

CITIZENSHIP MANAGEMENT INFORMATION SYSTEM
(A Case Study of MIS of Ministry of Home Affairs)

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RECOMMENDATION

This is to certify that the thesis

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has been prepared as approved by this Department in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.

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**CITIZENSHIP MANAGEMENT INFORMATION SYSTEM
(A Case Study of MIS of Ministry of Home Affairs)**

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DECLARATION

I hereby declare that the work reported in this thesis entitled “**Citizenship Management Information System (A Case Study of MIS of Ministry of Home Affairs)** ” submitted to Office of the Dean, Faculty of Management, Tribhuvan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Master of Business Studies (MBS) under the supervision of **Lecturer Krishna Prasad Acharya** and **Ram Krishna Thapa** of Shanker Dev Campus, T.U.

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CHAPTER-I

INTRODUCTION

1.1

1.2 1.1 Background

MIS (Management Information System) is a general term for the computer systems in an enterprise that provide information about its business operations. A Management Information System is an integrated man – machine systems that provides information to support the planning and control function of manager in an organization. In the beginning, business computers were used for the practical business of computing the payroll and keeping track of accounts payable and receivable. As applications were developed that provided managers with information about sales, inventories, and other data that would help in managing the enterprise, the term "MIS" arose to describe these kinds of applications. Today, the term is used broadly in a number of contexts which includes: decision support systems, resource and people management applications, project management, and database retrieval applications and transaction processing systems. Management Information Systems are primarily meant for providing information from the data after processing them. The information systems do not generate data. The data are generated, collected, recorded, stored, processed and retrieved after it has been generated by business operations in an organization (Adhikari; 2010:13).

The complexity of in government organization if increasing day by day. In order to overcome this complexity a best computerized automation system is needed in the government organization for handling the business operation with skill and precaution to avoid the management crisis. The use of computer and technology in today's world has changed the concept of management and it has made the managerial activities easier and faster. Hence, the use of MIS software is used in an organization for processing information from data so that the managers to run their organizations efficiently. The managerial functions of the organization i.e. Planning, organizing, staffing, directing and controlling are based on the availability of appropriate information system (Adhikari; 2010:5).

In Nepal, not only the private but also the public entities have been in the process of introducing ICTs for their performance. IT-policy in Nepal focuses on using e-government especially for the delivery of programs and services and the usage of information infrastructures for improved internal administrative procedures. E-governance is not only the

usage of ICTs but is determined by political, social, economic and technological aspects. It establishes a relationship between government officials and citizens, providing greater access to government information and services by making the government accessible online; promoting citizen participation. by enabling citizens to interact more conveniently with government officials, such as by requesting government service and filing required documents through website; increasing government accountability by making its operations more transparent, thereby reducing the opportunities for corruption; and supporting development goals by providing business, rural and traditionally underserved communities with information, opportunities and communications capabilities. Thus it increases the flow of information accelerating the process of decision making by optimizing resources, and making the mechanism for decision making self-regulating. Hence, MIS is an important tool for implementing the e-governance initiatives of government of Nepal.

Ministry of Home Affairs (MoHA) has also been implementing various e-government activities. Some of the e-government activities that are been implemented there are the Citizenship Management Information System (CMIS) for electronic distribution and management of Nepalese Citizenship Certificate, Document Management System (DMS) for managing and achieving the document in the organization, E-hajiri system which can centrally manage and monitor the attendance of the employee in the all 75 district of Nepal working under Ministry of Home Affairs. In my research I will be more focused on the CMIS system.

1.3 1.1.1 Management Information System (MIS)

A management information system (MIS) is a system or process that provides the information necessary to manage an organization effectively. MIS and the information it generates are generally considered essential components of prudent and reasonable business decisions. MIS is a system consisting of people, machines, procedures, and database and data models as its elements. The system gathers data from the internal and external sources of an organization process it and supplies it to assist managers in the process of decision making. Here, the word “system” implies that MIS follows a system approach, which means a holistic approach. It is based on the concept of synergy, where the output is greater than the sum of its parts. Thus, it clearly indicated that MIS is not a single system rather than it is an integrated system where parts fit into and overall design.

In other word “MIS is an automated system which presents information both internal and external to the business that aids in making a specific set or routine decisions”. The Management Information system (MIS) is a concept of the last decade or two. It has been understood and described in the number of ways. It is also popularly known as the Information System, the Information and Decision System, the Computer Based Information System. The MIS has more than one definition, some of which are given below: (Mehrsa Z, T. A.; 2013)

-) The MIS is defined as a system which provides information support for decision-making in the organization.
-) The MIS is defined as an integrated system of man and machine for providing the information to support the operations, the management and the decision making function in the organization.
-) The MIS is defined as a system based on the database of the organization evolved for the purpose of providing information to the people in the organization.
-) The MIS is defined as a Computer based information system.

Though there are number of definitions, all of them converge on one single point, i.e., the MIS is a system to support the decision-making function in the organization. The difference lies in defining the elements of the MIS. However, in today's world, the MIS is a computerized business processing system generating information for the people in the organization to meet the information needs for decision making to achieve the corporate objectives of the organization (Jawadekar, 2009: 6).

MIS is the combination of three components:

-) Management
-) Information
-) System

Management

Management is usually defined as planning, organizing, directing, and controlling the business operation. This definition, which evolved from the work of Henri Fayol in the early 1900s. Management is the process of allocating an organization's inputs, including human

and economic resources, by planning, organizing, directing, and controlling for the purpose of producing goods or services desired by customers so that organizational objectives are accomplished. If management has knowledge of the planning, organizing, directing, and controlling of the business, its decisions can be made on the basis of facts, and decisions are more accurate and timely as a result.

Information

Information is what is used in the act of informing or the state of being informed. Information includes knowledge acquired by some means. Decision-making today in any field is very complex. Information plays vital role for the operations and management of any organization. Both strategic and tactical decisions rely on timely and accurate information. Therefore MIS provides an integrated information system, which provides management with needed information on a regular basis.

The information provided by MIS can be used for various purposes:

-) strategic planning
-) delivering increased productivity
-) increasing the understanding of customers' needs
-) Facilitating business and process re-engineering.

MIS can also be used across the organization as an information utility to

-) meet regulatory and legislative requirements
-) support policy making
-) support research and development
-) support consistent and rapid decision making
-) enable effective and efficient utilization of resources
-) provide evidence of business transactions
-) identify and manage risks
-) evaluate and document quality, performance and achievements

The information needs and decision making activities of the various levels of management.

Senior Management: Strategic business direction

-) information for strategically positioning the organization,
-) competitive analysis and performance evaluation,
-) strategic planning and policy,
-) external factors that influence the direction etc
-) allow executives to see where a problem or opportunity exists

Mid Level Management: Organizational and operational functions

-) information for coordination of work units
-) information for delivery programmes
-) evaluation of resources usage
-) budget control
-) problem solving
-) operational planning etc

Mid Level Management: Programme Management within units

-) information for implementing programmes
-) information for managing programmes
-) management of resources usage
-) project scheduling
-) problem solving
-) operational planning etc

Line Management: Activity management

-) information for routine decision making
-) information for problem solving
-) Information for service delivery etc.

System

A system is a combination or arrangement of parts to form an integrated whole. A system includes an orderly arrangement according to some common principles or rules. A system is a plan or method of doing something.

A system is a scientific method of inquiry, that is, observation, the formulation of an idea, the testing of that idea, and the application of the results. The scientific method of problem solving is systems analysis in its broadest sense. Data are facts and figures. However, data have no value until they are compiled into a system and can provide information for decision making.

Management information systems are those systems that allow managers to make decisions for the successful operation of businesses. Management information systems consist of computer resources, people, and procedures used in the modern business enterprise.

In the conclusion, MIS is a system using formalized procedures to provide management at all levels in all functions with appropriate information, based on data from both internal and external sources, to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible. The actual process will involve the collection, organization, distribution and storage of organization wide information for managerial analysis and control.

1.4 1.1.2 Citizenship

Citizenship is the status of a person recognized under the custom or law of a state that bestows on that person (called a citizen) the rights and the duties of citizenship. That may include the right to vote, work and live in the country, the right to return to the country, the right to own real estate, legal protections against the country's government, and protection through the military or diplomacy. A citizen may also be subject to certain duties, such as a duty to follow the country's law, to pay taxes, or to serve in the military. A person may have multiple citizenships and a person who does not have citizenship of any state is said to be stateless.

1.5 1.1.3 Citizenship Management

The Nepal Citizenship Act 2006 was enacted on 26 November 2006. It repeals the 1964 Act and makes further provisions for acquisition and termination of Nepali citizenship. The following are the provision for the issuance of the citizenship in Nepal.

) Citizenship by virtue of Nepali descent or blood

A person born of parents who are citizens of Nepal will have a claim to citizenship of Nepal on the basis of descent and every minor found in Nepal whose parents' whereabouts is not known will have a claim to citizenship of Nepal on the basis of descent until the whereabouts of the parents is known.

) Citizenship by birth

A person who was born in Nepal before mid-April 1990, has permanent domicile and been continuously resident in Nepal throughout his life can apply to acquire citizenship of Nepal on the basis of birth.

) Citizenship by naturalization

Any foreign national of full age and capacity may submit an application to obtain Nepali citizenship if:

- He can speak and write in the national language of Nepali.
- He is engaged in any occupation in Nepal.
- He has relinquished his citizenship of another state.
- He has resided in Nepal for at least 15 years.
- He is a citizen of a country where there is legal provision or a custom to provide naturalized citizenship to Nepali nationals: and
- He is of good conduct and character.

A woman who is married to a Nepali citizen may submit an application to become a citizen of Nepal.

Any person who is the son, daughter or descendant of any Nepali national may apply to obtain the citizenship of Nepal if:

-) He can speak and write in the national language of Nepal;
-) He has relinquished the citizenship of another state;
-) He has been residing in Nepal for the past two years with the intention of residing in Nepal permanently; and
-) He is virtuous, of good conduct and character.

If any Nepali citizen notifies the prescribed authority, in the prescribed manner of his decision to relinquish Nepali citizenship, the prescribed authority may register such notice, and his Nepali citizenship shall cease to exist with effect from the date of such recording. There is a total prohibition on dual nationality in Nepal.

1.6

1.7 1.1.4 Problem Formulation

Use of information technology in public sector seems to be widespread after introduction of information technology policy in 2000. The government of Nepal selected IT industry as the top priority for development and established IT Policy 2000 to consolidate the foundation for national economic growth and better living-standards for the next five years starting from the year 2000. NITC with support from Korean International Cooperation Agency (KOICA) and HLCIT has prepared national e-governance master plan that has defined practical vision, architecture, infrastructure required, e-government framework, policies, standards and procedures for IT governance and decision making. Eight priority projects chosen were building groupware systems for government, government portal, national identification, e-education, communication network, enterprise architecture, Public Key Infrastructure (PKI) and integrated data center. IT policy 2010 has been promulgated and new vision has been provided for the development of ICT in the country. E-governance activities has been initiated. This is not in stage where we can fully realize the effect of e-governance in the general public. Most of the organization have initiated the e-government practices just as pilot project or as a fascinating service offered by their organizations. In past, even though

there were some efforts made to implement e-government, those are limited in theory and practically, those projects could not be evaluated very successful. The project started by Ministry of Home Affairs is among the few projects started by the Government of Nepal recently. The purpose of the assignment is to determine what activities and changes are necessary to improve the Management Information System (MIS) in a way that it can deliver upon the information requirements regarding the citizen's Identity management.

The problem formulation therefore is:

What are the problems with the current management information system and how can these be solved to meet the requirements?

1.8

1.9 1.2 Research Questions

A research question is a clear, focused, concise, complex and arguable question around which the researcher centers his research. The research questions have been formulated based on the steps that the researcher has taken in order to give an answer to the problem as formulated. In order to develop an effective MIS, an organization must have a clear understanding of its requirements. The next step will be an analysis of the current management information system. Step 3 will be an analysis of the difference between the current and desired situation and finally, based on the results of the gap analysis, the researcher will make a proposal of how to reduce this gap.

The main research questions are:

-) What is the current situation of MIS in MoHA?
-) How is the current MIS structured, what are its components and modules, how does it process data and what is the outcome?
-) What are the improvements that can be made in the current management information system on Citizen Identity Management for better personal identification and effective e-governance service integration?

1.10

1.11 1.3 Objectives of the Study

The following are the key objectives of this project:

-) To define the MIS and information system needs and requirements for effective Citizen Identity Management.

-)] To understand the impact of use of CMIS in citizenship identity management, service delivery of Citizenship distribution and its monitoring.
-)] To make an analysis of the current MIS and find the flow of information in citizenship information management system.
-)] Make recommendations on the improvements that are necessary for effective implementation of MIS system of Citizenship distribution system.

1.12 1.4 Significance of the Study

The significance of the MIS in the organization can be compared to the role of the heart in the body. According to WSJawadekar information is the blood and MIS is the heart. The significance or importance of this study is as follows:

-)] The report is prepared for the partial fulfillment of the requirement for Master of Business Studies.
-)] This project report may be beneficial to the researchers and those who want to know about operation of CMIS operationalized by MOHA.
-)] It helps to gain the practical knowledge about the use of information system in Citizenship issuance operations in Government of Nepal.
-)] To know about the application of Management Information System in Government Organization.
-)] It may provide significance to the stakeholders of the organization where study has been made.

1.13

1.14 1.5 Limitation of the Study

The study focused on the impact of MIS in Citizenship Distribution Management by Ministry of Home Affairs. This study is not free from the following limitation.

-)] This study is based on secondary data obtain from of MOHA, DAO and RAO.
-)] Use of personal interview as primary source would not be free from biases.
-)] Limited time dimension made difficult to make thoroughly analysis.

1.15

1.16 1.6 Organization of the Study

This study has been organized into five Chapters.

Chapter-I: Introduction

Chapter I introduces the major issues related to the MIS, Research question, problem formulation, objectives, significance and limitations of the study.

Chapter-II: Review Literature

This Chapter is the brief review of literature related to this study. It includes a discussion on the conceptual framework and review of the major studies. It gives an overview of the related literature done in the past related to this study.

Chapter-III: Research Methodology

Chapter III, Research Methodology, describes the different methodologies employed in this study. Sources of data are mentioned and described in this chapter.

Chapter-IV: Presentation and Analysis of Data

This Chapter presents and analyzes the data obtained during the study. Different tools and techniques of data analysis have been undertaken for the purpose of analysis of data.

Chapter-V: Summary, Conclusion and Recommendations

This chapter includes the summary, conclusion and the recommendations of the study. The findings are included in this chapter along with the suggestions and their recommendations.

Bibliography and Appendices have been given at the end of the study.

CHAPTER-II

REVIEW OF LITERATURE

The literature survey provides the student with the knowledge of the status of their research. The purpose of literature is thus to find out what research studies have been conducted in one's chosen field of study and what remains to be done. It provides the foundation for developing a comprehensive theoretical frame work from which hypothesis can be developed for testing. The review of literature also minimizes the risk of pursuing the dead ends in research.

1.17 2.1 Conceptual Framework

Management Information System (MIS) stands for the system of information, which is useful for management within an organization. Management is the process of achieving an organization's goals and objectives by judiciously making use of resources of men, materials, machines, money, methods, messages, information and movements.

The initial concept of MIS was to process data from the organization and presents it in the form of reports at regular intervals. The system was largely capable of handling the data from collection to processing. It was more impersonal, requiring each individual to pick and choose the processed data use it for his requirements. This concept was further modified when a distinction was made between data and information. The information is a product of an analysis of the raw data. It, was therefore, demanded that the system concept should be an individual-oriented, as each individual may have a different orientation towards the information.

This concept was further modified, that the system should present information in such a form and format that it creates an impact on its users, provoking a decision, an action or an investigation. It was later realized that even though such an impact was a welcome modification, some sort of selective approach was necessary in the analysis and reporting. Hence, the concept of accepting reporting was imbedded in MIS. This concept remained valid till and to the extent that the norm for an exception remained true and effective.

Since the environment turns competitive and is ever changing, fixation of the norm for an exception became a futile exercise is least for the people in the higher echelons of the organization. The concept was then evolved that the system should be capable of handling a need- based exception reporting. This need may be either of an individual or a group of people. This called for keeping all data together in such a form that it can be accessed by anybody and can be proceed to suit his/her needs. The concept is that the data is one but it can be viewed by different individuals in different ways. This gave rise to the concept of database and the MIS based on the DATABASE proved much more effective.

Over a period of time, when these conceptual developments were taking place, the concept of the end-user computing using multiple databases emerged. This concept brought a fundamental change in MIS. The change was decentralization of system and the use of the information becoming independent of computer professionals. When this became a reality the concept of MIS changed to a decision making system. The main function of the computer department is to manage the information resource and take the information processing to the users. The concept of MIS in today's world can be understood as a system which handles the database, provide computing facilities to the end-users and gives a variety of decision making tools to the users of the system.

The concept of MIS gives high regard to the individual and his ability to sue the information, an MIS gives information through data analysis. While analyzing the data, it relies on many academic disciplines. These include the theories, principles and concepts from the management science, management accounting, and operations research, organizational behavior, engineering, computer science, psychology and human behavior, making MIS an effective and useful tool. These academic disciplines are used in designing the MIS, evolving the decision support tools for decision making (Jawadekar; 2009:7-10).

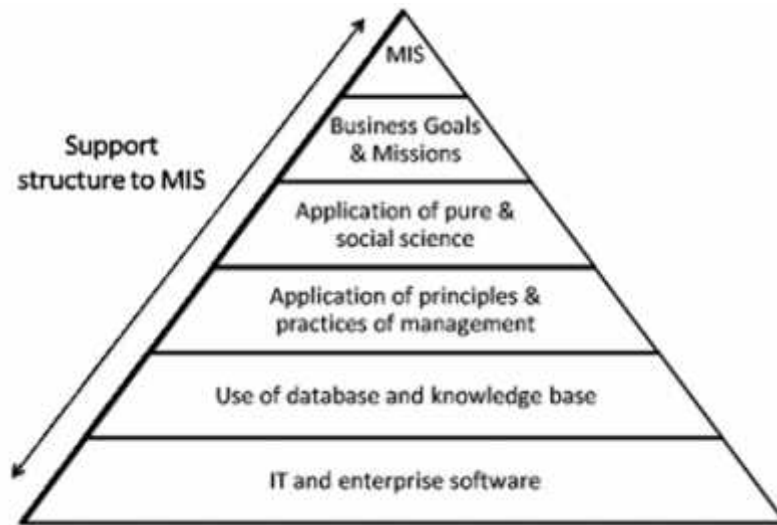
The foundation of MIS is the principles of management and its practices. MIS uses the concept of management control in its design and relies heavily on the fact that the decision maker or the manager is the human being and is a human processor or information.

MIS can be evolved and customized for a specific objective if it is evolved after systematic planning and design. It calls for an analysis of a business management views and policies,

organization culture and the management style. The information should be generated in this setting and must be useful in managing the business. This is possible only when it is conceptualized as a system with an appropriate design. The MIS, therefore, relies heavily on the system theory. The system theory offers solutions to handle the complex situations of the input and output flows. It uses theories of communication which helps to evolve a system design capable of handling data input, processing and output with the least possible noise or distortion in transmitting the information from a source to a destination. It uses the principles of system design viz. an open system of a closed system. An open system of the MIS offers an ability of continuous adjustment of correction in the system in line with the environment changes in which the MIS operates. Such a design helps to keep the MIS tuned with the business management needs of the organization.

The concept, therefore, is a blend of principles, theories and practice of the management, information and system giving rise to single product known as Management Information System (MIS).

Figure 2.1
Conceptual View of MIS



1.18 2.2 Concept of MIS

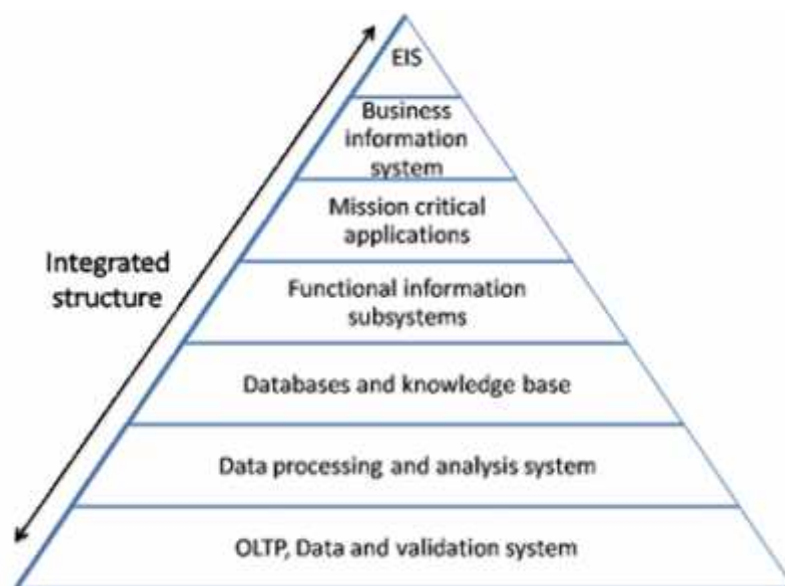
After having the concept of the three components of MIS, viz, Management Information and System, let us try to understand its definition. While discussing various components, it has been clearly established that decision-making is the essence of management and for taking rational decisions; Management Information (MIS) is an essential and vital input (Goyal; 2000: 14).

Further, to obtain MI, logical and well defined methods of information, which can be implemented by joining certain, inter-related elements are essential. Thus, if we simply combined all the above facts, we may devise our definition of MIS as follows:

Management information system is a system consisting of people, machine, procedures, and database and data models, as its elements. The system gathers data from the internal and external source of an organization; processes it and supplies Management Information to assist managers in the process of decision making. Here the word system implies that MIS follows the system approach which means a holistic approach and is based on the concept of synergy where the output is greater than the sum of its parts. Thus, it clearly indicates that MIS is not a single system; rather it is an integrating system where parts (sub-systems) fit into an overall design.

The physical view of the MIS can be seen as an assembly of several subsystems based on the databases in the organization. These subsystems range from data collection, transaction processing and validating, processing, analyzing and storing the information in databases. The subsystems could be at a functional level or a corporate level. The information is evolved through them for a functional or a departmental management and it provides the information for the management of business at the corporate level. The physical view of the MIS is shown in the figure below.

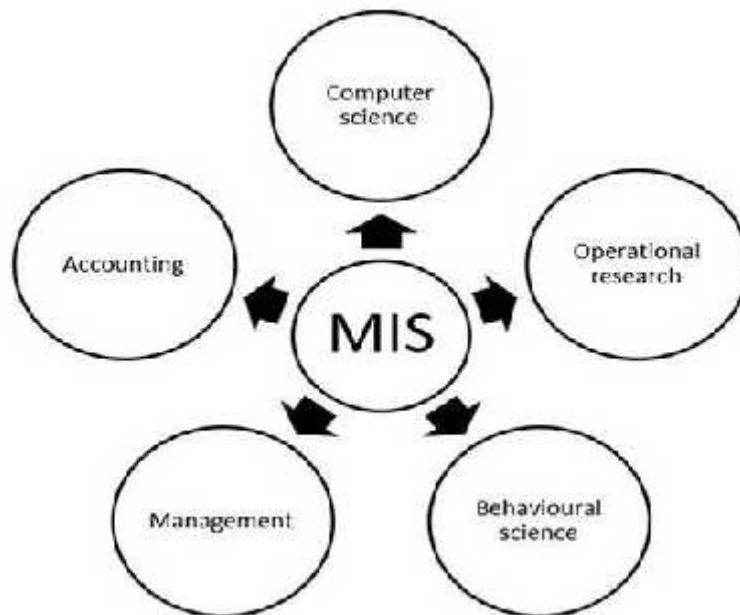
Figure 2.2
Physical View of MIS



1.19 2.3 Nature and Scope of MIS

The concept of MIS is inter-disciplinary in nature, i.e. it has borrowed its concept from a large number of disciplines like Accounting, Computers, organization, Management, Operations Research and Behavioral Sciences, etc. (Goyal; 2000: 15).

Figure 2.3
Interdisciplinary Nature of MIS



Because of its interdisciplinary nature, MIS is neither termed as a pure science nor an art, rather it is considered as a combination of both. The following points can summarize the nature of MIS:

Report Orientation

In the early years the function of MIS was to process data from the organization and present in the form of reports at regular intervals. But after sometimes the difference between data and information merged. Information being the finished product and was prepared after processing the raw data because of this fact the concept the concept of MIS is further modified, as information rather than voluminous it has become according to the requirement of the user. Data can be analyzed by different persons separately giving various shapes to the information.

Action Oriented

This concept was further modified due to the need that the information should be such that it leads to some action, decision, investigation or research.

Exception Oriented

After having action oriented nature of MIS was realized that there must be some specific or selective approach to the action or the analysis of data. Thus, the concept of exception oriented was introduced, in this MIS is related to the exceptional situation of business rather than routine matters.

Data Base Orientation

As we know that our environment is dynamic in nature, so the change in every system is must. The concept was then evolved that the system should be capable of handling a need based exception reporting. This need may be of individual, group or organizational. To fulfill this need, a common database is prepared which can be used by each and every individual accordingly. Thus, the concept of MIS based on databases is emerged and proven to be effective.

Academic Discipline Orientation

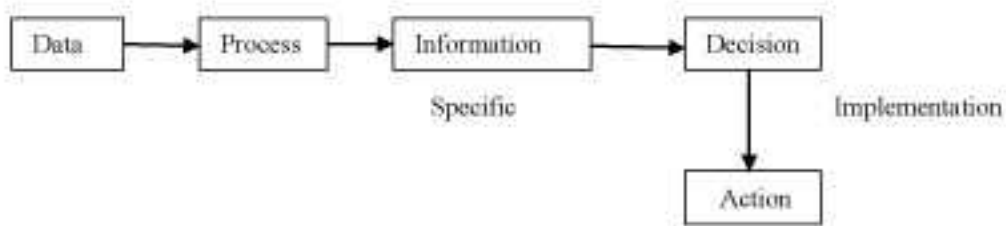
As MIS is based on the information gathered for analyzing the data. While analyzing the data it relies on many academic disciplines like theories, principles, and concepts from management and computer science.

The scope of MIS is better understood if each part of the term MIS is separately explained in detail.

M stands for Management. It has been viewed as a function, a process, a profession, and a class of people. It has also been described as an art; and as a science. And along with material, capital and labour, management is considered as a resource. Infact, management is a process of achieving an organization's goals and objectives by judiciously making use of resources of men, materials, machines, money, methods, messages and moments.

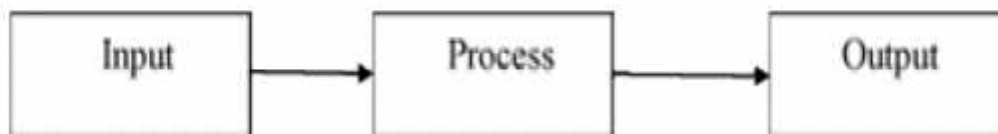
I stands for Information. It is the second component of the term Management Information System and considered as a valuable resource required by the management in order to run a business organization. Information can be defined as the data which is organized and presented at a time and place so that the decision maker may take appropriate action. The conversion of data into information, which leads to decision, is shown in figure 2.2.

Figure 2.4
Conversion of Data into Information



S stands for System. A system is a group of elements or components joined together to fulfill certain functions. In a large context, a system is a grouping of procedures, processes, methods, routines techniques, etc. united in some form of regulated interaction to form an organized whole. The systems are either natural or man made. The set of elements for a system may be understood as Input, Process and Output; It is shown in figure 2.3.

Figure 2.5
Elements of System



Thus, combining the terms viz. management, information, and system, it could be seen that management information systems are sets of related processes, activities, individuals or entities interacting together to provide processed data to the individual managers at various levels in different functional areas.

1.20 2.4 Information Systems

An information system can be defined technically, as a set of interrelated components that collect (or retrieve) process, store, and distribute information to support decision making and control in an organization (Laudon and Laudon; 2006:89). Additionally, information systems may also help managers and workers to analyze problems, visualize complex subjects, and create new products. Three activities in an information system produce the information that organizations need to make decisions, control operations, analyze problems, and create new products or services. These activities are input, processing, and output. Input captures raw

data from within the organization or from its external environment. Processing converts this raw input into a more meaningful form. Output transfers the processed information to the people who will use it or to the activities for which it will be used. Information systems also require feedback, which is output that is returned to appropriate members of the organization to help them evaluate or correct the stage.

“Describe an information system as a socio-technical system. Though they are composed of machines, devices, and physical technology, they require substantial social, organizational, and intellectual investments to make them work properly”.(Laudon and Laudon; 2006:96)

1.21 2.4.1 Historical Development of Information System

Management information systems (MIS) can vary considerably in scope and function but they are all the software applications which are used to support basic business management activities, such as reporting, planning, and controlling. More broadly, the MIS label is also applied to the computer systems that run this software, but strictly speaking an MIS is considered software rather than hardware. In addition, some corporate information technology (IT) departments are named MIS, and the term may also be used to describe the overall management of IT resources. For purposes of this discussion, though, MIS will refer only to software systems. MIS has existed since the 1960s, when mainframe computers began making significant inroad in automating information-based activities at large corporations. Historically, they represent roughly the second generation of business software applications, an intermediate step between the very basic, large transaction-centered systems of the 1950s and early 1960s and the more specialized software tools that started taking root in the 1970s, such as word processing and decision support systems. The first MIS, however, often weren't particularly useful because of equipment shortcomings, a lack of computer literacy among the intended users, and poor planning for which functions the MIS would best serve. As computers continued to grow cheaper and the software more user friendly, MIS gained wider acceptance in the 1970s. The diversity of software suites and applications that followed, particularly in the 1980s and 1990s, substantially blurred many of the distinctions between MIS and other types of management support applications, particularly as MIS began delivering data nearly in real time. Today, systems that serve in traditional MIS-like roles may or may not be known as MISs; indeed, very few new software packages are called MIS.

The history of management information system starts from the history of management. MIS was exist on the management from it origination but was not defined. Decision makers are using the MIS on manual form but don't know what it is. When decision maker knows the value of information and control in the management they have searched the best way of information management. The history of information system can be divided into three eras (Adhikari;2010:14-16).

i. Manual Record Keeping era (1940-1965)

Several financial activities like billing, inventory, day books and balance sheets were prepared on paper and files. The concept of Electronic Data Processing (EDP) and thinking of use of electronic devices was introduced to collect and process the large amount of data quickly and accurately. Some analog computers and other electronic devices are introduced for recording the data.

ii. Analysis era (1965-1980)

Digital computers are introduced on the organization and use them for data analysis for financial and other sectors. Sharing of data and concept of right data on right time to user help the organization for group work.

iii. Knowledge era (1980 onwards)

The concept of direct communication and use of data by the end user with capturing, creating, and distributing by using knowledge management. The concept of integrated system was introduced. This will have the management, information technology and system. Now this concept is widely used for data communication, strong and capturing.

The main development in the 1980s was the introduction of decentralized computing. Instead of having one large mainframe computer for the entire enterprises, numerous PC's were spread around the organization. This meant that instead of submitting a job to the computer department for batch processing and waiting for the experts to perform the procedure, each user had their own computer that they could customize for their own purposes.

As people became comfortable with their new skills, they discovered all the things their system was capable of computers, instead of creating a paperless society, as was

expected, produced mountains of paper, most of it valueless. Mounds of reports were generated just because it was possible to do so. This information overload was mitigated somewhat in 1980s with the introduction of executive information system.

They streamlined the process, giving the executive exactly what they wanted, and only what they wanted. The 1980s also saw the first commercial application of artificial intelligence techniques in the form of expert system. These programs could give advice within a very limited subject area. The promise of decision making support, first attempted in management information systems back in the early 1960s, had step-by-step, come to fruition.

The 1990s saw the introduction of strategic information system. This was largely because of developments in the subject of strategic management by scholars like M. Porter, T Peters, J. Reise, C. Markides and J.Barney in the 1980s. Competitive advantage became a hot management topic and software developers were happy to provide the tools.

1.22 2.5 Management Information Systems (MIS)

Management Information system (MIS) is a information system, typically computer based, that is used within an organization. WorldNet describes an information system as "a system consisting of the network of all communication channels used within an organization".According to Schwartz, "MIS is a system of people, equipment procedures, documents and communication that collects, validates, operates, stores, retrieves, and present data for use in planning, budgeting, accounting, controlling and other management process ". Thomas R. Prince defined MIS as "an approach that visualizes the business organization a single entity composed of various inter- related and inter – dependent sub systems looking together to provide timely and accurately information for management decision making, which leads to the optimization of overall enterprise goals". A Management Information System can also be defined as "a system that collects and processes data (information) and provides it to managers and all levels that use it for decision making, planning, program implementation and control." An information system is comprised of all the components that collects, manipulate, and disseminate data or information. It usually includes hardwares, softwares, people, communication system such as telephone lines and the data itself. The

activities involved are the inputting of data, processing of data into information, storage of data and information, and the production of outputs such as management reports.

Management Information System is set up by an organization with the prime objective to obtain management information used by its managers in decision-making. Thus, MIS must perform following functions in order to meet its objectives.

Data Collection

MIS collect data from various internal and external sources of an organization. Collection of data can be done manually or through computer terminals. End users typically, record data about transactions on some physical media such as paper form, or enter it directly into a computer system.

Data Processing

The collected data is processed to convert it into the required management information. Processing of data is done by such activities as computing, comparing, sorting, classifying and summarizing. These activities organize, analyze and manipulate data using various statistical, mathematical tools.

Storage of Information

After data collection and processing the third function of MIS is to store processed or unprocessed data for future use.

Repossession of Information

According to the requirement of user MIS repossess information from its stores.

Dissemination of Information

As per the requirement of management users the repossess information is disseminated to the users in the organization. It could be periodic, through reports or online through computer terminals.

1.23 2.5.1 Management Information System Components

Management information system (MIS) components are the set of instruction where all the system elements are properly working on same time for the efficient result.

Input

Capturing/ accepting and assembling components that enter the system to be the processed example: raw data, raw material etc.

Software

computer programmed and procedures concerned with the operation of an information system. Contrast with hardware.

Hardware

1. Machine and Media 2. Physical equipment, as opposed to computer programs or method of used 3. Mechanical, electrical, or optical devices. Contrast with software.

Procedures

Set of instructions used by people to complete a task.

People

people are those people who make system, expert, system analyst or end users.

Data

Data, Facts observation about physical phenomena or business transactions.

Information

Data place in a meaningful and useful context for an end user.

Output

Pertaining to a device, processor channel involved with the transfer of data or information output of an information processing system. Opposite of input.

Successful information system also requires the efforts of skilled professionals, such as analysts, programmers, and IT managers. Above all information systems must fulfill business needs and support company objectives(Adhikari; 2010:59).

1.24 2.5.2 System

In the system the difference components are connected with each other and they are interdependent, for exp, human body represents a complete natural system. We are also bound by many national system such as political system, economic system, educational system and so forth. The objective of the demand that some output is processed as a result of processing the suitable inputs. Some of the definition about the system is listed below.

-) A system can be most simplify defined as a group of interrelated or interacting elements forming a unified whole.
-) A system is a group of interrelated components working together towards a common goal by accepting inputs and producing outputs in an organized transformation process. Such a system has three basic interacting components of functions.
-) A collection of components that work together to realize some objective a system.

Basic Components of System

Input

Capturing/accepting and assembling that enter the system to be processed Example: raw data, raw material etc.

Processing

process that series of change to be done on information, to convert input into output.

Example: data processing, manufacturing process etc.

Output

which produced by the transformation process to their ultimate destination.

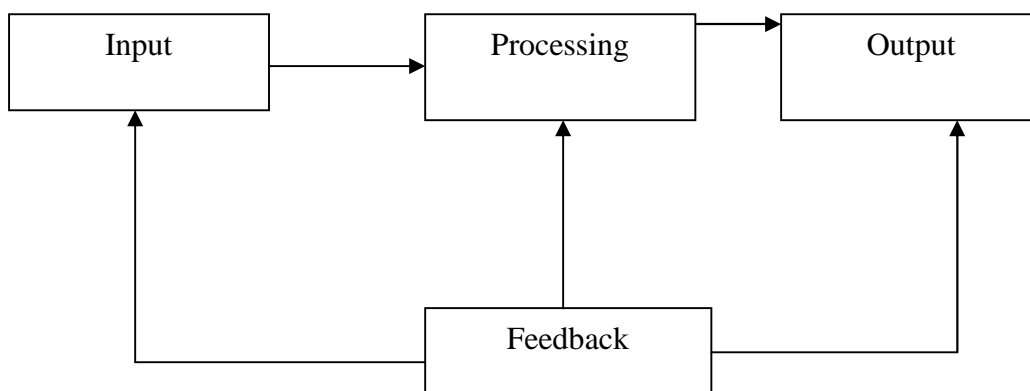
Example: reports finished Products etc.

Feedback

Data or information concerning the components and operations of a system.

The use of part of the output of a system an input to the system.

Figure 2.6
Components of System



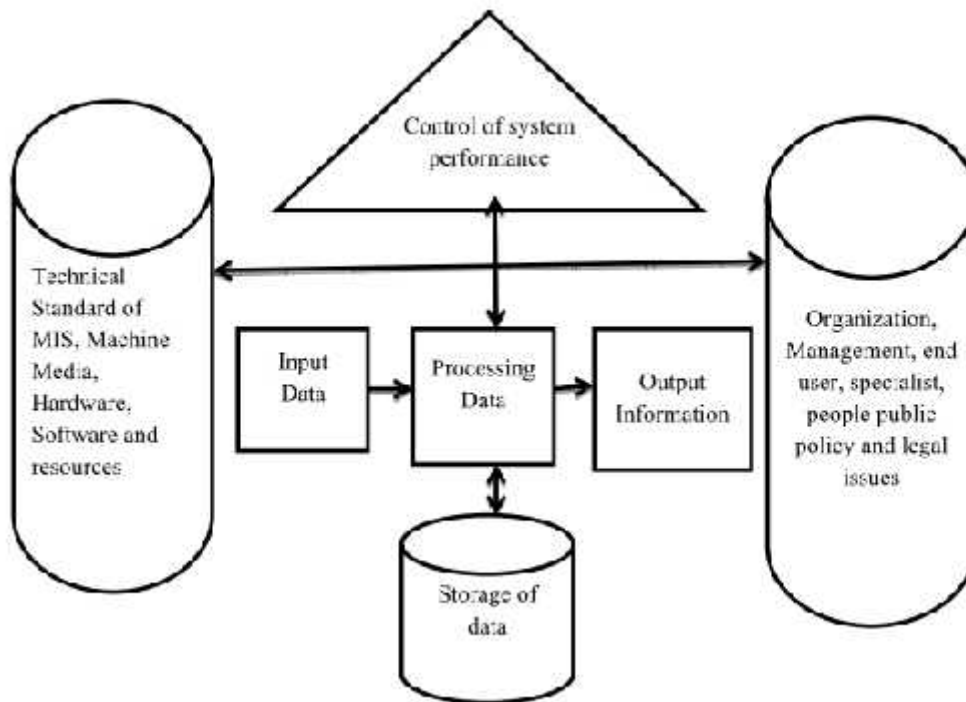
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1.26 2.5.3 Architectural Framework of Management Information System

Management information system (MIS) defines on architectural frame work of a system which is present below(Adhikari; 2010:26).

The Figure below shows an organizational system model that expresses a fundamental architectural framework for the major components and activities of information system. Information system depends on the resources of people, hardware, software, data and networks to perform an input, processing, output, storage and control activity that converts data resources into information products.

Figure 2.7
Architectural Framework of MIS



The information system model highlights the relationship among the components and activities of information systems. It provide a framework in which people resources include end users and IS specialist, hardware resources consists of machine and media , software resources include programs and procedures, data resources include data and knowledge bases, and network resources include communication media and networks. Data resources are transferred by information processing activities into a variety of information products for end users. Information processing consists of input, processing, output, storage and control activities.

1.27 2.5.4 Role of MIS

The role of MIS in an organization can be compared to the role of the heart in the body. The information is the blood and MIS is the heart. In the body, the heart plays the role of supplying pure blood to all the elements of the body including the brain. The heart works faster and supplies more blood when needed. It fulfills the needs of blood supply to human body in normal course and also in crisis. MIS plays exactly the same role in the organization. The system ensures that an inappropriate data is collected from various sources, processed

and sent further to all the needy destinations. The system is expected to fulfill the information needs of an individual, groups of individual, managers etc. MIS satisfies diverse needs through a variety of systems such as query systems, analysis system, modeling systems and decision support system. MIS also helps in strategic planning, management control, operational control and transaction processing. MIS helps lower level management by providing operational data for planning, scheduling, controlling and also help them in decision making at the operational level to correct an out of control situation. MIS helps the middle management in short term planning, target setting and controlling the business functions. MIS also helps top management in goal setting, strategic planning and also evolving the business plans in addition to their implementation (Adhikari; 2010:18).

MIS creates an impact on organizations functions, performance and productivity. The impact of MIS on the functions is in its management. With a good MIS support, the management of marketing, finance, production and personnel becomes more sufficient. The tracking and monitoring of the functional target becomes easy.

1.28 2.6 Review of Similar MIS Projects

1.29 2.6.1 Electronic Driving License & Vehicle Registration System (EDLVRS)

The Department of Transport Management (DOTM), Nepal is offering a number of citizen convenience services. DOTM has implemented a user-friendly Electronic Driving License and Vehicle Registration System to streamline the process of personalization, production and issuing of the new smart Electronic Driving Licenses and effective system for vehicle registration. The state-of-the-art smart card base Electronic Driving License contains a microchip that will carry driver information including a digital photograph and scanned signature. The card contains additional information such as the driver's blood group and medical information for use during times of emergencies.

A streamlined computerized Electronic Driving License and Vehicle Registration System is implemented so that applicants can obtain the Electronic Driving License and vehicle registration services with ease. All information such as photograph, scanned signature and fingerprints will be captured directly when the application is submitted. The license will be

processed, personalized and posted to the applicant in a short time. The solution will also be operated on line from all regions.

The project aims to improve governance for vehicle registration including monitoring of vehicle movement and Electronic Driving License issuance and renewal process. Specific objectives will be to make provision of an efficient and effective delivery of vehicle registration, monitoring and license issuance through online services by reducing corruption and delay in service provision.

-) To improve the transparency and internal efficiency and effectiveness of the DOTM
-) To improve public access to DOTM services through an online application facility and integrating Electronic Driving License and Vehicle Registration System
-) To simplify administrative processes by reducing processing time including application collection, revenue collection, etc.
-) To assist the planning process by providing relevant and timely information.
-) To improve/increase the government revenue collection from the Department of Transport Management (DOTM)

The major Modules integrated in Electronic Driving License are discussed in brief as follows:

New License Registration Module

The various information such as Registration No, Registration Date, Date of Exam Passed, License No(full format), Date of Issue (Authorized Date), Date of Expiry, Card No, Hologram No, Issuing Office Name, Receipt No, License Type (Professional/ Non-professional), Categories (A, B, C, D, E, F, G, H, I) are included along with the personal details such as Name, Citizenship, Citizenship No., Sex, Passport No, Date of Birth (BS/AD), Blood Group, Occupation, Identity Mark, Father's/Husband's Name, Huliya (Identity Marks), Photo, Finger Prints, Permanent Address, Temporary Address. The system generated information are created in this module.

Renewal Module

This module has the facility to request for renewal of the driving license. The user will enter the driving license number and verify the information available in system, submit update information for renewal.

Add License Categories Module

This module has the facility to request for addition of license category. The user will enter the driving license number and verify the information available in system, submit update information.

Duplicate License Issuance Module

This module has facility to request for duplicate of the driving license. The user will enter the driving license number and verify the information available in system, submit request for duplicate license.

‘Nepalikiran’ Module

This module has the facility to provide Nepali electronic driving license against international driving license.

Penalty Payment Module

This module has the facility to capture penalty payments such as traffic violation, late renewal fee, etc.

Biometric information Module

This module allows for capturing of biometrics information (e.g. finger impressions) of applicant including photograph and scanned signature.

Medical Information Module

This module has the facility for authorized medical agency or doctors to enter medical information of the applicant. The information entered by the medical agency or doctors will be part of the applicant's information.

Accounting Module

This module will help to hold accounting details that occurs during the process of new license issuance, renewal of license, issuance of duplicate license, addition of category to existing license, penalty payments of traffic violence, and "Nepalikaran" (issuance of Nepali license against foreign license), etc.

Smart Card Production Module

This module will help to produce / print smart card of Electronic Driving License. The information on driving license smart card.

SMS Module

This module provides SMS service. The examples of tentative SMS services are license expiry, traffic notices or any other notices.

Reports, Security and Search Module

Reports module provides summary and details reports for each module, security module provides various levels of user access and other security features into the system and search module provides facility to search the driving license information based on license number(Shankar, 2014).

1.30 2.6.2 Vital Events Registration System

Before 1977, Village Panchayat act 1961 had mentioned to collect the birth and death information to its territory. Central Bureau of Statistics (CBS) and family planning related agency had started pilot project to study the CR but not continued it and abandon after some year. Civil Registration system is started since 1977 covering 10 District in the initial phase and all 75 Districts were covered in 1990.

Main authority to register the vital events is Ministry of Federal Affairs and Local Development in Nepal. Population and Vital Registration Management Section of MoFALD is the central authority for this purpose. PVRMS chief is designated as Registrar. 75 District Development Committee Offices has co-ordinated the central office and local registrar offices. Offices of 3915 VDCs and ward of 58 municipalities are the local registrar offices. Government of Nepal has proclaimed 72 municipalities early of this month, so the number of VDCs decreases and there are 130 municipalities ward office for vital registration process. Secretary of the Village Development Committee and ward secretary of the Municipalities are designated as local registrar.

Civil registration is carried out on the basis of various acts and regulations. Birth death and other personal events registration act 1976. Birth death and other personal events registration regulation 1977. Local self-governance act 1998. Directions to the local registrar 2010.

Birth, Death, Marriage, Divorce and Migration events are considered as vital events in Nepal. For birth and death registration, Informant should be the head of the family and in absence of him/her the eldest member of the family. For marriage registration, bride and bridegroom both should be the important. For divorce, husband or wife (one member) would be the informant and the divorce paper of the court should be attached with the application. For migration, the head of the family in case of migration of family. In case of single person who is migrated should be the informant. The events should be registers within 35 days of happening of events. After 35 days the events register with delay fee or fines. The fine is maximum up to NRs 50.

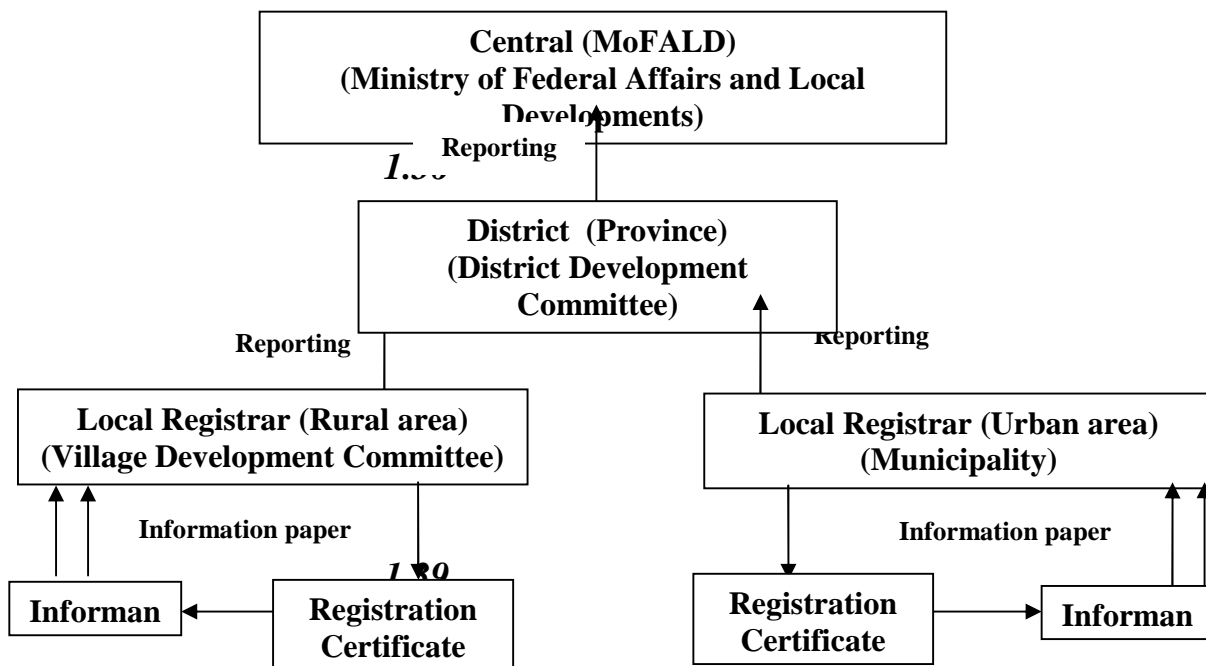
The procedure for the registration and reporting of the Civil registration and Vital Registration is such that informant of rural areas should come Village Development Committee and for urban areas should come to Municipalities for registration of the vital events. Local registrar provides registration certificate to informants. Monthly reports of registration by Local Registrar to Registrar via DDC (District Development Committee). Total number of registration of monthly, four monthly and annually is reported separately of each vital event to the central office.

Software of vital events registration system has been developed and is in pilot phase. Various MIS reports are generated at the concerned authorities. Old records of vital events are now being entered in computer database (Bhattarai, 2014).

1.31 Figure 2.8

1.32 Reporting System of Vital Registration System

1.33



1.41 2.6.3 Voter List Management System

In order to exercise the right to cast the vote in election, eligible citizens in Nepal should register his/her name in the Voters List along with their photograph. Those citizens who have cross the age of sixteen and have received the Nepalese citizenship Certificate can register their name in the voting list but they can only cast the vote after crossing age of eighteen. The election commission or the District Election office declares the place for registration throughout the country where the citizen should participate for the registration process. The process of registration for the voting list is as follows:

- 1) Contact the official of Election Commission appointed at the registration place along with the citizenship certificate. If the current permanent address is different from indicated in the Citizenship certificate any of the document among migration certificate,

Land ownership registration certificate , invoice of the drinking water and electricity payment on the current address and marriage registration certificate.

- J Fill out the form provided by the Election Commission which contains the personal details of the citizens.
- J Provide the photograph and finger print details to the registration center.
- J Collect the ID card later submitting the slip received during registration.

Thus the Voters List Management System is the collection of all the information along with the biometric details of the Nepalese Citizens having the citizenship certificate. The biometric details will be helpful for the identification of original voters from the mass of the fake voters. The database of voters can be useful for the other e-governance projects to be implemented in the country.

1.42 2.7 Review of Journals & Articles

Pokhrel (2007), has published an article “e-Governance in Nepal” based on the discussions with Rajesh Shakya and Dr. Shailendra Sigdel where he has his opinion that we have to have a National Citizens database, in the real sense, which will be essential for all e-governance applications, vertical or horizontal. We should have acceptable standards for exchanging information securely with non-repudiation throughout the network, between citizens to government, and among government departments seamlessly. We have to establish data centres at the centre and regional centres to handle the administrative workflow automation, collaboration, interaction authenticated exchange of information. We should have our administrative processes rightly empowered and reengineered, which can accelerate decision-making. Only then will the entire administrative agencies be able to contribute more for the national development, rather than being entangled in piles of files. To make e-governance more comprehensive, it has to be developed into an institutional framework. Good governance, being an important goal of countries across the globe, has taken up initiatives for open and participatory governments. Freedom of information is being redefined and the Internet revolution has proved to be a powerful tool for good governance initiatives. An important dimension of the Internet potential is the possibility of providing services anytime, anywhere. Along with this, there is a conscious effort to put the citizen as the centre of focus of the governance. Citizens are being perceived as customers and clients. E-governance has to be citizen friendly and based on the demand of citizens. Delivery of services to citizens is

considered as a primary function of the government. Particularly in a country like Nepal, where the citizens are out of reach of government services because of diversity in many ways, e-governance should enable seamless access to information and seamless flow of information in any type of political state setup

(www.egovernancenepal.blogspot.com).

Pradhan (2002), has published her Journal “Information Technology in Nepal: What Role for the Government?” where she has focused on the importance of information technology in the developing countries in reference to Nepal. The author believes that developing countries, in particular Nepal, need to urgently develop a culturally appropriate national strategy if they wish IT to have a positive impact on their overall socio-economic development.

This paper argues that Nepal needs to base its national IT strategy on a much greater consideration of local cultural and social issues. IT is the most important factor separating the developing and developed countries. The government has a major role to play if the country wants to stand in the information arena. She has focused that the countries being encouraged to attract economic growth by entering the ‘information age’, and being able to compete at the multinational level. The government must play an important role, not only as a major user, but also through its other role as regulator, promoter and diffuser.

In conclusion, the case study has intensified that the appropriate information technology at the level of the policy maker means IT provides the means for or supports activities, which in national terms are seen as desirable. Formulating an appropriate information strategy, which is favorable and supportive to development, a country can best use information technology for overall progress

(www.ejisdc.org).

1.43 2.8 Review of Thesis

In the context of Nepal, no specific studies have been available regarding the Citizenship Management Information System. In order to make this study more comprehensive, however some thesis related to MIS conducted in the past are reviewed.

Lamsal (2003), carried out a study of “*Information System Design (A Case Study of ADB of Nepal)*”. Lamsal carried out the study with the following objectives:

-)] The specific objective of the study will be how the information system will help to know the situation of the bank and how helps to the overall performance of the bank.
-)] To examine practice of maintaining information in different divisions.
-)] To find out existing information system/ flow of information in different divisions and units.
-)] To find out drawbacks of existing information system and to provide recommendation for the betterment of the existing system and to design the best suited information system on the basis of findings.

Based on the above objectives, Lamsal found major findings as follows:-

-)] Modify current practices to match the process in the software.
-)] Formulate and publish
 - o An IT policy
 - o Back up and security policy
 - o An IT contingency plan, and
 - o Computer auditing policy and standards.
-)] MIS divisions should be restricted to have capacity to provide support to branches and other outlets. The divisions should be maintained and staffed to provide installation, training and support services.
-)] Continuity of system- MIS division lacks the manpower, skills, knowledge and exposure to develop new software products to meet the standards of accuracy, speed and integrity now required.
-)] Upgrading of MIS system should be in phases as the current immediate required is to install a complete integrated banking system to suit current requirements.
-)] Improve the management information reports to present comparative information that shows the position at the start of the period under reviews the transactions during the period and the closing position.

Based on the above findings, Lamsal gave the following conclusion:-

-)] Provide the clients with high quality and timely services.
-)] Access information needed for an efficient and effective corporate management.

- J Communicate with other information system (partner banks, customers, statistical office, banking supervision, local and world wide provides of banking and other services 7 information, etc.
- J Fully automate repetitive operations and tasks.
- J Handle operations and services base on the effective and fast high volume data processing.
- J Fully automate repetitive operations and tasks.
- J Automate administration of delivered products and services with a sufficient scope of information about clients, products and services.
- J Maintain consistency of administrated data and facilities concurrent access from several locations.
- J Archive data and documents and keep them accessible.

Lohoni(2005), carried out study on “*Online College Management Information System (OCMIS) for Acme Engineering College.*”Lohoni carried out the study with the following objectives:

- J To examine the existing information system of Acme Engineering College.
- J To analyze the existing information system of Acme Engineering College.
- J To propose the basis for developing an advanced MIS (Management Information System) for Acme Engineering College, by managing the associated relationships between the various entities such as students, teachers, courses, classes, sessions, programs, departments, other campuses and the University.

His research findings are:

- J Lack of proper and timely information is one of the challenges for the college. So, Online College Management Information System (OCMIS) has been proposed for the college so as to cater its information needs.
- J All the departments in Acme Engineering College are interrelated and interdependent. So, the need of a proper Management Information System (MIS) was felt from a long time for systematic and timely flow of information between them. OCMIS has been proposed to take care of this requirement.
- J The beneficiaries from the proposed OCMIS will be the college, its departments, faculty members, staff, guardians, students and all those who directly or indirectly use

the system. All those concerned will find the access and retrieval of the required data much easier and quicker than at present. OCMIS will certainly facilitate their jobs and help in improving their overall efficiency and effectiveness.

) Introduction of OCMIS as an information system will transform the existing human based information system into a systematic and scientific one. This would certainly reduce various deficiencies in the present system such as delay in information flow, ill matching of generated data, irrelevant information and underutilization and poor feedback.

) Earlier, the study and practice of OCMIS has been too few to mention. The present study will therefore be a milestone for practice and reference in future. Hence, the present study may be valuable not only for Acme Engineering College but also for other similar institutions.

) The use of computerization information system OCMIS will certainly prove a leap for Acme Engineering College. The adopting and upgrading of the advanced technology has already been a necessity and challenge for leading engineering institutions like Acme Engineering College. So, it will be a source of motivation and inspiration for all concerned to upgrade their performance, efficiency and effectiveness.

The conclusions drawn from this research are:

-) To fulfill information requirements on different organizational and management levels MIS (Management Information System) has become a necessity in the near future and the proposed OCMIS is capable to handle the challenge.
-) Access information needed for an efficient and effective management.
-) The main aim of OCMIS is to make the tasks smooth and easier.
-) OCMIS is one of the most important factors for the growth of the college in terms of better education, better facilities and better management.

Bhattarai (2003), carried out study on “*Performance of MIS in Kumari Bank*” with the following objectives:

-) To identify factors affecting performance of MIS.
-) To examine the existing situation of software personnel of the bank.
-) To study the relation of training of end users in the bank for improvement of the performance of MIS.
-) To provide suggestions on the basis of the findings.

Based on the above objectives, Bhattarai found major findings as follows:

-) Majority of the users of the MIS consider MIS to be important.
-) Majority of the user of the MIS considers that helps in decision making.
-) Use of MIS is directed towards extraction of current information rather than historical information.
-) Further improvement is utilization of MIS needs better communication and training between the various stakeholders.
-) MIS users are comfortable using the product and have a good understanding of the system.
-) The MIS users moderately satisfied with the MIS.

The factors which will improve the utilization of MIS are “Good Communication channel, “Training to end users,” Training to software personnel”.

Shrestha(2008), carried out study on "*MIS in Chaudhary Group: A Case Study of Electronic Division*". This research is based on the study of existing system of Electronic Division of Chaudhary Group. The specific objectives of this research are:

-) To examine the MIS and Billing system of Electronic Division of Chaudhary Group.
-) To analysis the factors affecting proper design of MIS.
-) To provide guidelines for proper training and installation of new modified system.

Based on the above objectives, Shrestha found major findings as follows:-

-) Though the division seems to have adequate facilities of hardware and software most of them are not upgraded to newer version. Due to which data processing becoming slow and users are facing system and hardware failure from time to time.
-) There is no proper management information system. Although there is provision of storing the information in computer and in office files, one cannot view and retrieve all the necessary information when needed in the form that one required.
-) The other major deficiency is that different levels of staffs still maintain their own files both manually and in their own computer hard disk. So, the same information is recorded in many different files. This may cause information redundancy and data integrity due to redundancy (i.e. data is scattered in many files.) Only proper MIS and Database Management System could avoid this repetitive and multiple filing system.
-) The persons at decision level are also not well informed about the concept of MIS. Some are even not well trained to use computer. Whenever the idea of new and improved system is generated they simply try to avoid as much as possible any stay behind. But the major disappointment is that the users working in present systems are not aware about lots of functions and utilities existed in present system as well. So, it proves that the half knowledge is quite shaky and it can be eliminated only by proper training. The people at IT department are concern only for maintenance and administration of computer system. They must prepare themselves for the action and given the authority to improve the system as needed.

The conclusions drawn from this research are:

-) From analysis of the existing system of Electronic Division of Chaudhary Group, it is found that there is no any systematic analysis and design followed for generating information for decision. All the reports are prepared haphazardly. The accounting

software Swastik, where lies Billing system, is not bug free. It sometime gives run-time errors. Some features and fields shown on forms are useless and some are even dysfunctional. It has also unable to fulfill some of the requirements as demanded by management.

So-called MIS report is also completely distort form for real significance of MIS. Though present MIS gives result, its preparation involves lots of time due to repetitive data entry. This is preventing user from doing other productive work. So, there is unsystematic way of preparing reports in Electronic division of CG.

) The line mangers and user who are responsible for Billing system and MIS are also not aware about the concept and principle of management information system. They are following the same format and trend set by previous managers or users. Even the helpful features and facilities existed in present system of application/software are going unnoticed. In some cases they are not sure or clear themselves about how more benefits can be drawn from proper system design and its implementation. It can be clearly observed that this is lack of right knowledge and proper trainings. So, it proves that even good system do fail if users are not aware about its usage and benefits.

) For any system to be properly implemented and successful, the positive support from top-level management is always necessary. If top-level management does not show care and interest then development and survival of any system will be restrain in the absence of requirements needed to establish and raise the system.

In Electronic Division of CG, it sometime faces budget constrain when required for upgrading the computer system. This is further hampering smooth operation and data presentation.

) Though Chaudhary Group has separate department of IT, it does not have manpower who has good understanding of MIS and database management system required for proper implementation of MIS. IT Department is concerned only about computer maintenance and networking. So, when even people from IT sectors are not able to show way to develop and implement proper and relevant MIS as per management requirements then little can be expected from other people.

So, IT people should develop the knowledge on MIS and take initiative to develop relevant MIS as per individual requirements of managers and users. Moreover, an organization like Chaudhary Group must include systems analysts (designers), computer and data

communications specialists who have the responsibility to develop mathematical relationships for processing raw data into useful information.

Tuladhar(2011), carried out study on “*MIS in Nepal Investment Bank Limited (A Case Study of Human Resource Department)*”. Tuladharcarrried out the study with the following objectives:

-) To see the existing HRIS on employee’s performance & skill.
-) To develop forecasting model of skilled human resource of NIBL
-) To see how MIS supports in decision making in the NIBL
-) To Recommend the NIBL to install the new proposed (e- attendance system).

Based on the above objectives, Tuladhar found major findings as follows:

-) Most of respondents (90%) think that M.I.S information plays a vital role in the operation of the business.
-) Most of the respondents (92%) need MIS Department of quick and correct Decision Making at present or in the future.
-) 50% of the respondents are satisfied with the existing traditional system
-) Most (80%) of the respondents want immediate upgrade existing HR system with the additional feature of E-Attendance system.
-) Many employees think due to lack of computer knowledge of MIS, Hardware & Network and e-attendance will be quite difficult to implement in Nepal.
-) Also from the forecasting model, it forecast that there will be 1430 number of employee in 2015 A.D.
-) Majority of the users of the MIS consider that MIS to be important and helps in decision making.
-) Due to high cost and requirement of technical manpower, MIS not implemented in the organization.

Maharjan (2012), carried out study on “*Mis Practices of Nepal SBI Bank Limited*”. Maharjan carried out the study with the following objectives:

-) To identify the need and implementation area of Management Information System for decision making in Nepal SBI Bank Ltd.

-) To analyses the positive and negative impact of Management Information System.
-) To recommend new Management Information System for Nepal SBI Bank Ltd.
-) To analyze the use and application of Management Information System on different departments of Nepal SBI Bank Ltd.

Based on the above objectives, Maharjan found major findings as follows:

-) In Nepal SBI Bank MIS plays vital role. Implementations of MIS ease the reporting as well decision making of short term and long term plans. With the help of DSS (Decision Support System) integrated to MIS helps in forecasting future performance of the bank.
-) MIS plays the positive impact to the customers as well as employee too. Customers are satisfied by the services provided by the implementation of MIS. Also employees are positive towards the implementation of MIS.
-) Property of ShankerDev Campus Library 90c) Due to the implementation of MIS bank is progressing and getting remarkable goodwill. If the bank upgrades current MIS to higher version of MIS there will be more customer as well as employee satisfaction. There will be better way for the decision making for the long term plan of bank.
-) MIS can not only be implemented in loan management, it can also be implemented in different departments like remittance, deposit management, risk management, marketing, market survey, human resource management, etc. So, MIS is feasible for each and every activity taken place in bank.

The following recommendation has been made on the basis of findings of the study

-) The main objective of the project should not be only installing hardware and software in various branches but also to attain measurable and well controlled IT department through IT service management and process, people and technology integration.
-) There is no doubt that implementation of MIS is mere beginning rather than end, so continuous study should be done to improve the overall use of information system in the organization.

- J In the regard of training of technical personnel of bank, fully rely on vendor company is not appropriate so contract should be made with vendor company for a certain time and after that bank should form a group of trained software personnel within the bank.
- J Providing training only with no supervision is waste of time and money, so effective supervision should be done while training and implementation of the system.
- J Support of all staff is necessary to implement new computerized information system successfully in the bank. So, bank need to motivate all staff toward information technology through staff awareness, general meeting, basic training program etc.
- J As Nepal SBI Bank is providing mobile and internet services, card services to its customer, it should design and conduct some program in rural side of the country about advantages and procedure of using new facilities provided by the bank.
- J There are some big as well as small problems existed in existing information system, so they have to be fixed.
- J Though current system is the well acceptable system for the banking process, users have to perform a lengthy process to perform a small activity in the system.
- J Reporting module is the most important module of any management information system, but current system does not provide ready to use and ready to submit report to Nepal Rastra Bank. Therefore, reporting module should be reorganized.
- J In the context of security, current Management Information System provided satisfactory security, but bank itself believe that the system does not provide unbreakable security, so core step should be taken in the concern of security.

Poudel (2013), carried out study on “*Use of Mis for Community Learning Centers*”. Poudel carried out the study with the following objectives:

- J To help in the development of the livelihood of citizens through the programmes and projects of the alternative learning system;
- J To strengthen and broaden community links for mutual support;
- J To identify the nature of learners of participants of CLC
- J To develop the capability of those who lead the community.

) To analysis increase volume of the students at CLC

Based on the above objectives, Poudelfound major findings as follows:

) Identifying the nature of participants

) Classify the different types of natures of the CLCs

) Identifying the impact of the CLC on the society after attending the CLC programs and initiatives.

) To impart literacy and post literacy program to learners especially to out of school girls and illiterates and semi-literate adults.

) To provide continuing education for the improvement of quality of life and income generation capabilities of the villagers.

) To form saving and credit groups and impart skill to undertake individual and group projects for income generation.

) To protect, improve and properly utilize a community forest situated in the community.

) To undertake short term and long term community development programs

) Concept of new system or modify the system

) Analyzing technical structure to establish the CLC- MIS

The following recommendation has been made on the basis of findings of the study

-) A study should be launched to establish the true capital and running costs for a range of different centres.
-) An assessment of the short-, medium- and long-term impacts of the centres on the communities that they serve should be undertaken.
-) Once the evidence has been collected, the organizations and agencies concerned (in association with other similar organizations and working through established channels) should lobby and persuade national governments that they have a responsibility to provide long-term funding for centers and agencies that are best placed to provide access to information for all.

Gnawali (2014), carried out study on “*Practice of MIS in Nepalese Commercial Bank: A Case Study of Nepal Bank Limited*”.Gnawali carried out the study with the following objectives:

-) To analyze practice of existing MIS of NBL.
-) To examine strength and weaknesses of present MIS system of NBL.
-) To technically evaluate effectiveness and efficiency of MIS in decision making process of NBL.
-) To find out the flow of information connection mechanism through Network media and MIS software in different level of management and different department.

Nepal Bank Limited is Based on the above objectives, Gnawali found major findings as follows:

-) One of the first commercial bank of Nepal, which is establishing MIS/IT Department first time in Nepal.
-) NBL Remit service is based on online data transfer system and it is instant enough, efficient and very much secure.
-) NBL’s internet banking service is wide coverageof services in order to facilitate their valuable customers, likewise pension servicedelivery,of karmacharisanchayakoshthroughdifferentdepartment, Balance, check, Customer details inventory,chequeissue,Loan facilities, statement print,ATM,etc. are some of the facilities under this service.

- J Most of the employees' respondents that NBL's MIS system of understanding is in average with 45.71%. Similarly, understanding of MIS among employee is 28.57% as good whereas 14.28% and 11.44% coded that as low and poor respectively.
- J The computer access in the employee working activities like the different level of management almost of top management more access in the computer and functional level management are gradually less access in the computer. Most of the employees i.e. 59 are access in the computer altogether and 10 employees and 1 employee rare access in the computer while working together.
- J Top and middle level strongly agrees to need of effective training in MIS as compared to Functional and Lower Level management managers. In all together, the result found that there is need of training for effective MIS having strongly agree, agree and partially agree are 61.43%, 31.43% and 7.14% respectively
- J Most of different level of management are strongly agreed to enhance CBIS for effective management. In an all together, 70% strongly agree, 25.71% agree and only 4.29% partially agree with CBIS enhanced the effective management of Nepal bank Limited respectively.

The following recommendation has been made on the basis of findings of the study

- J NBL has not separate MIS and IT department in contrast to jointly. Hence, NBL should build MIS and IT department separately. Similarly, NBL should establish separate internet/ online banking department so that NBL can launch modern banking, e-commerce services, mobile banking services and update its websites so that customer know the more information quickly.
- J NBL should need to interlink IT department through service management and process and employees interlink with updated technology.
- J Majority of the Functional level and Lower level employees have not more information about MIS. Hence, the level of managers should focus them to upgrade their analytical level by launching different training program.
- J NBL is not enough provide latest banking services such as mobile banking, e-bill payment system, credit card, master card facilities to its pioneer customers. Hence, NBL should not delay to enhance the modern banking services in competitive manner.

1.44 2.9 Research Gap

In the past no one had tried to study about MIS at Ministry of Home Affairs regarding the Citizenship Information Management System. Apart from this, this study is done with the objective to define the information needs for designing MIS for the citizens identity database management, make an analysis of the current MIS in MoHA, make a gap analysis of the differences in the current and desired situation, and make recommendations about how to improve MIS in Ministry of Home Affairs regarding the distribution and management of Citizenship.

Researcher has not found any thesis related to study of MIS of Citizenship Management with the above perspective and objectives of the study. Therefore, there is a clear gap between present and previous study done on MIS. Further this study will be also helpful to the MIS students who wanted to do a further intensive study about the Citizen Identity Database Management in Nepal.

CHAPTER-III

RESEARCH METHODOLOGY

***1.45* 3.1 Introduction**

Research methodology describes the method and process applied in the entire aspects of the study focus of data, data gathering instrument and procedure, data tabulating and processing and methods of analysis. Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. It studies the various steps that are generally adopted by a researcher in studying research problem along with the logic behind them.

***1.46* 3.2 Research design**

The research study approach is to study the existing situation of the Citizenship Management Information System and analyze the gap in the current system and purpose the new system. A simple survey is made to collect the opinion of the employees, engineers and the civil service seekers.

This research is descriptive and analytical case study in nature. The study being new concept less literatures directly pertaining to the citizenship management system are available. The relevant information was collected from primary sources.

***1.47* 3.3 Source of Data**

***1.48* 3.3.1 Primary data and information**

The primary data and information has been collected via observation, questionnaire, formal and informal interviews. The unstructured interview method was applied for the information collection. The information related with the citizenship, management of the company and its hierarchy maintained for the decision making process, technology implemented by the company was highlighted on the interview with employees working under the e-governance section of MoHA.

1.49 3.3.2 Secondary Data

The MIS reports generated by the existing system have been used as a secondary data, beside this; some of the data related to the citizenship management and distribution has been collected from thee-governance section.

1.50 3.4 Analytical tools and technology

As the nature of research is case study, it will be based on the primary data and information. All data and information are collected from observation, interview and other sources. After the collection of sufficient data from interview the data was analyzed and presented in the data flow diagram, flow chart and Entity Relation (ER) diagram for the documentation of information flow of Citizenship Management Information System. Research Software Tools used are

-) Microsoft word 2007
-) Microsoft excel 2007
-) Microsoft Visio 2007

1.51 3.4.1 DFD Analysis (General Data Flow Analysis)

Data Flow Diagramming is a means of representing the business processes in a system, at any level of detail, with a graphic network of symbols. A Dataflow Diagram (DFD) is a diagrammatic representation of the information flows within a system showing:

-) How information enters and leaves the system?
-) What changes the information?
-) Where information is stored?

The goal of data flow diagramming is to have a commonly understood model of a system. The diagrams are the basis of structured systems analysis. Data flow diagrams are supported by other techniques of structured systems analysis such as data structure diagrams, data dictionaries, and procedure-representing techniques such as decision tables, data dictionaries, and structured English.

The purpose of a DFD is:

-) To show the scope and boundaries of a system
-) To show that the whole system has been considered

-) May be used as a communications tool between a systems analyst and any person who plays a part in the system
-) To act as the starting point for redesigning a system

Symbols used in modeling Data Flow Diagrams (DFD)


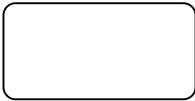
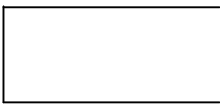
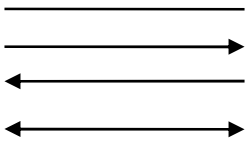
Symbol Used	Significance
	<u>Source of Data</u> Used to represent the source of the data
	<u>Processing</u> This symbol is used to represent the process in DFD
	<u>Data Storage</u> This symbol is used to represent the file where data are stored from the process
	<u>Data Flow</u> The various lines with the no arrow, single arrow and double arrow is used to model the flow the data among the data storage, process and data source

Figure 3.1 DFD Symbols

1.52 3.4.2 Entity Relationship Diagram

ER-diagram (Entity Relationship diagram) is the modeling based on the perception of the real world, that consists of a set of basic objects known as 'entities' and of the 'relationships' among these entities. Individual entity has its own attributes, which distinguishes it from others.

Entities are the "things" about which we seek information. A data 'entity' is anything real or abstract about which we want to store data. Entity types fall into five classes: roles, events, locations, tangible things or concepts. E.g. employee, company, project. Specific examples of an entity are called instances.

Relationships provide the structure needed to draw information from multiple entities. A data relationship is a natural association that exists between one or more entities. E.g. Employees process documents. Cardinality defines the number of occurrences of one entity for a single occurrence of the related entity. E.g. an employee may process many documents but might not process any payments depending on the nature of her job.

Attributes are the data we collect about the entities. A data attribute is a characteristic common to all or most instances of a particular entity. Synonyms include property, data element, and field. E.g. Name, address, Employee Number are all attributes of the entity employee. An attribute or combination of attributes that uniquely identifies one and only one instance of an entity is called a primary key or identifier. E.g. Employee Number is a primary key for Employee.

There are three types of relationships between entities:

One -To-One

One -To- Many

Many-To- Many

Symbols used in modeling Entity relation diagrams (ERD)


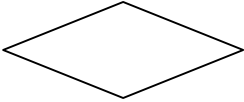
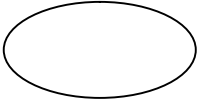

Symbol Used	Significance
	<u>Entity</u> This symbol used to represent a entity in ERD
	<u>Relationship</u> This symbol is used in ERD to represent the relationship between the entities
	<u>Attribute</u> This symbol is used to represent the attribute related with the entity in ERD
	<u>Lines</u> Lines are used to show the connection among the entities with the relation

Figure 3.2ER-Diagram symbols

1.53 3.4.3 Flowchart

Flowchart is the means of visually presenting the flow of data through an information processing systems, the operations performed within the system and the sequence in which they are performed. Basically our concern is with the program flowchart which describes what operations are required to analyze and presentation of the given data.

Symbols used in modeling Flowchart


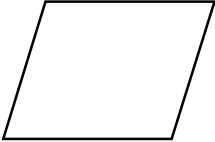

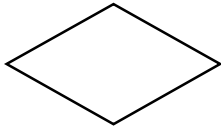
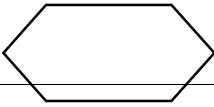




Symbol Used	Significance
	<u>Document</u> A group of program instruction, which perform a processing function of the program.
	<u>Input/Output</u> Any function of an input/output device (making information available for processing, recording, processing information, tape positing, etc.)
	<u>Process</u> A rectangle can represent a single step or and entire sub process within a larger process.
	<u>Decision</u> The decision function used to document points in the program where a branch to alternate paths is possible based upon variable conditions.
	<u>Preparation</u> An instruction or group of instructions, which changes the program.
	<u>Predefined Process</u> A group of operations not detailed in the particular set of flowcharts.
	<u>Terminal</u> The beginning, end, or a point of interruption in a program.
	<u>Connector</u> An entry from, or an exit to , another part of the program flowchart.
	<u>Flow Direction</u> The direction of processing or data flow.

Figure 3.3 Flow chart symbols

1.54 3.4.4 Use-case Modeling of the System

The other technique used in the present study is the use-case modeling of the system. It is necessary to show the flow of information in the physical world.

CHAPTER-IV

PRESENTATION AND ANALYSIS OF DATA

1.55 4.1 Introduction of the Organization

With the restoration of the multi-party democracy in the country, in 1990 A.D., extensive reforms were made in the organizational structure of the Ministry of Home Affairs. The Zonal administration with its commissioner was dissolved. Endeavors are being made to re-structure the Home administration with a view to strengthening multi-party parliamentary system.

The Ministry of home affairs mainly responsible for delivering critical services to the citizens and maintain security in the nation. These functions are carried out by various offices in the region, districts, departments etc.

The CDO has been empowered with necessary authority to maintain law and order in the respective districts and he has also been made responsible to act as the representative of the central Government. The jurisdiction of the Home Ministry has been defined by Nepal Government's (Work Division) Regulation, 1996 A.D.

There are 4 Divisions, 5 Departments, 5 Regional Administration Offices, 75 District Administration Offices, 75 District Police Offices and 73 prisons under this ministry. In addition, field offices have also been established in order to carry out the various functions assigned to this ministry

Major Activities of MoHA includes Following tasks:-

-) Maintaining Law and Order**
-) Controlling the Trafficking of Illicit Goods**
-) Managing the Refugees**
-) Managing Natural Disasters**
-) Controlling Narcotics**
-) Managing the Immigrants**
-) Disseminating the Information**
-) Issuance of Citizenship**
-) Corruption Control and Jail Management**

1.56 4.2 Organizational Structure

An organizational structure consists of activities such as task allocation, coordination and supervision, which are directed towards the achievement of organizational aims. It can also be considered as the viewing glass or perspective through which individuals see their organization and its environment. An organization can be structured in many different ways, depending on their objectives. The structure of an organization will determine the modes in which it operates and performs. Organizational structure allows the expressed allocation of responsibilities for different functions and processes to different entities such as the branch, department, workgroup and individual. Organizational structure affects organizational action in two big ways. First, it provides the foundation on which standard operating procedures and routines rest. Second, it determines which individuals get to participate in which decision-making processes, and thus to what extent their views shape the organization's actions.

There are 4 Divisions, 5 Departments, 5 Regional Administration Offices, 75 District Administration Offices, 75 District Police Offices and 73 prisons under this ministry. In addition, field offices have also been established in order to carry out the various functions assigned to this ministry. The different departments under MoHA are as follows:

-) Police Record Management Department**
-) National ID Management Center**
-) Department of Prison Management**
-) Department of Immigration**
-) Armed Police Force**
-) Nepal Police Force**

The block diagram showing the organization structure of MoHA is included in ANNEX -I.

1.57 4.3 Level of Management

Corporate organizational structure has changed in recent years as part of downsizing and business process re-engineering many companies reduced the number of management levels and delegated responsibility to operational personnel. Although the organization chart tends to be somewhat flatter a traditional hierarchy still exists in most companies.

1.58 4.3.1 Top Level Management

Top management develop long-range plans called strategic plans that define the company's overall mission and goals To carry out that task, top managers ask questions such as “how much should the company invest in information technology”, or “How much will internet sales grow in the next five years”, or should the company build new factories or contract out the production functions?.

Strategic planning focuses on issues that affect the company's future survival and growth long-term IT plans Top managers focus on the entire business enterprise and use information systems to set the company's course and direction. To develop a strategic plan, top managers also need information from outside the company such as economic forecasts technology trends competitive threats governmental issues and shareholder concerns. In our case ministers, secretary, Joint Secretary come in the top level management.

1.59 4.3.2 Middle Level Management.

Middle managers focus their goals oh a shorter time frame, usually ranging from one month to one year. They develop plans to achieve business objectives in a process called tactical planning. Middle managers delegate authority and responsibility to team leaders or supervisors and then provide direction, necessary resources, and feedback on performance as tasks are completed.

Middle managers need more detailed information than top managers, but somewhat less information than team leaders and supervisors. For example a middle manager might review a weekly sales summary for a geographic region. Whereas a sales team leader would need a daily report on customer activity. Middle managers also use

business support systems, knowledge management systems, and user productivity systems to perform their jobs. In case of our study the undersecretary level employee lies in the middle level management.

1.60 4.3.3 Lower Level Management.

Supervisors and team leaders oversee operational employees and carry out day to day operational plans. The functional level staffs are included in this category. They coordinate operational tasks, make necessary decisions and ensure that the right tools, materials, and training are available. Like other managers. This group often needs decision support information, consults knowledge management systems and relies on user productivity systems to carry out their day to day responsibilities. In case of our study the officer level employee lies in the lower level management.

1.61 4.3.4 Operational Level Management.

Operational employees primarily use Transaction Processing Systems to enter and retrieve data they need to perform their jobs. The lower level staffs includes in this category. In many companies, operational employees also need information to handle tasks and make decisions that were assigned previously to supervisors. In this trend, called empowerment, give employees more responsibility and acceptability. Many companies find that empowerment leads to better employee motivation and increased customer satisfaction. In case of our study the non-gazatted level employee lies in the middle level.

1.62 4.4 Historical development of CMIS

Citizenship Card is primary identity document of the Government of Nepal. Citizenship Card is mandatory reference document for getting critical services from government and non-government organization. For each service, copy of approved citizenship certificate is attached with the application document. Ministry of Home Affairs (MoHA) is delegated organization for distributing the citizenship card to the citizen and maintaining the record. MoHA is responsible for formulation and implementation of policy, regulation related to citizenship distribution. MoHA performs this job through District Administration Office (DAO), Local Administration Office established in all 75 districts. All Office has responsibility to function as operation point for collecting the

application form, checking, approving, and preparing citizenship card and distribute to the citizen. After completion of the age of 16 and fulfillment of the legal procedure a person can get the citizenship card from District Administration and Local Administration Office. A citizenship card provides citizens identification with individuals description and signatory and issuing authority such as full name, date of birth, place of birth, father's name, mothers name, permanent address etc.

Regional Administration Office (RAO) mainly coordinates and monitors the progress of DAO in all aspects including the progress on Citizenship Card Distribution. Similarly, Citizenship Card Section is keeping track of all citizenship related task. Each DAO is reporting to this section for their progress and citizenship related issues. Citizenship itself is keeping records related to issuance of honorary citizenship and Angikrit Citizenship card distributed earlier than 2047 BS.

Citizenship issuance related documents and information is most critical and important record of the government. The government has responsibility to keep these records safely and also made available easily when required for making decision based on those documents. Such important historic documents are kept roughly in papers, which is exposed constant damage due to continuous tear and decay. In addition, such documents could be damaged by flood, fire like hazards. The criminals may steal and destroy these records.

Previously, DAO were issuing hand written paper based citizenship card and keeping citizenship related application forms and other records manually in files and registers. Some Districts are using general spreadsheet for keeping records and some are using custom developed software based on traditional database system like Access, MySQL etc. At the same time some of the DAO offices had tried to computerize Citizenship Card Distribution System and some had established computerized system in some form with their own effort. Recently, there has been an approach started to use uniform software in all DAO for recording, printing citizenship card. The CCDS software had been implemented in few districts. However there had no unified approach to centralize the data and publish services to provide citizenship related queries and information. These systems are being used basically for the purpose of data archiving and for

printing the card. Since the CCDS software was running from the date of installation, on various District Administration Offices, it had passed through various stages of upgrading and customizing to improve the efficiency and productiveness of the work to facilitate prompt service delivery to citizens in earlier time. CCDS had been developed using Java programming language as a front end for the application software and has provision to store data in either PostgreSQL database or in Oracle Database.

Being the most important subject it is essential to keep and maintain the consistent and reliable data related to citizenship records. Also, it is needed to have proper database repository at and centralized system to share data among organization.

Recent Development of Government Enterprise Architecture (GEA) and National Government Interoperability Framework (NeGIF) had been developed and issued from July 2010. IT provides the guideline for sharing data among organization and providing service architecture for such services. Citizenship Information System also required to updated, customized and developed to accommodate the recommendation made by GEA and NeGIF. The Citizenship Information System was developed to enable data sharing among MoHA, RAO and DAO along with the other government organization and non-government organization.

Towards the good governance effort, GON has computerized the Citizenship Card Distribution System (CCDS) and hence the development of the Citizenship Information System. The advantages of computerization are obvious. This includes computerized registration, processing, printing, distribution, enabling security features, appropriate backup system, etc and eventually automation of the Citizenship Information System. The system has helped to develop computerized Citizenship Information System so that correct and reliable citizenship data could be processed and produced within reasonable time and to produce useful information for the decision-makers. As a result, the decisions related to citizenship administration will be based on information feedback, which will ultimately contribute towards not only timely decision making but will also contribute towards enhancing the quality of decisions made in different types of service delivery involving citizen centric projects.

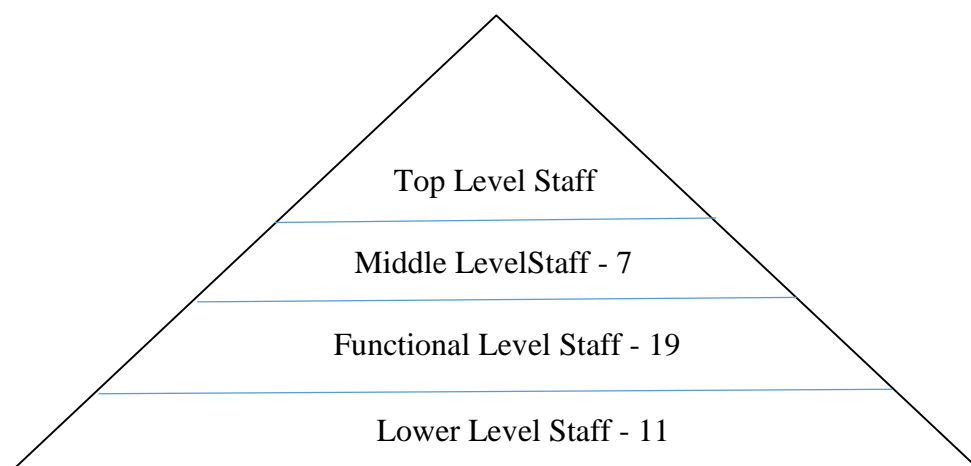
1.63 4.5 Answer to the first research question what is the situation of MIS in Ministry of Home Affairs?

E-governance section of Ministry of Home Affairs is undertaking various MIS projects like Citizenship Management Information System. The E-attendance system has been developed and has been implemented so that the aggregated report of various DAO and RAO offices under Ministry of Home Affairs. The Document Management System has been implemented in the central Ministry so that the document in the ministries can be easily processed and managed.

1.64 4.5.1 Primary Survey of MIS of Ministry of Home Affairs

The main sources of data are primary study. The objective of this survey is to study the MIS of Ministry of Home Affairs and in order to achieve this objective different questionnaire and field visit interview has been made. The questionnaire has been developed which is included in the annex part of this thesis. For this survey among 154 employees working under Ministry of Home Affairs the 40 employees are considered as respondents and they are categorized in four groups. They are top level management, middle level management, Functional level management and Lower management.

**Figure 4.1
Different Level of Staff Inside central office**



According to the above Figure: 4.1 among the total respondents 3, 7, 19 and 11 respondents belong to top level management, middle level management, Functional level management and lower level of management respectively.

i. Understanding of Management Information System (MIS) among the employees.

Table 4.1
Understanding of MIS among the Staff

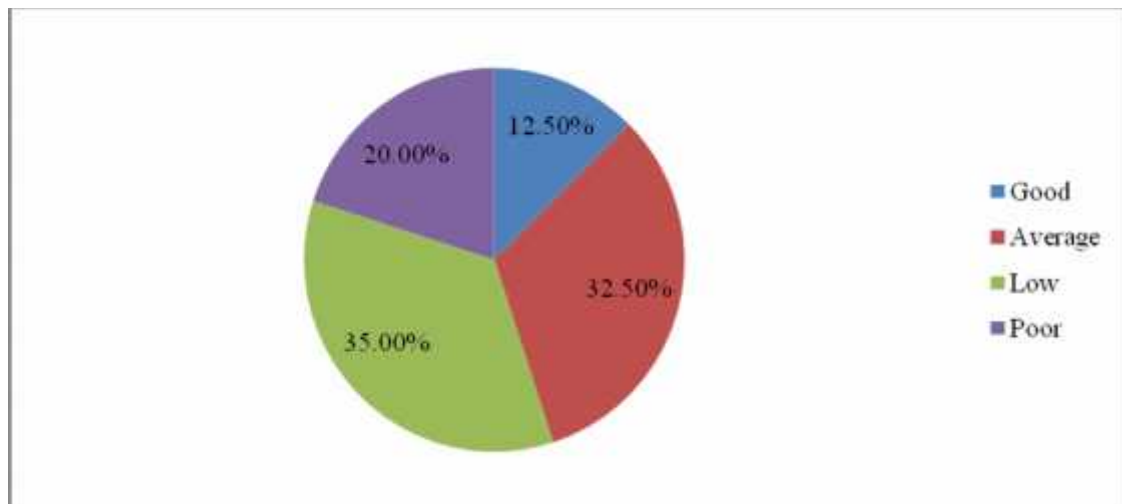
Description	Number of respondents	% of respondents
Good	6	12.50
Average	13	32.50
Low	14	35.00
Poor	7	20.00
Total	40	100

Source: Field survey 2014

The Table 4.1 shows the understanding of the MIS among the employees. It can be observed from the above table that 12.50% of total respondents has a good understanding of the MIS, 32.50% of the total respondents have average understanding of the MIS .

Similarly 35.00% of the total respondents coded that they have low understanding of the MIS whereas 20.00% of the responded believe that they have poor knowledge on MIS. It is also shown in following Figure.

Figure 4.2
Understanding of MIS among the Staff



ii. Access to Computer for the Employees in the Office.

Table 4.2

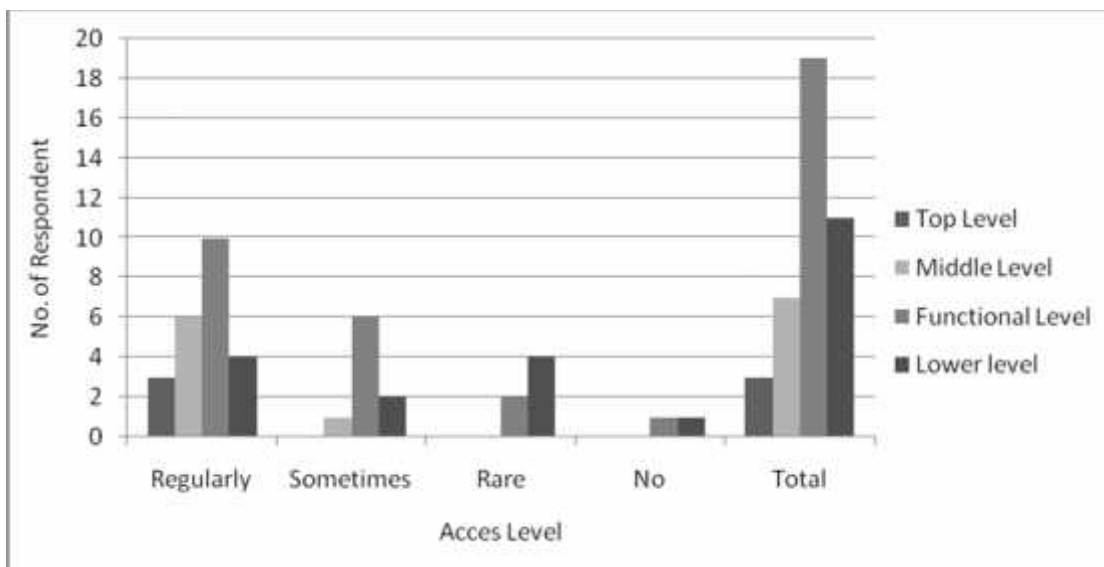
Access to Computer for the Employees in the Office

Respondents	Regularly	Sometimes	Rare	No	Total
Top Level	3	0	0	0	3
Middle Level	6	1	0	0	7
Functional Level	10	6	2	1	19
Lower level	4	2	4	1	11
Total	23	9	6	2	40

The Table 4.2 shows the access of computer to the employees in the office. Among the different level of management almost all of top level management access regularly in the computer ,the middle level management have slightly less access to the computers which is followed by the functional level management have slightly less access in the computer than middle level. The lower level staffs have less access to the computers. Most of the employees i.e.23 have regularly access in the computer altogether and 9 employees have sometimes access , 6 employee have rare access and 2 employee have no access to the computer. It is also presented in the following Figure.

Figure 4.3

Computer Access in the Employee Working Activities



iii. Use of Computer/MIS in your office.

Table 4.3

Use of Computer/ MIS in your office

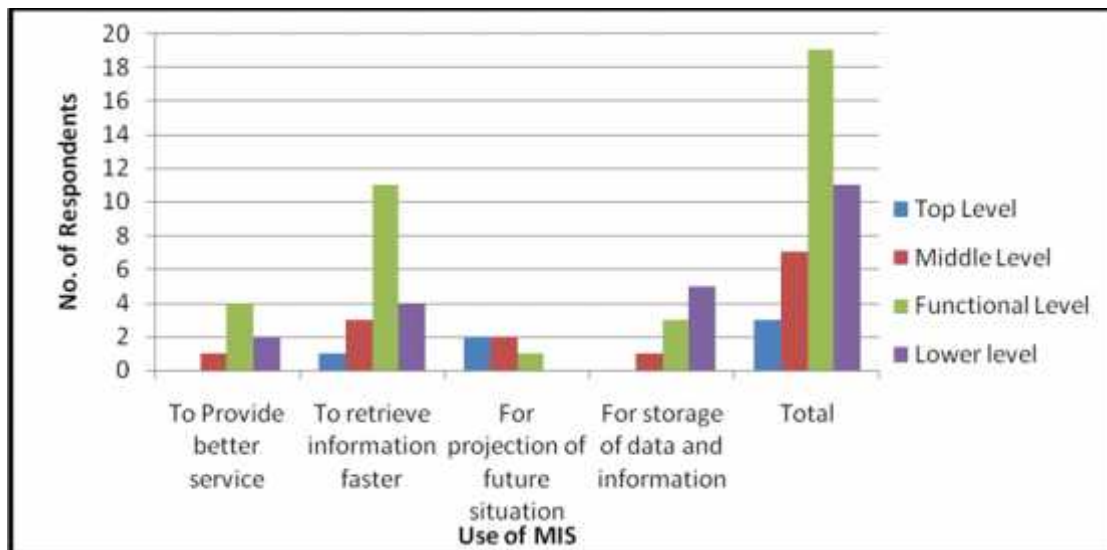
Respondents	To Provide better service	To retrieve information faster	For projection of future situation	For storage of data and information	Total
Top Level	0	1	2	0	3
Middle Level	1	3	2	1	7
Functional Level	4	11	1	3	19
Lower level	2	4	0	5	11
Total	7	19	5	9	40

Source: Field survey 2014

The Table 4.3 depicts the use of computer/MIS in the office. It can be clearly observed that the use of the computer/MIS is different for the various level of management . Top level management uses the computer/MIS for more analytical purpose like projection of future situation. Likewise, middle level, functional and lower level employees mostly uses the computer/MIS to retrieve the information faster. However, the basic purpose of the use of computer/MIS is mainly to get the information faster which is 19 (47.50%) altogether. It is also presented in the following Figure.

Figure 4.4

Use of Computer/MIS



iv. Importance of MIS in the MoHA

Table 4.4

Importance of MIS in MoHA

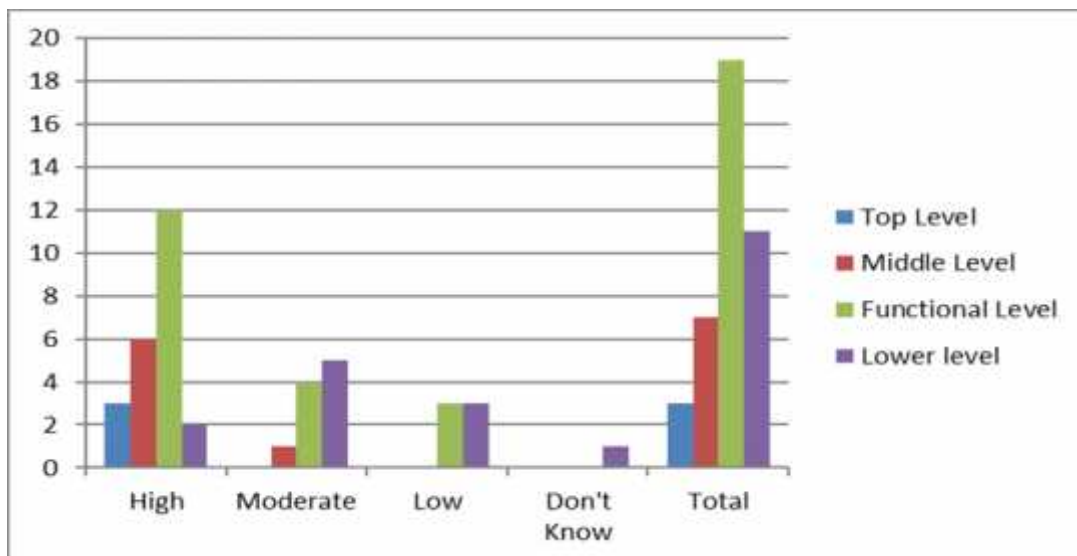
Respondents	High	Moderate	Low	Don't Know	Total
Top Level	3	0	0	0	3
Middle Level	6	1	0	0	7
Functional Level	12	4	3	0	19
Lower level	2	5	3	1	11
Total	23	10	6	1	40

Source: Field survey 2014

The Table 4.4 depicts the respondents view in for the importance of MIS in the office. According to this, the respondents result of top level, middle level, lower level and functional level management with high importance of MIS is 100%, 85.71%, 63.16% and 18.18% respectively. There is negligible respondent which replied low importance of MIS. Thus, the finding coded that there are 57.50%, 25% and 15% response for high, moderate and low importance of MIS. It is also presented in the following Figure.

Figure 4.5

Importance of MIS



v. Use MIS in Decision Making Process

Table 4.5

Use of MIS in Decision Making Process

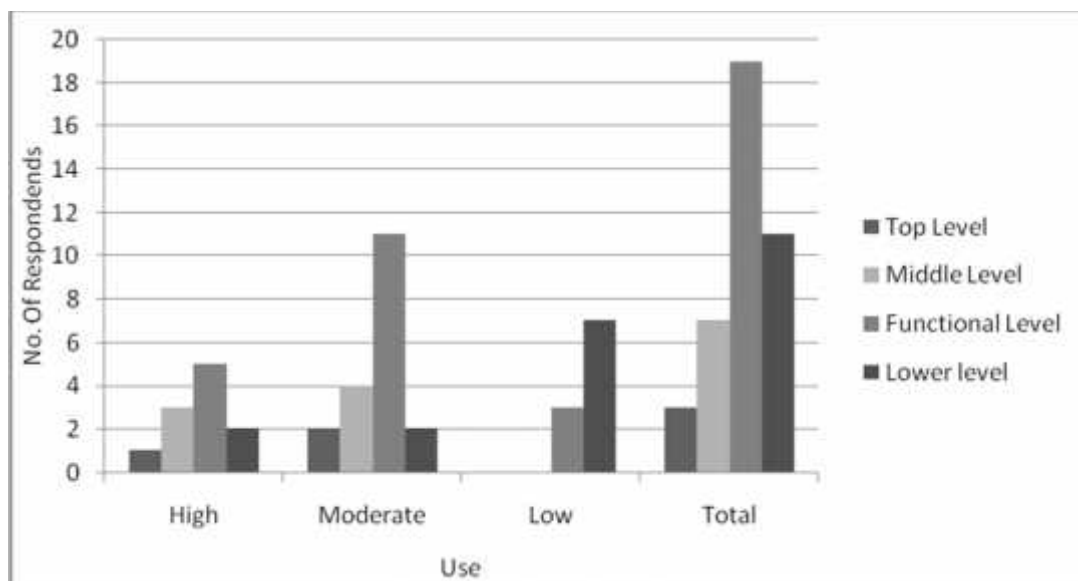
Respondents	High	Moderate	Low	Total
Top Level	1	2	0	3
Middle Level	3	4	0	7
Functional Level	5	11	3	19
Lower level	2	2	7	11
Total	11	19	10	40

Source: Field survey 2014

The Table 4.5 shows the respondents view in use of MIS in the decision making process. According to this, 33.33% of Top Level, 42.86% of Middle Level, 26.32% of functional Level and 18.18% of lower Level management thinks that MIS can be used highly in the decision making process of the organization. Also we can observe that 66.67% of the Top level, 57.14% of Middle Level, 57.89% of the Functional Level and 18.18% of the Lower Level responded that moderate level of decision making activities can be performed using MIS. Thus, the result coded that mostly Middle and Functional level management made the decision by using MIS as the moderate and use of MIS in the Lower Level Management is negligible. It is also presented in the following Figure.

Figure 4.6

Use MIS in Decision Making Process



vi. Problem of MIS in MoHA

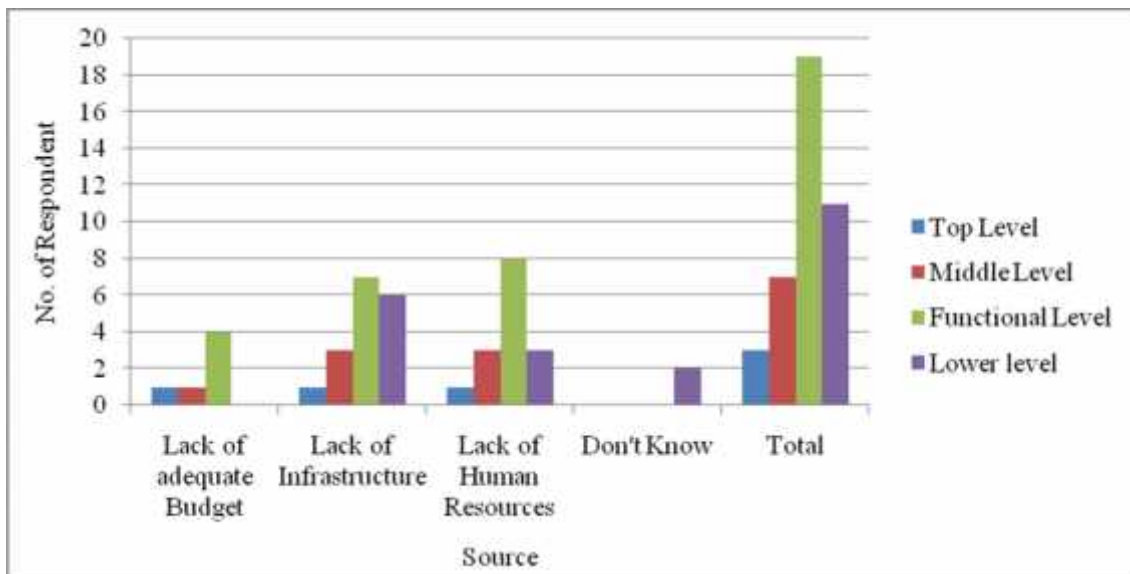
Table 4.6
Problem of MIS in MoHA

Respondents	Lack of adequate Budget	Lack of Infrastructure	Lack of Human Resources	Don't Know	Total
Top Level	1	1	1	0	3
Middle Level	1	3	3	0	7
Functional Level	4	7	8	0	19
Lower level	0	6	3	2	11
Total	6	17	15	2	40

Source: Field survey 2014

The Table 4.6 depicts the problem of MIS in MoHA. We can observe that 42.50% % replied that the problem of MIS in MoHA arises due to the lack of infrastructure. Likewise, they responded that the MIS problem in their organization is 37.50% and 15 % due to lack of Infrastructure and Lack of Human Resources respectively all together. 5% of the respondents replied that they are not aware that what the problem in the MIS. It is also presented in the following Figure.

Figure 4.7
Problem of MIS



vii. Satisfied with current MIS.

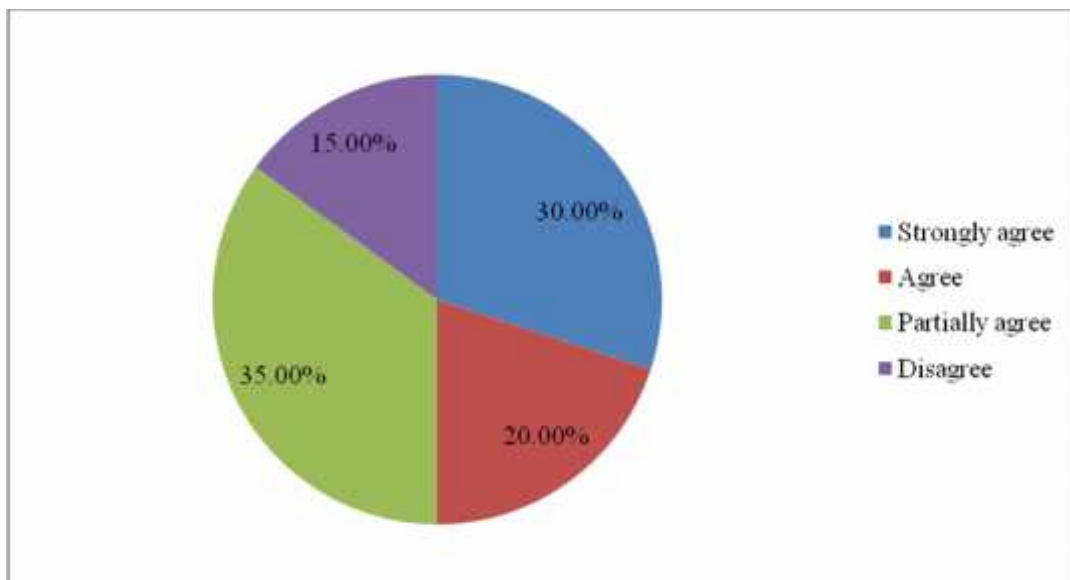
Table 4.7
Satisfied with current MIS

Respondents	Strongly agree	Agree	Partially agree	Disagree	Total
Top Level	0	1	2	0	3
Middle Level	2	3	2	0	7
Functional Level	8	3	5	3	19
Lower level	2	1	5	3	11
Total	12	8	14	6	40

Source: Field survey 2014

Table 4.7 shows the staff response regarding the satisfaction of the current MIS system. Among the respondents Functional and middle level management strongly agrees regarding satisfaction of current MIS as compared to Top and Lower Level managers. In all together, the result found for satisfaction of current MIS from the respondents having strongly agree, agree ,partially agree and disagree are 30%, 20%, 35% and 15% respectively. The overall result of management all together is presented in the following Pie Chart.

Figure 4.8
Satisfaction with Current MIS



viii. CMIS Enhanced Effective Management of Citizenship.

Table 4.8

CMIS Enhanced Effective Management of Citizenship

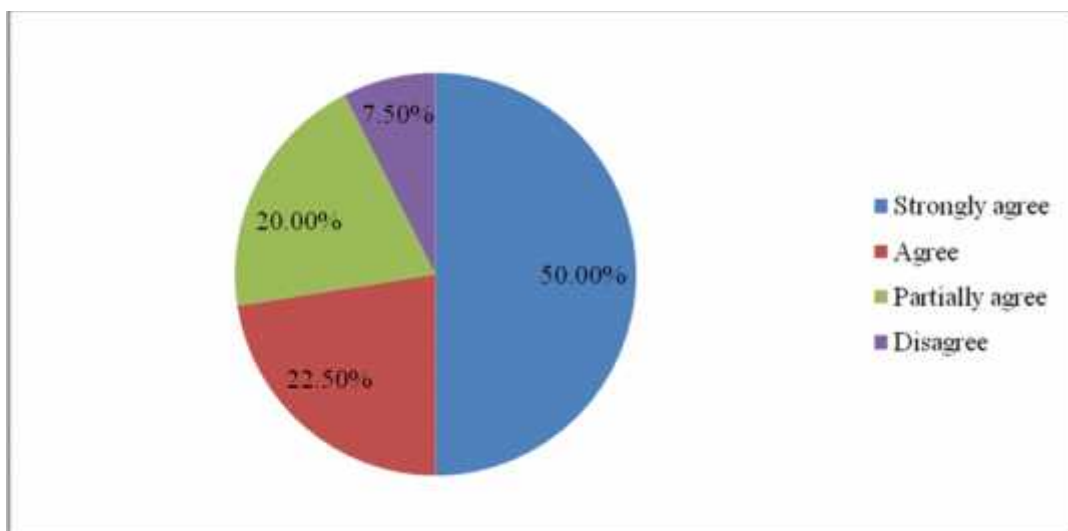
Respondents	Strongly agree	Agree	Partially agree	Disagree	Total
Top Level	3	0	0	0	3
Middle Level	4	2	1	0	7
Functional Level	8	5	6	0	19
Lower level	5	2	1	3	11
Total	20	9	8	3	40

Source: Field survey 2014

The Table 4.8 shows the responds made by the respondents regarding the role of CMIS for the effective management of Citizenship certificate. Most of the all level are strongly agreed with the view that CMIS has enhanced the effective management of citizenship certificate i.e. 100 % of the Top level, 7.14% of the Middle level, 42.11% of the Functional Level and 45.45% of the Lower level strongly agree with the query. As a whole 50% strongly agree, 22.50% agree, 20.00 partially agree and only 7.50% disagree with CMIS enhanced the effective management of citizenship management respectively. The overall respondents' response is presented in the following pie chart along together.

Figure 4.9

CMIS Enhanced Effective Management of Citizenship



1.65 4.6 Answer to the Second Research Question how is the Current MIS Structured, What are its Component and Modules, how does it Process Data and what is the outcome?

In order to answer this question first of all we must make analysis of the current situation of Citizenship Management Information System. The modules included in the MIS, its architecture, the process flows with the help of Data Flow Diagrams are discussed below:

1.66 4.6.1 CMIS Modules

Setup

This module is concerned with setting up the fundamental information within the MIS. The first option available in the setup is the Common option. The addition of the Fiscal year details i.e. the Fiscal year along with the start date and end date of the fiscal year can be done from the common option. The addition of the status of the citizenship can be made in the "Status "section under common option in the setup menu. The provision of addition of user types such as DAO, ILAKA and TOLI can be added from the "User Type" section. The name of the types of documents to be used in the process of distribution of Citizenship Certificate can be added from the "Document Category" section. The different types of documents required by the CMIS are Citizenship of Father, Citizenship of Husband, Residence Migration certificate, Land ownership certificate, relationship verifying certificate and e.t.c. The "Relationship Type" section is used for adding the various relations that may exists which can be used by the user during the issuance of the certificate. The relationship types used in the CMIS are Father, mother, uncle, husband, wife, son, daughter, grandfather. The name of various types of citizenship can be entered to the system from the "citizenship type" section. Similarly, the categories of sex, occupation, religion, education details, means and citizenship distribution start date can be added through the respective section under the common option.

The next option in the setup section is the address option where the countries name, regions name, Zone name, District name, VDC/Municipality name, Ward and VDC/Municipality types can be added by the administrator.

The next option is the office setup where the office name in the 75 districts is added along with the division offices and the employee's details. The designation, subclass and the shreni can be added through the rank option in the setup section.

This setup module is not visible to the other normal user. Only the administrator at the central office is able to configure the details.

New Citizenship

This module contains the entry form for the issuance of the Citizenship certificate. The entry details are provided as per the necessary details included in the Nepalese Citizenship Regulation 2063. The different entry forms are provided for the different types of citizenship i.e. citizenship by birth, citizenship by naturalization, citizenship by blood and honorary citizenship because the details included in the different types of citizenship are different. The list of citizenship can be available in this module. The searching and modification parts are also include in this section.

Old Citizenship

This module contains the entry form for the entry of the old Citizenship certificate. The migration of the old paper citizenship certificate information is carried out through this module. The details are similar to that of the new citizenship case.

Copy Citizenship

This module is used for the generation of the copy citizenship certificate of the Nepalese citizens. Upon submission of the request by the citizen himself along with the document to be submitted as per mentioned in the Citizenship act he/she can receive a duplicate copy of Citizenship certificate.

Toli

Government of Nepal can send a group of officials for the distribution of the citizenship certificate in different areas of country. The Gazetted officer of Government of Nepal will be the leader of such team. The details of the citizenship certificate distributed will be entered in this module.

Other Services

Relinquishments of Nepali citizenship, restoration of Nepali citizenship, automatic termination of Nepali citizenship, Redistribution of Nepali citizenship certificate and passport information are handled in this module.

Reports

Various MIS reports as per the requirement of the management can be generated in the CMIS. Some of the reports that are available in the CMIS are as follows:

-)] Report showing total distribution of Citizenship in all 75 districts.
-)] Report showing the typewise count of Citizenship in all 75 districts.
-)] Report showing the typewise count of Copy Citizenship in all 75 districts.
-)] Report showing genderwise count of Citizenship in all 75 districts.
-)] Report showing genderwise count of copy citizenship in all 75 districts.

1.67 4.6.2 Architecture

Figure 4.10

Showing the Architecture Block of CMIS

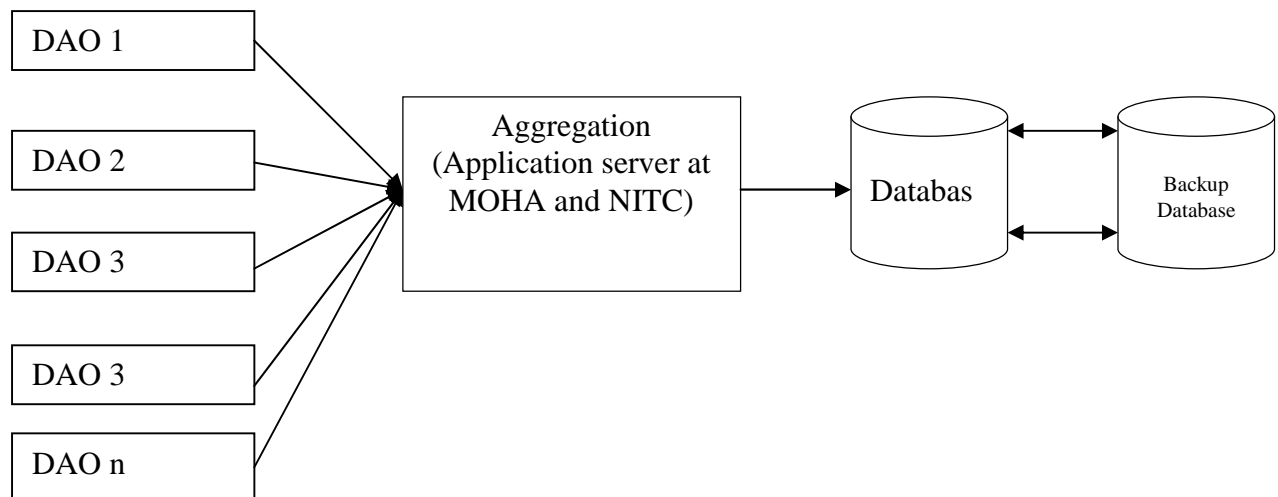


Figure 4.10: The above figure shows the architectural diagram of the citizenship management Information system (CMIS). From the diagram above we can easily interpret that the user at the district can access the application and post the information which flows to the database at the MOHA. The backup provision is also maintained.

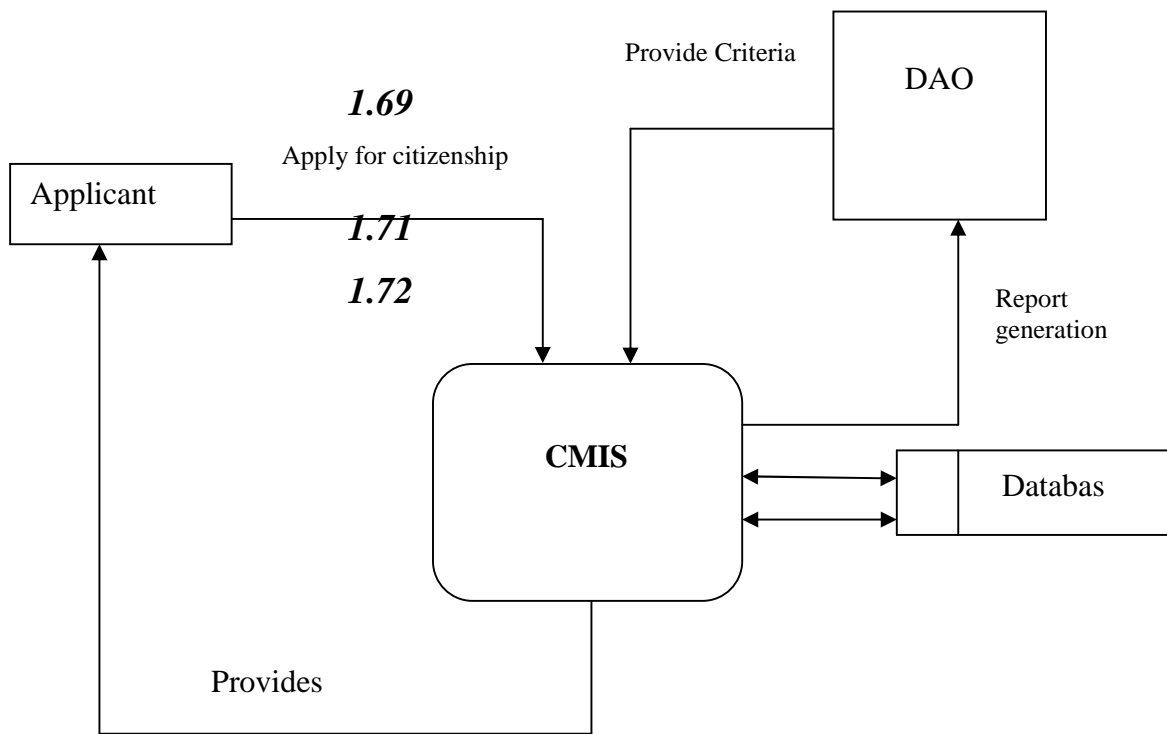
1.68 4.6.3 DFD Diagram of the Current System

The following DFD diagrams depict the current system of the CMIS.

Context Level DFD

Figure 4.11

Figure Showing the Context Level Diagram for CMIS

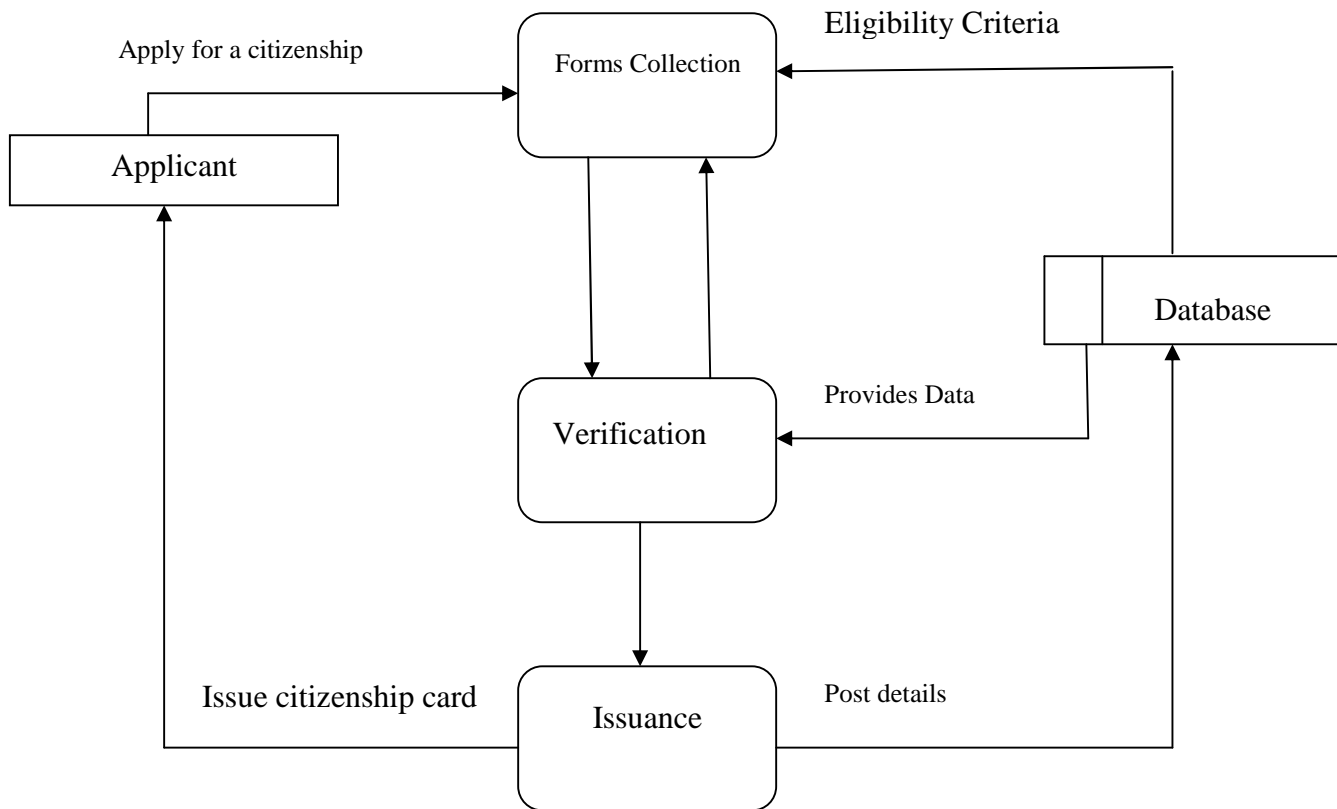


The above diagram shows the context level DFD of CMIS. The applicant who apply for the new citizenship or for the reissuance of the citizenship for the loss or damage. The documents and information provided by the applicant are verified with the criteria from the database and if they are eligible they are issued with the citizenship.

Zero level DFD

Figure 4.12

Figure Showing Detailed Data Flow Diagram of CMIS



The above diagram shows the 0 level DFD of CMIS. The collected information and forms are verified with the database information. And only after the proper verification the citizenship certificate is issued.

1.73 4.6.4 Process and Outcome

The basic information of the software is updated by the MIS team at the e-governance section. The local servers have been installed at each of the District Administrator offices along with the backup plans. The data entry is performed by the operators at the DAO. Various reports are generated at the respective site under the scope of the credential provided by the central team.

Database is maintained at GIDC, singhadurbhar. Different reports can be extracted as per the user requirement in a less period of time. Since Management is getting timely reports which positively influence decision-making process as well as increase the satisfaction of the people.

1.74

1.75 4.6.5 Observation of Data and Diagrams

The centralized CMIS system has been implemented in District Administrative Offices of the entire 75 district and the citizenship is being issued from the centralized system. The table below shows the total number of issuance of the citizenship certificate over 75 districts. The old citizenship indicates the data which have been migrated from the older system whereas the new citizenship indicates the citizenship certificate issued from the current centralized system.

Table 4.9

Table Showing Total Issuance of Citizenship in Different Zones

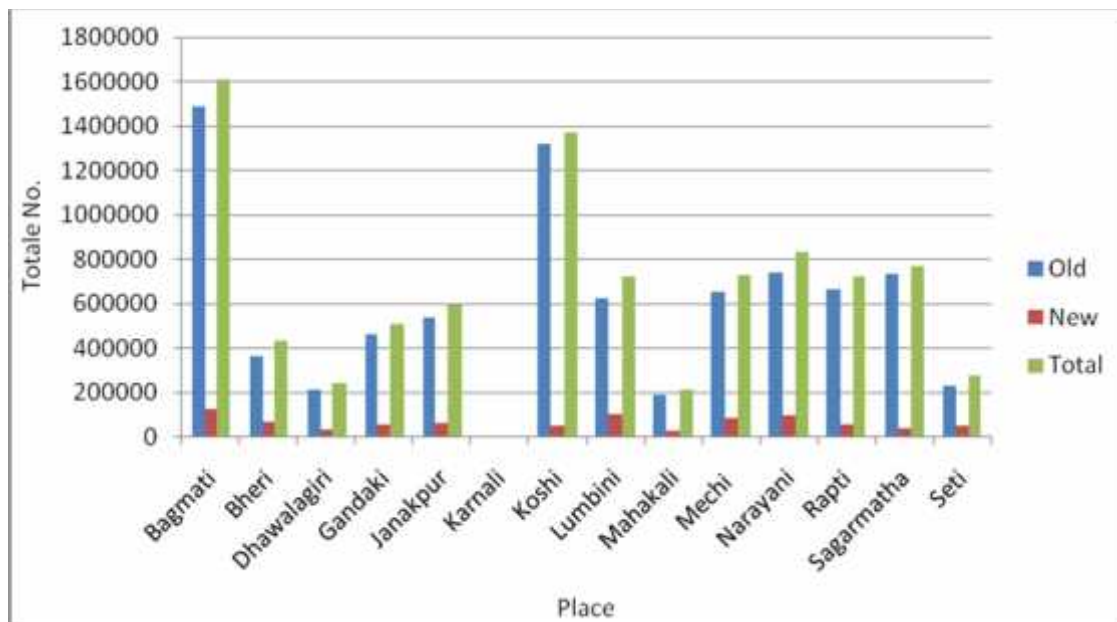
Zone	Old Citizenship	New Citizenship	Total Citizenship
Bagmati	1490069	119991	1610060
Bheri	366450	64498	430948
Dhawalagiri	214389	27092	241481
Gandaki	460486	51039	511525
Janakpur	537006	56317	593323
Karnali	4835	5	4840
Koshi	1321422	49113	1370535
Lumbini	625775	99342	725117
Mahakali	188674	23707	212381
Mechi	652306	78600	730906
Narayani	738069	92554	830623
Rapti	665682	54793	720475
Sagarmatha	734181	36265	770446
Seti	233330	45977	279307

(Source: E-governance Section, MoHA)

From the above Table we can observe that Bagmati zone has the highest number of issuance of the citizenship certificate i.e. 1610060 whereas in Karnali Zone the issuance of the certificate is minimum i.e. 4840. Also we can observe that among 4840 issued citizenship certificate only 5 have been issued from the CMIS system whereas rest 4835 are the citizenship which are migrated from the older system.

The data in the above table can be graphically represented as follows:

Figure 4.13
Showing the Graphical Representation of Table 4.9



From the above Graph we can observe that maximum no of issuance of the citizenship certificate is in the Bagmati Zone. Whereas Karnali has the least no. of issuance of citizenship certificate. Also we can observe that the issuance of the citizenship certificate in Dhawalagiri, Mahakali, Seti and Bheri Zone are fewer than other one which indicates the lack of education and awareness in these region regarding importance of citizenship certificate document.

Table 4.10

Table Showing Comparison of Total Issuance of Citizenship in Different Zones in two Fiscal year.

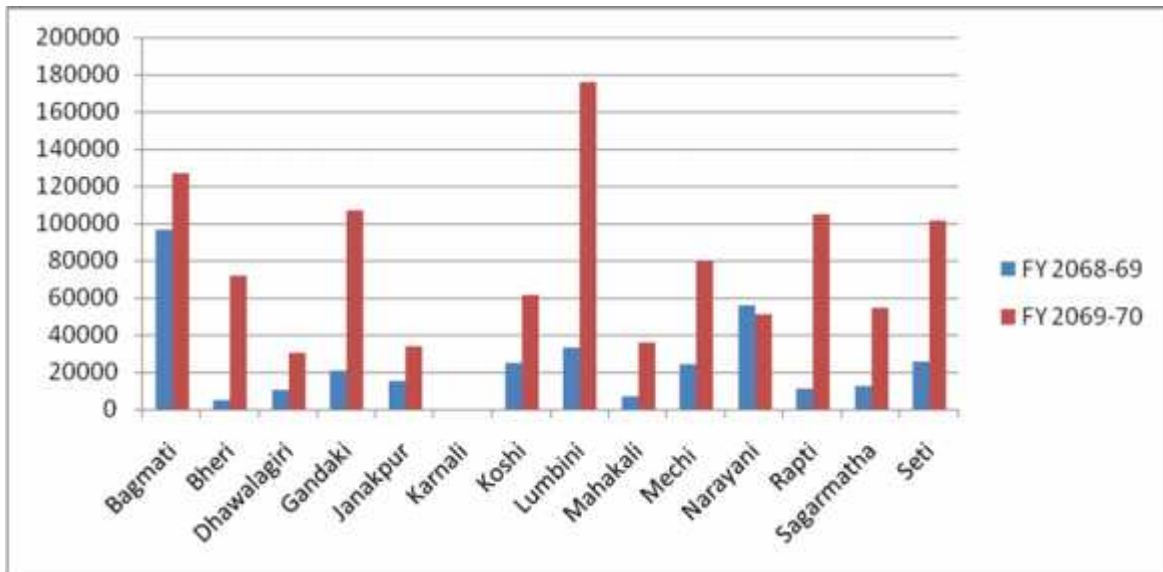
Zone	2068-69	2069-70
Bagmati	96863	126711
Bheri	4584	71727
Dhawalagiri	10399	30422
Gandaki	20425	106939
Janakpur	15464	33514
Karnali	74	12
Koshi	25145	61182
Lumbini	32830	175755
Mahakali	6816	35599
Mechi	24058	79855
Narayani	55664	51346
Rapti	10993	104566
Sagarmatha	12212	54678
Seti	25763	101144
Total	341290	1033450

(Source: E-governance Section, MoHA)

The above table shows the issuance of the citizenship certificate in the different zones in the two fiscal year before and after the implementation of the centralized citizenship certificate. From the above table we can see that except Karnali zone all other zone have substantial number of increase in citizenship certificate issuance in the FY 2069-70 compared to that of FY 2068-69. Also we can observe that the total number of issuance of citizenship certificate in the Fiscal Year 2068-69 is 341290 whereas total issuance of citizenship certificate in the Fiscal Year 2069-70 is 1033450. It can be clearly observed that the total issuance of the citizenship certificate is increased by 300% in the Fiscal year 2069-70 i.e. after implementation of CMIS System.

Figure 4.14

Figure showing the Graphical Representation of Table 4.10



The above figure shows the graphical representation of the table 4.2. The substantial increase in the issuance of the citizenship certificate in the fiscal year 2069-70 compare to that of the fiscal year 2068-69 indicates that the implementation of the CMIS system at DAO has played positive impact in the issuance of citizenship certificate and has hence empowered e-governance initiation of Government of Nepal.

1.76

1.77 4.7 Answer to the third research question what are the improvements that can be made in the current management information System on Citizen Identity Management for better personal identification and effective e-governance service integration?

The existing system has identity cards that were issued manually, in a distributed manner which is difficult to control and doesn't address the issues on information sharing with other e-government projects and organization. Also the entry of the collected information of citizenship in the database just stop the duplicate issue of the Nepalese citizenship certificate but it is not able to better identify the citizens which will be beneficial for the government in good governance and effective government service delivery. The chance of issuance of forged cards is still high. There is a little notion of physical security. The non-application of

biometrics will result in limited ability to verify the identities across various e-governance application.

The Citizen Certificate is treated as Official ID and proof-of-age for anyone resident in Country. If this certificate can be used as the citizen Identity card it can be used for the following purposes:

- J To maintain the Person's National Identity for verification
- J Basic Identity for other identity, such as passport, driving license, other similar applications, vital registrations like birth, death, marriage,
- J Interviews, Examinations, Legal cases,
- J Voter ID Card,
- J For registering Land, Vehicle and other property,
- J Financial transactions,
- J Social Security Card,
- J Taxation,
- J Medical Information,
- J Border and security management,
- J True statistics for planning,
- J As record for security management

Thus adding some features on the current MIS system will help to develop a system which will provide solution to the person's identity matters of the citizens. The verification is made through biometric information. Multiple services through single Citizenship Card and help for better planning, programming and implementation of development works of the country. It will also help in controlling crimes including Identity fraud.

Biometric information Module can be used for capturing of biometrics information (e.g. finger impressions) of applicant including photograph and scanned signature.

Smart Card Production Module can be implemented to produce / print smart card of Citizenship certificate. The information on citizenship card can be as shown as below:

Table 4.11
Smart Card Information

Information	Printed	Inside the Chip
Full name (First Name, Middle Name, Last name)	Y	Y
Address	Y	Y
Father/Husband Name	Y	Y
Citizenship / Passport Number	Y	Y
Date of Birth	Y	Y
Driving License No	Y	Y
Date of Issue	Y	Y
Voter Id No	Y	Y
Photograph	Y	
Blood Group	Y	Y
Contact Number if an emergency	Y	Y
Finger print	Y	Y
Authorized Signatory	Y	Y

Once the smart card is produced, the system must lock the record so that further production of the same card will not be possible unless otherwise unlocked by higher authority. Similarly, once the information is posted, the information cannot be changed/alterd without the approval of the higher authority user. The central office will have card printers to produce large number of cards(Priya,2012).

The following is the stages for the distribution of the Citizenship Identity Card

-) **Vetting:** It is the process of detail background check of the applicant.
-) **Enrollment:** Digital capture and storage of multiple identity data, images and biometrics are performed in this stage.
-) **Issuance:** Production of various ID credentials is performed in this stage.
-) **Usage:** Various scopes of areas are implemented for verification of identity.

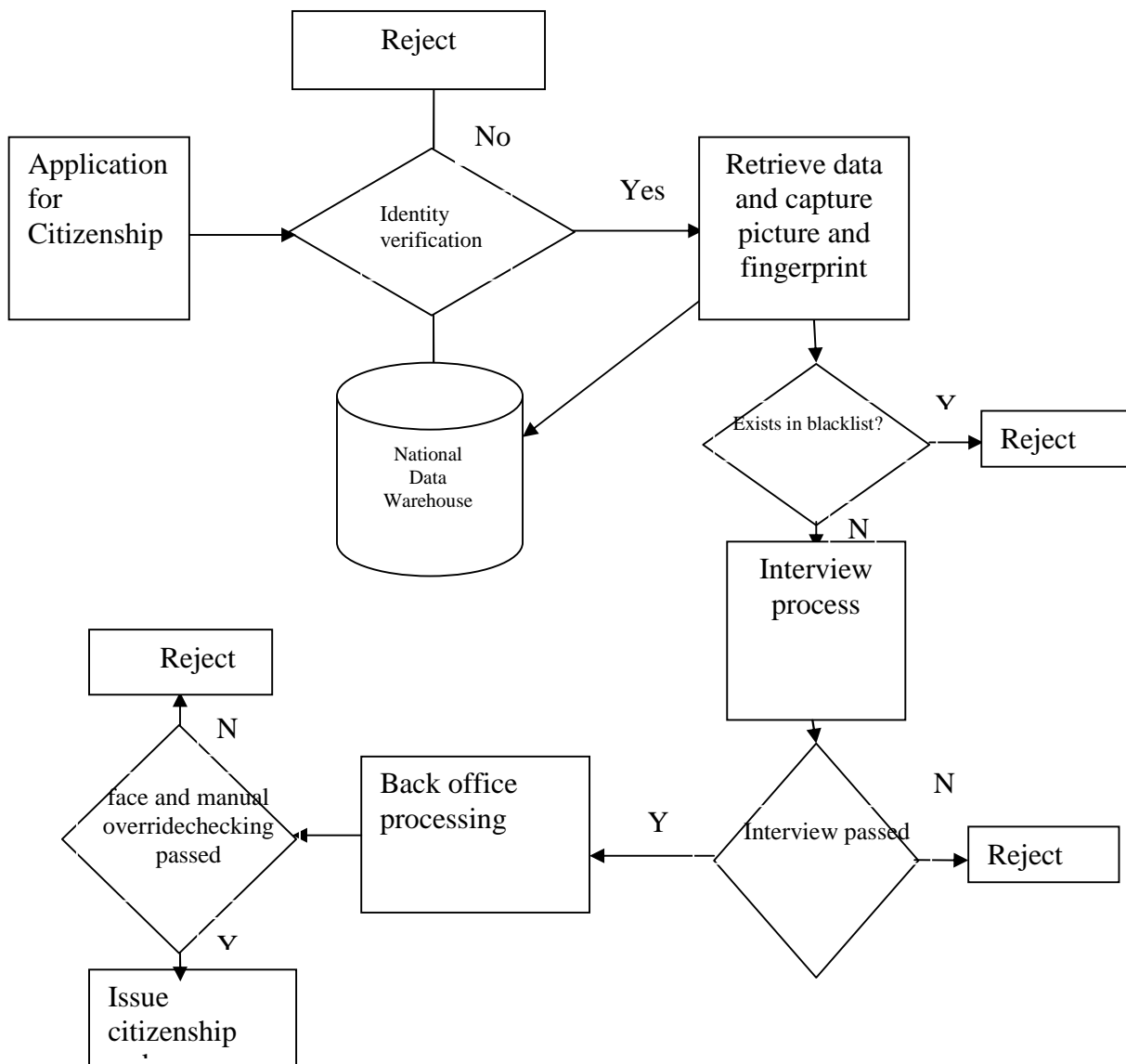
The applicants applying for the citizenship certificate will apply with the required documents which will be verified and entered to the MIS if the identity is verified the application is verified and further processed else it is rejected. The facial patterns and fingerprint is taken and stored in the national database. The application is checked against the blacklist database and if he/she is clean from the blacklist the interview process will be taken. After the completion of the interview from the officials of the DAO the official processing is carried out for the duplication/manual override of the

user in the system. After the confirmation that there is no duplication of the users the citizenship card will be issued.

The data exchange module will be helpful to exchange the information between the other government organizations. The information on the citizenship certificate card will be shared by the other government organization like the election commission for the purpose of voters Id, Ministry of Federal Affairs and Local Development for the vital registration card and Department of Transport for license and for proving other e-governance services through the means of identity cards. Single card can be used for the multiple services.

Figure 4.15

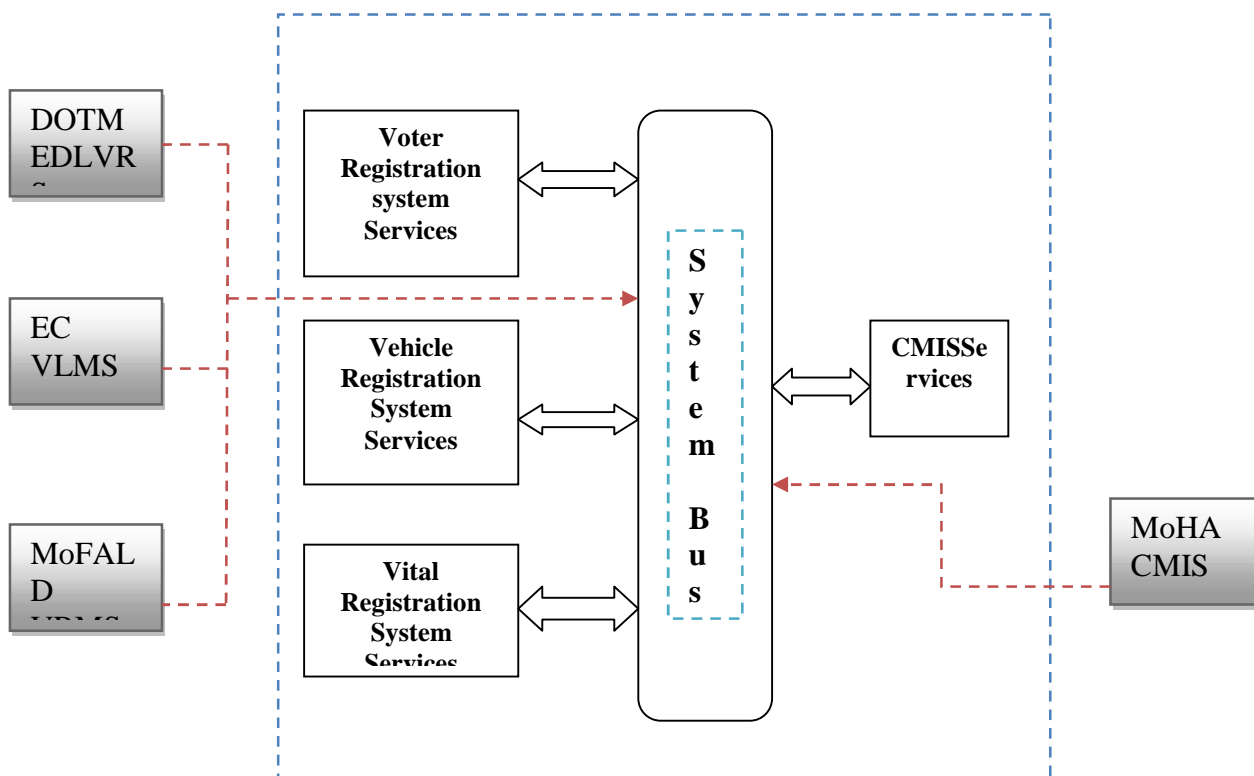
Flow chart of proposed CMIS



(Source: Ilyas, 2008)

The exchange of information in the CMIS for the delivery of the e- services like the Online Voter's Registration Process Vital registration Management System and the Online Vehicle Registration process can be performed by preparing a common integrated service delivery gateway.

Figure 4.16
Data Exchange and Service Delivery



The Service Bus will facilitate all the interactions between service seekers viz the citizens and various service providers viz. the Government entities. The service bus thus provides seamless interoperability and will facilitate easy exchange of data and events across the other ministries i.e. EC, MoFALD and DOTM. This will also help to provide a single point access of the e-government portals of the above mentioned government organizations acting as an e-service delivery gateway between all the above entities (NeGIF,2010).

1.78

1.79

1.80 4.8 Major Findings

The major finding from the secondary data analysis are as follows:

- J MoHA is one of the government organization in Nepal, which has initialized various MIS/ICT project within the organization.
- J E-governance section of Ministry of Home Affairs is undertaking various MIS projects like Citizenship Management Information System. The E-attendance system has been developed and has been implemented so that the aggregated report of various DAO and RAO offices under Ministry of Home Affairs. The Document Management System has been implemented in the central Ministry so that the document in the ministries can be easily processed and managed.
- J The modules used in the CMIS system are setup, New Citizenship, Old citizenship, Copy Citizenship, Toli, Other services and Reports.
- J Currently CMIS stores 90,31,967 citizenship information among which 7,99,293 are issued from the system and 82,32,674 numbers of citizenship details has been migrated from the older system. Bagmati zone has the highest number of issuance of the citizenship certificate i.e. 1610060 whereas in Karnali Zone the issuance of the certificate is minimum i.e. 4840.
- J Comparing the issuance of the citizenship certificate in the different zones in the two fiscal year before and after the implementation of the centralized citizenship certificate we can see that except Karnali zone all other zone have substantial number of increase in citizenship certificate issuance in the FY 2069-70 compared to that of FY 2068-69. Also we can observe that the total number of issuance of citizenship certificate in the Fiscal Year 2068-69 is 341290 whereas total issuance of citizenship certificate in the Fiscal Year 2069-70 is 1033450. It can be clearly observed that the total issuance of the citizenship certificate is increased by 300% in the Fiscal year 2069-70 i.e. after implementation of CMIS System. The substantial increase in the issuance of the citizenship certificate in the fiscal year 2069-70 compare to that of the fiscal year 2068-69 indicates that the implementation of the CMIS system at DAO has played positive impact in the issuance of citizenship certificate and has hence empowered e-governance initiation of Government of Nepal.

-) There is possibility of integration of the Biometric information Module which can be used for capturing of biometrics information (e.g. finger impressions) of applicant including photograph and scanned signature and Smart Card Production Module which can be implemented to produce / print smart card of Citizenship certificate. This can lead CMIS system as the basis for the national identifier i.e. the citizenship number can be used as a national identity number.**
-) There is also the possibility of the exchange of information of the CMIS for the delivery of the e- services like the Online Voter's Registration Process Vital registration Management System and the Online Vehicle Registration process which can be performed by preparing a common integrated service delivery gateway.**

The major finding from the primary data analysis are as follows:

-) 12.50% of the respondents have good understanding of the MIS among the staff of the MoHA. Similarly, average understanding of MIS among employee is found to be 32.50% whereas 35.00% and 20.00% coded that they have low and poor understanding of the MIS System respectively. The larger number of result in the poor understanding of the MIS system indicates that MoHA needs to aware and train its employees about its MIS system.**
-) The access of computer and use of MIS during the work seems to be different in different level of Management. Top level management and Middle level management have more access in the computer whereas functional level management have less access in the computer compared to other two. Lower Level of staff have limited access to the computer. 23 out of 40 respondents coded that they have regular access to the computers.**
-) Top level management uses the computer/MIS for more analytical purpose like projection of future situation. Likewise, middle level, functional and lower level employees mostly uses the computer/MIS to retrieve the information faster. However, the basic purpose of the use of computer/MIS is mainly to get the information faster which is 19 (47.50%) altogether.**
-) The respondents result of top level, middle level, lower level and functional level management with high importance of MIS is 100%, 85.71%, 63.16% and 18.18% respectively. There is negligible respondent which replied low importance**

of MIS. Thus, the finding coded that there are 57.50%, 25% and 15% response for high, moderate and low importance of MIS. This indicate that majority of employees thinks that use of MIS is important for organizational effectiveness.

-) 33.33% of Top Level, 42.86% of Middle Level, 26.32% of functional Level and 18.18% of lower Level management thinks that MIS can be used highly in the decision making process of the organization. Also we can observe that 66.67% of the Top level, 57.14% of Middle Level, 57.89% of the Functional Level and 18.18% of the Lower Level responded that moderate level of decision making activities can be performed using MIS. Thus, the result coded that mostly Middle and Top level management made the decision by using MIS whereas Functional level management moderately use MIS for decision making whereas use of MIS for decision making in the Lower Level Management is negligible.
-) 42.50% responded that the problem of MIS in MoHA arises due to the lack of infrastructure. Likewise, they responded that the MIS problem in their organization is 37.50% and 15 % due to lack of Infrastructure and Lack of Human Resources respectively all together. 5% of the respondents replied that they are not aware that what the problem in the MIS.
-) Among the respondents Functional and middle level management strongly agrees regarding satisfaction of current MIS as compared to Top and Lower Level managers. In all together, the result found for satisfaction of current MIS from the respondents having strongly agree, agree ,partially agree and disagree are 30%, 20%, 35% and 15% respectively. This result indicates that there is the need of improvements in the current MIS system.
-) Most of the all level are strongly agreed with the view that CMIS has enhanced the effective management of citizenship certificate i.e. 100 % of the Top level, 7.14% of the Middle level, 42.11% of the Functional Level and 45.45% of the Lower level strongly agree with the query. As a whole 50% strongly agree, 22.50% agree, 20.00 partially agree and only 7.50% disagree with CMIS enhanced the effective management of citizenship management respectively.

CHAPTER-V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

1.81 5.1 Summary

Information, which is essence is the analysis and synthesis of data, is one of the most important resources in an organization. The information can be structured into models for planning and decision-making. Information is incorporated into measurements of performance and profitability. Thus, information is also recognized and treated as an asset in a modern organization. Management information system is an important tool in an organization for collection of such vital information.

The centralized CMIS is a management information system developed by the Ministry of Home Affairs in order to systematize the process of distribution of Citizenship certificate. The citizenship certificate is distributed by the district administrative offices in the 75 district all over Nepal. Government of Nepal (GoNS) has introduced the IT policy 2011 which has prioritized the use of Information Technology for the benefit and quick delivery of service to the citizens. The step used by the Ministry of Home Affairs in developing the MIS for the automation of citizenship certificate distribution process is one of the important aspects in developing e-governance in Nepal. Earlier the distribution of citizenship was made in the DAO manually. It took longer period of time for the task which could be possible in few simpler steps. The introduction of citizenship management Information System (CMIS) has not only simplified the process of issuance of the citizenship generation but it has also provided with the huge data warehouse of citizenship records which can be accessed electronically by the concerned authority when required. Currently CMIS stores 90,31,967 citizenship information among which 7,99,293 are issued from the system and 82,32,674 numbers of citizenship details has been migrated from the older system. Further modification of the system and integration of biometric and smart card feature will develop the CMIS as the MIS for the National Identity database system.

1.82 5.2 Conclusions

The following conclusion can be made from this research:

In Nepal e-government is recently being initiated. This is not in stage where we can fully realize the effect of e-governance in the general public. Most of the organization have initiated the e-government practices just as pilot project or as a fascinating service offered by their organizations. In past, even though there were some efforts made to implement e-government, those are limited in theory and practically, those projects could not be evaluated very successful. The project started by Ministry of Home Affairs is among the few projects started by the Government of Nepal recently. The proper execution of the CMIS project will help to make the general public realize the e-governance. The use has supported MoHA in effective service delivery to the citizens and it has also helped for maintaining the database of citizens in Nepal. The introduction of web based centralized system for the issuance of the citizenship certificate has helped the employees in various DAO's for the verification of the details of the new applicants for the purpose of the new issuance of the citizenship certificate or the issuance of the copy citizenship certificate. The information from all 75 districts can be accessed from any DAO which will help in the effective service delivery. Although the current MIS has been found efficient which is a centralized web based application maintaining millions of citizenship details in the Oracle database, certain improvement to be addressed has been identified during the research which can lift it to be the back bone of e-governance master plan implementation. Integration of smart card technology in the current MIS system can replace the current need of National Identity Database system and can be used as an unique identifier.

1.83 5.3 Recommendations

The main recommendation is to implement the improvements that are felt necessary in the previous chapter. Following recommendations can be made from the study:

Short-Term

- J Provide training to all the staffs at various level of management and aware them the importance of the MIS in the organization.
- J Provide access to the computer to all level of management i.e. from Top Level of Management to Lower Level Management.

- J Set up a team to coordinate the transformation from the current MIS system to the new system with smart card and biometrics integration. The team can make the depth study on the changes of the current modules and new modules to be integrated for the desired result.
- J The coordination with other line ministries and departments should be made regarding the information sharing and use of citizenship card for single service providing window.
- J The backup data system should be maintained on the different geographical location so that the disaster recovery management can be performed since the data collected till now is a huge assets.
- J Sufficient technical manpower should be managed both at the ministry and the District Administrative Offices. The technical manpower should be provided with essential refresher trainings for the proper execution of the software.

Long-Term

- J Necessary policies regarding the citizenship management should be amended for the use of citizenship card for citizenship Identity management.
- J Necessary infrastructure and hardware equipments and software should be developed for the implementation of the citizenship Identity Management System.
- J Sustainable technology implementation is important in public organization. In 2006 Nepal's strategic direction of e-government was good but now it is going back and even implemented systems are not working. These are not a fit and forget systems but needs continuous improvement and careful and critical management.
- J E-Government implementation components of most public organization were found very weak in management and technical side, so strategic plan, commitment and strong monitoring and evaluation mechanism should be developed. This should be improved by top level management's commitment and strong technical units should be developed.
- J The e-government management should be guided by the focused objective and strong Monitoring and evaluation and feedback system for assessing progresses and performance of management to draw attention involvement of top management.
- J Migrating data from the older distributed system to the CMIS is a great challenge. Ministry of Home Affairs should be aware of the integrity and reliability of the data integrated.