CHAPTER-I

INTRODUCTION

1.1 Background of the Study

Nepalese business community has got the worldwide market opportunities and very easy access and free flow of goods and services among the regional and global communities. It is expected that such type opportunities give the way of enhancing the production and productivity of Nepalese business. Increased production and export will support to raise income. Global and regional alliances help in transfer of foreign alliances present tremendous opportunities in the Nepalese business. However, lots of threats also occur in Nepalese business environment because of liberal and global economic movement. Global opportunities with large size and scale of activities have now been growing. These opportunities look t the whole world as one market. In this regard, Nepalese business is under attack from foreign competitors. There are many disadvantages like inequitable distribution of benefits, increased competition of domestic firms, threat to social and culture values, environmental degradation and exchange rate uncertainties.

After entering into the arena of WTO, Nepal will have to find out the major competitive areas and make the strategy to cope with the challenges posed by global business environment. Positive and negative impacts should be analyzed accordingly to gain the international reputation. Positive impacts for the LDs, like Nepal would be expansion of trade, trade diversification, getting the transit rights, increased in bargaining power the special arrangement made by the WTO for the LDCs, easy access to international market. Likewise, negative impacts may be loss of domestic markets, limited and low quality goods due to lack of entrepreneurial, managerial, technical and marketing skills, the possibility of price hike because of implication of implication of trade related on intellectual Property Rights (TRIPs) and controversy between the theory and

practices such as the car sales distributer between USA and Japan, unwillingness of WU to reduce subsidies on agriculture products etc.

Being landlocked country, Nepal mostly relies on India and China for her international business. Due to this reality bite, Nepal's economic condition has been fallen far behind in comparison to other developing as well as developed countries. The main reason behind this situation can be attributed for her political instability and the lack of due commitment from so-called leaders from time to time. After the establishment of democracy in 2007 B.S. Nepal first time experimented with the rule of democracy. Unfortunately, by the passing of time, the neck of democracy is broken by King Mahendra which continued for 30 years as a single ruling party system in the country. Due to the hard effort made from the revolutionary parties unification periphery, the movement of restoration of democrat succeed in 2047 B.S. Peoples had expected so much from the political parties for their good fortune which is not supported by the ruling parties activities and it gave the frustrations to the general peoples. Taking some basis from the misleading action done by political parties while they were in government, King Gyanendra took over the constitutional sovereignty on his hand and miss attempted the government for more than four years. Due to this unconstitutional step and illegal action, the government of king Gyanendra is abolished for ever hitting the stick on his fortune of monarchy and resulted as a general citizen in jestha 15, 2065 by the declaration of resorted parliament. As consequences, the election of Constitutional Assembly has been held and result came to the ahead of Nepalese people. As a result, peace has been resorted and hoping that its prevalence forever. Chanting the slogan of New Nepal, every citizen of Nepal began to make the picture of New Nepal in one’s mind as they perceived. That being so, positive signs and indications in the economic environment has been started. Under these circumstances, we can only hope that our political leaders will rise to the occasion and put aside partisan and personal interest and agree

on a list of priority projects and programs, which would be undertaken irrespective of which political form the government.

1.1.1 A History of Productivity Drive in Nepal

Productivity is not a new word for a developing country like Nepal. In the context of Nepal, productivity has occasionally drawn attention of development pundits of Nepal. Most development plans, the first one were launched in 1956 has somehow incorporated a productivity theme as part of national development objectives. Then after, Nepal joined the Asian Productivity Organization (APO) in 1961 as one of its eight founding members. A substantial number of people from both the public and private organizations in Nepal have participated in APO programs. Some agencies like Industrial Service Centre and other training and research institutes, including private enterprises, have undertaken various activities related to productivity improvement. However, the productivity campaign along with the institutional development process has gained momentum only in the recent years.

As a result of establishment of the National Productivity Council in 1993 by Nepal Government under the chairmanship of the Minister for Industry with representatives from relevant major line ministries and professional organization, the then existing Economic Service Center which is bifurcated as a public consulting company in 1988 from the Industrial Service Center is renamed as the National Productivity and Economic Development Center (NPEDC) and designated as the secretariat of the council. NPEDC today is expected to perform major functions such as:

- Productivity promotion as the secretariat of NPC
- Consulting services as a public company

Considering these functions, NPEDC has been undertaken the various productivity related activities and it also has been involved in a productivity awareness campaign with a target group approach for last few years. But in recent years, it has been considered as a financial burden of Nepal government

due to its slow operation of activities in the field of productivity improvement programs.

1.1.2 Scenario of National and Sect Oral Level Productivity

Due to the globalization of world's economy, most of the nations are necessarily agree to enhance their competitive position by making themselves more proactive to the changing business environment. After entering into the World Trade Organization in 2004, Nepal cannot stay away from the global economy. Changes and occurrences happened in one country's economy the effects can be seen in another country's economy. Therefore the main duty of our nation is to tap the opportunities of world's economic environment and to react rightly for the threats. To do these actions in a scientific manner, we have to identify our competitive position. In this regard se can develop our national gifts basically the potentiality of hydropower and tourism industry. Therefore it seems to be essential to have huge investment in these two economic sectors. For this we have to train and develop our labor force to cope with the current situation of the national economy. "In order to overcome the deficiencies related to invasion transitional, have non competitive domestic industries and low technology, Nepal must engage in strong productivity drives to generate advantages and ameliorate hitherto non- competitive industries efficient by pursuing the path of productivity improvement. New enterprises should also give attention to sustaining higher productivity in order to create and sustain a niche in the global market" (Bajracharya, 1998:23).

National and sect oral level productivity statistics are targeted for targeted of planners and policy makers. These statistics are necessary to evaluate performance of various economic sectors so as to assess needs, adopt strategies and set priorities in line with the countries development policies. Productivity statistics can also be used for inter-country comparison to formulate various opportunities investment and economic policies. The importance of national

and sect oral level productivity and its importance to country's socio-economic growth and development can be summarized under here: (NPEDC, 1996)

- Serve as nations economic indicators.
- Provide comparative efficiency data of different countries.
- Help in measuring efficiency.
- Keep in evaluating economic performance and in formulating social and economic policies.
- Identify factors affecting income and income distribution in different sectors.
- Help in determine priority in decision making.
- Help authorities to identify problem areas.
- Evaluate impact of national development programs.
- Help in allocating scarce resources.
- Assist in forecasting national income and output.

Employee productivity at national level is noticed to rise in most of the years during FY 1984/85 to 2005/06. According to the study done by Devendra Pradhan and Mahesh Gongal average annual growth rate of the productivity at national level is observed to decrease gradually during the observed period at an interval of six year indicating deteriorating performances. Productivity level growth rate of almost all the sectors shows decreasing trend except that of agriculture, fishery and forestry, though the nine-sectors. The trend of employee productivity level at industry group level indicates the average annual growth rate of 9.5 percent during the 1984/85 to 2003/04 which is contradictory to the findings of the employee productivity level at sectoral level of the manufacturing sectors due to difference in nature of data resulted from the differences in sources of data.

1.2 Introduction to Dairy Development Corporation (DDC)

Dairy Development Corporation– a fully state owned corporation is established under the Corporation Act, 2021 B.S. in Shrawan 1, 2026. Dairy Development

Board had established the dairy collection centers in rural areas mainly in Tushal of Kavrepalanchowk, Kharipati of Bhaktpur and Lamtang of Rasuwa. In 29 Falgun, 2013 B.S. Central Dairy is established with an installation of milk processing machine capacity of 500 liters per hour in Lainchoaur of Kathmandu (Nowhere, Central Office of DDC). Dairy Development Corporation has been initiated for the economic advance of the poor farming communities. It has been a nationwide movement with an annual collection over 60 million liters of milk from more than 75 thousand with producers It has 888 milk co-operative spreads out in 33 districts.

Dairy Development Corporation has been supported by the World Food Program since fiscal year 2030/31. Similarly, Netherlands Government, New Zealand Government, Danish Government, US Government and World Bank are also providing the financial support to Dairy Development Corporation. Now, Dairy Development Corporation has six milk supply schemes after the privatization of Pokhara Milk Supply Scheme. They are: Kathmandu Milk Supply Scheme (KMSS), Biratnagar Milk Supply Scheme (BMSS), Hatauda Milk Supply Scheme (HMSS), Lumbini Milk Supply Scheme (LMSS), Mid-Western Milk Supply Scheme (MWSS) and Milk Products Production and Sales Scheme (MPPSS). Katmandu Milk Supply Scheme has been received the ISO 9001:2000 certificate and Hazard Analysis and Critical Control Point (HACCP) in fiscal year 2066/67.

1.3 Focus of the Study

Focus of the study mainly concerned with the assessing the current status of Employee productivity for the four milk supply schemes of Dairy Development Corporation. The productions and productivity growth pattern has been also matters for this study. Besides this, research work has tried to compare the employee productivity between four milk supply schemes of Dairy Development Corporation and has identified the areas to be addressed for enhancing employee productivity of respective milk supply scheme of Dairy

Development Corporation. Few research works are done on the issue of employee productivity in the manufacturing sector and this research work related to employee productivity in the manufacturing sector and this research work related to employee productivity. So the research work on the employee productivity could be an importance step to the productivity assessment area of Nepalese economy. Indeed, it is very difficult to find out the possible relation between employee productivity and other variables remain in the organization. However, researcher here tries to find out the outcome of the outcome of employee productivity whether it is beneficial to stakeholders or not. Definitely, employee productivity of four milk supply schemes of Dairy Development Corporation gives them some propelling to the concerned parties for the betterment of these milk supply schemes.

1.4 Statement of the Problem

The main problem of today is manufacturing companies is giving more emphasis on the greater production without considering the real demand of the customers. They failed to predict the situation that has to be settled. In many cases, management team wants to maximize the profits by moral or immoral business activities. In such cases, employees who as real assets of the company suffered from the exploitation from the business owner. One reason for this may be in which country where employees are illiterate and easily available, many types of laws and regulations are enacted but not effective and no proper mechanism for the settlement of disputes related to employee management relation, all of these factors are responsible for that.

This study has been limited due to the time and financial constraints, however, been focused on the implication and indication of employee productivity of the milk supply schemes of Dairy Development Corporation. The term productivity basically related with the employee and capital productivity which is visible and straight forwarded. For this study researcher has selected the employee productivity for four milk supply schemes of the Dairy Development

Corporation. Dairy Development Corporation carries the unique identity being public company.

The optimum utilization to the resources, raw materials, tools etc is the way to increase employee productivity. In Nepalese industrial sector, the main problem affecting caused by excessive exchange of employee is increase in the cost of production and various costs involved in continuous hiring and firing of work force. Another side effect of such action hampers the smooth operation of business. Thus, in their work efficiency lead to the vulnerable condition. Therefore, the exchange of employee force causes a tremendous drain and a strain on the industry resulted to the low productivity.

Dairy Development policy has been formulated by GON with a view to increase the production and productivity of dairy products, making the dairy industries to the exportable condition by meeting internal demand of dairy products in a minimum price. This policy has set up the institutional arrangement to meet the objectives of this policy. This policy also mentioned that the activities done by the dairy industries shall be monitored and evaluated from the National Dairy Development Board supporting from the various line agencies such as Ministry of Agriculture and Co-operatives, Nepal Agriculture Research Council (NARC), Dairy Development Corporation, Ministry of Industry, Commerce and Supply etc (Dairy Development Policy, 2066:1).

The legislation regarding the minimum remuneration for industrial workers states that male and female workers shall be paid equal wages for equal works. The interim constitution of Nepal guaranteed the equal opportunities of employment for male and female respecting their caste, ethnicity, religion and backgrounds. Now-a-days literate women are involved in employee market. They will definitely result to the higher productivity. Due to the exploitation of employee force, lack of proper industrial environment and desired level of industrial development has not taken place in full swing. This research work

entirely connected with the following research questions and these research questions are expected to fulfill the main objective of the research work:

- Is there any relationship between productivity, profitability and productivity?
- What type of relation is required for the long run survival of the DDC?
- Can organization see required for the long run survival of the employee?
- What type of productivity improvement techniques are used in the DDC?
- Is employee always productive? Or is it indispensable factor of the DDC?
- Is there modern tools and techniques are used in Dairy Development Corporation?
- Can organization face the internal and external obstacles of the country?

1.5 Objectives of the Study

The general objective of this study is to implicate and propelling ate the employee productivity in the four milk schemes of Dairy Development Corporation. And it is expected that this general objective can be achieved by fulfilling the following specific objectives:

- To analyze the condition of employee productivity of four milk supply schemes of Dairy Development Corporation.
- To find out the causes and hindrance of employee productivity.
- To Study the working capacity of the employee productivity.
- To achieve the best feedback of the Dairy Development Corporation.
- To provide appropriate suggestion and recommendation.

1.6 Significance of the Study

This study work primarily based on the micro-level of national economy. Therefore, it can't represent the implication and propelling of macro level. But in industry level, undoubtedly in production sectors, this study will help to enhance the organizational competitiveness. Moreover, it can be set up for the support of strategic improvement efforts. Before starting a productivity improvement program within a company, this study is useful to have an

implication of the current performance level and understanding of the problem facing by the enterprises.

Productivity and performance measures enable the individual enterprises to establish whether they are to set goals as to where they want to be and to monitor progress towards those goals. This study helps to realize the current status of Dairy Development Corporation in terms of four milk supply schemes. However, this study will be pioneering efforts toward the undertaking of employee productivity of this company.

The importance of employee productivity measurement lies at the macro and micro level of national economy and has been widely accepting by the industries, firms, companies and different types of organizations whether they are capital intensive. Therefore, the productivity measurement for the macro level can be basis for strategy to alleviate the national poverty. Having a nature of micro level, this study serve as a basis of benchmarking for the Dairy Development Corporation thereby help to identify the leading milk supply schemes and can rectify the area of problems as they are facing.

The importance of this study may lies at finding the productivity promotion activities done by the four milk supply schemes of Dairy Development Corporation. Whether Dairy Development Corporation has been set up these activities or not, is another concern of this study work. Such promotion activities may include the seminars, training, essay competition, demonstration-cum-training programs, talk program on the theme of productivity etc.On the basis of the organization's financial position and needs. These types of productivity promotion activities can be utilized and this study hopes it will be guideline for the future productivity promotion programs adopted by the Dairy Development Corporation.

1.7 Limitation of the Study

Limitations of this study are:

- This study is a micro level study of DDC. It may not be applicable for other similar companies
- It covered the analysis of 6 years data ranging from FY 2061/062 to FY 2066/067
- The data of this study taken from the secondary sources where the accuracy depends on the intensions of management teams.
- This study emphasized only the employee productivity and it may not be whole implications of productivity of Dairy Development Corporation.
- Inflation effects over the employee wages, salaries did not considered at the time of study. Therefore the true picture of employee productivity may vary.
- Value added approach used in this study covered the analysis of six milk supply schemes of Dairy Development Corporation which may not coherence with the findings of selected milk supply schemes.

1.8 Organization of the Study

Chapter I:

It deals with the introduction of the study and it consists the background, focus of the study, statement of the problem, introduction of the study area, objectives, significance, limitations and organization of the study.

Chapter II:

It starts with the review of literature. In this chapter three main functions of the study are included. First, conceptual review has been laid down on the employee productivity. Second, review related literature of employee productivity deals with the similar studies that has been studied by the scholars. Last, research gap reveals the importance of this research work and found the needed study area.

Chapter III:

This Chapter deals with the research methodology where research design, population and sample, sources of data, data collection techniques and data analysis tools has been included.

Chapter IV:

This chapter has been considered as a heart of the study. It deals with the presentation and analysis of data thereby major findings of the research work to achieve the stated objectives.

Chapter V:

Finally, It deals with the summary and conclusions of the research work on the basis of the summary and conclusions an attempt has been made for recommendation to the management of Dairy Development Corporation.

CHAPTER-II

REVIEW OF LITERATURE

2.1 Introduction

Review of literature is one of the important parts of planning of entire research work and deals with the findings of past research works under the study area so as to take further action to find the remaining facts and figures. "Review of literature is an essential part of all studies. It is way to discover what other research in the area of our problem has undiscovered. It is also a way to avoid investing problems that have already been definitely answered" (Woolf & pant; 2003:34).

This, review of literature is an important element of the thesis writing. So, it is necessary to review important books, articles and works conducted by different researchers, institutions and scholars. Review of literature gives us clear directions for the relevancy of research in order to get genuine findings.

Very few research works has been conducted in the area of employee productivity at micro level. So, it is very difficult to find out genuine research work that has been done in the area of employee productivity related to Dairy Development Corporation. However, some of the major findings have been derived by studying and searching the national level employee productivity. Hence, an attempt has been made to reconcile and rejoined the employee productivity implications at the foot level when and wherever necessary.

2.2 Conceptual Review

2.1.1 Employee

The term employee we generally understand that work which is especially related with physical work or talk that has to be done. In addition to this, employee means workers who work with their hands. But in economics, employee refers various sorts of work not only manual work but also mental

work of service. Therefore, the term employee today became a multi dimensional and multi faceted word and it implies the physical or non physical work or services. for example physical work consist the work of collies, porters, painters, factory workers, housewives etc and non physical work reflects the work of doctors engineers, writers, lawyers, policeman, government officials etc.

"By employee is meant the economic work of men, whether with hand or the head." It stresses three important points. First, employee includes physical work. Second, it includes mental work or non physical service. Third, only economic work can be called employee. Explaining the meaning of employee jevons makes the point clear by emphasizing that 'purpose should be other than pleasure derived directly from the work' (Shrestha, 2056:).

Employee is an indispensable factor of production. A business firm employs workers to do the several types of works. Some do the manual works where use of machine use not possible or it is uneconomical. Apart from the workers, the firm may employs the persons to manage its offices, to guard its properties and several other such works. Thus, the use of employee will be quite prevalent in its business operations whether it is productions of goods or services or any other things. Without employee we may not be able to do the business and run the industries at all.

2.2.2 Productivity

Productivity for a general definition is the relationship between the output generated by a production or service system and input provided to create this output. In other words, productivity can be defined as efficient use of resources such as capital, employee, materials etc. to produce qualitative goods and services. Regardless of economic and political system or geographical region the definition of productivity is the same which is:

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}$$

"The term productivity often confused with the term 'production'. Many people think that the greater production the greater the productivity. But this is not true, because production is concerned with the activity of producing goods and services, while productivity is concerned with the efficient and effective utilization of resources (inputs) in producing goods and services (outputs). Sometime productivity viewed as a more intensive use of resources as an employee and machines which should reliably indicate performance or efficiency if measured accurately. However, it is important to separate productivity from intensity of employee because while employee productivity reflects the beneficial results of employee, its intensity means excess effort and is no more than work "speed-up". The essence of productivity improvement is working more intelligently, not harder. Real productivity improvement is not achieved by working harder: This result in very limited increase in productivity due to man's physical limitations"(Prokopenko, 1993:3-4).

Productivity means efficient use of input resources to obtain maximum output. It also means improving quality of that output. In fact, productivity and quality are two sides of a coin. Without both of productivity and quality, output cannot be successful.

The term, productivity to reflect the ratio between input and output is first used in 1776 when Adam Smith clarified that production depends on number of its productive employees or the productivity powers of those employees employed. It has been regular use after 1870's when it became part of in economic literature. Prof. Ichiro Nakayama clarified in 1963 that "it is an application of the economic principle of realizing maximum effect with minimum cost and the other maximum effect. Viewed in this way, a certain relationship of efficiency emerging from input and output should form the core concept of productivity. Adam Smith and Frederick Taylor focused on the

division of employee, identifying and standardizing the best of doing work as means to improve productivity.

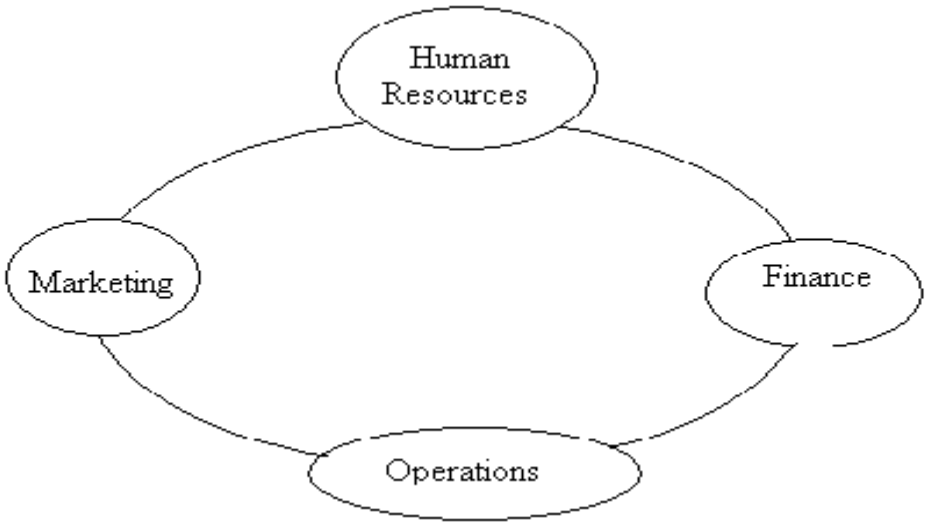
Productivity is above all, a state of mind it is an attitude that seeks the continuous improvement of what exists. It is a conviction that one can do better today than yesterday, and that tomorrow will be better than today. Furthermore, it requires constant efforts to adapt economic activities to ever-changing conditions and the application of new theories and methods. It is firm belief in the progress of humanity

2.2.3 Scope of Productivity Management

The scope of productivity management can, however, depends on the attitude of peoples towards it. Today, in this global economy era, who can survive is able to be productive. And this matter definitely acts in a national economy of a country as well. Scope of productivity management lies at four pillars of any organization which is play a significance role of the scope of the productivity management. These pillars are maintained in the following figure:

Figure: 2.1

Four Pillars of Productivity Management



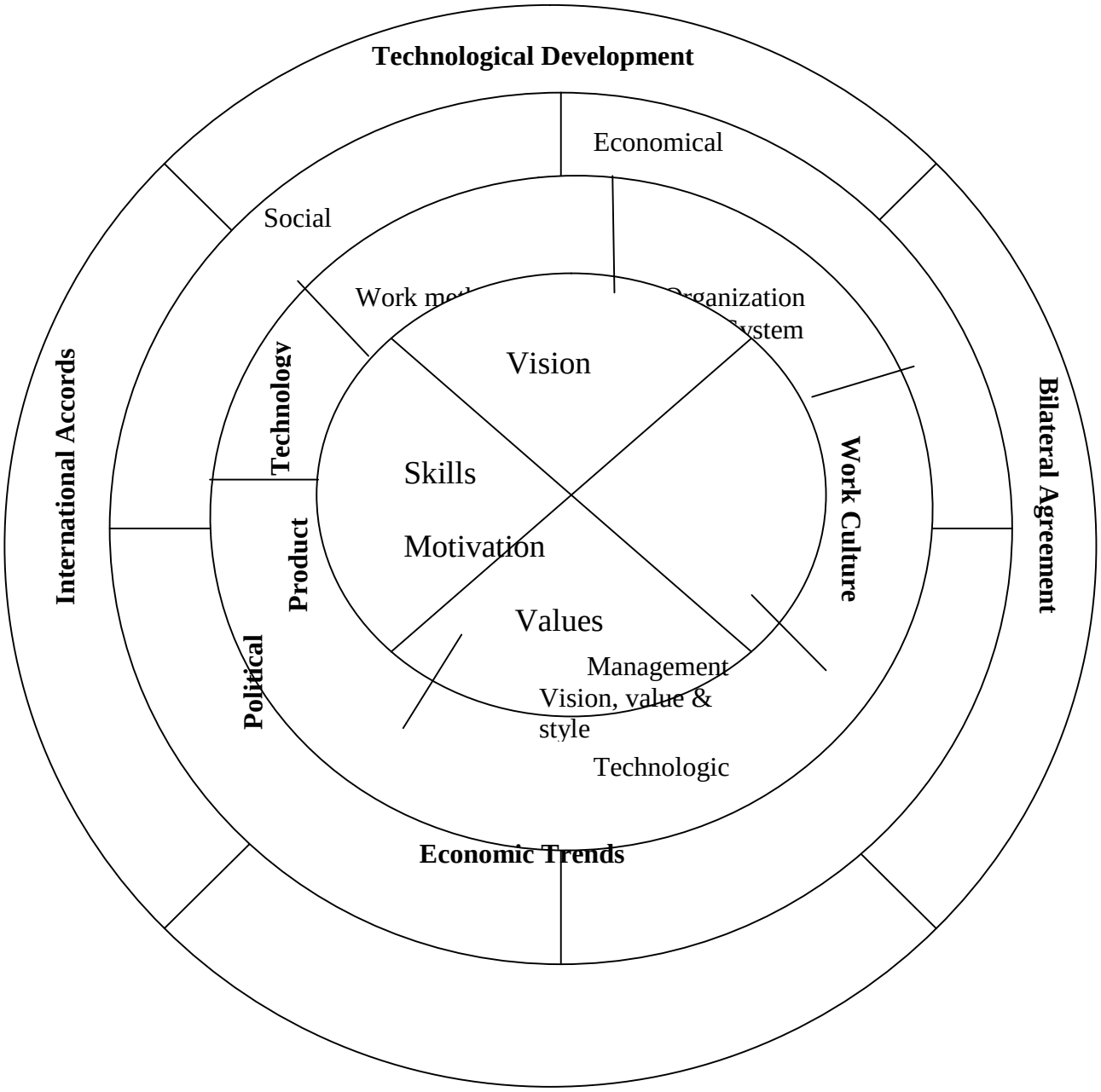
2.2.4 Factors Affecting Productivity

Two factors which are most critical for productivity drive in an organization. The first is manpower and leadership of the organization which plays the vital role in achieving the higher performance. Employees are motivated when they feel a part of an organization, which contribute to the societal goals and objectives. The role of employees at all levels is equally vital to improve productivity. Employees are the fountainhead of productivity as it is the only resource which poses the creative abilities and has got feelings that can retard or produce resistance to the implementation of changes required for improvement (Monga; 1999:6).

Factors affecting productivity at different levels can be presented in the following figure:

Figure: 2.2

Factors Affecting Productivity



2.2.5 Productivity Measurement

Productivity measurement can be applied both at micro and macro level. For the macro level, productivity can be measured at three different levels such as national economic level, economic sectoral level and industry group level. But for micro level, productivity can be measured at two levels which are as follows:

- Industry Level
- Company level/Firm Level

Industry Level

If the input and output data of industry groups are available, productivity measurement at industry level can be computed on the basis of basic principles of productivity measurement as follows: (NPEDC; 1996).

$$\text{Total Productivity (TP)} = \frac{\text{Total Output}}{\text{Total Input}}$$

$$\text{Total Factor Productivity (TFP)} = \frac{\text{Total Output}}{\text{Total (L+C)}}$$

$$\text{Partial Productivity} = \frac{\text{Output}}{\text{Partial Input}}$$

The partial input may be capital, employee, machines, fuels etc. it the partial input is employee,

Then,

$$\text{Employee Productivity} = \frac{\text{Output}}{\text{Employee Input}}$$

Similarly, if the partial input is taken as capital,

$$\text{Capital Productivity} = \frac{\text{Output}}{\text{Capital Input}}$$

Firm / Company Level

For managers, investors, workers and stakeholders, who are trying to improve productivity of an undertaking, productivity at firm level is more important than national or sectoral level. There are many approaches to productivity

measurement in a firm or company level, depending upon the firm, but most commonly used are: (NPEDC; 1996).

$$\text{Employee Productivity} = \frac{\text{Value Added}}{\text{No. of Employees}}$$

$$\text{Capital Productivity} = \frac{\text{Value Added}}{\text{Tangible Assets}}$$

$$\text{Total Productivity} = \frac{\text{Value Added}}{\text{Input (L+C)}}$$

If the produced goods are of different types, it is better to express the output in value added form. Value added can be calculated as mentioned below:

Value Added Approach

Value added approach can be defined as that value which can be obtained by subtracting input from output i.e. total sales (S) minus external expenses (X). External expenses may include raw material consumed (Rm), bought out items (B), work services (W) and depreciation (D).

So,

Value added = Sales – (Rm-B-W-D)

In this study, external expenses include the opening stock. Collection expenses, sales expenses, administration and depreciation.

Value Added = Output – Input

Value Added = Total Sales – External Expenses

While measuring productivity, input is basic term which is most important. In the organization, employee is the major input used in the production. It can be measured in three ways:

- In terms of number of employees
- Personal Expenses

- Total Man Hour

In the case of measuring the employee productivity, working time is a major basis for this. The quantity of output produced per unit of working time is an indicator of employee productivity. For this study, different units of working time have been used depending upon the concrete nature of tasks, hours, day, month and years. Therefore, the indicator of employee productivity is expected in the form of quantity of output which turned out on an average per man-hour, day, month and year. In this study, employee productivity is generally obtained by dividing the total output produced during the fiscal year by the average number of listen workers in the different milk supply schemes. However, in the analysis of current and annual, it is necessary to make additional calculation of productivity per man- hour man-day.

The implications of employee productivity in physical term per unit of working time are the most easily and simply way to the calculation. The implications such as metric tons of milk collection, milk production per man hour, man day, man month and man year. However, for this study work, the cases for calculation of employee productivity with the help of implications in physical terms are very limited.

$$\text{Rate of Productivity of Employee} = \frac{\text{Average output per man hour in reporting year}}{\text{Average output per man-hour in base year}} \times 100$$

The implication of employee on physical terms for the growth rate of employee productivity may not be real signal in the organization. The ration of the absolute term employee productivity of during given period and employee productivity during the base period is called the index of employee productivity. For the construction of physical index of employee productivity, all the various products in physical terms are expressed in terms of a single measure. This measure might be either the expenditure of current employee for

the production of the output or the value of the output produced, or any other common measure. The index of employee productivity is calculated in this case by using following formula. (Ezhov; 1960)

$$PIEP = \frac{\Sigma 1\ (q1\ /T1 \div qo\ /\ To) \times T1}{\Sigma\ T1}$$

Where,

q_1 = Quantity of a particular output produced during the reporting period

q_o = Corresponding quantity for the output produced during the base period.

T_1 = Expenditure of employee for the total output of the given product in the reporting period

T_o = Corresponding expenditure of employee in the base period.

PIEP = Physical index of employee productivity

Value index of employee productivity is constructed on the basis of the gross output. If the data on gross output in terms of wholesale prices of the enterprises (or in general, in comparable prices) are used, the index of employee productivity taken the following expressions:

$$VIEP = \frac{\Sigma q1p}{\Sigma T1} \div \frac{\Sigma qop}{\Sigma To}$$

Where,

q_o = Physical output in base period

q_1 = Physical output in reporting period

p = Money value per unit of output in comparable prices

q_1p = Gross output in constant price in the reporting period

q_op = Gross output in constant price in the base period

T_1 = Average number of listed workers in the reporting period

T_o = Average number of listed workers in the base period

$\frac{q1p}{T1}$ X Average Gross Output i.e. out put per worker in reporting period

$\frac{q0p}{T0}$ X Average gross oupput i.e. output per worker in base period

Therefore, value index of employee productivity based on gross output in comparable prices can be expressed as;

$$\text{Employee productivity Index} = \frac{\text{Employee productivity in current year}}{\text{Employee productivity in base year}} \times 100\%$$

Capacity Utilization Rate

Capacity utilization rate can be described as the ratio between the actual capacity and actual output of a firm under the different fiscal year. Mathematically, it has been described as:

$$\text{Capacity Utilization Rate} = \frac{\text{Actual Output}}{\text{Full Capacity}} \times 100\%$$

2.2.6 Techniques of Improving Productivity

There are various tools and techniques that have been developed and practiced successfully in an organization for productivity improvement. Productivity tools and techniques (PI tools and Techniques) may be structured into three major categories in line with the three important factors for productivity improvement- Human ware, Software and Hardware. This structural classification depends on which factor and on which facet the particular tools or technique is targeted for efficiency and productivity improvement. The PI tools and techniques are categorized as follows; (Chapagain, 1999:85).

Human ware Oriented PI Tools and Techniques:-

- Economic incentive system
- Non financial motivational technique
- Small group activities
- Management by Committees
- Employees participation
- Training for employees

Software Oriented PI Tools and Techniques:-

- Profitability analysis
- Work measurement
- Methods research
- Operations research
- Specialized production system
- Use of Tools and Techniques

Hardware Oriented PI Tools and Techniques:-

- Value analysis
- Ergonomic analysis
- Technically advanced machine\
- Autonomous maintenance
- Improvement material equipment

2.2.7 Relation between Profitability and Productivity

The relation between profitability and productivity can be summarized in following table and this table also gives the way to the organization what they must to do 'if and then' condition;

Table: 2.1

Relation between Profitability and Productivity

Case	If	If	Then	Then
	Profitability	Profitability	What will happen	What will happen
1	High	High	Financial condition will be sound and stable	Maintain or increase productivity further
2	High	Low	High profitability may not be sustained on a long term basis. In the long run low productivity will eat up profits.	Improve productivity
3	Low	High	The company may soon be operating at a loss and may be on the brink of a shut-down.	Improve profitability, strength market strategy, market research, market promotion & Advertising and pricing policies.
4	Low	Low	Shut-down/ Bankruptcy	Improve productivity and strengthen market.

2.3 Review of Related Studies

Theses on employee productivity are not found in central library as requires in number and suitability. Therefore an attempt has been to review the some studies at macro level, articles and research paper presented by different scholars.

2.3.1Review of Articles

Dahal et al. (1999) has published a comprehensive study under the topic of *"Productivity, Wages, Employment, and Labor Market Situation in Nepal"*. These writers has presented the true picture of ongoing practices in productivity, wages and employment in different industry located at

Biratnagar, Jhapa, Kathmandu, Hetauda and Pokhara. Some of the important glimpses of this study have been presented here:

According to this report, more than 92 percent of the employment worker force is in rural areas and 81 percent in agriculture. Only 19 percent of rural workers and 21 percent of all workers work as wage laborers. A majority of wage laborers moreover are in employed in the organized sector of the economy. Besides the level of education of the workforce is low with high geographical mobility and very low returns to employee. Although wage differential between male and female participation in the workforce is low and they are confined to less productive.

The report further shows that the existing wage rate structure including the social security system is poor that workers have to struggle for survival. The unofficial rate of interest in unorganized sector in rural areas and urban area is as high as 60 percent and 30 percent respectively. Those have aggravated the extent of rural indebtedness in Nepal. Although, recently, the tripartite meeting is held in November 30, 2008 between FNCCI, Trade Unions and government which would be effective from September 17, 2008 wage rate structure for different types of workers as follows:

Table: - 2.2

Wage Rate Structure

S.N	Types of Workers	Basic Salary (Per month)	Dearest Allowance (Rs.) (Per month)	Maximum Remuneration (Rs.) (Per month)
1	Unskilled	3050	1550	4600
2	Semi-skilled	3100	1550	4650
3	Skilled	3200	1550	4750
4	Highly killed	3400	1550	4950

(Source: Kantipur National Daily, 3 December 2009)

The report further shows that the social cultural status of workers is male dominated. Composition of employee force is overwhelming male dominated (76 percent). However, the regional distribution does not support the result of national average. In Jhapa, female workers share in total employee force participation is higher (76.7 percent) than the share of their males (33.3 percent) counterparts. In Biratnagar and Hetauda, the participation of male workers is high (above 95 percent). But in the case of Kathmandu, the composition of employee force according to sex, to some extent, fair (57 percent) male and (43 percent) female.

In the case of bonded employee report reveals that the absence of effective government intervention, it is likely to persist in future. Although child employee is legally prohibited, it still exists in factories, mines, construction, transportation, agriculture, plantation, hotels, restaurant, tea shops and home service.

The report also mentioned that the Nepal lacks even basic data and information that are necessarily for monitoring employment and employee market developments. The government should seek the co-operation of donor communities in conducting employee force survey in appropriate interval in the country.

Economic Survey (2008/09) of Ministry of Finance has showed the fact of Nepal Human Development Index (HDI) is at the lower ebb as mentioned in the Human Development Report 2007. Of the 177 countries included in the report, Nepal is at 142nd position which is the lowest position among the SAARC countries. This reflects that Nepal is trailing behind not just from the low economic growth but also from the dimensions of overall human development.

On the issue of salary and wages, Economic Survey further shows the fact that the year-on-year national salary and wage index increased by 9 percent in Mid-

March 2009 compared to the rise of 10 percent a year ago. Separating both index, salary index increased by 8.4 percent which is increased by 6.2 percent in previous year while the wage index had increased by 11.4 percent. The increase in the salary index reflected mainly the salary increment of government officials in mid-July 2008. The increase in the wage index is on account of the wage increment in the industrial and construction sector. Wage index of industrial laborers for the period of 2008/09 11.6 percent while it is 13.3 percent in 2007/08. For the year of 2004/05, 2006/07 it is 10.5 and 5.1 percent respectively.

Adhikari (2009) *"Employee Demand Situation and Employee Productivity in Furniture and Textile Industries of Patan Industrial Estate"* has presented the following conclusions:

- Information on productivity is crucial for supporting development efforts in Nepal. The furniture industry employee productivity has demonstrated an upward trend followed by a downward trend in successive fiscal years.
- Industrialization and urbanization play a significant role in employee market, Patan Industrial Estate is located within the city area but the workers come to work from, outside city area. Majority of migrant employees come from the hill area in research of job.
- As productivity statistics are immensely important for designing policy responses to productivity enhancement, the researcher has recognized its role in it and made an effort to create a sound and reliable data base development in such an important field.
- Average annual growth rate of employee force in furniture industry is 1.3 whereas it is -5.1 in the textile industry. This fact shows that gloomy situation in the employee market. The annual growth of employee productivity level in the furniture industry is 5.0 whereas it is -5.3 in the textile industry.

Poudel (2010) on the *'Child Employee in Nepal'* reveals that the number of domestic child employee are 62000 under fourteen year and in total Nepal has 1.66 million child employee between the age of 5 to 14 thereby its 6th position in South Asia. Children working in hazardous industries such as construction, transportation, production etc are in huge numbers. Under the age of 16, 12000 girls have been trafficking every year from Nepal to foreign countries especially in India. The prevalence of child bonded employee in agriculture and certain parts of the industrial and informal sectors made the developments efforts of Nepal on this case ineffective and unbalanced.

2.3.2 Review of Previous Research Works

Dahal (2006) has studied on *"Productivity, Wages, Employment and Employee Situation in Nepal, the Role of Trade Unions"***.** The study reveals that factors affecting productivity ate whole gamut of incentives facilitated to workers. These include wages, perks and other benefits. Highly skilled workers are paid 1.2 times of higher than the unskilled workers. The variation in the wages of different levels of employees has been skewed and intra-industry variation in market wages seems to be more acute.

His Main Objectives:

This study presents the some clue to get higher productivity in a country:

- Motivation and involvement of employees is the key to higher productivity.
- (Linkage performance with reward could provide a thrust to the process of involvement)
- Information sharing, open sharing and participatory style of management can play a vital role in tapping the potential of employee.

His Major Findings:

- Good employee- management relation and climate of trust between the management and unions will provide an environment essential for the successful implementation of such a strategy.

- It is fact that more than 75 percent of dispute in industrial organization can be attributed to wages.

His Major Recommendations:

- The vicious circle of wages and prices chasing one another, creation a wage price spiral needs to be broken. The wage structure has become dysfunctional and distorted as a result of ad-hoc wage increase.

Pradhan *(2007)*A study of *"Productivity Measurement and Employee at National, Sectoral and Industry Group Level* edited by Mahesh Gongal and Devendra at the National Productivity and Economic Development Center has nicely presented the macro level study of employee productivity for the period of fiscal year 1984/85 to fiscal year 2003/04. The objective of this study is to measure the employee productivity base on the approaches that were most commonly used in member countries of Asian Productivity Organization.

His Main Objectives:

- Make conclusion based on findings of all approaches to measurement of
- Productivity. On going through the study, Dr. Shrestha had offered the following major conclusion in her presentation paper;
- The data in employee involved in food crops and cash crops is not maintained separately.

His Major Findings:

- Productivity level of manufacturing industry groups as a whole also depicts the increasing trend.
- Annual average growth rate of 9.5 percent during the observed period.
- The growth rate of employees from the manufacturing censes data shows negative growth rate for different years whereas economically active population figure have positive growth rate when derived from the population census 2001/02.

His Major Recommendations:

- Sectoral level productivity of agriculture and non-agriculture sectors had been computed with a view to assessing the contribution of agricultural and non-agricultural sectors in the national productivity level.
- Total value added had been taken as a measure of output and the total economic active population as a measure of employee input to calculate the productivity at national level.
- For the purpose of analysis and comparison, value added at current pieces has deflated by implicit value added deflators taken from national accounts statistics.

Shrestha. S (2008) *"Agricultural Productivity in Nepal"* tried to measure the production, productivity level and productivity index of agriculture sectors on Nepal.

His Main Objectives:

- Asses the current situation of agricultural productivity in Nepal and other APO member's countries.
- Analyze the land and employee productivity in agriculture sector of Nepal using different approaches of measurement of productivity such as productivity ratio approach, index approach to productivity, Cobb-Douglas production function approach to productivity.

His Major Findings:

- The national level productivity shows an average annual growth rate of 3.32 percent.
- The land productivity of cash crops is relatively higher than that of food crops.
- The employee productivity of food is relatively higher than that of cash crops.

His Major Recommendations:

- The index approach reveals that the land productively of food crops has fluctuation trend and throughout the year under study it has increasing 12percent only.
- The index approach shows that the land productivity of cash crops is increasing gradually considering 1985 as base year and from 1985 it has increased by 76 percent.
- The result from the Cobb-Douglas production function approach depicts that there is an increasing return to scale in agriculture sectors in Nepal.

Oli (2009) on 'Competitiveness, Productivity and Job Quality in South Asian Garment Industry' shows that the strategy of improving productivity can be present through a combination of various measures:

His Main Objectives:

- Investments in new technology and equipment up graduation of skills among the workers.
- Improvement in production, up gradation and processes.
- Improvement in job quality.

His Major Findings:

- This report shows that investment in new technology and up gradation of skills could certainly contribute to improvement in productivity and competitiveness, as proven in the cases of Bangladesh and Sri-Lanka.
- However, improvement in working environment, workers concerns, benefit and incentives, safety and security and other working conditions would provide motivation for the workers to utilize such skills and technology for enhancement in productivity.

His Major Recommendations:

- Minimum wages and benefits should be applicable to all workers.
- Regulation of the number of working hours of the employees.

- Sexual harassment and abuse subjected to the employees.
- Registration of the employees in terms of providing appointment letter to employer
- Freedom of association in terms of forming free labor unions.
- Ensure that the working environment in the industry is conducive to
- The overall welfare of the employees.

Bhattarai (2010) in her dissertation on *"Labor Market Situation and Trade Union Movement in Nepal"* has tried to fulfill the gap of knowledge about labor market situation and brief knowledge about the wage and trade unions. The level of productivity of Nepal workers is found to be very low due to the lack of adequate education, skills and training facilities. Nepalese labor market and employment conditions show that there is a high incidence of poverty, inequality and joblessness. The majority of women workers have not participated in trade unions activities. In a sample more than three fourth factories were set with trade unions. So, they frequently visit and report to the trade unions about their work related problems.

His Main Objective:

- Help authorities to identify problem areas.
- Evaluate impact of national development programs.
- Help in allocating scarce resources.
- Assist in forecasting national income and output.

His Major Findings:

- Employee productivity of agricultural sector rose slowly in all years observed except in FY 1992/03. Annual average productivity level increased for agriculture sector is 4.4 percent during FY 1984/85 to FY 1990/91. But this growth rate went down to 2.73 percent in between FY 1990/91 to FY 1996/97 and rose again to 2.9 percent during the period of FY 1997/98 to FY 2003/04. Employee productivity of non-

agriculture sector is declining every year. Employee productivity levels of non-agriculture sector declined by 3.48 percent between six years interval six years interval both in FY 1984/85 to FY 1990/91 and FY 1990/91 to 1996/97. It declined by 5.2 percent in 1997/98 to 2003/04.

His Major Recommendation:

- Discrimination should not be done on the basis of sex, religion, race color or origin.
- Prohibition on child and forced employee in the organized industry.
- Healthy and safely requirements for the workers.

2.4 Research Gap

Therefore, research gap aims to show the prevailing situation of employee productivity in the state-owned industry which in the long run remains the liability of government. This research will try to measure the importance of employee productivity which has unseen by intentionally or unintentionally and can be a basis for organizational effectiveness. Research gap denotes the gaping between the past findings and the ongoing research work. This research work being a micro level study, previous research work on the employee productivity at the macro level which is carried out by the institutions (both public and private such as NPEDC, NEFAS). There can hardly found the research work done in the particular industry. In the dairy sectors of the economy, no research work has been done yet from the level of individuals and organizations.

CHAPTER-III
RESEARCH METHODOLOGY

Introduction

Research methodology deals with the road map of the study. It is the way to solve the problems systematically by dealing with the collected data, analyzed these data and figured out the necessary conclusions and recommendations. It is the bridge, which links the research from where she/he is to and where she/he wants to be. The basis objective of the study is to visualize the current position of employee productivity and its implications to the stakeholders of DDC in terms of four milk supply schemes. To find the true picture of employee productivity in related milk supply schemes, the researcher has been used the sources of data, statistical and financial tools used for the analysis of data.

3.1Research Design

The term research design is employed in the sense of overall framework of plan for the collection and analysis of data. It has been served as a framework for the study. In this study, analytical as well as descriptive research design has been adopted to clarify of employee productivity through the presentation and analysis of various data.

3.2 Population and Sample Size

In this research work, all the milk supply schemes of DDC represent as population of the research. In numbers, these are six milk supply schemes of DDC operating currently. As far as the concerned for this study, four milk supply schemes has been taken due to the similarities of production and the availability of data and information, furthermore financial constraints as well. These milk supply schemes are Kathamandu Milk Scheme (KMSS), Biratnagar

Milk Supply Scheme (BMSS), Hetauda Milk Scheme (HMSS) and Lumbini Milk Supply Scheme (LMSS).

3.3 Sources of Data

This study has been based on secondary sources of data. Primary data has also been collected by questionnaire and field survey. Secondary data has been compiled through different books, annual reports, journals, magazine and articles. During the period of research work, different libraries of different colleges have also been consulted.

3.4 Data Collection Procedure

Primary data were collected through questionnaire and field survey. All the gathered information and data has been used and analyzed according to the need and requirement of this study. And, secondary data were directly obtained from official records and research had to visit to the companies frequently to the central office of DDC.

3.5 Data Processing Procedure

At first, financial statements i.e. profit and loss account, balance sheet, annual reports and other related data were collected from available sources. All the information is grouped at one place and analyzed these thoroughly.

For the judgment of these information & data, economic survey, auditor general report and informal discussions as well as interviews were made. Then collected data were organized, classified, rearranged, summarized and presented in the suitable table and graphs to make the analysis easy and clear.

3.6 Data Analysis Tools

To satisfy the research questions and objectives, analysis has been done qualitatively and quantitatively. The quantitative data were collected from the field survey, questionnaire, books and journals and these has been categorized,

tabulated and analyzed by using simple statistical tools such as percentage, ratio and average wherever necessary.

3.7 Tools for Analysis

Tools for analysis for this study mentioned here:

I. $$\text{Employee Productivity} = \frac{\text{Gross Output}}{\text{Number of Employees}}$$

II. Physical Index of Employee Productivity (PILP) is given by:

$$PIEP = \frac{\Sigma 1\ (q1\ /T1 \div qo\ /\ To) \times T1}{\Sigma\ T1}$$

Where,

q_1 = Quantity of a particular output produced during the reporting period

q_o = Corresponding quantity for the output produced during the base period.

T_1 = Expenditure of employee for the total output of the given product in the reporting period

T_o = Corresponding expenditure of employee in the base period.

PIEP = Physical index of employee productivity

III. Value Index of Employee Productivity (VIEP) is given by:

$$VIEP = \frac{\Sigma q1p}{\Sigma T1} \div \frac{\Sigma qop}{\Sigma To}$$

Where,

q_o = Physical output in base period

q_1 = Physical output in reporting period

p = Money value per unit of output in comparable prices

q_1p = Gross output in constant price in the reporting period

q_op = Gross output in constant price in the base period

T_1 = Average number of listed workers in the reporting period

T_o = Average number of listed workers in the base period

$\frac{\Sigma q1p}{\Sigma T1}$ = Average gross output i.e. output per worker in reporting period

$\frac{\Sigma qop}{\Sigma To}$ = Average gross output i.e. output per worker in base period

IV. Employee Productivity Index = $\frac{\text{Employee Productivity in Current year}}{\text{Emloyee Productivity in base year}} \times 100\%$

V. Capacity Utilizaton Rate = $\frac{\text{Actual Output}}{\text{Full Capacity}} \times 100\%$

VI. Value Added Employee Productivity $\frac{\text{Value Added}}{\text{No. Of Employees}}$

CHAPTER-IV

DATA PRESENTATION AND ANALYSIS

This chapter consists of fully analytical topics which are devoted to analyze the different subjects mentioned in the objectives of the study. This chapter has been assuming as most important and vital because it is as like processing unit of a system. Based on this, all interpretations, recommendations and suggestions are made.

Collected data and information are presented in a well manner in required form and format. They, then, are analyzed using proper statistical tools.

4.1 Analysis of Employee Productivity of Kathmandu Milk Supply Scheme

Table: 4.1

Milk Collection & Physical Progress of KMSS (In Met. Ton)

Fiscal Year	2061/062	2062/063	2063/064	2064/065	2065/066	2066/067
Milk Collection	33,917	32,325	32,885	31,189	31,693	30,367
Physical Progress	51,310	48,863	54,150	50,430	49,495	48,973

Source: Annual Reports (2061-2067)

Kathmandu Milk Supply Scheme is established in 2037 B.S. It produces the milk and milk products such as pasteurized milk butter, ghee, flavored milk to its valued customers. Total investment of this milk supply scheme is Rs. 151.5 million. The market for its products is national and its yearly capacity is Rs. 1,42,35,00,000. It covered the area of land is 29.2 ropani and its monthly consumption of water and electricity is 704,75,000 kilolitre and 741 kilowatt respectively.

Table: 4.2

Breakdown of Employee Kind, Working Days, Working Hours, Man-Days & Man-Hour of Kathmandu Milk Supply Scheme (KMSS)

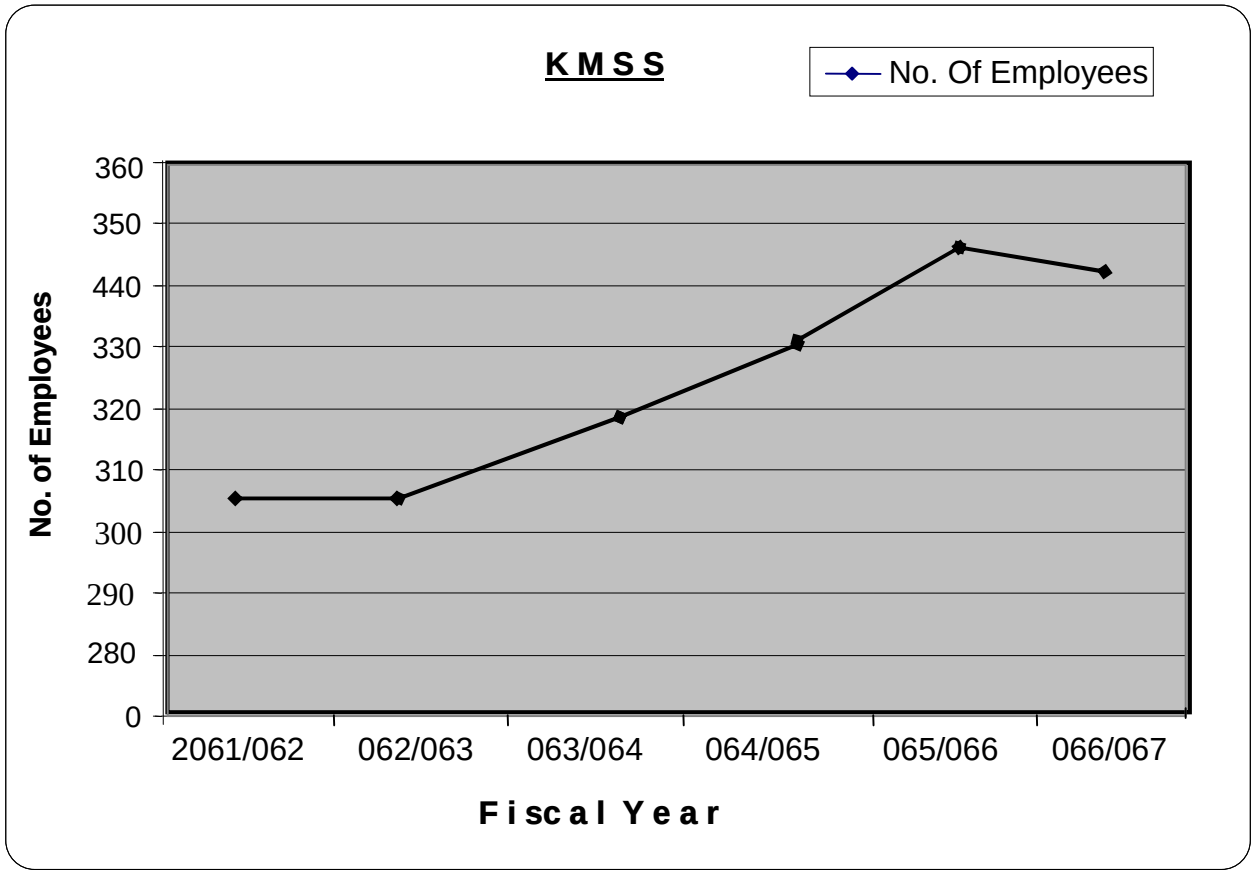
Fiscal Year	Kinds of Employee			Working Days/ Year	Working Hrs/Day	Man Days	Man Hours
	Technical	Admini-strative	Total				
2061/062	195	110	305	365	7	111,325	779,275
2062/063	190	115	305	365	7	111,325	779,275
2063/064	200	119	319	365	7	116,435	815,045
2064/065	203	127	330	365	7	120,450	843,150
2065/066	199	146	345	365	7	125,925	881,475
2066/067	196	145	341	365	7	124,465	871,255

Source: Annual Reports (2061-2067)

The above table shows the details of milk collection and physical progress of the company and the breakdown of working kinds of employee existing in the KMSS, working days in a year, working hours per day, man days and man hours. Employee type divided into two parts i.e. technical and administrative employee. Structure of employee kind shows that in FY 2062/063 and 2063/2064 it is increase by 14 employees (305 to 319) by the change of some structural between both technical and administrative employee. Similarly, the fiscal year up to 2065/066 there is increasing trend such as the number of employee in FY 2063/064 is 319 and FY 2064/065 it is 330 in total being increased by 11 employees. It is 345 in 2065/066 which is greater than that is in 2064/065 and it is 341 in FY 2067. If we see the type basis of employee, there is increasing trend of administrative laborers but in technical laborers side, there is fluctuation nature of arrival and departure pattern. This fact can be shown in the following graph:

Figure: 4.1

Employee Structure of Kathmandu Milk Supply Scheme (KMSS)



Source: Annual Reports (2061-2067)

The working days per year are reported to be 365 days in each fiscal year due to the nature of organization. The working hour per day is reported as 7 hours which is standard working time of governmental services.

The following table presents the employee productivity in terms of output per man year, man month per man day and per man hours. The growth of average output per man year is highest in 2063/064 (Rs.4355366.77) and least in 2065/066 (Rs. 3656202.89). It is relatively less in 2061/062 than that is in 2062/063 by amounting Rs. 199560.65 resulting the smaller the smaller figure of output per man hour from 1687.74 to 16098.63. But in 2063/064 it is very high then after it is in decreasing trend up to 2064/065 being Rs. 3906066.67 in 2063/064, Rs. 3656202.89 in 2063/064 and Rs. 3799958.94 in FY 2066/067 which is greater than FY 2065/066.

Table: 4.3
Employee Productivity of Kathmandu Milk Supply Schemes (KMSS)

Fiscal Year	Gross Output (Rs.)	No. of Employees	Output per man Year (Rs.)	Output per-man Month (Rs.)	Output per-man Day (Rs.)	Output Per-man hrs (Rs.)
2061/062	1315210,000	305	4312,163.93	359,346.99	11,814.15	1687.74
2062/063	1254344,000	305	4112,603.28	342,716.94	11,267.41	1609.63
2063/064	1389362,000	319	4355,366.77	362,947.23	11,932.51	1704.64
2064/065	1289002,000	330	3906,066.67	325,505.55	10,701.55	1528.79
2065/066	1261390,000	345	3656,202.89	304,683.57	10,016.99	1430.99
2066/067	1295786,000	341	3799,958.94	316,663.25	10,410.85	1487.26

Source: Annual Reports (2061-2067)

The following table provides the basic information regarding the utilization of full capacity under the different fiscal years. The capacity utilization rate of Kathmandu Milk Supply Scheme is 97.60 in the fiscal year 2063/064 which is the higher than among other fiscal years. It is 92.39 percent in 2061/062. 88.12 percent in 2062/063, 90.55 percent in 2064/065 and 88.61 in 2065/066 which is higher than that of fiscal year 2062/063. The capacity utilization rate of KMSS is 92.39 percent in FY 2061/062. Then it decreased to 88.12 percent and it increased and reached to 97.60 percent in FY 2063/064. It shows the ups and downs in the case of capacity utilization.

Table: 4.4
Capacity Utilization Rate of Kathmandu Milk Supply Scheme (KMSS)

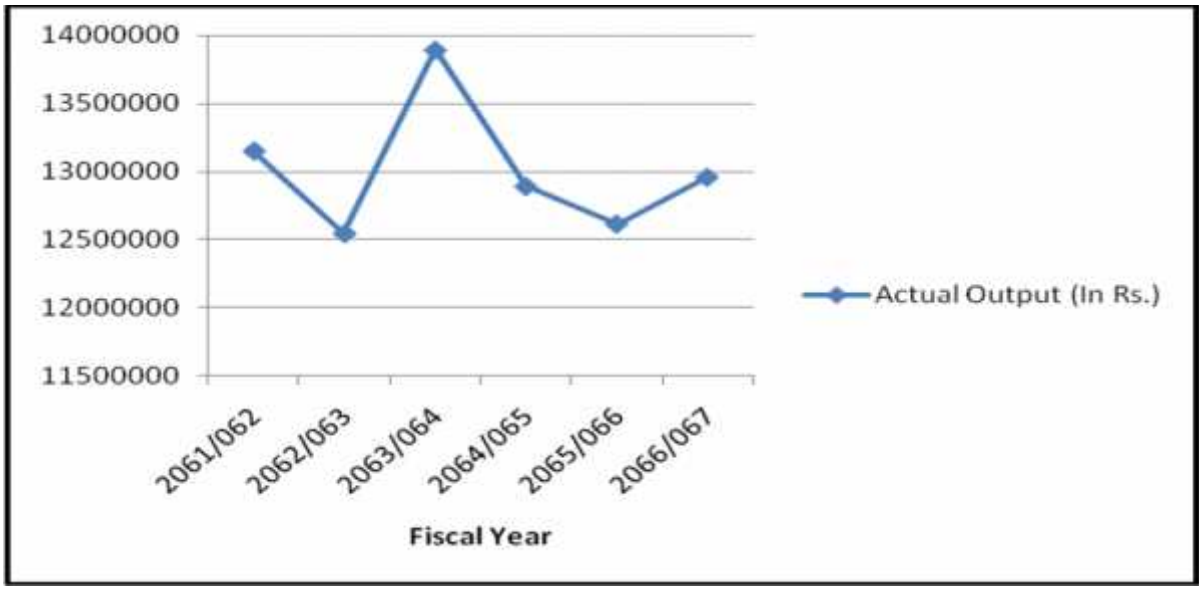
Fiscal Year	Full Capacity (In Rs.)	Actual Output (In Rs.)	Capacity Utilization Rate (%)
2061/062	1,42,35,00,000	1,31,52,10,000	92.39
2062/063	1,42,35,00,000	1,25,43,44,000	88.12
2063/064	1,42,35,00,000	1,38,93,62,000	97.60
2064/065	1,42,35,00,000	1,28,90,02,000	90.55
2065/066	1,42,35,00,000	1,26,13,90,000	88.61
2066/067	1,42,35,00,000	1,29,57,86,000	91.03
Total	4270500000	3,958,916,000	548.3
Mean			91.38333
S.D			3.429879
C.V			3.753287

Source: Annual Reports (2061-2067)

If we see the production trend of KMSS, it is in ups and down nature. The production value of FY 2062/063 is less than of FY 2061/062, FY 2063/064, FY 2064/065, FY 2065/066 and FY 2066/067. The highest production figures lies at the FY 2063/64.

Figure: 4.2

Production Trend of Kathmandu Milk Supply Scheme (KMSS)



Source: Annual Reports (2061-2067)

4.2 Analysis of Employee Productivity of Biratnagar Milk Supply Scheme

Biratnager Milk Supply Scheme (BMSS) is established in 2030 B.S. at Kanchanwari in Biratnagar to provide milk and milk products such as standard and full milk, butter, cream, ghee, Skim Milk Powder (SMP) etc. The market for its products is national and its yearly capacity is Rs. 438 million. BMSS has been regarded as a major milk scheme of Dairy Development Corporation.

Table: 4.5

Breakdown of Employee Type, Working Days, Working Hours, Man-Days & Man-Hour of Biratnagar Milk Supply Scheme (BMSS)

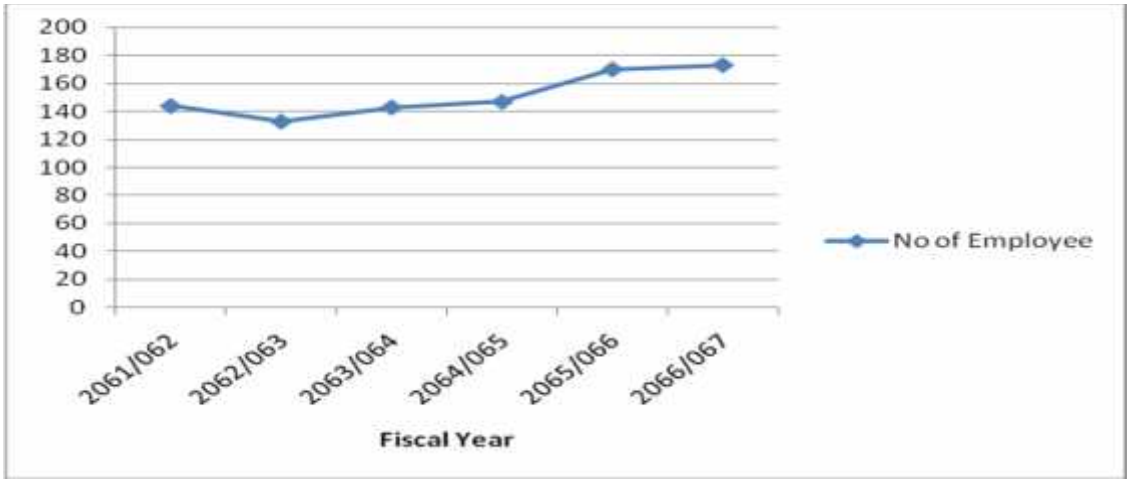
Fiscal Year	Kinds of Employee			Working -g Days/ Year	Working Hours/Day	Man Days	Man Hours
	Technical-l	Admmini-Strative	Total				
2061/062	99	45	144	365	7	52,560	367,920
2062/063	93	40	133	365	7	48,545	339,815
2063/064	94	49	143	365	7	52,195	365,365
2064/065	98	49	147	365	7	53,655	375,585
2065/066	108	62	170	365	7	62,050	434,350
2066/067	110	63	173	365	7	63,145	442,015

Source: Annual Reports (2061-2067)

The above table shows the employee type such as technical and administrative employed in different fiscal year. It helps to illustrate the fact that the number of workers in employment (173) in 2066/067 is highest than in other fiscal years. The number of workers remains least (133) in fiscal year 2062/063. But in fiscal year 2061/062, it is 144 workers being smaller than that (147) in fiscal year 2064/065. This fact can also be present in the following figure:

Figure: 4.3

Employee Structure of Biratnagar Milk Supply Scheme (BMSS)



Source: Annual Reports (2061-2067)

This table also presents the total working days, per year, working hours per day, man-days & man hours. The number of working days per year found to be 365 days same as in other milk supply schemes. The working hour per day where 7 hours.

The following table provides the more detailed information of output levels showing the exact productivity levels per man year, man month, man days & man-hours in different fiscal years. The average output per employee in 2062/063 Rs. 2236330.90 is more than that among other fiscal year. It is the least in 2065/066 Rs. 1546588.24. Further in shows the increasing trend from fiscal year 2061/062 to 2062/063 but it slightly decrease in fiscal year 2063/064. And In FY 2066/067 Rs. 1582312.14 which is slightly greater than FY 2065/066 (Rs. 1546588.24)

Table: 4.6

Employee Productivity of Biratnagar Milk Supply Scheme (BMSS)

Fiscal Year	Gross Output (Rs.)	No. of Employees	Output per man Year (Rs.)	Output Man Month (Rs.)	Output per-man Day (Rs.)	Output per-man Hours (Rs.)
2061/062	29,02,08,000	144	2015,333.33	167944.44	5521.46	788.78
2062/063	29,77,43,200	133	2236,330.90	186,360.90	6,126.93	875.28
2063/064	25,80,96,000	143	1804,867.13	150,405.59	4,944.84	706.41
2064/065	28,11,84,000	147	1912,816.33	15,941.36	5,240.59	748.66
2065/066	26,29,20,000	170	1546,588.24	128,882.35	4,237.23	605.32
2066/067	27,37,40,000	173	1582,312.14	131,859.35	4,335.10	619.30

Source: Annual Reports (2061-2067)

The capacity utilization rate of Biratnagar Milk Supply Scheme reveals the unsatisfactory situation which has been illustrated in following table. It is highest (67.91 percent) in fiscal year 2062/063 and least (58.93 percent) in

fiscal year 2063/064. This table indicates that no one fiscal year has been able to cross the 70 percent in terms of capacity utilization.

Table: 4.7

Capacity Utilization Rate of Biratnagar Milk Supply Scheme (BMSS).

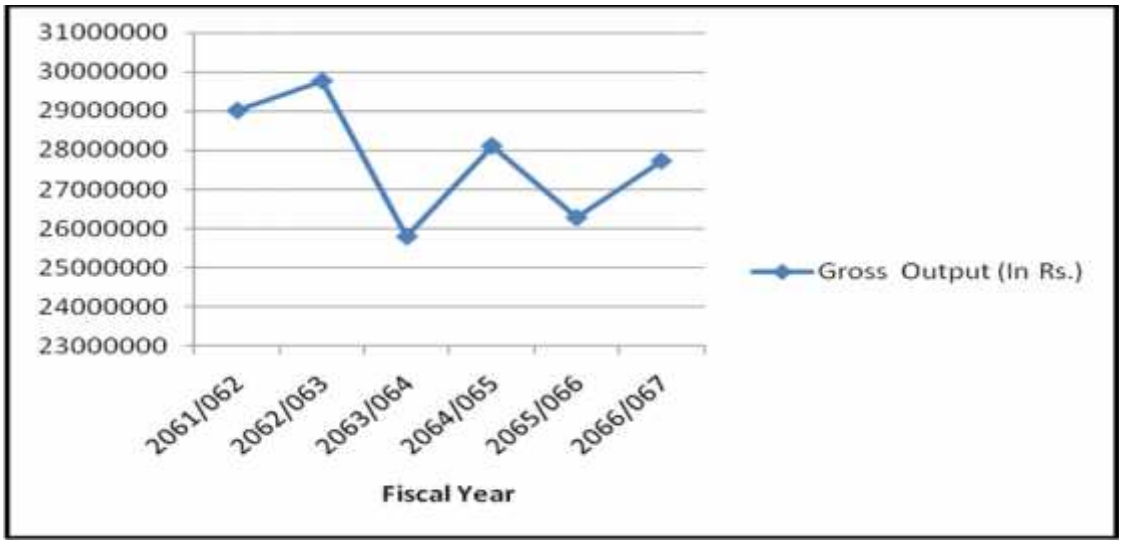
Fiscal Year	Full Capacity (In Rs.)	Actual Output (In Rs.)	Capacity Utilization (%)
2061/062	43,80,00,000	29,02,08,000	66.26
2062/063	43,80,00,000	29,77,43,200	67.91
2063/064	43,80,00,000	25,80,96,000	58.93
2064/065	43,80,00,000	28,11,84,000	64.18
2065/066	43,80,00,000	26,29,20,000	60.03
2066/067	43,80,00,000	27,73,74,000	62.25
Total			379.56
Mean			63.26
S.D			3.512002
C.V			5.551695

Source: Annual Reports (2061-2067)

The Production trend of Biratnagar Milk Supply Scheme shows that every fiscal year's production is greater than that of previous year's Production. If we look at the production of FY 2063/064 is less than of FY 2062/063. Similarly, FY 2066/067 is greater than FY 065/066. Exception case has been applied in the FY 2063/064 and 2065/066.

Figure: 4.4

Production Trend of Biratnagar Milk Supply Scheme (BMSS)



Source: Annual Reports (2061-2067)

4.3 Analysis of Employee Productivity of Hetauda Milk Supply Scheme

Hetauda Milk Supply Scheme is established in Baisakh 12, 2030 in Makawanpur district of Nepal. It meets the demand part of milk and milk products for its valued customers. It produces the various types of milk products like standard and full cream milk, butter, cream, ghee, ice-cream, peda, lalmohan, yoghurt, paneer etc. and it supply its whole products in both market of Nepal. Its yearly production capacity equivalent to Rs.262800000. Total investment of the Hetauda Milk Supply Scheme is Rs. 35.7 million and it has covered 35.30 Ropanie of land. Its monthly consumption of water is 19211768 kilolitres.

The details information relating to employee type, working days in a year, working hours, per man days and per man hours have been presented in the following table. It shows that the increasing number of workers from fiscal year 2061/062 to fiscal year 2066/067 expect being slightly decreased (134) in fiscal year 2063/064. The highest figure of worker (146) in fiscal year

2066/067 which is equal to 2065/066. Followed by fiscal year 2063/064 remaining at 135.

Table: 4.8

Breakdown of Employee Type, Working Days, Working Hours, Man-Days & Man-Hour of Hetauda Milk Supply Scheme (HMSS)

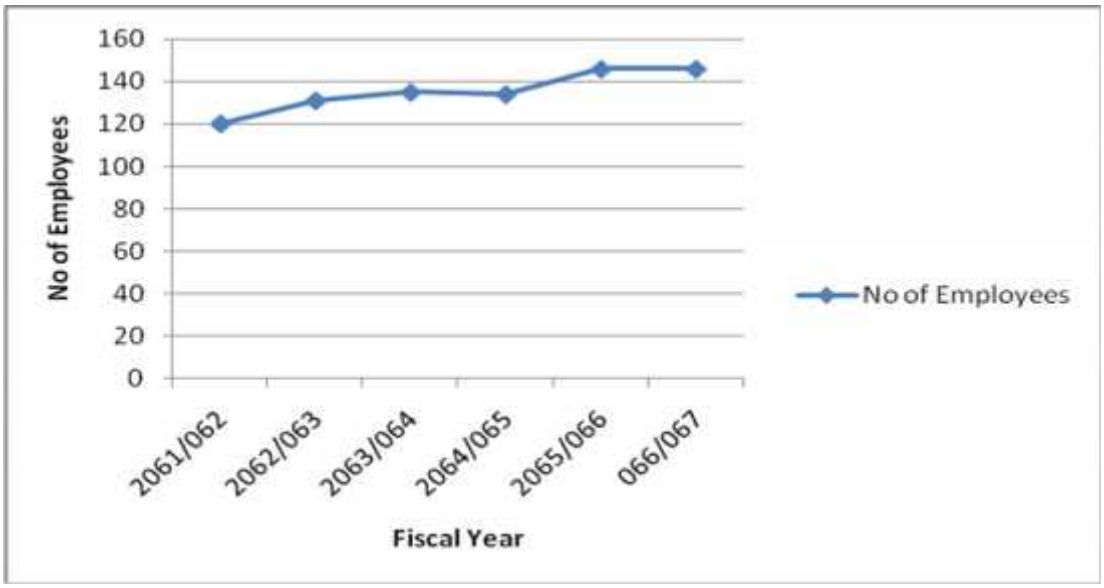
Fiscal Year	Kinds of Employee			Working-g Days/ Year	Working Hours/Day	Man Days	Man Hours
	Technical	Admini-strative	Total				
2061/062	80	40	120	365	7	43,800	306,600
2062/063	85	46	131	365	7	47,815	334,705
2063/064	90	45	135	365	7	49,275	344,925
2064/065	80	54	134	365	7	48,910	342,370
2065/066	89	57	146	365	7	53,290	373,030
066/067	89	57	146	365	7	53,290	373,030

Source: Annual Reports (2061-2067)

The following figure also depicts the employee structure of milk supply scheme during the different fiscal years.

Figure: 4.5

Employee Structure of Hetauda Milk Supply Scheme. (HMSS)



Source: Annual Reports (2061-2067)

Gross output of employee and employee productivity has been presented in the following table and figure also. Employee productivity in term of output per man year, man month, man days and man hours has been superlatively shown in this table. Output per man year is highest (1546600) in fiscal year 2061/062 and least (1080897.26) in fiscal year 2066/067. Similarly, it is Rs.1270534.35, Rs 552711.11 Rs. 1091283.58 and Rs.484438.35 in fiscal year 2062/063, 2063/064, 2064/065 and 2065/066 respectively.

Table: 4.9

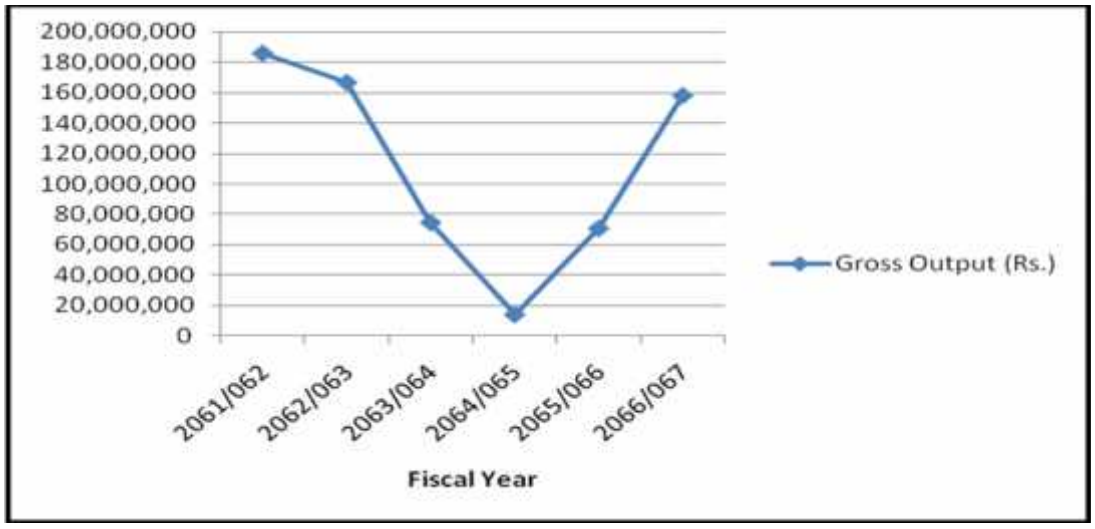
Employee Productivity of Hetauda Milk Supply Scheme (HMSS)

Fiscal Year	Gross Output (Rs.)	No.of Employees	Output per man Year (Rs.)	Output Man Month (Rs.)	Output per-man Day (Rs.)	Output per-man Hours (Rs.)
2061/062	185592,000	120	1546600	128,883.33	4237.26	605.32
2062/063	166440,000	131	1270,534.35	105,877.86	3480.92	397.27
2063/064	74616,000	135	552,711.11	46,059.26	1514.28	216.33
2064/065	14232,000	134	1091,283.58	90,940.29	2989.82	427.12
2065/066	70728,000	146	484,438.35	40,369.86	1327.23	189.60
2066/067	157811,000	146	1080,897.26	90,074.7	2961.36	423.05

Source: Annual Reports (2061-2067)

Figure: 4.6

Production Trend of Hetauda Milk Supply Scheme (HMSS)



Source: Annual Reports (2061-2067)

The Capacity utilization rate for this milk supply scheme in different fiscal years has been presented in the following table which reveals the overall condition happened in that fiscal years in the case of capacity utilization. It is found to be very much unsatisfactory position in capacity utilization case. It is highest (70.62 percent) in fiscal year 2060/061 and it is following by fiscal year 2061/062 being at the rate of 63.33 percent. Then after it is decreased and reached to the level of 28.39 percent which is higher than that of (26.91 percent) fiscal year and approximately half (55.64 percent) of fiscal year 2063/064.

Table: 4.10
Capacity Utilization Rate of Hetauda Milk Supply Scheme. (HMSS)

Fiscal Year	Full Capacity (In Rs.)	Actual Output (In Rs.)	Capacity Utilization Rate (%)
2061/062	262800000	185592000	70.62
2062/063	262800000	166440000	63.33
2063/064	262800000	74616000	28.39
2064/065	262800000	14232000	55.64
2065/066	262800000	70728000	26.91
066/067	262800000	157811000	60.05
Total			304.94
Mean			50.82333
S.D			18.61053
C.V			36.61807

Source: Annual Reports (2061-2067)

4.4 Analysis of Employee Productivity of Lumbini Milk Supply Scheme

Lumbini Milk Supply Scheme is established in Falgun 16, 2045 B.S. in Butwal. It produces the milk and milk products like standard and full cream milk, ghee, tog hurts, rasbari etc. and market for these products in Nepal and Third world countries. The total investment of this project is Rs.3.1 million. It has covered the area of land 14 Ropanies.

Table: 4.11

Breakdown Of Employee Type, Working Days, Working Hours, Man-Days & Man-Hour of Lumbini Milk Supply Scheme (LMSS)

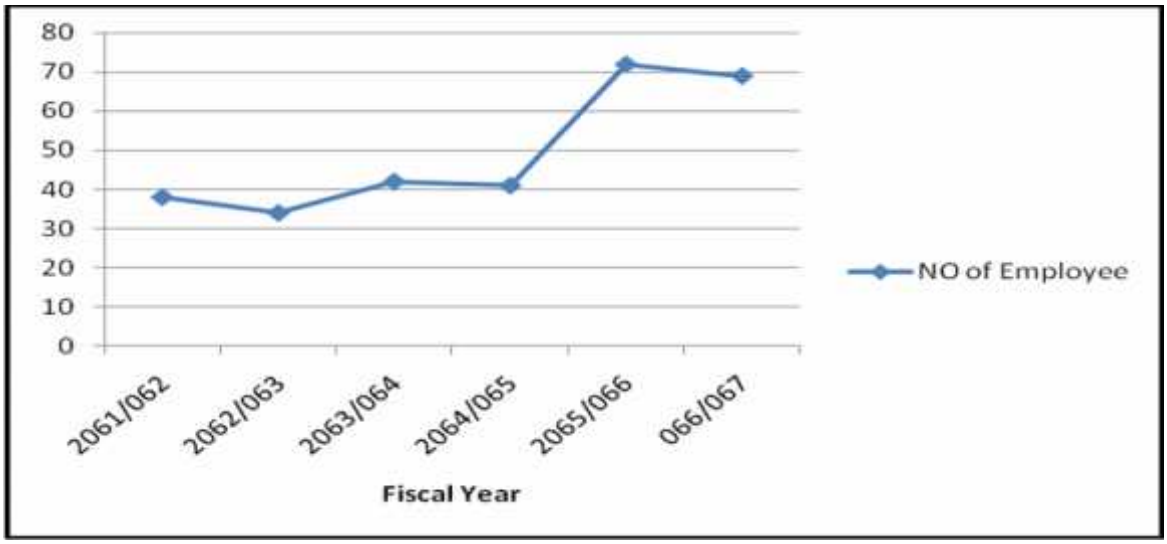
Fiscal Year	Kinds of Employee			Working-g Days/ Year	Workin g Hours/D ay	Man Days	Man Hours
	Technical	Admini-strative	Total				
2061/062	20	18	38	365	7	13,870	97,090
2062/063	20	14	34	365	7	12,410	86,870
2063/064	26	16	42	365	7	15,330	107,310
2064/065	25	16	41	365	7	14,965	104,755
2065/066	45	27	72	365	7	26,280	183,960
066/067	42	27	69	365	7	25,185	176,295

Source: Annual Reports (2061-2067)

The table no. 4.11 has analyzed the breakdown of employee structure prevailing in the LMSS, Their working days in a year, working hours per day, man days and man hours. It is seen that there is 38 numbers of workers in fiscal year 2061/062 which is greater than in FY 2062/063 (34). It is increased by 7 employees and reached to the 41 in fiscal year 2064/65. The highest figure recorded (72) in fiscal year 2065/066. But slightly decrease (69) in FY 2066/067. This milk supply scheme remained open for 365 days in each fiscal year due to their obligation to meet the demands of customers. Working hours per day were noted to be 7 in each fiscal year under study. The employee structure of LMSS can be shown in the following figure:

Figure: 4.7

Employee Productivity of Lumbini Milk Supply Scheme (LMSS)



Source: Annual Reports (2061-2067)

Gross output in monetary value and breakdown of employee productivity in terms of output per man year, man month, man days and man hours has been shown in the following table. The lowest figure of per man year (82000) in fiscal year 2065/066 and the highest figure (228000) in fiscal year 2062/063. Then it is decreasing in respective following year. This fact reveals that the employee productivity in LMSS decreasing year by after being Rs 228000, Rs. 176000 Rs. 133463.41 and 97347.83 in fiscal year 2062/063, 2063/064, 2064/065 and 2066/067 respectively.

Table: 4.12

Employee Productivity of Lumbini Milk Supply Scheme. (LMSS)

Fiscal Year	Gross Output (Rs.)	No.of Employees	Output per man Year (Rs.)	Output Man Month (Rs.)	Output per-man Day (Rs.)	Output per-man Hours (Rs.)
2061/062	80,40,000	38	2,11,578.95	17,631.58	579.67	82.81
2062/063	77,52,000	34	228,000	19,000	624.66	89.24
2063/064	73,92,000	42	1,76,000	14,666.67	482.19	68.88
2064/065	54,72,000	41	1,33,463.41	11,121.95	365.65	52.23
2065/066	59,04,000	72	82,000	6,833.33	224.66	32.09
066/067	67,17,000	69	97,347.83	8,112.32	266.71	38.10

Source: Annual Reports (2061-2067)

Capacity utilization rate of Lumbini Milk Supply Scheme shows the lowest level of progress and it is decreasing from 18.36 percent in fiscal year 2061/062, 17.69 percent in 2063/064 and it is slightly increased and reached up to 15.34 percent in 2066/067 which is slightly greater than in FY 2065/066. This fact revels that Lumbini Milk Supply Scheme is not utilizing their utilizing their resources at full capacity.

Table: 4.13

Capacity Utilization Rate of Lumbini Milk Supply Scheme (LMSS)

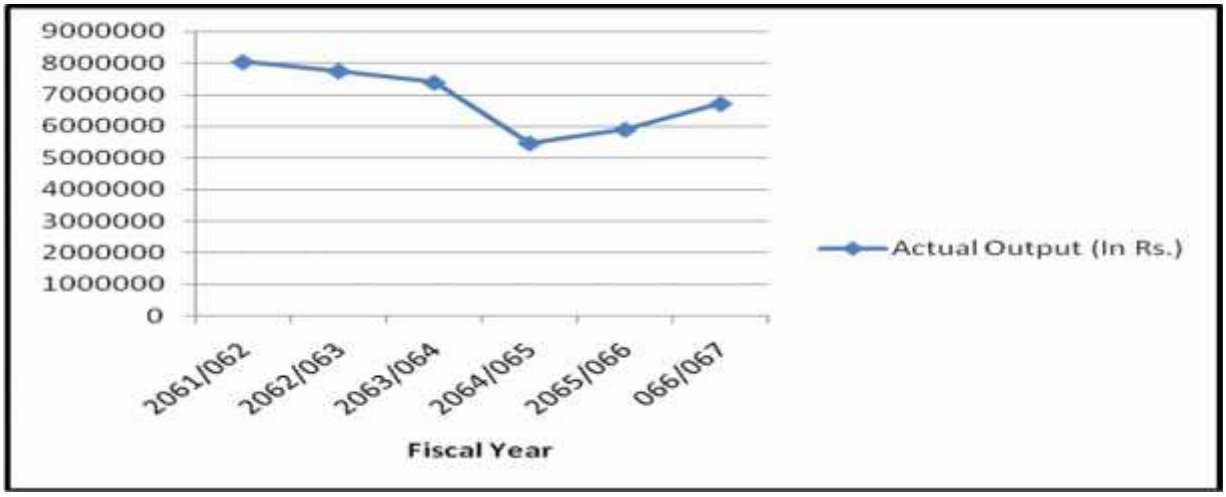
Fiscal Year	Full Capacity (In Rs.)	Actual Output (In Rs.)	Capacity Utilization Rate (%)
2061/062	43790000	8040000	18.36
2062/063	43790000	7752000	17.70
2063/064	43790000	7392000	17.69
2064/065	43790000	5472000	16.88
2065/066	43790000	5904000	13.48
066/067	43790000	6717000	15.34

Source: Annual Reports (2061-2067)

If we see the production trend of Lumbini Milk Supply Scheme, it is ups and down nature. The production value of FY 2066/067 is less than of FY 2061/062, FY 2062/063, FY 2063/064 and FY 2064/065. But FY 2066/067 is greater than FY 2065/066. The highest production figure lies at the FY 2061/062.

Figure: 4.8

Production Trend of Lumbini Milk Supply Scheme. (LMSS)



Source: Annual Reports (2061-2067

4.5 Productivity Levels and Indices in Milk Supply Scheme

The production level and indices of milk supply schemes has been presented in following table:

Table: 4.14

Productivity Levels and Indices in Milk Supply Schemes.

Name of Milk Supply Schemes		2061/062	2062/063	2063/064	2064/065	2065/066	2066/067
KMSS	EPL (Rs.)	43,12,163	41,12,603	43,55,367	39,06,067	36,56,203	37,99,959
	EPI	100	95	101	90	85	88
BMSS	EPL (Rs.)	20,15,333	22,36,331	18,04,867	19,12,816	15,46,588	15,82,312
	EPI	100	111	90	95	77	78
HMSS	EPL (Rs.)	15,46,600	12,70,535	5,52,711	10,91,284	4,84,438	10,80,897
	EPI	100	82	35	70	31	70
LMSS	EPL (Rs.)	2,11,579	2,28,000	1,76,000	1,33,463	82,000	97,348
	EPI	100	107	83	63	39	46

Source: Annual Reports (2061-2067)

EPL = Employee Productivity Level per Year

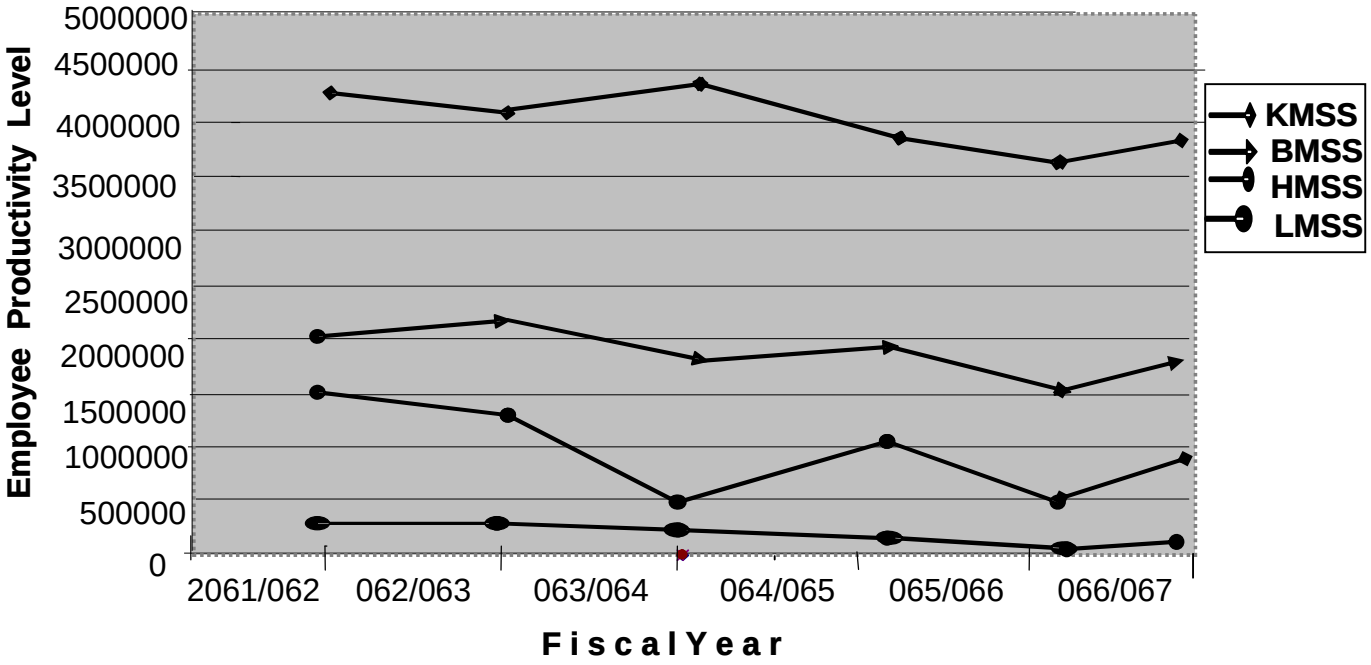
EPL = Employee Productivity Index

The above table gives a more detailed breakdown of productivity of four milk supply schemes of Dairy Development Corporation highlighting their true productivity condition in different fiscal years. It shows that productivity Index of Kathmandu Milk Supply Scheme (KMSS) is 95 in 2062/063, 101 in 2063/064, 90 in 2064/065, 85 in 2065/066 and 88 in 2066/067. (2061/062 = 100). The productivity index of Biratnagar Milk Supply Scheme (BMSS) increased to 111 in 2062/063 and decline to 90 in 2063/064. But it increased to 95 in 2064/065 and again it decreased to 77 in 2065/066 and again slightly increases to 78 in FY 2066/067. (2061/062 = 100). Productivity index of Hetauda Milk Supply Scheme (HMSS) decreased from 100 (2061/062) to 82 in fiscal year 2062/063. Then it heavily decreased and reached to the level of 35 in fiscal year 2063/064. Then, after it increased and reached up to 70 and again it declined to 31 in 2065/066 than after in FY 2066/067, it is slightly increase

again up to 70. Lumbini Milk Supply Scheme (LMSS) is another unit of Dairy Development Corporation and its productivity index shows the continuous declining after fiscal year 2061/062. With 2061/062 as a base year, the productivity index has reached 107 in 2062/063 which is highest figure among the other figure of milk supply schemes. Then it declining year after year being 83 in 2063/064, 63 in 2064/065, 39 in 2065/066 and 46 in 2066/067. The above table gives the interested fact that no one milk supply scheme is able to catch up the full productivity drive in their functions. The trend of employee productivity level in different milk supply schemes of Dairy Development Corporation has been presented in figure 4.6. Similarly, figure 4.8a presents the Employee productivity indices of different milk supply schemes.

Figure: 4.8a

Employee Productivity Level in Milk Supply Schemes of Dairy Development

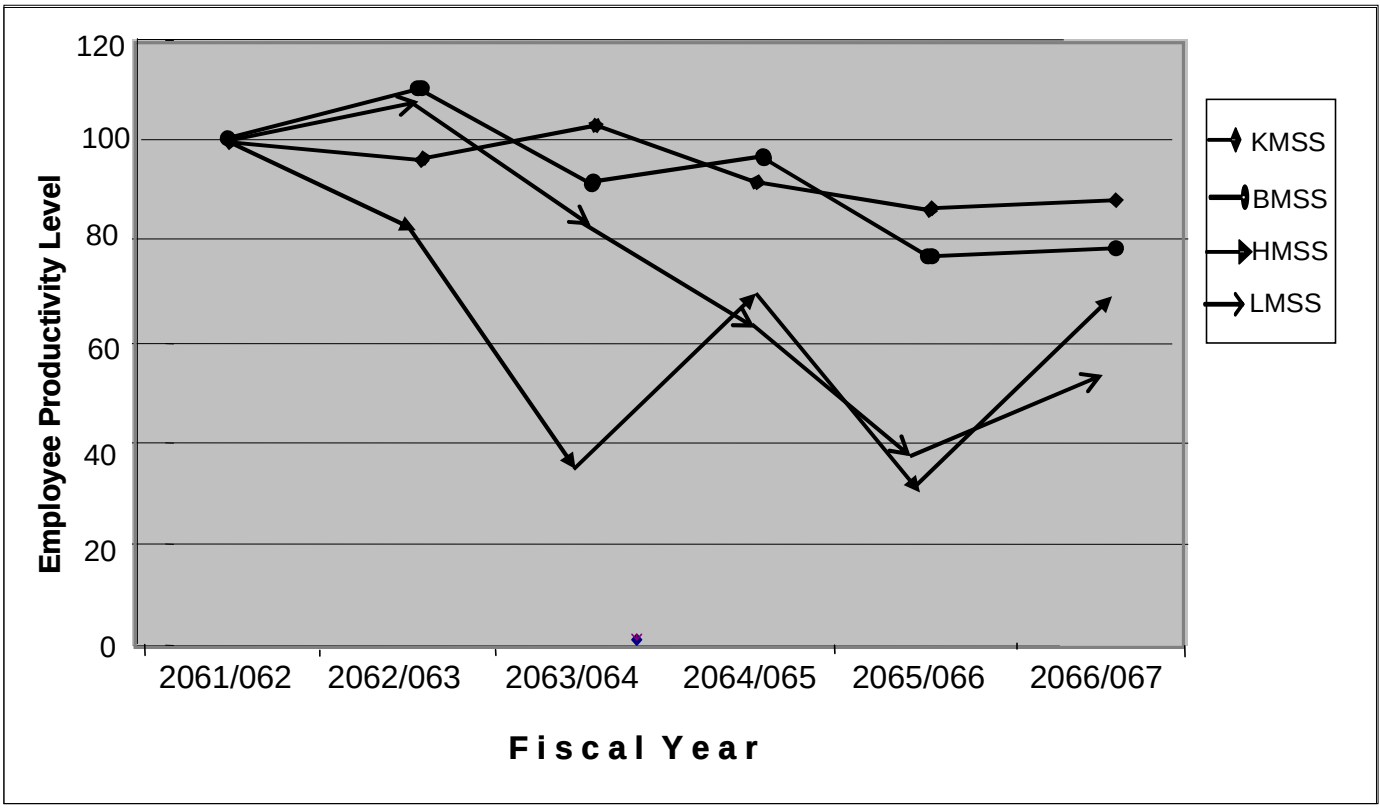


Sources:- Productivity Levels and Indices in Milk Supply Scheme

The employee productivity level for the four milk supply schemes is in decreasing trend. In the case of Kathmandu Milk Supply Scheme, in fiscal year 2062/063 with the base year 2061/062, it is slightly decreasing but in fiscal year 2066/067 it is increased and reached the highest level. Similarly in the case of Biratnagar Milk Supply Scheme, it follows the fluctuating trend as happened in the Kathmandu Milk Supply Scheme. But in the case of Hetauda Milk Supply Scheme, it is different due to increasing up to fiscal year 2066/067 with the base year 2061/062. But in the fiscal year 2062/063, it reached to the highest level among other fiscal years. Lumbini Milk Supply Scheme, being small unit of Dairy Development Corporation, it has nearly straight forwarding but in somehow it is decreasing trend except in fiscal year 2066/067 with the base year 2061/062.

Figure: 4.8 b

Employee Productivity Indices in Milk Supply Scheme of Dairy Development Corporation



Sources: Productivity Levels and Indices of Milk Supply Scheme

Employee Productivity index of different milk supply schemes show that they are in fluctuating trend. For the Kathmandu Milk Supply Scheme, employee productivity index for the fiscal year 2063/064 being a highest as a base year 2061/062. Then it follows the decreasing trend. Similarly, employee productivity index for the Biratnagar Milk Supply Scheme, with a base year 2061/062 lowest figure has been seen in fiscal year 2066/067 in contrast, the highest figure lies at the fiscal year 2062/063. Overall employee productivity for the Biratnagar Milk Supply Scheme in follows the trend of Kathmandu Milk Supply Scheme. For the case of Hetauda Milk Supply Scheme, it shows the high fluctuating trend. With a base year 2061/062 it is decreasing trend up to fiscal year 2063/064 then it increased and again it decreased. Employee Index for the Lumbini Milk Supply Scheme, it decreasing trend almost in straight direction.

4.6 Value Index of Employee Productivity in Four Milk Supply Schemes

The value index of employee productivity for the milk supply schemes of Dairy Development Corporation has been presented in the following table:

Table: 4.15

Value Index of Employee Productivity in Food Supply Schemes.

Name of Milk	Base Period 2061/062			Reporting Period 2066/067			VIEP
Supply Schemes	Gross Output (Rs.)	Average No. of listed workers	Output per workers (Rs.)	Gross Output (Rs.)	Average-e No. of listed workers	Output per worker (Rs.)	
Symbols	q_o/p	T_o	Q_op/t_o	Q_1/p	T_1	$Q_1/p/T_1$	85
KMSS	1315210000	305	4312163.93	1261390000	345	3646202.89	77
BMSS	290208000	144	2015333.33	262920000	170	1546588.24	20
HMSS	285592000	120	2379933.33	70728000	146	484438.86	39
LMSS	8040000	38	211578.95	5904000	72	82000	65
Total	1899050000	607	8919009.54	1600942000	733	5769229.99	65

Source: Dairy Development Corporation (2061-2067

The value index of employee productivity in 2066/067 in the milk supply schemes as a whole is 65 (2061/062 = 100). It shows declining trend in the level of productivity. It decreased from 100 in 2061/062 to 85, 77, 20, 39 and 65 in KMSS, BMSS, HMSS and LMSS. The decreasing trend of productivity in these milk supply schemes as a whole due to less contribution of HMSS and LMSS even though they have less number of workers.

4.7 Physical Index of employee productivity at the Four Milk Supply Schemes.

The physical Index of employee productivity at the milk supply schemes of Dairy Development Corporation (DDC).

Table: 4.16

Physical Index of Employee Productivity in Four Milk Supply Schemes.

Name of MSS	Base Period 2061/062			Current Year 2066/067			Individual Indices of Employee Productivity	IviT1	PIEP
	Units of Production	Man Hour	Average Output per man hour	Units of Production	Man Hour	Average Output per man hour			
Symbol									
KMSS	51310000	779275	65.84	49495000	881475	56.15	0.8528	751721.9	85
BMSS	13732000	367920	37.32	12999580	434350	29.93	0.8019	348305.3	80
HMSS	8171000	306600	26.65	3631000	373030	9.73	0.3651	136193.3	37
LMSS	380000	97090	3.91	293350	183960	1.59	0.4066	74798.1	41
Total					1872815			1312018.6	70

Source: Annual Reports (2061-2067)

The Physical index of employee productivity in milk supply schemes as a whole decreased from 100 in 2061/062 to 70 in 2066/067. it decreased to 85, 80, 37 and 41 in KMSS, BMSS, HMSS, and LMSS, respectively. If we look at

the PIEP of KMSS, it is very high among the others due to mainly production efficiency of its employee. The decrease in PIEP of HMSS is mainly due to the heavy fall in average number of products as compared to men hour.

4.8 Analysis of Overall Employee Productivity and Indices of Milk Supply Schemes.

Employee Productivity levels and indices of Four Milk Supply Schemes have been tabulated under here.

Table: 4.17

Employee Productivity & Indices of Milk Supply Schemes.

S.N	Description	2061/062	2062/063	2063/064	2064/065	2065/066	2066/067	Growth Rate
1.	Gross Output(Rs.)	1799050000	1725968000	172946600	1721890000	1600942000	1734054000	-5.36
2.	Employees	607	603	639	652	733	729	5.0
3.	Employee Productivity Level	2963839	2862302	27065100	2640936	2184095	2378675	-2.19
4.	Productivity Indices	100	97	91	89	74	80	-6.89

Source: Annual Reports (2061-2067)

Above table shows that growth rate for the gross output, employees, and employee productivity level and productivity indices. Growth rate of employees is positive, rest of all figure are negative.

4.9 Analysis of Employee Productivity through Value Added Approach.

Employee Productivity from the value added point of view can be regarded as the most important technique of evaluating the productivity whatever the size of the organization. Value added technique is mostly used in the industries due to its reliability of factual findings. Therefore, for the whole milk supply

schemes of dairy development corporation here have been analyzed through the value added approach:

Table: 4.18

Analysis of Employee Productivity of Whole Milk Supply Schemes of Dairy Development Corporations (DDC)

Fiscal Year	2061/062	2062/063	2063/064	2064/065	065/066	066/067
Sales (Rs.)	1548239961.40	1595906712.29	1535810462.06	1589663476.25	1680353679.64	1800673560.90
O/S Collection	-	-	64731817.32	45188469.00	41183989.00	12462762.46
Expenses	1142154397.21	1198481863.86	1127653155.15	1132317996.93	1144708429.24	1497384582.12
Sales Expenses	38633228.01	40905163.80	39302977.33	41093440.96	46437352.28	46437352.28
Administrative Expenses	83006726.25	79998862.47	58304547.38	76692653.02	80209132.06	80209132.06
Depreciation	30002415.81	29428738.61	2993611.51	29406299.23	34209863.64	34209863.64
Total External Expenses	1293796767	1348814628	1319986109	1324698858	1346748766	1670703692
Value Added	254443194	247092084	242824354	264964618	333604913	129969868
No. of Employee	748	857	835	798	977	969
Employee Productivity	340164.69	288322.15	290807.09	332035.86	341458.45	134127.83

Source: Annual Reports (2061-2067)

Table 4.18, shows that the employee productivity in fiscal year 2061/062 is highest figure among the other fiscal year. In fiscal year 2061/062, employee productivity is 340164.69, 288322.15, 258472.28, 332035.86, 207225.02 and 26151.73 in fiscal year 2062/063, 2063/064, 2064/065, 2065/066 and 2066/067 respectively. It seems that from the fiscal year 2062/063, it is in declining trend up to fiscal year 2063/064 and then in fiscal year 2064/065 it is slightly increased and reached to the 332035.86 and then in fiscal year 2065/066 and in fiscal year 2066/067.

4.10 Major Findings of the Study

The major findings of the study are as follows:

- Physical progress of four milk supply schemes of Dairy Development Corporation is not satisfactory. For the Kathmandu Milk Supply Schemes, it reflects that the physical progress is in decreasing stage up to fiscal year 2062/063. Then, it is slowly grew and became the largest figure among the other fiscal years in the 2063/064 then, it is slowly decreasing in every year up to 2065/066 and again slightly decreasing position in fiscal year 2066/067. The physical progress of Biratnager Milk Supply Schemes is relatively more satisfactory than other milk supply schemes. Its physical progress is not increasing up to fiscal year 2062/063 but then it went to downward trip and reach 12,216,600 in 2066/067. Overall, its progress is not fluctuation trend. The physical progress of Hetauda Milk Supply Schemes and Lumbini Milk Supply Schemes is not satisfactory. In the case of Biratnager Milk Supply Schemes, its progress decreased and increased and haphazardly every year and in the case of Lumbini Milk Supply Schemes, its physical progress is in decreasing trend.
- Productivity level and indices of these four milk supply schemes for the year 2066/067 as the base year of 2061/062 Rs. 3799959 which is the indices of 88 of Kathmandu Milk Supply Schemes whereas the indices for the Biratnager Milk Supply Schemes, Hetauda Milk Supply Schemes and Lumbini Milk Supply Schemes is not satisfactory. In the case of Biratnager Milk Supply Schemes are 78, 70 and 46 respectively. Similarly, for the year 2066/067 the indices of KMSS, BMSS, HMSS, and LMSS are 88, 78, 70 and 46 respectively. It shows the fact that these milk supply schemes are not in constant stage of progressing. Their productivity efforts have been gone in the way of downward.
- The value index of employee productivity of four milk supply schemes in total is 65 for the current year (2066/067) against the 100 in base year (2061/062). The value contribution from these milk supply schemes are 88 of KMSS, 78 of BMSS, 70 of HMSS and 46 of LMSS. The lowest figure of

HMSS and then the second lowest figure of LMSS decreased the whole value index of these milk supply schemes.

- The capacity utilization rate of other three milk supply schemes is not satisfactory except the KMSS. There are certain bottlenecks that effect the production activities and thereby the productivity of employee.
- Average annual growth rate of gross output of these milk supply schemes is -5.36. The fact showing the gloomy situation in the production parameter. In contrast, the average annual growth rate of employees in these milk supply schemes is 5. This fact reflects that the increasing number of employees has not been added in the gross output and thereby the less productivity.
- Overall, the employment structure of four milk supply schemes clearly denotes that these milk supply schemes should consider while taking decision on the issue of employee force. Number of employees in these milk supply schemes is 607 in FY 2061/062, 603 in 2062/063, 639 in 2063/064, 652 in 2064/065, 733 in 2065/066 and 729 in 2066/067. It shows that it has been increasing except in fiscal year 2061/062. The average annual growth rate of employees is 5.0.
- Milk collection from farmers for the four milk supply schemes seems to be decreased every fiscal year from its previous fiscal year. Although, there has been seen that of fiscal year 2063/064. it is more than of fiscal year 2062/063. The highest figure lies at the fiscal year 2061/062 became a target point for other fiscal years such as 50825000 in 2062/063, 51332000 in 2063/064, 50436000 in 2064/065 49921000 in 2065/066, 54064000 in 2066/067.
- Value added employee productivity of the Dairy Development Corporation is not satisfactory because it is gradually declining every fiscal year in 2066/067. In fiscal year 2065/066 there is vast increase in employee productivity but not reach at the level of fiscal year 2061/062. Therefore, we can predict that other milk supply schemes of Dairy Development Corporation are also in declining stage.

CHAPTER-V
SUMMARY, CONLUSIONS AND RECOMMANDATIONS

5.1 Summary

This study is conducted to present the current condition of productivity and support to the management regarding the utilization of employee force in a proper manner in Dairy Development Corporation. Dairy Development Corporation a fully state owned corporation is established in B.S. 2026 under the corporation act, 2021. With a state art infrastructure comprising of fully modern dairy plants, eleven cheese manufacturing units, forty-five milk chilling plants and highly qualified dairy specialists. Dairy Development Corporation is a precious asset in the economic development of our nation by employing more than 12000 persons directly and indirectly related with dairy collection, co-operative management, dairy transportation and marketing. It has provided the various opportunities for 100,000 farmers like husbandry and dairy products.

The topic under study has been collected with a view to highlight the importance of employee productivity in Dairy Development Corporation. It's objectives to analyze the present condition of employee productivity to find out the hindrance for the growth of it and to give the right suggestions to the management. Certainly, the entire work consists of analysis, analytical and statistical rather than descriptive.

The study is based on primary and secondary data. For primary data, various types of questionnaire have been distributed to the employees, management and other stakeholders. So the primary data were obtained through field survey. Out of six milk supply schemes, four were chosen to analyze the condition of employee productivity. Data has been presented through tables and graphs. They have been analyzed using simple statistical tools. The methodological framework of the present study is analytical in nature.

The production structure of four milk supply schemes are Rs. 1799050000 in fiscal year 2061/062, Rs. 1725968000 in fiscal year 2062/063, Rs. 1729466000 in fiscal year 2063/064, Rs. 1721890000 in fiscal year 2064/065, Rs.1600942000 in fiscal year 2065/066 and 1734054000 in 2066/067 . The gross output in decreasing trend but in fiscal year 2065/066 in compared to the gross output of fiscal year 2066/067. it has been increased by 8.3 percent. The average annual growth rate of output for these milk supply scheme is -5.36.

5.2 Conclusions

The following conclusions are findings have been drawn from the present study:-

- Dairy Development Corporation is carrying out the task of dairy development in Nepal in wider scale. Its present milk collection network has spread from Panchthar in the East to Surkhet in west. Development Corporation has employed more than 12000 persons directly and indirectly related with the dairy collection, co-operatives management, dairy transportation and marketing. Therefore, Development Corporation has been playing crucial role in contribution to uplift the economic status of rural farmers. Thus, dairy has been recognized as an effective tool for poverty alleviation.
- Technical employees have dominated over the administrative laborers. Every fiscal year and in four milk supply schemes has more number of technical laborers. Although, there is no wage differential condition between technical and administrative employees. Female participation in the workforce is low and they are confined to less productive. There are majority of wage laborers in technical side. So there must be employment securities as a permanent base for these types of employees.
- Productivity statistics need to be reliable, meaningful and consistent. At the time of investigation, this of provision is far behind from the company's activities. Therefore, there is a great need to generate, co-

ordinate, harmonize and share the knowledge and experience regarding in this matter. (Field Survey, 2010).

- One of the significant factors affecting productivity is prevalence of inadequate incentives provided by the management to the employees. In the case of Development Corporation. There can be hardly found the satisfied workers from the action of management. Therefore, there should be provision of incentives such as perquisites, food wages and other benefits, which can boost up their efficiency and this may resulted to the motivation towards the attainment of organizational goals. (Field Survey, 2010).
- Various types of trade unions are also found in Development Corporation. The activities of these trade unions has been affected the good working relation between management are workers. (Field Survey, 2010).
- Training facilities for employees are very limited in the Development Corporation. Even though they published in their annual report regarding the training facilities which has given to their employees in every fiscal year. (Field Survey, 2010)
- Management does not have any mechanism regarding the hearing of workers problems and settle their grievances. Therefore, there can be found great dissatisfactions among the employees over the management activities. (Field Survey, 2010).
- Wage laborers have been working in the Development Corporation in huge numbers. They are obliged to work six hours in a day in the company. But, their dissatisfaction always has been a great concern regarding on the issue of using them more than eight hours in a day. On the other side, they are less paid and they are striving to survive. (Field Survey, 2010)
- Quality Circle is a major tool to improve the productivity in an organization. Since two years ago, Quality Circle had been created in the company. Meeting of Quality Circle usually took one time per month.

Therefore, meeting time of circle should be shorter than this. (Field Survey, 2010)

5.3 Recommendations

The following recommendations have been made:

- Productivity in an enterprise is a prime management objective and responsibility to increase productivity and maintain its growth. Therefore, first of all, management should give more emphasis on productivity and it must be specified in a company's policies.
- To gain the benefits from the productivity, result orientation program should be involved and implemented in the Development Corporation. For attaining this strategy, there should be human commitment towards it. Therefore, management can use the two main interrelated and mutually supportive activities; they can be motivational and technical.
- Adequate facilities of training to the workers are to be made. This may help the workers to get opportunity for their future growth and prosperity. In this matter, provision can be made to give pre-service and in-service trainings to the workers to improve their skill and it may give an opportunity for promotion.
- Almost all the milk supply schemes are running below the actual capacity that heightens the cost of production and it resulted to the low level of marketability of the product. To overcome this problem, Development Corporation can utilize and expand the Milk Producers Co-operatives (MPCs) to get more and more from the farmers.
- The top management should create a autonomous body to settle the employee related problems in the Development Corporation. Before establishing this type of body, there should be proper channel to listen the hassles and grievances of employees and consensus should be obtained from the stakeholders.
- Trade unions in any organization are a must. But it's much repulses and activities, now-a-days they became a unknown revolutionary units in the

organization. By maintaining good environment in the in the company, trade union can play a significant a most needed role in the productivity issues staying far from their so-called political and social rights.

- The impact of any input to the production process should be studied time to time. For this, a separate productivity improvement section can be set up and it will be responsible for the productivity issues in the organization.
- System and culture of rewarding the most skilled and trained workers may play a significant role in the periphery of workers to get the productivity drive in this competitive era and thereby all workers improve their efficiency in their work to get proper reward.
- There are various types of productivity improvement techniques which are basically related with the human ware, software and hardware. According to the need and nature of the company, one may choose any of them. As far as concern for the Dairy Development Corporation, it may choose and can implement the maximum human ware oriented tools and techniques such as economic incentive system, small group activities, employees participation and training for employees etc.
- The company should follow the process of 5 'S' to increase the level of productivity. 5 'S' represents the 5 words beginning with 'S' in Japanese language. The first 'S' (Seiri) means the separation and selection of unnecessary and necessary things in the working place. The second 'S' (Seiton) means well- arrangement of the necessary things in the working place. The third 'S' (Seiso) means keeping the working environment neat and clean. The fourth 'S' (Seiketsu) means to continue the production activities. The fifth 'S' (Shistuke) means to keep in self-discipline and perform the work. (NPEDC; 1996)
- Management should give proper attention to the laborers. They are less paid and being utilized more than standard time. To solve this issue, Dairy Development Corporation should create good relation between management and employee by giving more wages and facilities.

- Quality Circle is found only in Kathmandu Milk Supply Schemes. By using this technique, Kathmandu Milk Supply Schemes utilized its resources in a rational way. So, other milk supply schemes of Dairy Development Corporation should follow and adopt this type of productivity improvement strategy to uplift their economic efficiency as well as human efficiency.

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dix – A

QUESTIONNAIRE

Dear Sir / Madam,

To undersigned enclosed herewith the questionnaire prepared for the facilitation the research work which is to be concluded for the partial fulfillment of the requirement for the MBS degree. You are cordially requested to go through the questionnaire to put your views and handover to the undersigned after duly completed.

The views expressed here will only be used for the purpose of the study and will be kept confidentially and will not be published anywhere. Your valuable co-operation will be mile stone for contributing a lot of for the complete success of the study.

Your co-operation in this matter shall be highly appreciated.

Thank you!

Yours Faithfully

Binod Chaudhari

Shanker Dev Campus

QUESTIONNAIRE

Note: Please fill any one or more than one boxes for the following questions:

1. Have you been received any type of training courses from the company?

a. Yes ☐ b. No ☐

2. Do you have any grievances relating to your work towards the company?

a. Yes ☐ b. No ☐

If yes, what types of grievance?

a. Management doesn't want to provide sufficient wage rate.
b. Nepotism in the case of being permanent in the company.
c. Management doesn't have any provision to listen the advice from the laborer's side.
d. All of the above.

3. Does the company have any mechanism to settle your disputes/grievances?

a. Yes ☐ b. No ☐

4. Does the company have any mechanism to measure the employee productivity?

a. Yes ☐ b. No ☐

If yes, which department carried out?

a. Production Department
b. Administration Department

c. Quality Control and Technology Department

5. Do you think that International Labor Standards have been met by the company?

a. Yes ☐ b. No ☐

6. Have you experienced with the quality Circle in the company?

a. Yes ☐ b. No ☐

If yes, since when?

A. One year ago

b. Two and half year ago

C. Three years ago

7. Does the company have any provision regarding the maintenance and repair of equipments?

a. Yes ☐ b. No ☐

If yes, how many times in a day?

a. One Time

b. Two Times

c. Three Times

Appendix – B

A BRIEF INTRODUCTION TO FOUR MILK SUPPLY SCHEMES OF DAIRY DEVELOPMENT C

KATHMANDU MILK SUPPLY SCHEMES:-

Project Name:	Kathmandu Milk Supply Scheme
Address:	Balaju Industrial District, Balaju, Kathmandu
Phone No.:	01-4350181, 4350092, 43550324
Fax No:	977-1-4350039
Established Date:	2037 B.S.
Major Production	Pasteurized milk, butter, ghee, flavored milk
Plant Capacity	15000ltrs per hour (75000 liters per shift)

BIRATNAGAR MILK SUPPLY SCHEMES:-

Project Name:	Biratnagar Milk Supply Schemes
Address:	Kanchanwari, Biratnagar
Phone No.	02-1 420263
Fax No.:	977-21-420105/420040
Established Date:	2030 B.S.
Major Production	Standard and full cream milk, butter, cream, ghee, SMS (Skim Milk Powder)
Plant Capacity	5000 liters per hours.

HETAUDA MILK SUPPLY SCHEMES:-

Project Name:	Hetauda Milk Supply Schemes
Address	Hetauda Industrial District, Hetauda
Phone No.:	057-521094
Fax No:	977-57-521812
Established Date:	2032 B.S.
Major Production	Standard and full cream milk, butter, cream, ghee, ice-cream, peda, lalmohan, yoghurt, paneer
Plant Capacity:	5000 liters per hour (750000 liters)

LUMBINI MILK SUPPLY SCHEMES:-

Project Name:	Lumbini Milk Supply Schemes
Address	Butwal
Phone No.:	071-540543
Fax No:	977-71-541543
Established Date:	2046 B.S.
Major Production	Standard and full cream milk, cream, ghee, yoghurt, rasbari
Plant Capacity:	1000 liters per hour.

Appendix – C

Milk Collection & Physical Progress of Kathmandu Milk Supply Schemes (KMSS)

(In Met. Ton)

Fiscal Year	2061/062	2062/063	2063/064	2064/065	2065/066	2066/067
Milk Collection	33917	32325	32885	31189	31693	30367
Physical Progress	51310	48863	54150	50430	49495	48973

Sources: Annual Reports of Dairy Development Corporation (DDC)

Milk Collection & Physical Progress of Biratnagar Milk Supply Schemes. (BMSS)

(In Met. Ton)

Fiscal Year	2061/062	2062/063	2063/064	2064/065	2065/066	2066/067
Milk Collection	9499	9127	8430	8417	8478	10060
Physical Progress	13732	14048	12248	13483.52	12999.58	12216.6

Sources: Annual Reports of Dairy Development Corporation (DDC)

Milk Collection & Physical Progress of Hetauda Milk Supply Schemes.

(HMSS) (In Met. Ton)

Fiscal Year	2061/062	2062/063	2063/064	2064/065	2065/066	2066/067
Milk Collection	7368	7246	6407	6728	5652	4646
Physical Progress	8171	7354	3494	6640	3631	6315.3

Sources: Annual Reports of Dairy Development Corporation (DDC)

Milk Collection & Physical Progress of Lumbini Milk Supply Schemes

(LMSS) (In Met. Ton)

Fiscal Year	2061/062	2062/063	2063/064	2064/065	2065/066	2066/067
Milk Collection	3690	3127	3617	4102	4098	4975
Physical Progress	380	360.2	360	274.49	293.35	1819.5

Sources: Annual Reports of Dairy Development Corporation (DDC)