | | | |
| b) Technology use | | | | | |
| c) Trained sales force | | | | | |
| d) Managerial knowledge of market | | | | | |
| e) Effective sale strategy | | | | | |
| f) Quality of product | | | | | |
| g) Political system | | | | | |
| h) Motivation of employees | | | | | |
| i) Location of sales centre | | | | | |

7) Who is responsible in preparing sales budget?

- Chief executive
- Marketing manager
- Project manager
- All of them

8) Who evaluates/ monitor the sales budget?

- Chief executive
- Marketing manager
- Both of them

9) Which one is given more priority and less priority in preparing sales budget?

(Please rank them)

| Objectives | Min 1 | 2 | 3 | 4 | Max 5 |
|------------------------|-------|---|---|---|-------|
| Sales forecast | | | | | |
| The advertising plan | | | | | |
| Marketing plan | | | | | |
| Selling expense budget | | | | | |

10) What promotional media's does your organization mainly use?

a) Paper media

b) Radio

c) Television

d) Bill board

e) All of them

11). What major steps should be taken to improve the performance of Co.? State the working environment of your organization.

Comment, Suggestion for the overall development of the DDC

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Appendix II

Appendix 2

Milk Sales Variance (in lit)

| Fiscal Year | target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|--------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 61961000 | 57764000 | 4197000 | 6.77 | Unfavourable |
| 2059/60 | 64217000 | 58676000 | 5541000 | 8.63 | Unfavourable |
| 2060/61 | 65495000 | 54492000 | 11003000 | 16.80 | Unfavourable |
| 2061/62 | 69050000 | 59317000 | 9733000 | 14.10 | Unfavourable |
| 2062/63 | 63481000 | 58983000 | 4498000 | 7.09 | Unfavourable |
| 2063/064 | 60237901 | 57629187 | 2608714 | 4.33 | Unfavourable |
| 2064/065 | 57564821 | 54725306 | 2839515 | 4.93 | Unfavourable |
| 2065/066 | 66969974 | 58922472 | 8047502 | 12.02 | Unfavourable |

Appendix 3

Makhan Sales Variance (in Kgs)

| Fiscal Year | tareget Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|---------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 351800 | 302000 | 49800 | 14.16 | Unfavourable |
| 2059/60 | 311000 | 287000 | 24000 | 7.72 | Unfavourable |
| 2060/61 | 318000 | 232000 | 86000 | 27.04 | Unfavourable |
| 2061/62 | 288000 | 170000 | 118000 | 40.97 | Unfavourable |
| 2062/63 | 195500 | 189600 | 5900 | 3.02 | Unfavourable |
| 2063/64 | 252000 | 209135 | 42865 | 17.01 | Unfavourable |
| 2064/65 | 276000 | 232254 | 43746 | 15.85 | Unfavourable |
| 2065/066 | 282306 | 241783.4 | 40522.6 | 14.35 | Unfavourable |

Appendix 4

Curd Sales Variance (in Lit)

| Fiscal Year | tareget Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|---------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 935000 | 1006000 | 71000 | 7.59 | favourable |
| 2059/60 | 951000 | 1057000 | 106000 | 11.15 | favourable |
| 2060/61 | 1101000 | 1102000 | 1000 | 0.09 | favourable |
| 2061/62 | 1182000 | 985000 | 197000 | 16.67 | Unfavourable |
| 2062/63 | 850150 | 904000 | 53850 | 6.33 | favourable |
| 2063/64 | 1348850 | 1704684 | 355834 | 26.38 | favourable |
| 2064/65 | 1996000 | 2122546 | 126546 | 6.34 | favourable |
| 2065/66 | 3319000 | 3282810 | 36190 | 1.09 | Unfavourable |

Appendix 5

Cheese Sales Variance (in Kgs)

| Fiscal Year | target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|--------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 225000 | 145000 | 80000 | 35.56 | Unfavourable |
| 2059/60 | 181000 | 150000 | 31000 | 17.13 | Unfavourable |
| 2060/61 | 184000 | 161000 | 23000 | 12.50 | Unfavourable |
| 2061/62 | 241000 | 143000 | 98000 | 40.66 | Unfavourable |
| 2062/63 | 230800 | 184000 | 46800 | 20.28 | Unfavourable |
| 2063/64 | 251317 | 151075 | 100242 | 39.89 | Unfavourable |
| 2064/65 | 283000 | 193034.3 | 89965.7 | 31.79 | Unfavourable |
| 2065/66 | 270200 | 222534 | 47666 | 17.64 | Unfavourable |

Appendix 6

Ghee Sales Variance (in Kgs)

| Fiscal Year | target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|--------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 752000 | 931000 | 179000 | 23.80 | Favourable |
| 2059/60 | 899000 | 842000 | 57000 | 6.34 | Unfavourable |
| 2060/61 | 943000 | 704000 | 239000 | 25.34 | Unfavourable |
| 2061/62 | 917000 | 644000 | 273000 | 29.77 | Unfavourable |
| 2062/63 | 983100 | 913000 | 70100 | 7.13 | Unfavourable |
| 2063/64 | 805231 | 834040 | 28809 | 3.58 | Favourable |
| 2064/65 | 876000 | 868992 | 7008 | 0.80 | Unfavourable |
| 2065/66 | 1047000 | 987256 | 59744 | 5.71 | Unfavourable |

Appendix 7

Paneer Sales Variance (in Kgs)

| Fiscal Year | Target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|--------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 43360 | 49000 | 5640 | 24.36 | Favourable |
| 2059/60 | 48000 | 62000 | 14000 | 13.01 | Favourable |
| 2060/61 | 67000 | 70000 | 3000 | 29.17 | Favourable |
| 2061/62 | 132000 | 50000 | 82000 | 4.48 | Unfavourable |
| 2062/63 | 120960 | 83000 | 37960 | 62.12 | Unfavourable |
| 2063/64 | 156610 | 85196 | 71414 | 31.38 | Unfavourable |
| 2064/65 | 151000 | 97093 | 53907 | 45.6 | Unfavourable |
| 2065/66 | 161750 | 126165 | 35585 | 35.7 | Unfavourable |

Appendix 8

Ice-Cream Sales Variance (in Ltrs)

| Fiscal Year | Target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|--------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 35000 | 31000 | 4000 | 11.43 | Unfavourable |
| 2059/60 | 39000 | 32000 | 7000 | 17.95 | Unfavourable |
| 2060/61 | 42000 | 38000 | 4000 | 9.52 | Unfavourable |
| 2061/62 | 81600 | 39000 | 42600 | 52.21 | Unfavourable |
| 2062/63 | 100700 | 85000 | 15700 | 15.59 | Unfavourable |
| 2063/64 | 163350 | 54546 | 108804 | 66.61 | Unfavourable |
| 2064/65 | 169000 | 123793 | 45207 | 26.75 | Unfavourable |
| 2065/66 | 160600 | 154782 | 5818 | 3.62 | Unfavourable |

Appendix 9

Cream Sales Variance (in Ltrs)

| Fiscal Year | Target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|--------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 38000 | 27500 | 10500 | 27.63 | Unfavourable |
| 2059/60 | 32000 | 24700 | 7300 | 22.81 | Unfavourable |
| 2060/61 | 28000 | 21500 | 6500 | 23.21 | Unfavourable |
| 2061/62 | 39000 | 53700 | 14700 | 37.69 | favourable |
| 2062/63 | 22800 | 17300 | 5500 | 24.12 | Unfavourable |
| 2063/64 | 32950 | 13923 | 19027 | 57.75 | Unfavourable |
| 2064/65 | 17000 | 13985 | 3015 | 17.74 | Unfavourable |
| 2065/66 | 25920 | 22709.6 | 3210.4 | 12.39 | Unfavourable |

Appendix 10

Calculation Of Mean, Sd, Cv And Correlation Of Ddc's Targeted And Actual Milk Sales (In Lakhs)

| Year | Targeted (X) | Actual (Y) | $X - \bar{X}$ x= | $Y - \bar{Y}$ y= | x^2 | y^2 | xy |
|----------|--------------|------------|---------------------|---------------------|---------|---------|---------|
| 2058/59 | 619.61 | 557.64 | -17.86 | -15.50 | 319.02 | 240.10 | 276.76 |
| 2059/60 | 642.17 | 586.76 | 4.70 | 13.63 | 22.08 | 185.64 | 64.02 |
| 2060/61 | 654.95 | 544.92 | 17.48 | -28.22 | 305.51 | 796.09 | -493.16 |
| 2061/62 | 690.5 | 593.17 | 53.03 | 20.04 | 2812.05 | 401.40 | 1062.43 |
| 2062/63 | 644.81 | 589.83 | 7.34 | 16.70 | 53.86 | 278.72 | 122.52 |
| 2063/064 | 602.38 | 576.29 | -35.09 | 3.15 | 1231.40 | 9.95 | -110.71 |
| 2064/065 | 575.65 | 547.25 | -61.82 | -25.89 | 3821.87 | 670.03 | 1600.24 |
| 2064/065 | 669.7 | 589.22 | 32.23 | 16.09 | 1038.69 | 258.73 | 518.40 |
| | 5099.77 | 4585.08 | 0.00 | 0.00 | 9604.47 | 2840.66 | 3040.50 |

Targeted Data

$$\text{Mean}(\bar{X}) = \frac{\sum x}{n} = \frac{5099.77}{8} = 637.47$$

$$\text{S.D.f.t} = \sqrt{\frac{\sum x^2}{n} - \bar{x}^2} = \sqrt{\frac{9604.47}{8} - 637.47^2} = \sqrt{1200.55}$$

$$= 34.64$$

$$\text{C.V} = \frac{\text{S.D.f.t}}{\bar{x}} \times 100\% = \frac{34.64}{637.47} \times 100\% = 5.43\%$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{3040.50}{\sqrt{9604.47 \times 2840.66}}$$

$$= 0.58$$

Actual Data

$$\text{Mean}(\bar{Y}) = \frac{\sum y}{n} = \frac{4585.08}{8} = 573.13$$

$$\text{S.D.f.t} = \sqrt{\frac{\sum y^2}{n} - \bar{y}^2} = \sqrt{\frac{2840.46}{8} - 573.13^2}$$

$$= 118.84$$

$$\text{C.V} = \frac{\text{S.D.f.t}}{\bar{y}} \times 100\% = \frac{118.84}{573.13} \times 100\%$$

$$= 3.29\%$$

The above result shows that there is positive relation between targeted and actual milk sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \times \frac{\sqrt{1-r^2}}{\sqrt{n}} = 0.6745 \times \frac{\sqrt{1-0.58^2}}{\sqrt{8}}$$

$$= 0.1574$$

6 P.E. = .1574; Hence it is significant.

Appendix 11.

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Makhan Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | x= X Z \bar{X} | y= Y Z \bar{Y} | x ² | y ² | xy |
|---------|--------------|------------|---------------------|---------------------|----------------|----------------|-------|
| 2058/59 | 3.52 | 3.02 | 0.58 | 0.64 | 0.33 | 0.40 | 0.37 |
| 2059/60 | 3.11 | 2.87 | 0.17 | 0.49 | 0.03 | 0.24 | 0.08 |
| 2060/61 | 3.18 | 2.32 | 0.24 | -0.06 | 0.06 | 0.00 | -0.02 |
| 2061/62 | 2.88 | 1.70 | -0.06 | -0.68 | 0.00 | 0.47 | 0.04 |
| 2062/63 | 1.96 | 1.90 | -0.99 | -0.49 | 0.98 | 0.24 | 0.48 |
| 2063/64 | 2.52 | 2.09 | -0.42 | -0.29 | 0.18 | 0.09 | 0.12 |
| 2064/65 | 2.76 | 2.32 | -0.18 | -0.06 | 0.03 | 0.00 | 0.01 |
| 2065/66 | 2.82 | 2.42 | -0.12 | 0.03 | 0.01 | 0.00 | 0.00 |
| | 22.75 | 18.64 | 0.00 | 0.00 | 1.54 | 1.42 | 1.04 |

Targeted Data

Actual Data

$$\text{Mean}(\bar{X}) = \frac{\sum x}{n} = \frac{22.75}{8} = 2.84$$

$$\text{S.Dft} = \sqrt{\frac{1}{n} \sum x^2 - \frac{(\sum x)^2}{n^2}} = \sqrt{\frac{1.54}{8} - \frac{(22.75)^2}{64}} = \sqrt{0.1925} = 0.438$$

$$\text{C.V} = \frac{\text{S.Dft}}{\bar{x}} \times 100\% = \frac{0.438}{2.84} \times 100\% = 15.42\%$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} = \frac{1.04}{\sqrt{1.54 \times 1.42}} = 0.703$$

$$\text{Mean}(\bar{Y}) = \frac{\sum y}{n} = \frac{18.64}{8} = 2.33$$

$$\text{S.Dft} = \sqrt{\frac{1}{n} \sum y^2 - \frac{(\sum y)^2}{n^2}} = \sqrt{\frac{1.42}{8} - \frac{(18.64)^2}{64}} = \sqrt{0.421} = 0.649$$

$$\text{C.V} = \frac{\text{S.Dft}}{\bar{y}} \times 100\% = \frac{0.649}{2.33} \times 100\% = 27.85\%$$

The above result shows that there is positive relation between targeted and actual makhan sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \left| \frac{\sum Zr^2}{\sqrt{n}} \right| = 0.6745 \left| \frac{\sum Zr^2 \cdot 0.703}{\sqrt{8}} \right| \\ &= 0.1787 \end{aligned}$$

Here 'r' is greater than P.E. It is significant.

Appendix 12

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Curd Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $\frac{X - \bar{X}}{s_x}$ x= | $\frac{Y - \bar{Y}}{s_y}$ y= | x ² | y ² | xy |
|---------|--------------|------------|---------------------------------|---------------------------------|----------------|----------------|--------|
| 2058/59 | 9.35 | 10.06 | -5.25 | -5.15 | 27.56 | 26.47 | 27.01 |
| 2059/60 | 9.51 | 10.57 | -5.09 | -4.64 | 25.90 | 21.48 | 23.59 |
| 2060/61 | 11.01 | 11.02 | -3.59 | -4.19 | 12.89 | 17.51 | 15.02 |
| 2061/62 | 11.82 | 9.85 | -2.78 | -5.36 | 7.73 | 28.68 | 14.89 |
| 2062/63 | 8.50 | 9.04 | -6.10 | -6.17 | 37.19 | 38.01 | 37.60 |
| 2063/64 | 13.46 | 17.05 | -1.14 | 1.84 | 1.31 | 3.39 | -2.11 |
| 2064/65 | 19.96 | 21.23 | 5.36 | 6.02 | 28.73 | 36.25 | 32.27 |
| 2065/66 | 33.19 | 32.83 | 18.59 | 17.62 | 345.60 | 310.57 | 327.62 |
| | 116.80 | 121.65 | 0.00 | 0.00 | 486.91 | 482.36 | 475.89 |

Targeted Data:

$$\text{Mean } (\bar{X}) = \frac{116.80}{8} = 14.60$$

$$\text{S.D } s_x = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{486.91}{8}} = 7.80$$

$$\text{C.V } = \frac{s_x}{\bar{x}} \times 100\% = \frac{7.80}{14.60} \times 100\% = 53.43$$

$$\text{Correlation } r_{xy} = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{475.89}{\sqrt{486.91 \times 482.36}} = 0.981$$

Actual Data:

$$\text{Mean } (\bar{Y}) = \frac{121.64}{8} = 15.205$$

$$\text{S.D } s_y = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{482.36}{8}} = 7.76$$

$$\text{C.V } = \frac{s_y}{\bar{y}} \times 100\% = \frac{7.76}{15.205} \times 100\% = 51.035\%$$

The above result shows that there is positive relation between targeted and actual curd sales data.

$$\text{Calculation of P.E} = 0.6745 \times \frac{0.981 \times 7.80}{\sqrt{8}}$$

$$= 0.0088$$

Appendix 13

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Cheese Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $\frac{x - \bar{X}}{X}$ | $\frac{y - \bar{Y}}{Y}$ | x^2 | y^2 | xy |
|---------|--------------|------------|-------------------------|-------------------------|-------|-------|-------|
| 2058/59 | 2.25 | 1.45 | -0.08 | -0.24 | 0.01 | 0.06 | 0.02 |
| 2059/60 | 1.81 | 1.50 | -0.52 | -0.19 | 0.27 | 0.03 | 0.10 |
| 2060/61 | 1.84 | 1.61 | -0.49 | -0.08 | 0.24 | 0.01 | 0.04 |
| 2061/62 | 2.41 | 1.43 | 0.08 | -0.26 | 0.01 | 0.07 | -0.02 |
| 2062/63 | 2.31 | 1.84 | -0.02 | 0.15 | 0.00 | 0.02 | 0.00 |
| 2063/64 | 2.51 | 1.51 | 0.18 | -0.18 | 0.03 | 0.03 | -0.03 |
| 2064/65 | 2.83 | 1.93 | 0.50 | 0.24 | 0.25 | 0.06 | 0.12 |
| 2065/66 | 2.70 | 2.23 | 0.37 | 0.54 | 0.14 | 0.29 | 0.20 |
| | 18.66 | 13.50 | 0.00 | 0.00 | 0.95 | 0.57 | 0.42 |

Targeted Data

Actual Data

$$\text{Mean } (\bar{X}) = \frac{18.66}{8} = 2.3325$$

$$\text{S.D } \sqrt{\frac{\sum x^2}{n} - \frac{(\sum x)^2}{n^2}} = \sqrt{\frac{0.95}{8} - \frac{(18.66)^2}{64}} = 0.344$$

$$\text{C.V } = \frac{\text{S.D}}{\bar{X}} \times 100\% = \frac{0.344}{2.33} \times 100\% = 14.76\%$$

$$\text{Correlation } (r_{xy}) = \frac{0.42}{\sqrt{0.75 \times 0.57}}$$

$$= \frac{0.42}{\sqrt{0.4275}} = 0.6423$$

$$\times 0.6423$$

$$\text{Mean } (\bar{Y}) = \frac{13.50}{8} = 1.6875$$

$$\text{S.D } \sqrt{\frac{\sum y^2}{n} - \frac{(\sum y)^2}{n^2}} = \sqrt{\frac{0.57}{8} - \frac{(13.50)^2}{64}} = 0.2669$$

$$\text{C.V } = \frac{\text{S.D}}{\bar{Y}} \times 100\% = \frac{0.2669}{1.6875} \times 100\% = 15.82\%$$

The above result shows that there is positive relation between targeted and actual cheese sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \left| \frac{\sum Zr^2}{\sqrt{n}} \right| = 0.6745 \left| \frac{\sum Z(0.6423)}{\sqrt{8}} \right| \\ &= 0.1400 \end{aligned}$$

Here 'r' is greater than P.E(0.6423>0.1400). It is significant.

Appendix 14

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Ghee Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $X - \bar{X}$ x= | $Y - \bar{Y}$ y= | x ² | y ² | xy |
|---------|--------------|------------|---------------------|---------------------|----------------|----------------|-------|
| 2058/59 | 7.52 | 9.31 | -1.51 | 0.90 | 2.27 | 0.82 | -1.36 |
| 2059/60 | 8.99 | 8.42 | -0.04 | 0.01 | 0.00 | 0.00 | 0.00 |
| 2060/61 | 9.43 | 7.04 | 0.40 | -1.37 | 0.16 | 1.86 | -0.55 |
| 2061/62 | 9.17 | 6.44 | 0.14 | -1.97 | 0.02 | 3.86 | -0.28 |
| 2062/63 | 9.83 | 9.13 | 0.80 | 0.72 | 0.64 | 0.53 | 0.58 |
| 2063/64 | 8.05 | 8.34 | -0.98 | -0.06 | 0.95 | 0.00 | 0.06 |
| 2064/65 | 8.76 | 8.69 | -0.27 | 0.28 | 0.07 | 0.08 | -0.08 |
| 2065/66 | 10.47 | 9.87 | 1.44 | 1.47 | 2.08 | 2.15 | 2.12 |
| | 72.22 | 67.24 | 0.00 | 0.00 | 6.21 | 9.31 | 0.49 |

Targeted Data

$$\begin{aligned} \text{Mean}(\bar{X}) &= \frac{72.22}{8} = 9.02 \\ \text{S.D}(\sigma_x) &= \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{6.21}{8}} = 0.776 \\ \text{C.V} &= \frac{\sigma_x}{\bar{x}} \times 100\% = \frac{0.77}{9.02} \times 100\% = 9.02\% \end{aligned}$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$\begin{aligned} &= \frac{0.49}{\sqrt{6.21 \times 9.31}} \\ &= 0.064 \end{aligned}$$

Actual Data

$$\begin{aligned} \text{Mean}(\bar{Y}) &= \frac{67.24}{8} = 8.405 \\ \text{S.D}(\sigma_y) &= \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{9.31}{8}} = 1.078 \\ \text{C.V} &= \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{1.078}{8.405} \times 100\% = 12.82\% \end{aligned}$$

The above result shows that there is positive relation between targeted and actual ghee sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \left| \frac{\sum Z r^2 A}{\sqrt{n}} \right| = 0.6745 \left| \frac{\sum Z f_0.064 A}{\sqrt{8}} \right| \\ &= 0.2374 \end{aligned}$$

Here 'r' is less than P.E (0.064 < 0.2374). It is insignificant.

Appendix 15

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Panner Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | X - \bar{X} | Y - \bar{Y} | x ² | y ² | xy |
|---------|--------------|------------|---------------|---------------|----------------|----------------|-------|
| 2058/59 | 4.34 | 4.90 | -6.67 | -2.88 | 44.52 | 8.30 | 19.22 |
| 2059/60 | 4.80 | 6.20 | -6.21 | -1.58 | 38.55 | 2.50 | 9.81 |
| 2060/61 | 6.70 | 7.00 | -4.31 | -0.78 | 18.56 | 0.61 | 3.36 |
| 2061/62 | 13.20 | 5.00 | 2.19 | -2.78 | 4.80 | 7.73 | -6.09 |
| 2062/63 | 12.10 | 8.30 | 1.09 | 0.52 | 1.18 | 0.27 | 0.56 |
| 2063/64 | 15.66 | 8.52 | 4.65 | 0.74 | 21.65 | 0.55 | 3.44 |
| 2064/65 | 15.10 | 9.71 | 4.09 | 1.93 | 16.74 | 3.72 | 7.89 |
| 2065/66 | 16.18 | 12.62 | 5.17 | 4.84 | 26.69 | 23.39 | 24.98 |
| | 88.07 | 62.25 | 0.00 | 0.00 | 172.70 | 47.06 | 63.18 |

Targeted Data

$$\begin{aligned} \text{Mean}(\bar{X}) &= \frac{88.07}{8} = 11.00 \\ \text{S.D}(\sigma_x) &= \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{172.70}{8}} = 4.64 \\ \text{C.V} &= \frac{\sigma_x}{\bar{x}} \times 100\% = \frac{4.64}{11.00} \times 100\% = 42.18\% \end{aligned}$$

$$\begin{aligned} \text{Correlation}(r_{xy}) &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{63.18}{\sqrt{172.70 \times 47.06}} \\ &= 0.7008 \end{aligned}$$

Actual Data

$$\begin{aligned} \text{Mean}(\bar{Y}) &= \frac{62.25}{8} = 7.78 \\ \text{S.D}(\sigma_y) &= \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{47.06}{8}} = 2.43 \\ \text{C.V} &= \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{2.43}{7.78} \times 100\% = 31.24\% \end{aligned}$$

The above result shows that there is positive relation between targeted and actual paneer sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \left| \frac{\sum Zr^2}{\sqrt{n}} \right| = 0.6745 \left| \frac{\sum Zf_0.7008}{\sqrt{8}} \right| \\ &= 0.1213 \end{aligned}$$

Appendix 16

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Ice-Cream Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $X - \bar{X}$ x= | $Y - \bar{Y}$ y= | x ² | y ² | xy |
|---------|--------------|------------|---------------------|---------------------|----------------|----------------|-----------|
| 2058/59 | 35.00 | 31.00 | -63.91 | -42.99 | 4084.0088 | 1848.1401 | 2747.3297 |
| 2059/60 | 39.00 | 32.00 | -59.91 | -41.99 | 3588.7588 | 1763.1601 | 2515.4634 |
| 2060/61 | 42.00 | 38.00 | -56.91 | -35.99 | 3238.3213 | 1295.2801 | 2048.0559 |
| 2061/62 | 81.60 | 39.00 | -17.31 | -34.99 | 299.50629 | 1224.3001 | 605.54569 |
| 2062/63 | 100.70 | 85.00 | 1.79 | 11.01 | 3.2175391 | 121.2201 | 19.749188 |
| 2063/64 | 163.35 | 54.55 | 64.44 | -19.44 | 4152.9969 | 378.06914 | 1253.0443 |
| 2064/65 | 169.00 | 157.59 | 70.09 | 83.60 | 4913.1338 | 6989.2944 | 5859.9777 |
| 2065/66 | 160.60 | 154.78 | 61.69 | 80.79 | 3806.1188 | 6527.3473 | 4984.3615 |
| | 791.25 | 591.92 | 0 | 0 | 24086.062 | 20146.811 | 17527.439 |

Targeted Data

Actual Data

$$\begin{aligned} \text{Mean}(\bar{X}) &= \frac{791.257}{8} = 98.91 \\ \text{S.D}(\sigma_x) &= \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{24086.062}{8}} = 54.87 \\ \text{C.V} &= \frac{\sigma_x}{\bar{x}} \times 100\% = \frac{54.87}{98.91} \times 100\% = 55.47\% \end{aligned}$$

$$\begin{aligned} \text{Mean}(\bar{Y}) &= \frac{591.92}{8} = 73.99 \\ \text{S.D}(\sigma_y) &= \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{20146.81}{8}} = 50.183 \\ \text{C.V} &= \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{50.183}{73.98} \times 100\% = 67.83\% \end{aligned}$$

$$\begin{aligned} \text{Correlation}(r_{xy}) &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{17527.43}{\sqrt{24086.062 \times 20146.811}} \\ &= 0.000063 \end{aligned}$$

The above result shows that there is positive relation between targeted and actual ice-cream sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \left| \frac{\sum Zr^2 A}{\sqrt{n}} \right| = 0.6745 \left| \frac{\sum Z f_0.00063 A A}{\sqrt{8}} \right|$$

$$= 0.353$$

Appendix 17

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Cream Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $X - \bar{X}$ | $Y - \bar{Y}$ | x^2 | y^2 | xy |
|---------|--------------|------------|---------------|---------------|--------|---------|--------|
| 2058/59 | 38.00 | 27.50 | 8.54 | 3.09 | 72.95 | 9.52 | 26.35 |
| 2059/60 | 32.00 | 24.70 | 2.54 | 0.29 | 6.46 | 0.08 | 0.73 |
| 2060/61 | 28.00 | 21.50 | -1.46 | -2.91 | 2.13 | 8.50 | 4.25 |
| 2061/62 | 39.00 | 53.70 | 9.54 | 29.29 | 91.04 | 857.63 | 279.42 |
| 2062/63 | 22.80 | 17.30 | -6.66 | -7.11 | 44.34 | 50.62 | 47.38 |
| 2063/64 | 32.95 | 13.92 | 3.49 | -10.49 | 12.19 | 110.08 | -36.63 |
| 2064/65 | 17.00 | 13.99 | -12.46 | -10.43 | 155.22 | 108.78 | 129.94 |
| 2065/66 | 25.92 | 22.71 | -3.54 | -1.71 | 12.52 | 2.91 | 6.03 |
| | 235.67 | 195.32 | 0.00 | 0.00 | 396.85 | 1148.11 | 457.47 |

Targeted Data

Actual Data

$$\text{Mean}(\bar{X}) = \frac{235.67}{8} = 29.45$$

$$\text{S.D}(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{396.85}{8}} = 7.043$$

$$\text{C.V} = \frac{\sigma_x}{\bar{x}} \times 100\% = \frac{7.043}{29.45} \times 100\% = 23.92\%$$

$$\text{Mean}(\bar{Y}) = \frac{195.32}{8} = 24.415$$

$$\text{S.D}(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{1148.11}{8}} = 11.97$$

$$\text{C.V} = \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{11.97}{24.415} \times 100\% = 49.02\%$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{457.47}{\sqrt{396.85 \times 1148.11}}$$

$$= 0.67$$

The above result shows that there is positive relation between targeted and actual ice-cream sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \left| \frac{\sum Zr^2 A}{\sqrt{n}} \right| = 0.6745 \left| \frac{\sum Z f_0.67 A}{\sqrt{8}} \right|$$

$$= 0.13$$

Appendix 18

Calculation of correlation coefficient of total actual sales and total budgeted sales of Milk and Milk Products (Rs. in lakhs)

| Year | Targeted (X) | Actual (Y) | X - \bar{X} x= | Y - \bar{Y} y= | x ² | y ² | xy |
|---------|--------------|------------|---------------------|---------------------|----------------|----------------|------------|
| 2058/59 | 14905.02 | 14519.11 | -3298.42 | -1452.66 | 10879549.8 | 2110210.18 | 4791465 |
| 2059/60 | 15959.06 | 15454.48 | -2244.38 | -517.29 | 5037224.75 | 267585.06 | 1160985 |
| 2060/61 | 17393.45 | 15358.1 | -809.99 | -613.67 | 656077.725 | 376586.27 | 497061.22 |
| 2061/62 | 19281.64 | 15896.63 | 1078.20 | -75.14 | 1162523.33 | 5645.46 | -81012.187 |
| 2062/63 | 19873.33 | 17126.81 | 1669.89 | 1155.04 | 2788545.14 | 1334126.06 | 1928800.3 |
| 2063/64 | 19635.49 | 15899.16 | 1432.05 | -72.61 | 2050777.94 | 5271.67 | -103976.05 |
| 2064/65 | 19268.38 | 16326.58 | 1064.94 | 354.81 | 1134105.19 | 125892.80 | 377856.69 |
| 2065/66 | 19311.12 | 17193.26 | 1107.68 | 1221.49 | 1226963.29 | 1492046.98 | 1353028.8 |
| | 145627.49 | 127774.13 | 0.00 | 0E+00 | 24935767.12 | 5717364.48 | 9924208.74 |

$$\text{Mean}(\bar{X}) = \frac{145627.49}{8} = 18203.44$$

$$\text{Mean}(\bar{Y}) = \frac{128774.13}{8} = 16096.77$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{9924208.74}{\sqrt{24935767.12 \times 5717364.48}}$$

$$= 0.8311$$

Appendix 19

Milk and Milk Product tactical (Short-Term) plan 2064/65

| Month | Milk (Ltrs) | Makhan (Kgs) | Curds (Ltrs) | Cheese (kgs) | Ghee (Kgs) | Paneer (Kgs) | Ice Cream (Ltrs) |
|--------------|------------------------|-------------------------|-------------------------|-------------------------|-----------------------|-------------------------|---------------------------------|
| Baisakh | 5157000 | 28900 | 180000 | 23300 | 69500 | 9400 | 17800 |
| Jestha | 5132000 | 35800 | 175000 | 24000 | 72000 | 9850 | 16000 |
| Ashad | 5272000 | 30200 | 165000 | 23800 | 73500 | 10200 | 13700 |
| Shrawan | 5432000 | 24700 | 158000 | 23400 | 73000 | 10550 | 13300 |
| Bhadra | 5122000 | 23300 | 148000 | 24500 | 74400 | 11750 | 13800 |
| Aswin | 5331000 | 31700 | 150000 | 23700 | 75000 | 13900 | 13850 |
| Kartik | 5324500 | 31800 | 148000 | 22100 | 76000 | 14200 | 14650 |
| Mangsir | 4124500 | 28300 | 132500 | 24200 | 76500 | 14500 | 14200 |
| Poush | 4047000 | 28200 | 130500 | 21300 | 69100 | 12400 | 12800 |
| Magh | 3853000 | 19200 | 125000 | 22000 | 72000 | 15500 | 12500 |
| Phalgun | 4072000 | 16900 | 146000 | 26200 | 75000 | 15800 | 14350 |
| Chaitra | 4128000 | 18000 | 165000 | 27500 | 72000 | 14650 | 15550 |

Bibliography

Books

- Armstrong J. Scoot's, *Long Range Forecasting*, New York: John Willey; from Crystal Ball to Computer, 1978.
- Dangol, R.M, *Management Accounting*, Kathmandu: Taleju Prakashan, 2056 B.S..
- Dangol, R.M., *Management Aling*, Kathmandu: Telaju Prakashan, 2056 B.S.
- Eugene A. Imoff, Jr., *Sales forecasting System*, Montvale: N.J National Association of Accountants, 1986.
- Frenger, James M., *Accounting for managerial Analysis*, Homewood III: Roichard D. Irwic Inc, 1973 A.D..
- Grace, C.E, *Management Control*. New York: Narwick Mitchell and co, 1964 A.D.
- Gupta S.P, *Management Accounting*, India: Agro Satiya Bhawan, 1991 A.D.
- Holmes, Arthur W. Meirer Robert A and Pabrt Donald F., *Accounting for control Decision*, Texas: Amtin Business Publishing, 1970,
- Holmes, Arthur W. Meirer Robert A, and Dabst Donald F., *Accounting for Control and Decision*, Texas, 1970.
- Holmes, W. Arthur, Robert A. Meir and Donald F. Pabst, , *Accounting for control Decisions* Texas, 1972.
- Jones, Leory P, , *Public Enterprises Management*, Kathmandu: 1st Ed. Teleju Prakashan, 2051 B.S.,
- Khan, M.Y and Jain, P.K., *Management Accounting*, 4th Ed. New Delhi Tata Mc Graw Publishing Company, 1989.
- Kothari, C.R, *Research Methodology Method and techniques*, New Delhi: Wiley Eastern Ltd, 1990.
- Narayan, Laxmi, *Principles and practice of Public Enterprises Management*, 1st edition Reprint, 1998.
- Narayan,Laxmi, *Principles and practice of public enterprises Management*, New Delhi: S.Chand and Company Ltd., 1982.

- National Dairy Development Board, *History of Dairy Development in Nepal*,
NOF 1998 A.D ' Target and performance of PEs', April 2001 A.D
- Pandey, I.M., *Management Accounting*, New Delhi: Bikash Publishing house Pvt.
Ltd. Revised Edn. 2nd Reprint, 1995.
- Parajuli, Agnidhar, *Profit Planning and Control Process of an Enterprise*, Pragy
Manch Nepal University Teacher association Unit Committee,
P.N.CompusVol 6, 2052.
- Pradhan, Radhe S., *Research in Nepalese finance* ,Kathmandu,Buddha Academic
Enterprises Pvt.Ltd., 2003
- Stevenk, C. Whell Wright and Spyors Makridakis, *Forecasting Methods for
Management*, New York: John Wiley, 1985.
- Usery, Milton F; Hammer, Lowerence H. and Natz Adolph., *Cost Accounting
Planning and Control* ,West Chicago, South West Publishing 9th Edn, 1988.
- Warner, James N. *Principle of Dairy Processing*.
- Welsch, Gleen A, *Budgeting Profit Planning and Control*, 4th Edn, New Delhi:
Pretice Hall of India, 1986.
- Welsch, Glenn A Hilton Ronald W/ Gordon Paul N.. *Budgeting Profit Planning and
Control*, 5th Edn , New Delhi: Prentice Hall of India, 1992.
- William, E. Thomas, *Reading in Cost Accounting Budgeting and Control*, New Delhi:
D.D Tara Sons and Co, Ltd.
- Willsmore, A.W., *Business Budget and Budgeting and Control*, Sir Issac Pitman and
Sons Ltd, 1986 A.D.
- Wolff,Harold K.and Pant, Prem R., *A handbook for Social Science Research and
Thesis Writing* ,Kathmandu,Buddha Academic Publisher and Distributor,
2002.

Thesis Materials

- Adhakari, Jhalak Ram, unpublished dissertations on *Profit Planning in Public Utilities Enterprises of Nepal*, submitted to faculty of management P.N. Multiple Campus, Pokhara, 2002.
- Badu, M.B., *Profit Planning in Dairy Development Corporation*, A dissertation submitted as a partial fulfillment of MBA Degree to the faculty of management, T.U., Nepal, 1998.
- Dumre, Kamal Prasad, Unpublished Dissertation '*A study of Profit Planning Practice in Nepalese Public Enterprises. A case study of Dairy Development Corporation*', Submitted to Department of Management, T.U., 1997
- Jha, Sanjay Kumar, '*Profitability Analysis of public Enterprises (Case study of DDC)*', a dissertation submitted as a partial fulfillment of MBS Degree to the Faculty of Management. Nepal Commerce Campus, T.U, Nepal, 2006.
- Pahari, P., '*Profit Planning in Dairy Development Corporation*', A dissertation submitted as a partial fulfillment of MBA Degree to the faculty of Management, Shanker Dev Campus T.U., Nepal, 2000.
- Panta, Jay Raj., '*A study on leverage analysis of Dairy development Corporation*' a dissertation submitted as a partial fulfillment of MBS Degree to the faculty of Management, Nepal Commerce campus, T.U Nepal 2006.
- Parajuli, Agnidhar, Unpublished Dissertation on *A study of profit planning in Manufacturing PEs (Bansbari & Dairy) in Nepal*, submitted to Department of Management, T.U., 1991.
- Paudel, Deba Raj, Unpublished Dissertation on *Profit planning of public enterprises, a case study of NTC* submitted to Central Department of Management T.U. Kirtipur, 2001
- Paudel, Surendra Raj, '*Sales planning in Dairy Development Project, Pokhara*', A dissertation submitted as a partial fulfillment of MBS degree to the faculty of management P.N. Multiple Campus, Pokhara, 2004.
- Shrestha, Lokendra Narayan, '*Comprehensive budgeting process in public enterprises of Nepal: A case study of Dairy Development Corporation*', submitted to Department of Management, Public Youth Campus, 2005.

Wagle, Saroj, 'Revenue planning and management of manufacturing public enterprises in Nepal" (*A Case study of DDC*, a dissertation submitted as a partial fulfillment of MBS Degree to the Faculty of Management. Nepal Commerce Campus, T.U, Nepal, 2009.

Report

Central Bureau of Statistics and Agriculture Statistics Division.

Corporation co-ordination Council, *Profit of PEs in Nepal* HMG Nepal June 1978.

DDC, *A Glimpse*, 2000 A.D

DDC, *Sinhabolokan*, 2053/054 - 2061/062

Economic Survey of the FY 1998/99 KMG/N Ministry of Finance 1999.

HMG National Planning Commission 8th plan.

Ministry of Agriculture/ Winrock International, *An Introduction to the Ministry and its Affiliated Agencies*, HMG, Kathamndu 2047

Appendix I

This Questionnaire has been prepared for conducting a study titled “A study of Sales Planning in DDC” as a partial fulfillment for the degree of Master in Business Studies. Please choose the best which you think is the appropriate on your opinion.

Questionnaire

Personal Details

Name :

Post,(please specify the field):

7) Are the goals/objectives of DDC definite?

Yes [] No. []

8) The goal/objectives are committed to:

a. Top level management []

b. Middle level management []

c. Lower level management []

d. All of the above []

9) Does the board of directors interfere in the following policies?

Yes [] No []. If yes, to what extent?

Day-to-day transaction []

Weekly []

Monthly []

Quarterly []

Long term policies []

10) Please rank to what extent do you think the following objectives are achieved?

| Objectives | Min1 | 2 | 3 | 4 | 5 |
|---|------|---|---|---|---|
| Broad and long-term goals(strategic goals) | | | | | |
| Long range profit plan developed. | | | | | |
| Short range profit plan developed (in details) | | | | | |
| System of periodic performance report (in details) | | | | | |
| Follow up procedure | | | | | |

11) Duties and responsibilities of employee:

- a. Well defined []
- b. Ambiguously defined []
- c. Inadequately defined []
- d. Not defined at all []
- e. Unknown []

12) Rank the following operational activities of sales plan in DDC. (5 for top priority and 1 for least priority)

| Objectives | Min 1 | 2 | 3 | 4 | Max 5 |
|-----------------------------------|-------|---|---|---|-------|
| j) Information system | | | | | |
| k) Technology use | | | | | |
| l) Trained sales force | | | | | |
| m) Managerial knowledge of market | | | | | |
| n) Effective sale strategy | | | | | |
| o) Quality of product | | | | | |
| p) Political system | | | | | |
| q) Motivation of employees | | | | | |
| r) Location of sales centre | | | | | |

7) Who is responsible in preparing sales budget?

- Chief executive
- Marketing manager
- Project manager
- All of them

8) Who evaluates/ monitor the sales budget?

- Chief executive
- Marketing manager
- Both of them

9) Which one is given more priority and less priority in preparing sales budget?

(Please rank them)

| Objectives | Min 1 | 2 | 3 | 4 | Max 5 |
|------------------------|-------|---|---|---|-------|
| Sales forecast | | | | | |
| The advertising plan | | | | | |
| Marketing plan | | | | | |
| Selling expense budget | | | | | |

10) What promotional media's does your organization mainly use?

a) Paper media

b) Radio

c) Television

d) Bill board

e) All of them

11). What major steps should be taken to improve the performance of Co.? State the working environment of your organization.

Comment, Suggestion for the overall development of the DDC

.....
.....
.....

Appendix II

Appendix 2 Milk Sales Variance (in lit)

| Fiscal Year | target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|--------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 61961000 | 57764000 | 4197000 | 6.77 | Unfavourable |
| 2059/60 | 64217000 | 58676000 | 5541000 | 8.63 | Unfavourable |
| 2060/61 | 65495000 | 54492000 | 11003000 | 16.80 | Unfavourable |
| 2061/62 | 69050000 | 59317000 | 9733000 | 14.10 | Unfavourable |
| 2062/63 | 63481000 | 58983000 | 4498000 | 7.09 | Unfavourable |
| 2063/064 | 60237901 | 57629187 | 2608714 | 4.33 | Unfavourable |
| 2064/065 | 57564821 | 54725306 | 2839515 | 4.93 | Unfavourable |
| 2065/066 | 66969974 | 58922472 | 8047502 | 12.02 | Unfavourable |

Appendix 3 Makhan Sales Variance (in Kgs)

| Fiscal Year | tareget Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|---------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 351800 | 302000 | 49800 | 14.16 | Unfavourable |
| 2059/60 | 311000 | 287000 | 24000 | 7.72 | Unfavourable |
| 2060/61 | 318000 | 232000 | 86000 | 27.04 | Unfavourable |
| 2061/62 | 288000 | 170000 | 118000 | 40.97 | Unfavourable |
| 2062/63 | 195500 | 189600 | 5900 | 3.02 | Unfavourable |
| 2063/64 | 252000 | 209135 | 42865 | 17.01 | Unfavourable |
| 2064/65 | 276000 | 232254 | 43746 | 15.85 | Unfavourable |
| 2065/066 | 282306 | 241783.4 | 40522.6 | 14.35 | Unfavourable |

Appendix 4 Curd Sales Variance (in Lit)

| Fiscal Year | tareget Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|---------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 935000 | 1006000 | 71000 | 7.59 | favourable |
| 2059/60 | 951000 | 1057000 | 106000 | 11.15 | favourable |
| 2060/61 | 1101000 | 1102000 | 1000 | 0.09 | favourable |
| 2061/62 | 1182000 | 985000 | 197000 | 16.67 | Unfavourable |
| 2062/63 | 850150 | 904000 | 53850 | 6.33 | favourable |
| 2063/64 | 1348850 | 1704684 | 355834 | 26.38 | favourable |
| 2064/65 | 1996000 | 2122546 | 126546 | 6.34 | favourable |
| 2065/66 | 3319000 | 3282810 | 36190 | 1.09 | Unfavourable |

Appendix 5
Cheese Sales Variance (in Kgs)

| Fiscal Year | target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|-------------|-------------------|-------------------|-----------------|---------------|--------------|
| 2058/59 | 225000 | 145000 | 80000 | 35.56 | Unfavourable |
| 2059/60 | 181000 | 150000 | 31000 | 17.13 | Unfavourable |
| 2060/61 | 184000 | 161000 | 23000 | 12.50 | Unfavourable |
| 2061/62 | 241000 | 143000 | 98000 | 40.66 | Unfavourable |
| 2062/63 | 230800 | 184000 | 46800 | 20.28 | Unfavourable |
| 2063/64 | 251317 | 151075 | 100242 | 39.89 | Unfavourable |
| 2064/65 | 283000 | 193034.3 | 89965.7 | 31.79 | Unfavourable |
| 2065/66 | 270200 | 222534 | 47666 | 17.64 | Unfavourable |

Appendix 6
Ghee Sales Variance (in Kgs)

| Fiscal Year | target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|-------------|-------------------|-------------------|-----------------|---------------|--------------|
| 2058/59 | 752000 | 931000 | 179000 | 23.80 | Favourable |
| 2059/60 | 899000 | 842000 | 57000 | 6.34 | Unfavourable |
| 2060/61 | 943000 | 704000 | 239000 | 25.34 | Unfavourable |
| 2061/62 | 917000 | 644000 | 273000 | 29.77 | Unfavourable |
| 2062/63 | 983100 | 913000 | 70100 | 7.13 | Unfavourable |
| 2063/64 | 805231 | 834040 | 28809 | 3.58 | Favourable |
| 2064/65 | 876000 | 868992 | 7008 | 0.80 | Unfavourable |
| 2065/66 | 1047000 | 987256 | 59744 | 5.71 | Unfavourable |

Appendix 7
Paneer Sales Variance (in Kgs)

| Fiscal Year | Target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|-------------|-------------------|-------------------|-----------------|---------------|--------------|
| 2058/59 | 43360 | 49000 | 5640 | 24.36 | Favourable |
| 2059/60 | 48000 | 62000 | 14000 | 13.01 | Favourable |
| 2060/61 | 67000 | 70000 | 3000 | 29.17 | Favourable |
| 2061/62 | 132000 | 50000 | 82000 | 4.48 | Unfavourable |
| 2062/63 | 120960 | 83000 | 37960 | 62.12 | Unfavourable |
| 2063/64 | 156610 | 85196 | 71414 | 31.38 | Unfavourable |
| 2064/65 | 151000 | 97093 | 53907 | 45.6 | Unfavourable |
| 2065/66 | 161750 | 126165 | 35585 | 35.7 | Unfavourable |

Appendix 8
Ice-Cream Sales Variance (in Ltrs)

| Fiscal Year | Target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|-------------|-------------------|-------------------|-----------------|---------------|--------------|
| 2058/59 | 35000 | 31000 | 4000 | 11.43 | Unfavourable |
| 2059/60 | 39000 | 32000 | 7000 | 17.95 | Unfavourable |
| 2060/61 | 42000 | 38000 | 4000 | 9.52 | Unfavourable |
| 2061/62 | 81600 | 39000 | 42600 | 52.21 | Unfavourable |
| 2062/63 | 100700 | 85000 | 15700 | 15.59 | Unfavourable |
| 2063/64 | 163350 | 54546 | 108804 | 66.61 | Unfavourable |
| 2064/65 | 169000 | 123793 | 45207 | 26.75 | Unfavourable |
| 2065/66 | 160600 | 154782 | 5818 | 3.62 | Unfavourable |

Appendix 9

Cream Sales Variance (in Ltrs)

| Fiscal Year | Target Sales Amt. | Actual Sales Amt. | Variance amount | % of Variance | Remarks |
|--------------------|--------------------------|--------------------------|------------------------|----------------------|----------------|
| 2058/59 | 38000 | 27500 | 10500 | 27.63 | Unfavourable |
| 2059/60 | 32000 | 24700 | 7300 | 22.81 | Unfavourable |
| 2060/61 | 28000 | 21500 | 6500 | 23.21 | Unfavourable |
| 2061/62 | 39000 | 53700 | 14700 | 37.69 | favourable |
| 2062/63 | 22800 | 17300 | 5500 | 24.12 | Unfavourable |
| 2063/64 | 32950 | 13923 | 19027 | 57.75 | Unfavourable |
| 2064/65 | 17000 | 13985 | 3015 | 17.74 | Unfavourable |
| 2065/66 | 25920 | 22709.6 | 3210.4 | 12.39 | Unfavourable |

Appendix 10

Calculation Of Mean, Sd, Cv And Correlation Of Ddc's Targeted And Actual Milk Sales (In Lakhs)

| Year | Targeted (X) | Actual (Y) | $\frac{X - \bar{X}}{s_x}$ | $\frac{Y - \bar{Y}}{s_y}$ | x^2 | y^2 | xy |
|---------|--------------|------------|---------------------------|---------------------------|---------|---------|---------|
| 2058/59 | 619.61 | 557.64 | -17.86 | -15.50 | 319.02 | 240.10 | 276.76 |
| 2059/60 | 642.17 | 586.76 | 4.70 | 13.63 | 22.08 | 185.64 | 64.02 |
| 2060/61 | 654.95 | 544.92 | 17.48 | -28.22 | 305.51 | 796.09 | -493.16 |
| 2061/62 | 690.5 | 593.17 | 53.03 | 20.04 | 2812.05 | 401.40 | 1062.43 |
| 2062/63 | 644.81 | 589.83 | 7.34 | 16.70 | 53.86 | 278.72 | 122.52 |
| 2063/64 | 602.38 | 576.29 | -35.09 | 3.15 | 1231.40 | 9.95 | -110.71 |
| 2064/65 | 575.65 | 547.25 | -61.82 | -25.89 | 3821.87 | 670.03 | 1600.24 |
| 2064/65 | 669.7 | 589.22 | 32.23 | 16.09 | 1038.69 | 258.73 | 518.40 |
| | 5099.77 | 4585.08 | 0.00 | 0.00 | 9604.47 | 2840.66 | 3040.50 |

Targeted Data

$$\text{Mean}(\bar{X}) = \frac{\sum X}{n} = \frac{5099.77}{8} = 637.47$$

$$\text{S.D.f} = \sqrt{\frac{1}{n} \sum x^2} = \sqrt{\frac{9604.47}{8}} = \sqrt{1200.55} = 34.64$$

$$\text{C.V} = \frac{s}{\bar{x}} \times 100\% = \frac{34.64}{637.47} \times 100\% = 5.43\%$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{3040.50}{\sqrt{9604.47 \times 2840.66}} = 0.58$$

Actual Data

$$\text{Mean}(\bar{Y}) = \frac{\sum Y}{n} = \frac{4585.08}{8} = 573.13$$

$$\text{S.D.f} = \sqrt{\frac{1}{n} \sum y^2} = \sqrt{\frac{2840.46}{8}} = \sqrt{355.06} = 18.84$$

$$\text{C.V} = \frac{s}{\bar{y}} \times 100\% = \frac{18.84}{573.13} \times 100\% = 3.29\%$$

The above result shows that there is positive relation between targeted and actual milk sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \times \frac{\sum Zr^2 A}{\sqrt{n}} = 0.6745 \times \frac{\sum Z f_0.58 A}{\sqrt{8}}$$

$$= 0.1574$$

6 P.E. = .1574; Hence it is significant.

Appendix 11.

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Makhan Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $\frac{X - \bar{X}}{s_x}$ | $\frac{Y - \bar{Y}}{s_y}$ | x^2 | y^2 | xy |
|---------|--------------|------------|---------------------------|---------------------------|-------|-------|-------|
| 2058/59 | 3.52 | 3.02 | 0.58 | 0.64 | 0.33 | 0.40 | 0.37 |
| 2059/60 | 3.11 | 2.87 | 0.17 | 0.49 | 0.03 | 0.24 | 0.08 |
| 2060/61 | 3.18 | 2.32 | 0.24 | -0.06 | 0.06 | 0.00 | -0.02 |
| 2061/62 | 2.88 | 1.70 | -0.06 | -0.68 | 0.00 | 0.47 | 0.04 |
| 2062/63 | 1.96 | 1.90 | -0.99 | -0.49 | 0.98 | 0.24 | 0.48 |
| 2063/64 | 2.52 | 2.09 | -0.42 | -0.29 | 0.18 | 0.09 | 0.12 |
| 2064/65 | 2.76 | 2.32 | -0.18 | -0.06 | 0.03 | 0.00 | 0.01 |
| 2065/66 | 2.82 | 2.42 | -0.12 | 0.03 | 0.01 | 0.00 | 0.00 |
| | 22.75 | 18.64 | 0.00 | 0.00 | 1.54 | 1.42 | 1.04 |

Targeted Data

Actual Data

$$\text{Mean}(\bar{X}) = \frac{\sum x}{n} = \frac{2.54}{8} = 2.84$$

$$\text{Mean}(\bar{Y}) = \frac{\sum y}{n} = \frac{18.64}{8} = 2.33$$

$$\text{S.Dft} = \sqrt{\frac{1}{n} \sum x^2 - \frac{(\sum x)^2}{n^2}} = \sqrt{\frac{1.54}{8} - \frac{(2.54)^2}{64}} = \sqrt{0.1925}$$

$$\text{S.Dft} = \sqrt{\frac{1}{n} \sum y^2 - \frac{(\sum y)^2}{n^2}} = \sqrt{\frac{1.42}{8} - \frac{(18.64)^2}{64}} = \sqrt{0.421}$$

$$= 0.438$$

$$\text{C.V} = \frac{\text{S.Dft}}{\bar{x}} \times 100\% = \frac{0.438}{2.84} \times 100\% = 15.42\%$$

$$\text{C.V} = \frac{\text{S.Dft}}{\bar{y}} \times 100\% = \frac{0.421}{2.33} \times 100\% = 18.06\%$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{1.04}{\sqrt{1.54 \times 1.42}}$$

$$= 0.703$$

above result shows that there is positive relation between targeted and actual makhan sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \left| \frac{\sum Zr^2A}{\sqrt{n}} \right| = 0.6745 \left| \frac{\sum Zf_0.703AA}{\sqrt{8}} \right| \\ &= 0.1787 \end{aligned}$$

Here 'r' is greater than P.E. It is significant.

Appendix 12

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Curd Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $X - \bar{X}$ x= | $Y - \bar{Y}$ y= | x ² | y ² | xy |
|---------|--------------|------------|---------------------|---------------------|----------------|----------------|--------|
| 2058/59 | 9.35 | 10.06 | -5.25 | -5.15 | 27.56 | 26.47 | 27.01 |
| 2059/60 | 9.51 | 10.57 | -5.09 | -4.64 | 25.90 | 21.48 | 23.59 |
| 2060/61 | 11.01 | 11.02 | -3.59 | -4.19 | 12.89 | 17.51 | 15.02 |
| 2061/62 | 11.82 | 9.85 | -2.78 | -5.36 | 7.73 | 28.68 | 14.89 |
| 2062/63 | 8.50 | 9.04 | -6.10 | -6.17 | 37.19 | 38.01 | 37.60 |
| 2063/64 | 13.46 | 17.05 | -1.14 | 1.84 | 1.31 | 3.39 | -2.11 |
| 2064/65 | 19.96 | 21.23 | 5.36 | 6.02 | 28.73 | 36.25 | 32.27 |
| 2065/66 | 33.19 | 32.83 | 18.59 | 17.62 | 345.60 | 310.57 | 327.62 |
| | 116.80 | 121.64 | 0.00 | 0.00 | 486.91 | 482.36 | 475.89 |

Targeted Data:

$$\text{Mean}(\bar{X}) = \frac{116.80}{8} = 14.60$$

$$\text{S.D}(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{486.91}{8}} = 7.80$$

$$\text{C.V} = \frac{\sigma_x}{\bar{x}} \times 100\% = \frac{7.80}{14.60} \times 100\% = 53.43$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{475.89}{\sqrt{486.91 \times 482.36}}$$

$$= 0.981$$

Actual Data:

$$\text{Mean}(\bar{Y}) = \frac{121.64}{8} = 15.205$$

$$\text{S.D}(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{482.36}{8}} = 7.76$$

$$\text{C.V} = \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{7.76}{15.205} \times 100\% = 51.035\%$$

The above result shows that there is positive relation between targeted and actual curd sales data.

$$\text{Calculation of P.E} = 0.6745 \left| \frac{\sum f_i Z_i^2}{\sum f_i} \right| \frac{1}{\sqrt{8}}$$

$$= 0.0088$$

Appendix 13

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Cheese Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $X - \bar{X}$ | $Y - \bar{Y}$ | $(X - \bar{X})^2$ | $(Y - \bar{Y})^2$ | $(X - \bar{X})(Y - \bar{Y})$ |
|---------|--------------|------------|---------------|---------------|-------------------|-------------------|------------------------------|
| 2058/59 | 2.25 | 1.45 | -0.08 | -0.24 | 0.01 | 0.06 | 0.02 |
| 2059/60 | 1.81 | 1.50 | -0.52 | -0.19 | 0.27 | 0.03 | 0.10 |
| 2060/61 | 1.84 | 1.61 | -0.49 | -0.08 | 0.24 | 0.01 | 0.04 |
| 2061/62 | 2.41 | 1.43 | 0.08 | -0.26 | 0.01 | 0.07 | -0.02 |
| 2062/63 | 2.31 | 1.84 | -0.02 | 0.15 | 0.00 | 0.02 | 0.00 |
| 2063/64 | 2.51 | 1.51 | 0.18 | -0.18 | 0.03 | 0.03 | -0.03 |
| 2064/65 | 2.83 | 1.93 | 0.50 | 0.24 | 0.25 | 0.06 | 0.12 |
| 2065/66 | 2.70 | 2.23 | 0.37 | 0.54 | 0.14 | 0.29 | 0.20 |
| | 18.66 | 13.50 | 0.00 | 0.00 | 0.95 | 0.57 | 0.42 |

Targeted Data

$$\text{Mean } (\bar{X}) = \frac{18.66}{8} = 2.3325$$

$$\text{S.D } \sigma_x = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{0.95}{8}} = 0.344$$

$$\text{C.V } = \frac{\sigma_x}{\bar{x}} \times 100\% = \frac{0.344}{2.33} \times 100\% = 14.76\%$$

$$\text{Correlation } (r_{xy}) = \frac{0.42}{\sqrt{0.95 \times 0.57}}$$

$$= \frac{0.42}{\sqrt{0.75}} = 0.6423$$

Actual Data

$$\text{Mean } (\bar{Y}) = \frac{13.50}{8} = 1.6875$$

$$\text{S.D } \sigma_y = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{0.57}{8}} = 0.2669$$

$$\text{C.V } = \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{0.2669}{1.6875} \times 100\% = 15.82\%$$

The above result shows that there is positive relation between targeted and actual cheese sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\begin{aligned} \text{Calculation of P.E} &= 0.6745 \left| \frac{\sum f_z r^2 A}{\sqrt{n}} \right| = 0.6745 \left| \frac{\sum f_z f_0.6423 A A}{\sqrt{8}} \right| \\ &= 0.1400 \end{aligned}$$

Here 'r' is greater than P.E(0.6423>0.1400). It is significant.

Appendix 14

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and

| Year | Targeted (X) | Actual (Y) | $X - \bar{X}$ | $Y - \bar{Y}$ | x^2 | y^2 | xy |
|---------|--------------|------------|---------------|---------------|-------|-------|-------|
| 2058/59 | 7.52 | 9.31 | -1.51 | 0.90 | 2.27 | 0.82 | -1.36 |
| 2059/60 | 8.99 | 8.42 | -0.04 | 0.01 | 0.00 | 0.00 | 0.00 |
| 2060/61 | 9.43 | 7.04 | 0.40 | -1.37 | 0.16 | 1.86 | -0.55 |
| 2061/62 | 9.17 | 6.44 | 0.14 | -1.97 | 0.02 | 3.86 | -0.28 |
| 2062/63 | 9.83 | 9.13 | 0.80 | 0.72 | 0.64 | 0.53 | 0.58 |
| 2063/64 | 8.05 | 8.34 | -0.98 | -0.06 | 0.95 | 0.00 | 0.06 |
| 2064/65 | 8.76 | 8.69 | -0.27 | 0.28 | 0.07 | 0.08 | -0.08 |
| 2065/66 | 10.47 | 9.87 | 1.44 | 1.47 | 2.08 | 2.15 | 2.12 |
| | 72.22 | 67.24 | 0.00 | 0.00 | 6.21 | 9.31 | 0.49 |

Actual Ghee Sales (in Lakhs.)

Targeted Data

Actual Data

$$\text{Mean}(\bar{Y}) = \frac{67.24}{8} = 8.405$$

$$\text{S.D}(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{9.31}{8}} = 1.078$$

$$\text{C.V} = \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{1.078}{8.405} \times 100\% = 12.82\%$$

$$\text{Mean}(\bar{X}) = \frac{72.22}{8} = 9.02$$

$$\text{S.D} = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{6.21}{8}} = 0.776$$

$$\text{C.V} = \frac{\text{S.D}}{\text{Mean}} \times 100\% = \frac{0.77}{9.02} \times 100\% = 9.02\%$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{0.49}{\sqrt{6.21 \times 9.31}} = 0.064$$

The above result shows that there is positive relation between targeted and actual ghee sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \times \frac{\sqrt{1-r^2}}{\sqrt{n}}$$

$$= 0.6745 \times \frac{\sqrt{1-0.064^2}}{\sqrt{8}}$$

$$= 0.2374$$

Here 'r' is less than P.E (0.064 < 0.2374). It is insignificant.

Appendix 15

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Panner Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $\sum X$ x= | $\sum Y$ y= | $\sum x^2$ | $\sum y^2$ | $\sum xy$ |
|---------|--------------|------------|----------------|----------------|------------|------------|-----------|
| 2058/59 | 4.34 | 4.90 | -6.67 | -2.88 | 44.52 | 8.30 | 19.22 |
| 2059/60 | 4.80 | 6.20 | -6.21 | -1.58 | 38.55 | 2.50 | 9.81 |
| 2060/61 | 6.70 | 7.00 | -4.31 | -0.78 | 18.56 | 0.61 | 3.36 |
| 2061/62 | 13.20 | 5.00 | 2.19 | -2.78 | 4.80 | 7.73 | -6.09 |
| 2062/63 | 12.10 | 8.30 | 1.09 | 0.52 | 1.18 | 0.27 | 0.56 |
| 2063/64 | 15.66 | 8.52 | 4.65 | 0.74 | 21.65 | 0.55 | 3.44 |
| 2064/65 | 15.10 | 9.71 | 4.09 | 1.93 | 16.74 | 3.72 | 7.89 |
| 2065/66 | 16.18 | 12.62 | 5.17 | 4.84 | 26.69 | 23.39 | 24.98 |
| | 88.07 | 62.25 | 0.00 | 0.00 | 172.70 | 47.06 | 63.18 |

| | |
|---|---|
| <p style="text-align: center;">Targeted Data</p> $\text{Mean}(\bar{X}) = \frac{88.07}{8} = 11.00$ $\text{S.D}(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{17270}{8}} = 4.64$ $\text{C.V} = \frac{\sigma_x}{\bar{x}} \times 100\% = \frac{4.64}{11.00} \times 100\% = 42.18\%$ $\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$ $= \frac{63.18}{\sqrt{17270 \times 47.06}} = 0.7008$ | <p style="text-align: center;">Actual Data</p> $\text{Mean}(\bar{Y}) = \frac{62.25}{8} = 7.78$ $\text{S.D}(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{47.06}{8}} = 2.43$ $\text{C.V} = \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{2.43}{7.78} \times 100\% = 31.24\%$ |
|---|---|

The above result shows that there is positive relation between targeted and actual paneer sales data. Calculation of Probable Error (P.E) of Karl Pearson's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \times \frac{\sum Zr^2}{\sqrt{n}} = 0.6745 \times \frac{\sum Z(0.7008)}{\sqrt{8}} = 0.1213$$

Appendix 16

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Ice-Cream Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $X - \bar{X}$ x= | $Y - \bar{Y}$ y= | x^2 | y^2 | xy |
|---------|--------------|------------|---------------------|---------------------|-----------|-----------|------------|
| 2058/59 | 35.00 | 31.00 | -63.91 | -42.99 | 4084.0088 | 1848.1401 | 2747.3297 |
| 2059/60 | 39.00 | 32.00 | -59.91 | -41.99 | 3588.7588 | 1763.1601 | 2515.4634 |
| 2060/61 | 42.00 | 38.00 | -56.91 | -35.99 | 3238.3213 | 1295.2801 | 2048.0559 |
| 2061/62 | 81.60 | 39.00 | -17.31 | -34.99 | 299.50629 | 1224.3001 | 605.54569 |
| 2062/63 | 100.70 | 85.00 | 1.79 | 11.01 | 3.2175391 | 121.2201 | 19.749188 |
| 2063/64 | 163.35 | 54.55 | 64.44 | -19.44 | 4152.9969 | 378.06914 | -1253.0443 |
| 2064/65 | 169.00 | 157.59 | 70.09 | 83.60 | 4913.1338 | 6989.2944 | 5859.9777 |
| 2065/66 | 160.60 | 154.78 | 61.69 | 80.79 | 3806.1188 | 6527.3473 | 4984.3615 |
| | 791.25 | 591.92 | 0 | 0 | 24086.062 | 20146.811 | 17527.439 |

Targeted Data

Actual Data

$$\text{Mean}(\bar{X}) = \frac{791.257}{8} = 98.91$$

$$\text{S.D.}(\sigma_x) = \sqrt{\frac{\sum x^2}{n}} = \sqrt{\frac{24086.062}{8}} = 54.87$$

$$\text{C.V.} = \frac{\sigma_x}{\bar{x}} \times 100\% = \frac{54.87}{98.91} \times 100\% = 55.47\%$$

$$\text{Mean}(\bar{Y}) = \frac{591.92}{8} = 73.99$$

$$\text{S.D.}(\sigma_y) = \sqrt{\frac{\sum y^2}{n}} = \sqrt{\frac{20146.81}{8}} = 50.183$$

$$\text{C.V.} = \frac{\sigma_y}{\bar{y}} \times 100\% = \frac{50.183}{73.98} \times 100\% = 67.83\%$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{17527.43}{\sqrt{24086.062 \times 20146.811}}$$

$$= 0.000063$$

The above result shows that there is positive relation between targeted and actual ice-cream sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \times \frac{\sqrt{1 - r^2}}{\sqrt{n}} = 0.6745 \times \frac{\sqrt{1 - 0.000063^2}}{\sqrt{8}}$$

$$= 0.353$$

Appendix 17

Calculation of mean, S.D, Coefficient of variation and correlation of DDC's Targeted and Actual Cream Sales (in Lakhs.)

| Year | Targeted (X) | Actual (Y) | $X - \bar{X}$ x= | $Y - \bar{Y}$ y= | x ² | y ² | xy |
|---------|--------------|------------|---------------------|---------------------|----------------|----------------|--------|
| 2058/59 | 38.00 | 27.50 | 8.54 | 3.09 | 72.95 | 9.52 | 26.35 |
| 2059/60 | 32.00 | 24.70 | 2.54 | 0.29 | 6.46 | 0.08 | 0.73 |
| 2060/61 | 28.00 | 21.50 | -1.46 | -2.91 | 2.13 | 8.50 | 4.25 |
| 2061/62 | 39.00 | 53.70 | 9.54 | 29.29 | 91.04 | 857.63 | 279.42 |
| 2062/63 | 22.80 | 17.30 | -6.66 | -7.11 | 44.34 | 50.62 | 47.38 |
| 2063/64 | 32.95 | 13.92 | 3.49 | -10.49 | 12.19 | 110.08 | -36.63 |

| | | | | | | | |
|---------|--------|--------|--------|--------|--------|---------|--------|
| 2064/65 | 17.00 | 13.99 | -12.46 | -10.43 | 155.22 | 108.78 | 129.94 |
| 2065/66 | 25.92 | 22.71 | -3.54 | -1.71 | 12.52 | 2.91 | 6.03 |
| | 235.67 | 195.32 | 0.00 | 0.00 | 396.85 | 1148.11 | 457.47 |

Targeted Data

$$\text{Mean}(\bar{X}) = \frac{235.67}{8} = 29.45$$

$$\text{S.D.} = \sqrt{\frac{\sum x^2}{n} - \frac{(\sum x)^2}{n^2}} = \sqrt{\frac{396.85}{8} - \frac{(235.67)^2}{64}} = 7.043$$

$$\text{C.V.} = \frac{\text{S.D.}}{\text{Mean}} \times 100\% = \frac{7.043}{29.45} \times 100\% = 23.92\%$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{457.47}{\sqrt{396.85 \times 1148.11}} = 0.67$$

Actual Data

$$\text{Mean}(\bar{Y}) = \frac{195.32}{8} = 24.415$$

$$\text{S.D.} = \sqrt{\frac{\sum y^2}{n} - \frac{(\sum y)^2}{n^2}} = \sqrt{\frac{1148.11}{8} - \frac{(195.32)^2}{64}} = 11.97$$

$$\text{C.V.} = \frac{\text{S.D.}}{\text{Mean}} \times 100\% = \frac{11.97}{24.415} \times 100\% = 49.02\%$$

The above result shows that there is positive relation between targeted and actual ice-cream sales data. Calculation of Probable Error (P.E) of Karl Person's Coefficient of Correlation.

$$\text{Calculation of P.E} = 0.6745 \times \frac{\sqrt{1 - r^2}}{\sqrt{n}} = 0.6745 \times \frac{\sqrt{1 - 0.67^2}}{\sqrt{8}} = 0.13$$

| Year | Targeted (X) | Actual (Y) | X - \bar{X} x= | Y - \bar{Y} y= | x ² | y ² | xy |
|---------|--------------|------------|---------------------|---------------------|----------------|----------------|------------|
| 2058/59 | 14905.02 | 14519.11 | -3298.42 | -1452.66 | 10879549.8 | 2110210.18 | 4791465 |
| 2059/60 | 15959.06 | 15454.48 | -2244.38 | -517.29 | 5037224.75 | 267585.06 | 1160985 |
| 2060/61 | 17393.45 | 15358.1 | -809.99 | -613.67 | 656077.725 | 376586.27 | 497061.22 |
| 2061/62 | 19281.64 | 15896.63 | 1078.20 | -75.14 | 1162523.33 | 5645.46 | -81012.187 |
| 2062/63 | 19873.33 | 17126.81 | 1669.89 | 1155.04 | 2788545.14 | 1334126.06 | 1928800.3 |

| | | | | | | | |
|---------|-----------|-----------|---------|---------|-------------|------------|------------|
| 2063/64 | 19635.49 | 15899.16 | 1432.05 | -72.61 | 2050777.94 | 5271.67 | -103976.05 |
| 2064/65 | 19268.38 | 16326.58 | 1064.94 | 354.81 | 1134105.19 | 125892.80 | 377856.69 |
| 2065/66 | 19311.12 | 17193.26 | 1107.68 | 1221.49 | 1226963.29 | 1492046.98 | 1353028.8 |
| | 145627.49 | 127774.13 | 0.00 | 0E+00 | 24935767.12 | 5717364.48 | 9924208.74 |

Appendix 18

Calculation of correlation coefficient of total actual sales and total budgeted sales of Milk and Milk Products (Rs. in lakhs)

$$\text{Mean}(\bar{X}) = \frac{145627.49}{8} = 18203.44$$

$$\text{Mean}(\bar{Y}) = \frac{127774.13}{8} = 15971.77$$

$$\text{Correlation}(r_{xy}) = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$= \frac{9924208.74}{\sqrt{24935767.12 \times 5717364.48}}$$

$$= 0.8311$$

Appendix 19

Milk and Milk Product tactical (Short-Term) plan 2064/65

| Month | Milk (Ltrs) | Makhan (Kgs) | Curds (Ltrs) | Cheese (kgs) | Ghee (Kgs) | Paneer (Kgs) | Ice Cream (Ltrs) |
|---------|-------------|--------------|--------------|--------------|------------|--------------|------------------|
| Baisakh | 5157000 | 28900 | 180000 | 23300 | 69500 | 9400 | 17800 |
| Jestha | 5132000 | 35800 | 175000 | 24000 | 72000 | 9850 | 16000 |
| Ashad | 5272000 | 30200 | 165000 | 23800 | 73500 | 10200 | 13700 |
| Shrawan | 5432000 | 24700 | 158000 | 23400 | 73000 | 10550 | 13300 |
| Bhadra | 5122000 | 23300 | 148000 | 24500 | 74400 | 11750 | 13800 |
| Aswin | 5331000 | 31700 | 150000 | 23700 | 75000 | 13900 | 13850 |

| | | | | | | | |
|---------|---------|-------|--------|-------|-------|-------|--------|
| Kartik | 5324500 | 31800 | 148000 | 22100 | 76000 | 14200 | 146500 |
| Mangsir | 4124500 | 28300 | 132500 | 24200 | 76500 | 14500 | 142000 |
| Poush | 4047000 | 28200 | 130500 | 21300 | 69100 | 12400 | 128000 |
| Magh | 3853000 | 19200 | 125000 | 22000 | 72000 | 15500 | 125000 |
| Phalgun | 4072000 | 16900 | 146000 | 26200 | 75000 | 15800 | 143500 |
| Chaitra | 4128000 | 18000 | 165000 | 27500 | 72000 | 14650 | 155500 |