UNIVERSITY OF VAASA
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E-GOVERNANCE INITIATIVE IN A DEVELOPING COUNTRY: THE CASE OF BANGLADESH

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ABSTRACT:

In this new era of ICT (Information and Communication Technology) the role of government is changing rapidly. To bring overall effective improvement in administration government has changed their patterns by implementing ICT in different sector of a country and adopting the new concept of e-governance.

To reinvent a country's whole administration is not an easy task. Most of the developing countries still depend on the paper-based service delivery and the information and communication technology (ICT) infrastructure condition is in a very poor situation. For this reason, as a developing country Bangladesh government also has to face many obstacles in implementing e-governance.

In this thesis I try to show the barriers of implementing e-governance in Bangladesh and how Bangladesh can achieve a more citizen friendly service through e-governance. This thesis is mainly a theoretical based study. The impact of e-governance in public service is the main concern of this thesis. Here, in this thesis I will be discussing two successful projects of India and Sri Lanka concerning e-governance implementation. The reason behind for giving the example is that as a South Asian neighbour countries both India and Sri Lanka can be a role model for Bangladesh government for implementing e-governance.

In the conclusion part, I would try to figure out a collaborated model for smooth running of e-governance operation in Bangladesh. It is nearly impossible for Bangladesh government to run e-governance project alone. This collaboration model is inspired from e-Sri Lanka model of Sri Lankan government. This model is unique and best for implementing in a developing country. Bangladesh government should collaborate with donor institutions and private sector to implement e-governance project in Bangladesh. Under the SICT (Support to ICT Task Force Program Project) project some small project already start to get success, so Bangladesh government should do more research in e-governance for better outcome. Bangladesh government e-governance project should be citizen-centric not techno-centric project. Bangladesh government should plan e-governance project in a way which brings efficiency and effectiveness with countries overall socio-economic development. Bangladesh government should take care of that e-governance project objective should be connected with the countries development objective. Bangladesh government should also take care of that it should never make ambiguous vision for e-governance project with its too little capacity.

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KEYWORDS: E-governance, E-government, Digital government, SICT (Support to ICT Task Force Program Project) Project, Good governance.

1. INTRODUCTION

The present age is the age of modern science. Everything that we cast our eyes upon bears the marks of the triumph of science. To be in harmony with its course is progress and to run against its course is retrogression. It is obvious that the sun of science has flooded the whole horizon with its strong and brilliant rays. In its rapid progress it goes on creating one wonder after another. Among them information based technologies have annihilated the distance between countries, and the world has been brought into the compass of our small room. On the other hand, Change is the law of nature and today's world changing its pattern in a rushed manner. The main change of a society or as well as of a country can be brought by the unlimited powerful authority of the society that is called government. Only the Government has an authority to change the pattern of the society in a rustic manner. The main role of government is to provide the service to the citizen more efficient, transparent and better way. But before some decades the performance in this category was very slow, inefficient and full of corruption. In this case, a huge difference can be set in the case of developed and developing countries. Adopting the new information based technologies a society can change its pattern most and by taking this opportunity developed countries has changed its pattern in an astronomical way. In this case, it is important to note that there is a huge difference between traditional public administration and new public administration.   For betterment of service and efficient delivery to the citizen many countries follow many types of management tools. But adopting these management tools some countries became successful and some countries didn't see the ray of light where as implementing information based technologies a government can bring plentiful modification.

In this research paper my main intention is to examine the role of information technology (ICT) in reinventing government structure in case of Bangladesh. The main purpose of the government is to use information technology to bring efficiency and transparency in service delivery. For this reason, the most appropriate concept of 'e-governance' comes in mind. E- Governance is a modern concept in the sphere of public administration. This system has ushered a new era for its dynamic and scientific administration method. This is a breakthrough of the traditional public administration.

"Modern governments with serious transformational intent see technology as a strategic asset and not just a tactical tool. The application of technology to organizations and to society will lead to an improvement for all." (Griffin, trevorrow and Halpin 2007: xvii.)

In this research paper I would like to show e-governance situation of Bangladesh. I also want to highlight recent e-governance initiatives in Bangladesh.

1.1. Background of the study

We live in the era of information technology where increasing use of technology becomes a part of our daily life. With the change of pattern of people daily life the relationship between government and citizen has also changed. For this transformation in relationship government has to change its pattern and cross the journey from normal manual government to e-governance. The concept of e-governance nowadays is very much popular. The concept has opened a new era in the field of public administration. This system is now adopted in both developed and developing countries for the quick and dynamic implementation of government plan and policies. E-governance means application of a scientific device like the internet and other informative mechanism for quick disposal of government policies from the centre and local bodies and administrative units. E-governance is applied not only as an apparatus of governance, but also as an important mechanism for preserving and promoting. To meet the growing responsibilities and to implement its program of economic and social welfare modern service states developed their administrative capacity enormously into being technology based. E-governance is used as machinery by modern states to place itself in a position to make plan and programs for good governance of the countries.

Public administration is a science like other sciences and it has its own method of application. E-governance is the latest apparatus of public administration. In this method,　internet device is used for quick sending Information and direction from the central government to the local government administrative bodies. E-governance is a scientific method of public administration. As consequences of scientific and

technological progress the character and dimension of public administration has changed. The computer system, internet and other kinds of invention have made swift communication and facilitated the work of administration. These developments have facilitated the task of administration bodies to implement its plans and programs easily and quickly. The whole organizational and working relationship between the headquarters and field has undergone modifications on account of greater and new communication devices. In modern time we cannot think of good governance without e-governance.

1.2. Society in the Information age

In this age of information and communication technology (ICT) developing countries face various challenges to support countries economic and social development. Developing countries aim to utilize information and communication technology (ICT) revolution for the betterment of public services. Developed countries use information and communication technology (ICT) in public services and already started to get advantage from it. (Hanna 2006: 1.)

It is true that government change its pattern from an "industrial age government" to an "information age government". In the beginning when computers took as a way to improve government from traditional format to new technological format three phases come into mind. These three phases are (1) the first phase in 1950s, when the use of digital technology in public sector was envisaged as automation and control governmental operations efficiently. (2) The second phase, start in 1980s came with two concepts popularly known as privatization and reinvention which came with the aim that information age made traditional forms of public administration obsolete. (3) The last phase is the most current phase which mainly concentrates on digital democracy, which becomes an essential theme of new forms of governance based on the diffusion of cheap computing and online communication. (Starr 2010:1.)

There is a misconception about information and communication technology (ICT) prevail that it works as a transactional mechanism to deliver services to citizens and a way to rationalization of public sector functions in government activities. The reality is different from this misconception because information and communication technology (ICT) has much more theoretical and empirical implication on government activities. It turned formal government towards an information oriented government in a broader perspective (Bennett 2008: 614.) That's why Colin J. Bennett in their article explain information and communication technology (ICT) in the following way

> *"The impact of new and networked information technologies on governance can be better understood by focusing on the information itself and by examining its flows within the public sector and between public agencies and citizens... the interplay between technological developments in various fields, the flows of information, and the implications for values such as efficiency, openness, accountability, mobilization of citizens, equity, social networking, and so on."* (Bennett 2008: 615.)

1.3. E-governance reforms in developing countries: Bangladesh, India and Sri Lanka

According too many scholars the 1990s first revolution occurred in government rigid structure when "New Public Management" came into existence which mainly concerned with service quality, performance management and risk management. Perhaps after New Public management (NPM) e-governance considered a second revolution in government reinvention. Actually e-governance mainly concerned about government reinvention with overall socio-economic development, efficient public service and gives much emphasis on the relationship between government and citizen. (Saxena 2005: 498.)

E-governance initiatives are now commonly taken in most countries, including industrialized economies, emerging economies, and developing economies. There is a difference between the implication of e-governance in developed countries and developing countries. For reinventing government structure developed countries initiated e-governance internally. On the other hand, e-governance initiated in developing countries externally which drive through the World Bank and donor institutions. For example, the government of Turkey had no pressures to accept reforms

in public sector. But as a developing country like India have to take initiative for reforming public sector according to the donor institution because public administration in developing countries are still remaining highly bureaucratized and extremely centralized. (Saxena 2005: 499.)

The main obstacle for developing countries to implement e-governance is lack of information and communication technology (ICT) infrastructure. Developed countries are facilitating with available ICT infrastructure. But the situation of developing country is totally different and the use of information and communication technology (ICT) is in very poor situation in government offices. For this reason, developing countries government take e-governance as a very expensive and difficult project because they had to do a huge infrastructural change like switching from totally paper-based systems and services to computer- and internet-based systems and services. (Saxena 2005:502.)

E-governance is not a shortcut way to overall socio-economic development, efficient government services. E-governance is a very challenging process for developing countries as it comes with both cost and risks from financial and political side. So if developing countries plan to implement e-governance they have to be well-organized and need proper pre-planning otherwise e-governance process will be a disaster for both government and citizen. (Ibid.)

Bangladesh government still not takes many initiatives to implement e-governance projects. But, the first formal initiative of Bangladesh government was support to ICT task force program (SICT) to implement e-government and e-governance. It is headed by ministry of planning and starts 36 sub-projects under support to ICT task force program (SICT). Among the sub-projects very few are successfully completed and others are still ongoing and some sub-project got unsuccessful. In the empirical part of my thesis I described about support to ICT task force program (SICT) project.

Bangladesh government also starts some e-governance project with donor agencies. For example, one of the projects is the Access to Information (A2I) Program which starts in January 2007. The approved budget for this project is about US$ 3970000.0 and the

implementing partners are E-Gov cell, PMO (Prime Minister Office) and technical assistance from UNDP, Bangladesh. The aim of the project is to give priority in information and communication technology (ICT) with national development to develop e-Governance performance. (UNDP 2009.)

India is a federal state. It has three level administrations named national, state and local levels. With the global trend, India also has undertaken enormous initiatives to introduce e-governance at the national, state and local levels. The reason behind to adopt e-governance in India on certain the grounds which are, it costs less, reduces waste, promotes transparency, eliminates corruption, generates possibilities to resolve rural poverty and inequality, and guarantees a better future for citizens. In short, the Indian government tends to portray e-governance as the solution for all ranges of problems that India has to tackle. (Haque 2002 : 232.)

In India there are many e-governance projects, among them some are ongoing and some projects successfully accomplished their mission. From the successful projects here in my thesis paper a will like to discuss "E-Seva" project because it was one of the pioneering and flourishing e-governance projects in India. And another important fact is that the project primary customers are rural people who actually all the time deprived from the information and communication technology (ICT) facility.

The e-governance strategy of Sri Lanka is perhaps the broadest in the South Asian region and among Asian countries as a whole. It takes a holistic approach to development which aims to extensively impact all sectors of countries economy and society and help Sri Lankan people for overall economic and social development. E- Sri Lanka a well-known and even the biggest project of Sri Lanka's government to implement e-governance in Sri Lanka. (Rainford 2002.)

1.4. Research objective and research questions

The main objective of my research paper is to provide an e-governance model that makes the government activities easier both for government and citizen. In other words,

it can be said that e-governance main objective is to achieve good governance through the use of Information Communication technology (ICT). The objective of e-governance is similar to the objective of good governance. E-governance service should be structured in a way that citizens can get the public services at their doorstep. In this research works will try to explain the obstacles of e-governance that it has to face in its passage. This paper will provide a proposed model which increases the use of Information Communication technology (ICT) through e-governance in Bangladesh. (Griffin, Trevorrow & Halpin 2007: xvii.)

As Bangladesh public service is full with deficiency and corruption so to reduce these, the government is embarking toward implementing e-governance to make public service more fair and accountable. In this connection Bangladesh government has started the project called SICT (Support to ICT Task Force Program Project) under Ministry of Planning though yet it not get the success as it promised, but it is the pioneering step of e-governance movement in Bangladesh.

There are three main questions regarding e-governance and try to find out the answer of these questions in my thesis paper. These are as follows

1. What is the meaning of e-governance?
2. What initiatives Bangladesh government took for proper e-governance implementation?
3. How other developing countries like India and Sri Lanka get success from e-governance projects?

Mainly my thesis will be a theoretical research based work. Here, in this paper I will use some relevant existing project reports and data from Bangladesh government websites. Second chapter is the literature review part, where I will try to define some concepts that will be used in the thesis. Third chapter will give details about e-governance and e-government. In the fourth chapter, I will discuss the case study method and give general information about Bangladesh like its social, economic and administrative structure. In chapter four the situation of e-governance in Bangladesh will be described and after that

I will mostly discuss the (Support to ICT Task Force Program Project) SICT project that will show the initiative of Bangladesh about e-governance. In fifth I will give example of two e-governance project from India and Sri Lanka, where similarity and difference among India, Sri Lanka and Bangladesh will be shown. In the last chapter, a collaborated model will be proposed for e-governance development in Bangladesh.

2. GOVERNANCE: A CONCEPTUAL INTRODUCTION

In this chapter I would like to discuss the basic concepts which will give a clear idea about e-governance. E-government and e-governance both are popular concept among some developed and developing countries. As a result many books, journal, article, periodicals were published about e-government and e-governance. I analyzed some book and journals on e-governance and its related topic to find a solution of my research questions.

2.1. What is government?

> *"Government organizations are ...as formal administrative structures established by the constitution or public laws, headed by officials elected by citizens or appointed by elected officials and principally financed by taxation or owned by the state. Government is also a set of programmes. We judge by what it is (delivering a multiplicity of programmes) as well as by what it is (a set of organizations)."* (Rose 1984: 13-14.)

In his book Richard Rose (1984:14) gave a simple model of government and identified five elements that constitute government. The five elements of government are laws, public revenue, public employees, organization and programs. Without law government cannot function properly its systematic programs. We cannot imagine a government without law. Tax is the main source of income of government. According to Richard Rose public revenue and public expenditure are both categorically different. "Revenues are parts of the cost of government and expenditure viewed as benefit." (Rose 1984:18.) Government cannot run its administration without employees. "Laws are not self-implementing, nor can money be spent by itself. A large number of employees are a necessary resource of every modern government."(Ibid.) In a state government organizations are the biggest and most structural complex one. "Organizations are central in government. Laws are enacted, taxes paid and employees engaged by the active initiative of government organizations." (Rose 1984:19.) According to Rose (1984:19) the term "program" is used instead of the term policy. "Every program makes some claims on all three of government's resources – laws, money, and public employment –and requires organization to carry it out." (Ibid.)

These five government elements have a close bondage with each other. They are depending on each other and a change in one element effect the other one immensely. A simple model of government is shown in the following figure 1.

```
                    ┌─────────────────────────────┐
                    │   Government organizations  │
                    └─────────────────────────────┘
                       /                      \
                      /                        \
         ┌──────────────────────┐    ┌──────────────────────┐
         │ (Principal resources)│    │      Programs        │
         │        Laws          │    │   (e.g. Defence,     │
         │        Taxes         │    │ Transport, Education) │
         │      Employees       │    │                      │
         └──────────────────────┘    └──────────────────────┘
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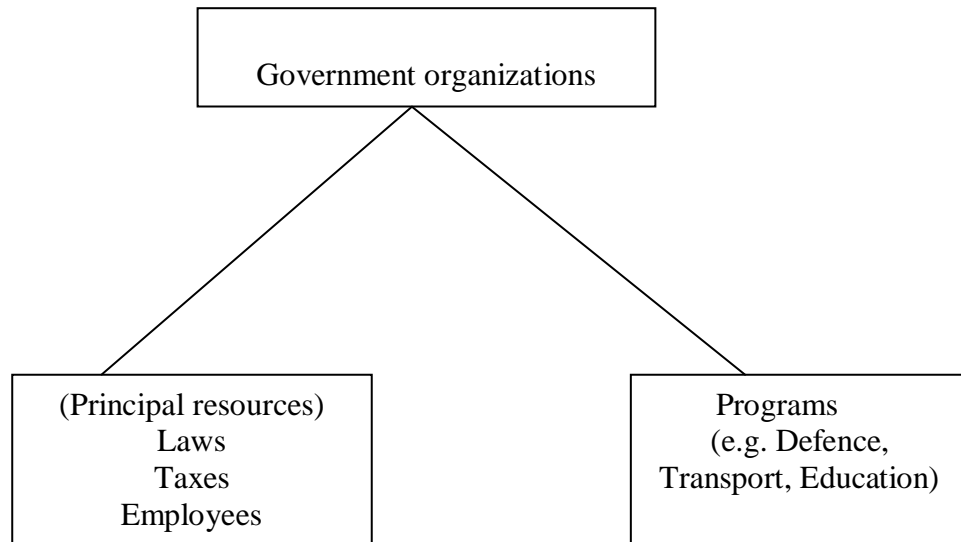
Figure 1. A simple model of government (Rose1984: 17).

Karl W. Deutsch (1980:7) in his book "Politics and Government: How people decide their Fate" mentioned the Helmsman concept.

> *"Government is related to both the old art of steering and self-steering and the new sciences of information and control. The Greek word for the Steersman or helmsman of a ship was Kubernetes. 'Governor' and 'government' derive from this term and so does the word for the science of communication and control, 'cybernetics'.* (Deutsch1980: 7.)

Toward the end of the twentieth century the processes of government change in to strategies of governance. (Kettle 2002: 118.)The above citation is taken from Donald F. Kettle's (2002:119) book "The transformation of governance" where he described in details about American public administration and as well tried to highlight the key differences between government and governance. Donald F. Kettle (2002:119) mentioned in his book about two forces named globalization and devolution; these forces changed the role of government. That's why the traditional government role

changed into governance role (Kettle 2002:119.) This shift in traditional government is depicted in the following figure 2.
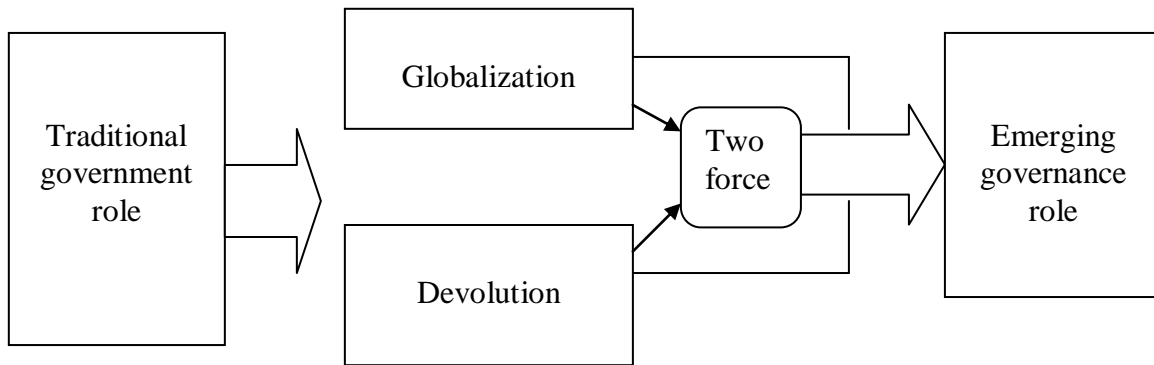
Figure 2. From government to governance.

Governance links both government and its surroundings like political, social, and administrative sector. It tries to capture the initiative of governments and organized to reduce their size meeting their citizens' demands. (Kettle 2002: 119) On the other hand, B. Guy Peters (2001:1) mentioned in his book "Future of Governing" that

> *"Governance is a scarce commodity. Governments have created a vast array of institutions designed to exercise collective control and influence over the societies and economies for which they have been given responsibility."* (Peters 2001: 1.)

To clarify both concepts government and governance, Donald F. Kettle (2002:119) mentioned in his book the definition of Robert O. Keohane and Joseph Nye that "Governance is the processes and institutions, both formal and informal that guide and restrain the collective activities of a group." (2002:119.) On the other hand, they stated that "Government is the portion of the activity that acts with authority and creates formal obligations." So they opined that "Governance describes the processes and institutions through which social action occurs, which might or might not be governmental." (Kettle 2002: 119.)

2.2. Government as a toolkit

Christopher C. Hood (1986:2) in his book "The tools of government" elaborately discussed government tools and functions. Hood mentioned that the general people are always curious about how government runs its administration? What are the tools that it uses? And how does implement its functions? How to governments make the decision? (Hood 1986: 2).

> *"Government administration is about social control…there is a toolkit for that. What government does to us – its subjects or citizens – is to try to shape our lives by applying a set of administrative tools, in many different combinations and contexts , to suit a variety of purposes."* (Hood 1986:2.)

Government is consisting of various tools and these tools are not found in one place. Government administration is the most vast and widespread administration in a state. For this reason, Christopher C. Hood (1986:2) separated government tools in to two categories these are "detectors" and "effectors". Detectors and effectors are very vital for any system because these give the opportunity to contact the outside world. Government needs Detectors and effectors to keep up-to-date information from the outside world and to make decisions and implement action regarding that information. Detectors are the mechanism that governments utilize for taking in information. On the other hand, effectors are the mechanism that governments apply to make an impact on the world. The role of detectors and effectors can be understood by figure 3. (Ibid.)

Government

Detectors ←—Information←

Standard
Setting
Machinery

Effectors → Influence →

Government–
Society
Interface

Subjects
for
citizen
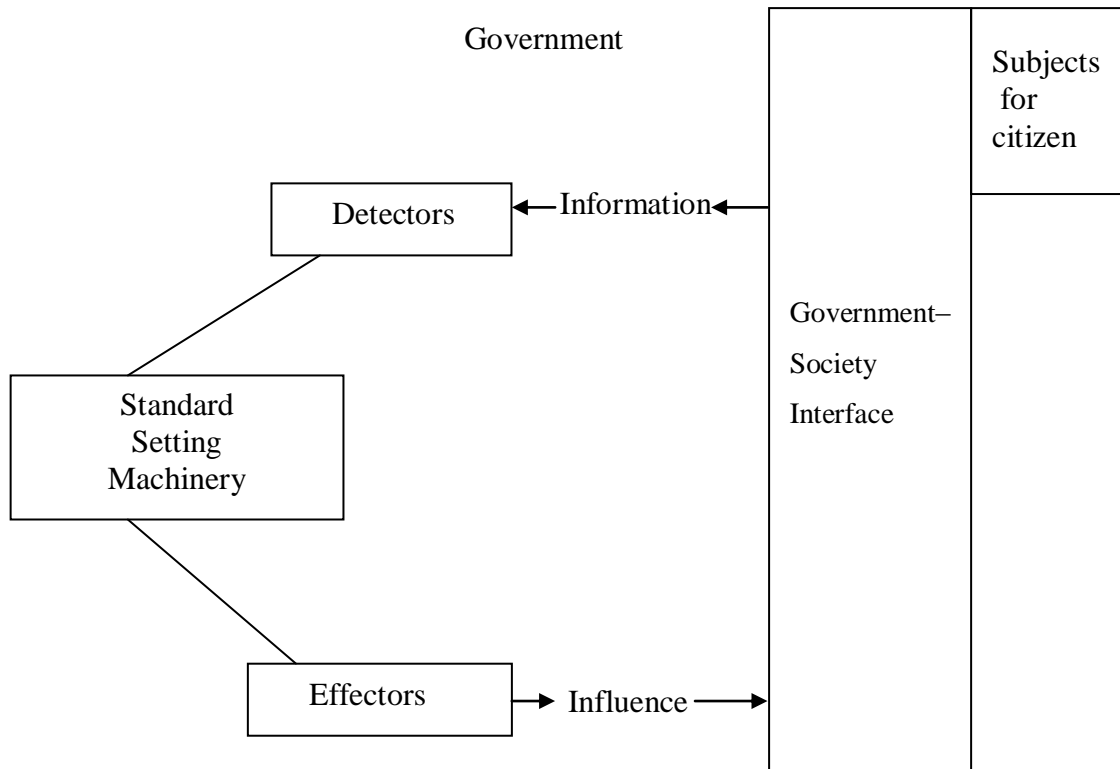
Figure 3. Government detectors and effectors (Hood 1986: 3).

So in the age of globalization how government tools work through detectors and effectors, maintain connection with the outside world and facilitate society and its citizen, we can understand from figure 3. Actually, this is an example of how government runs its administration by its various tools.

2.3. Shift from Traditional public administration towards new public administration

The shift from traditional public administration towards new public administration occurred because of some deficiency in the bureaucracy, which was predominant most of the twentieth century. Actually the changes occurred for some vital reasons like economic pressure, societal change, citizen demand and also for new technological innovation. In this part of the thesis, I will not discuss elaborately the history of public administration, but want to show how the change has happened through time.

The techniques of administration first initiated by the ancient Egyptians and Babylonians where followed by countries like China and Greece. But the main evolutionary change happened in 1887 when Woodrow Wilson's renowned essay "The Study of Administration" came out where a claim was made that "public administration should be a self-conscious, professional field."(Shafritz and Hyde 1997:1.) Janet V. Denhardt And Robert B. Denhardt (Denhardt:5) in their book "New Public Service" cited that "the field of administration is a field of business" which means that to run the government one should be concerned about the field of business (Denhardt 2006: 5).

> *"The traditional model can be characterized as: an administration under the formal control of the political leadership, based on a strictly hierarchical model of bureaucracy, staffed by permanent, neutral and anonymous officials, motivated only by the public interest, serving any governing party equally, and not contributing to policy but merely administering those policies decided by the politicians."* (Hughes 2003:17.)

Traditional public administration was the most successful theory in the public sector and practiced for the longest time; it still exists, but does not properly cope with the changing demand of society. Traditional public administration was mainly influenced by Fredrick Taylor's scientific management and German Sociologist Max Weber's bureaucracy. Traditional public administration generally followed the bureaucratic structure to run its administration in its long history. (Hughes 2003:17.)

Traditional public administration passed a golden stage as a satisfying enterprise until the quarter of twentieth century. Though it was a good model its journey was over and it was criticized by many scholars for some deficiencies. Owen E. Hughes (2003:17) in his book "public management and administration: an introduction" depicted some limitations of traditional public administration, which are traditional public administration was a rigid system. It was mainly concerned with its structure and focused narrowly on the other sides. In traditional public administration the model of political control was inadequate and illogical though Woodrow Wilson in 1880 had recommended separation between policy and administration, but that was never implemented. Traditional public administration followed Fredrick W. Taylor's scientific management where "one best way" was maintained. This 'one best way' means

accomplishing a given task in a fastest, most efficient and least fatiguing way which was problematic. Traditional public administration mainly structured according to Weber's model of bureaucracy which has been criticized for red tape, mediocrity, inefficiency, lack of enterprise. (Shafritz and Hyde 1997:2; Hughes 2003:32-34.)

To remove all the above deficiencies from the public sector a new managerial approach emerged in the 1980s to 1990s that is popularly known as 'new public management'. Sylvia Horton (2006: VI) in her book "New Public Management: Its impact on Public Servants" argued that

> *"Large, highly structured state monopolies, regulated by rules and procedures and coordinated through hierarchies, are being replaced with often competitive smaller, matrix structures, partnerships and networks coordinated by contracts and performance agreements involving complex relationships between public, private and voluntary bodies."* (Horton 2006: VI.)

By this way new public management replaced the traditional public administration. New public management also aims to transform the public sector and its relationship with government and society. (Hughes 2003:50.)

2.4. Movement from government to governance

In the age of globalization, marketization, information revolution the system of government has been transformed into governance. In democratic countries over the past few decades citizen trust towards government has declined in a great number. (Kamarck & Joseph 2002: 1.) This change has occurred for a better delivery service. How three things change government role shows by figure 4.

```
┌──────────────────┐              ┌──────────────────┐
│   Government     │──────┐──────▶│   Governance     │
└──────────────────┘      │      └──────────────────┘
                     ┌────┴─────┐
                     │ Influence│
                     └──────────┘
              ⬭───────────────────────────────⬭
              (            Three factors            )
              ⬭───────────────────────────────⬭
        ▲                    ▲                      ▲
┌──────────────┐    ┌──────────────┐    ┌──────────────┐
│ Globalization│──▶ │ Marketization│──▶ │ Information  │
│              │    │              │    │  revolution  │
└──────────────┘    └──────────────┘    └──────────────┘
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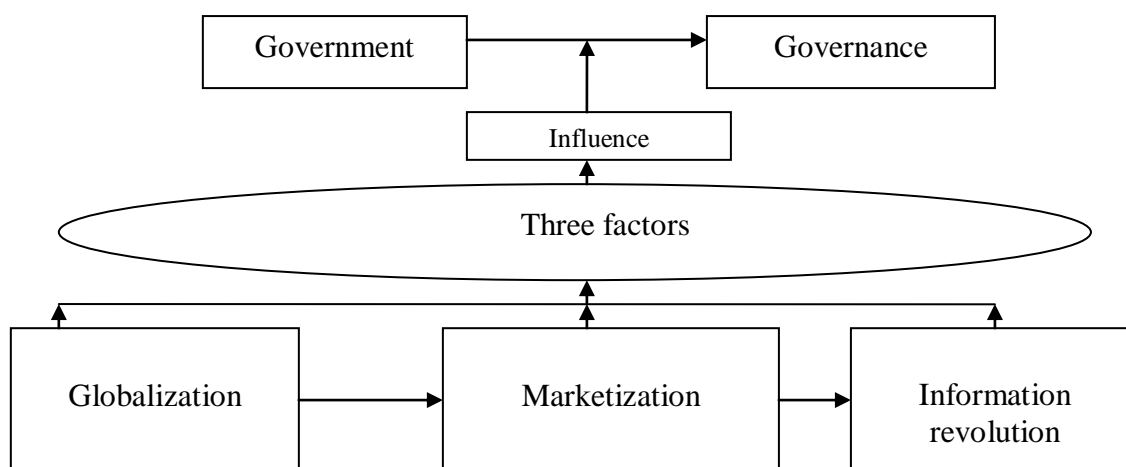
Figure 4. Government to governance.

If traditional administration and government failed, government leaders and civil servants looked for a new and better way of governing. In 1980s and 1990s business method was introduced in the western democratic governments which enforce changing   in the internal (performance measure) and external (privatization) relationships. President Clinton of the United States (U.S) and other politicians proclaimed that "the era of big government is over". (Ibid.3.) For creating a better government that cost less Vice-President Al Gore and President Clinton adopted the "reinventing government" concept of Osborne's and Gaebler's. But all the initiatives for better government came in to question when international organization like WTO (World Trade organization), UN (United Nations) and some informal organization like NGO and business organization like multi corporations became so strong. So some questions arose in the mind of policy maker that "what to do and how to do it". Actually governance has a broad scope. Governance does not only focus on government, but also focus on other factors that were not considered before. Governance opens a horizontal way of governing not using only a hierarchical exercise of authority which can portrait in the following matrix. Kamarck and Joseph (2002:3) in their book "governance.com: democracy in the information age" figured out the matrix that mainly shows 'a diffusion of governance activities in several directions at the same time.' The matrix vertically points out the different level of government and horizontally marks out public and

private market and third sector. In simple word, Joseph S. Nye Jr. highlighted possible dimensions collective activities of governance which can be realize by figure 5.

	Private sector	Public sector	Third sector
Supranational Level	Transnational Nongovernmental Corporations'	Intergovernmental organizations	organizations
National level	National Corporations'	Twentieth – century Model	National nonprofits
Sub national Level	Local business	State and local government	local
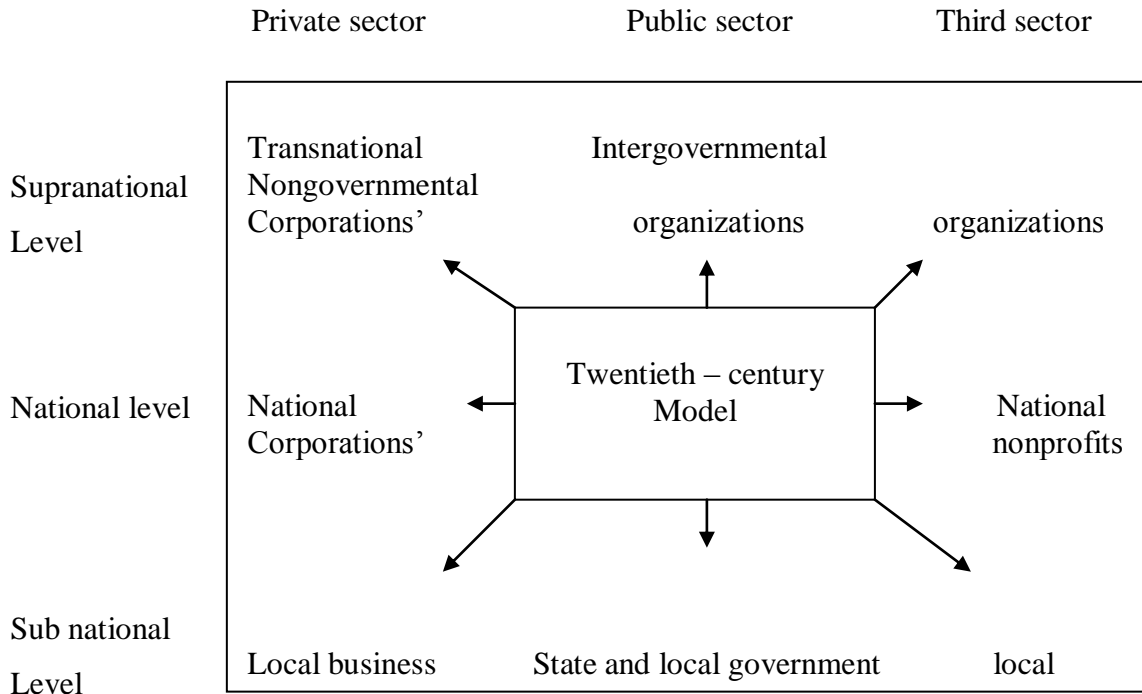
 Figure 5. The diffusion of governance in the Twenty-first century (Ibid. 4).

In the world of globalization and free-market government cannot alone maintain its functions properly that's why it needs cooperation of international organizations, NGOs, and multi corporations (Hill 2002: 91-93, 105; Kettl 2002: 136-137).

The concept of governance is not new it was used by the French in the fourteenth century, but again by the end of twentieth century the concept of governance came to highlight the pressure on government by the changing environment. Governance is the processes which handle both formal and informal activities and through which social action occurs, which might or might not be governmental. On the other hand, government is the authority that creates formal obligations. (Kettl 2002: 119.)

2.5. Relationship between new public management & reinventing government

New public management is strongly linked to the concept of reinventing government. In the late 1980s and early 1990 the new concept of reinventing government emerged which was developed by Osborne and Gaebler. Reinventing government is a recent fraction in the development of new public management. (Heeks 1999: 9-12) Richard Heeks said that

> *"New public management has been portrayed as a kind of merger or compromise between public administration and neo-liberal ideology. Similarly, reinventing government is represented by Osborne and Gaebler (1992) as a non-partisan issue."*
> (Heeks 1999:12.)

There are three interlinked historical causes for which re-engineering, revitalizing or particularly reinvention in government is needed. The three causes are shown in figure 6.

Input • In number of countries the public expenditure was increased.	Process • Centralization is the main problem. •Waste, delay, mismanagement, corruption lead to in efficiency in public sector.	Output •The public sector did not deliver services as it should provide.
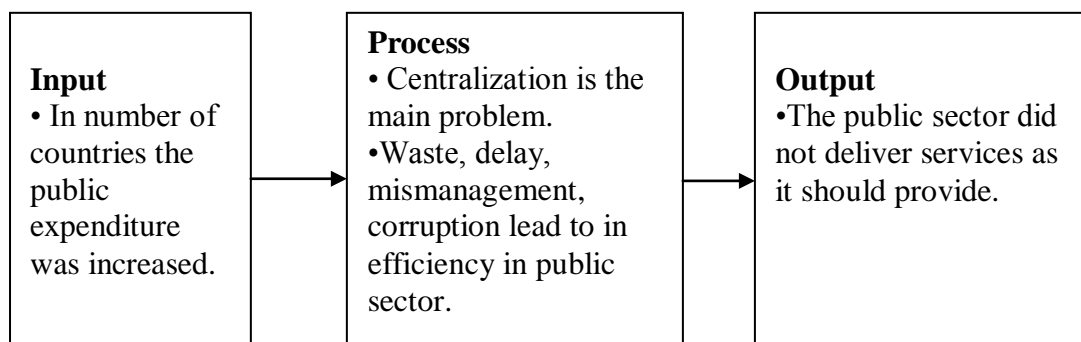
Figure 6. Three interlinked causes for reinventing government.

When President Clinton was elected for the first term his administration's main concentration was on government reform and he announced a major initiative to "reinvent government" with Vice-President Al Gore. It was titled National Performance Review. Ten Principles for reinvention of government identified by Osborne and Gaebler's which are steering rather than rowing, empowering rather than serving, injecting competition into service delivery, transforming rule-driven organizations, funding outcomes not inputs, meeting the needs of the customer not the bureaucracy, earning rather than spending prevention rather than cure, hierarchy to participation &

teamwork and influence change through the market. Actually the movement "reinventing government" was a pioneering concept for e–government which has been evolving with the Information Communication Technology (ICT). (Heeks 1999: 13; McNabb 2006:8.)

2.6. Digital Government

"Digital government can be defined as the civil and political conduct of government using information and communication technologies (ICT). This includes the provisioning of services and the management of legislative processes. Such technologies can empower citizens with greater access to services and more flexible and effective means of participating in government, leading to improved citizen-government interaction."(McIver & Elmagarmid 2002: 1.)

William J. McIver and Ahmed K. Elmagarmid (2002:1) in their book "Advances in Digital Government: Technology, Human Factors, and Policy" discussed the development of digital government. In table 1 the development of digital government will be described chronologically.

Table 1. Chronological developments of digital government.

Decades of development	Developments of digital government
1950 s	To improve the efficiency of the government, developed countries in 1950 first used computers in non-military activities. According to William J. McIver and Ahmed K. Elmagarmid "*the initiative of 1950s was pioneering efforts in interactive computing beginning in the early 1960s and computer-based communications later in that decade before a vision of citizen-centered digital government applications could begin to evolve*". (McIver & Elmagarmid 2002: 1-2.)
1960s	This decade was very important for the development of technologies which worked as a stairs for the vision of digital government. The developments included packet switching by the researchers of MIT and The RAND corporation and The National Physics Laboratories and The ARPANET (Advanced Research Projects Agency Net now DARPA) was the revolutionary invent of U.S. Depeartment of Defense in 1969 (McIver & Elmagarmid 2002: 2; SRI international 2009).
1970s	Inventions of this decade mainly forecasting of getting facility of public service in citizen homes. In U.S. and Japan from 1973 to 1977 interactive cable television were operated and released the first commercial interactive television service called QUBE (McIver & Elmagarmid 2002:2).

Decades of development	Developments of digital government
1980s	During 1980s general mass came closer with the new technology by invention of personal computer and proprietary dial-up online information services. Mainly in 1986 the first FREENET was started in Cleveland, Ohio in the U.S. which introduced people about online service and especially government online service (Ibid.)
1990s	In 1990, commercial dial-up access to the Internet available to citizen by the Internet service provider called The World and in 1992, the World Wide Web was released for public use by CERN (European Organization for Nuclear Research). These developments brought the citizen to enjoy the facility of digital government technologies. In this decade many digital government research program were initiated in U.S., Scotland, Singapore and Italy (Ibid.)

It is very difficult to transform government service as a whole because like private organization. It is not only a matter of changing technological infrastructure, but also takes into consideration other factors. Many challenges government has to face in implementing digital government. John A. O'Looney (2002:5) in his book "Wiring Governments: Challenges and Possibilities for Public Managers" presented seven challenges of digital government which are services capacity, electronic transaction enabling law and infrastructure, network infrastructure, citizen and public employee access, network architecture, intellectual property and privacy, connectivity and information knowledge management. (O'Looney 2002: 5.)

2.7. Bureaucracy in the information age

Max Weber visualizes bureaucracy as the social mechanism which maximizes effectiveness in government activities and also works as a form of social institute with definite characteristics (Blau 1963: 251.)In the modern information age the task of government is not limited to a specific jurisdiction, the government has enhanced its function with the change of time. The task of government enhanced with the emerging concept of governance. According to Fountain

> *"The importance for government arises because such a fundamental change in the structure of bureaucracy bears on central concepts of governance such as accountability, task specialization, and jurisdiction."* (Kamarck & Joseph 2002: 117.)

German sociologist Max Weber always marked bureaucracy as ideal type and delineated that bureaucracy as the only organization that can easily run in the complex organization. Though bureaucracy is greatly used in derogatory way and from information communication technology (ICT) perspective it is ineffective to run in the modern network organization. The main question comes to the mind of policy makers of modern government that as hierarchy is the core element of bureaucracy can it run with communication technology? Because as some essential values of bureaucracy are neutrality, equal treatment, and democratic control, can these be preserved in network organizations? (Kamarck & Joseph 2002: 119; Bekkers 2006: 233).

Bureaucracy has a very rigid form of structure. That's why it is very hard to run information and communication technology (ICT) with bureaucracy. Actually bureaucracy pattern does not go well with ICT. But, the real fact is most of the developing and developed countries government run with bureaucratic structure. In that case government should take initiative to run bureaucracy in a more flexible way and which goes well with information and communication technology (ICT).

2.8. Knowledge management

The main strategy of knowledge management is "linking the right people to the right information at the right time" which is regarded as very effective strategy to achieve efficiency in any organization (Brelade 2003: 15.) The importance of knowledge management is increasing day by day in both the public and private sector. As government organizations are very complex and large for this reason it needs some strategy to manage which knowledge management can provide. The concept of knowledge management is not new. From the early stage of human society, men have been trying to use knowledge management to perform better and in efficient ways. But later the concept of knowledge management got recognition as a separate discipline for proper use of knowledge resources in organizations. Actually Knowledge management "… should be considered the latest component in the governments' fifty-plus-year effort to integrate information technology (IT) into operations to improve performance and make government agencies and departments more accountable." (Mc.Nabb 2006: 6.) Knowledge management tries to connect data, information and knowledge with government activities for moving forward with better performance. David E. McNabb in his book "Knowledge Management in the Public Sector" gave a representation of knowledge management process that is shown in the following figure 7.
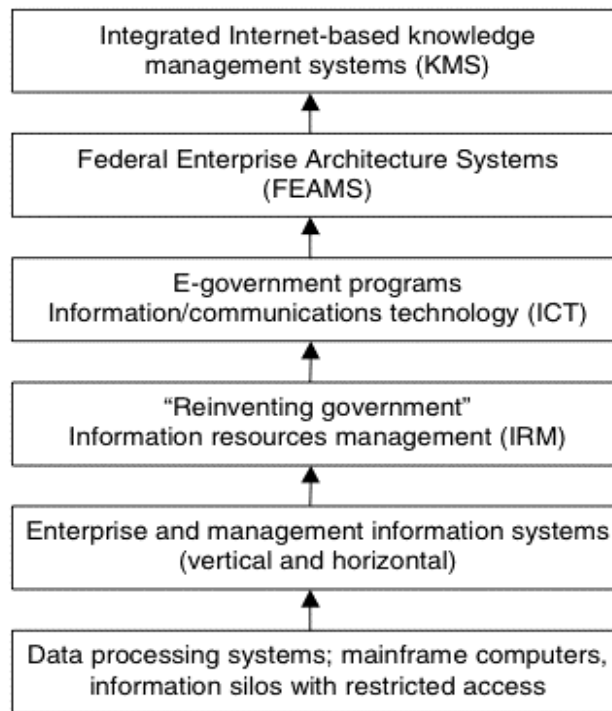
Figure 7. From Data Processing to Full Knowledge Management Systems (McNabb 2006:9).

There are some drivers that force organisations to implement knowledge management. Sue Brelade (2003:15) identified the drivers of knowledge management which are competitions, technology, globalization and customer and citizen expectation (Brelade 2003:15.) So it is clear that in the information age the necessity of knowledge management increasing rapidly.

2.9. Summary

In this chapter I have tried to discuss mainly about the basic institution and concept of public service. I also tried to show the change of these institutions through the time being. Without these institutions e-governance cannot be implemented. Here, in this chapter, I also tried to show the connection of these concepts and how new concepts emerge in the public administrative sector.

3. E-GOVERNANCE

Public governance is largely dependent on its surrounding factors which are social structure, economic condition, political atmosphere, cultural pattern and technological trend. The nature of governance mainly changes according to these surrounding factors. Among these surrounding factors the most revolutionary factor affecting public governance is the revolution in information and communication technology (ICT). However, the most significant aspect of this revolution is the access to the internet. The rate of internet host growing in a tremendous way which has changed the nature of the workforce, citizen expectations about public service and above all put a big challenge to government. In response to this evolution, almost every state has taken the necessary initiatives to restructure administrative institutions with the help of ICT. That's why some country took some concepts like digital governance, smart governance, online governance and cyber management that overlap with the idea of electronic governance or e-governance. This new approach of governance extensively attached with ICT to provide transparent and efficient public services and maintaining administration relationships. E-governance will reduce costs and delays in delivering services, increase citizens' contact with public sector, strengthen civil society and mostly emphasized the improvement of public administration. (Haque 2002: 231-232.)

Day by day the society becomes more complex. With this changing circumstance, the government has to deal with the complex society. And for this the enlargement of government activities government entered to the "E" environment which meant the electronic environment. It also happened because of the development of information technology in the last two or three decades. To give citizen more efficient and transparent service government wear the ornament of "E" which means engaging its activities with new Information Communication Technology (ICT). On the other hand, to meet the growing responsibilities government wants to involve itself with Private Corporation, non profit organization and multi organization global organization such as World Bank, IMF (International Monetary fund), United Nations organization as well as citizens. And in this way the process of government spilled out in to strategies of governance. The "E" part of both e-government and e-governance stands for the

electronic platform or infrastructure that enables and supports the networking of public policy development and deployment. Actually e-government is a narrower discipline that only concerned with development of online services to the citizen like e-tax, e-transportation or e-health. (Sheridan & Riley 2006.)

E-Governance is a broader concept that deals with the whole spectrum of the connection and networks within government about the usage and application of ICT (Information and Communication Technology). E-governance is a wider conception that defines and assesses the impact of technologies on governments' administration. It tries to relate public servants with the wider society such as civil society or citizen, N.G.O.(non-government organizations) and private sector. (Ibid.)

E-government and e-governance have strong connection between each other. Without e-government the functioning of e-governance cannot be possible. On the other hand, e-government cannot achieve its proper goal without e-governance.

3.1. The nature of e-government and e-governance

In this section I want to discuss the nature of e-government and e-governance. Before that, I like to give a short glimpse of how the role of the government changes so rapidly. Still today's government follows the traditional hierarchical model of administration. But as I discussed in the above section that, through the emergence of the concept of "globalization" the government has to change its role and now the government take the challenge to make itself more efficient, transparent and effective. The foremost challenge is to provide the best service to its citizen. Another aspect of change of government role is the invention of information communication technology (ICT). The innovation of ICT has changed people's life dramatically both locally and nationally.

> "*Governments are increasingly important users of ICT, particularly in the context of e-Government, making them a major actor in fostering ICT uptake and setting IT standards. E-Government initiatives usually aim to make public administration more efficient, increase government accountability and transparency, and improve delivery of public services to citizens and businesses.*" (World Bank 2009: 130.)

The jurisdiction of e-government and e-governance has been enhanced day by day. The main aim of e-government is to bring transformation of government through the use of ICT (Information and Communication Technology), while the aim of e-governance is wide it wants to bring massive change both internally and externally that means within government administration as well as to citizen life.

The United Nation survey report (2009) on e-government identified five areas of e-government. These are back -office management in government, mobile access to government online services and Web 2.0 government, inclusiveness of e-Government, citizens' usage of government online services and e-participation. (United Nations 2009.)

On the other hand, e-governance creates new relationships with citizens, nonprofit organizations, private corporations and different organizations. The core benefits of these relationships are to facilitate citizens a wide range of services from all types of organizations.

3.2. The advantage of e-government

Everything has advantage and disadvantage, but in case of electronic government or e-government the advantage side is more than the disadvantage side. The advantage of e-government is to improve current administration by saving time and money. Government administration can be highly benefited from of e-government.

> *"Governments around the world are embracing e-government as a powerful means to improve and reinvent service delivery. They are motivated by the growing demand for better performance and better services— and by the need to deliver more with less. They are incorporating e-government into their public sector reform goals and using it to make institutions more effective, information and services more accessible, and decision making more decentralized. All this requires— but also enables— a transformation of government, because most of today's governance structures were built for internally focused administrative control rather than client-centered service delivery."* (Hanna 2008: 81.)

There are huge categories of e-government that were identified by The Working Group on e-government in the Developing World. E-government is the way to accomplish these huge social goals and not only bring certain changes, but a massive development for any country. These are explained shortly in the following sub section. (Pacific council on international policy 2002.)

Strengthening good governance and broadening public participation

This is the first and foremost goal of e-government. Through the use of ICT (Information Communication and Technology) e-government can bring efficiency, accountability, transparency, effectiveness in government administration. And these are (efficiency, effectiveness, transparency and accountability) four core requirement of good governance. E-government also can fight against corruption because a machine cannot take bribe and the most advantage is that it saves both some money and time. (Pascual 2003.)

Through the use of ICT (Information Communication and technology) especially online services bring closer government and citizen together and enhanced public participation. And some countries follow the concept of e-Democracy through which public participation extends in a massive way. (Ibid.)

Creating as better business environment

Technology is a way which increasing productivity and raise economic growth particularly in rural and underdeveloped communities. In the era of globalization e-government enhances the opportunity for creating a better business environment. Technology has changed the pattern of government administration as well as business sectors. Time and money are very important factors in business and use of ICT (Information and Communication Technology) can be saved in business. As e-government merges with e-governance and the main goal of e-governance, is to involve government internal administration with external private corporations. (Ibid.)

Improving the productivity and efficiency of government agencies

E-government has immense role to make the government efficient and productive. There are several management tools that have tried to make the government administration efficient, but all were goes in vain. Most of the world followed the Max Weber Bureaucracy that is thought as inefficient, unproductive, slow, time killing service, characterized with red type. So to make this bureaucratic type of administration effective the need of e-government is very significant. The way to make the administration efficient and productive e-government should try some steps and these are reduce the paper work, use online services by citizens for example by giving different types of forms in government web portal such as passport forms, birth registration forms, increase IT based knowledge of the staff, record of citizen file kept in personal computer (PCs) and give quick service delivery through the use of information communication technology (ICT). (Ibid.)

Improving quality of life for disadvantaged communities

For overall development government should implement development plan to the various sector of a country from urban area to rural area. And in case of developing country this case should be concentrated more because most of the population lives in rural or village area. So overall development can only be possible when development will arrive in various sector of the society. E-government plays an important role in this section because using of information communication and technology (ICT) in the various levels from the rich to the poor can bring massive change to the society. And the concept of "digital divide" of e-government can take a very important role in implementing development program throughout all levels of society.

> *"The digital divide… refers to the perceived gap between those who have access to the latest information technologies and those who do not. If we are indeed in an Information Age, where information is power, where content is king, where . . . well, whatever . . . then not having access to this information is considered in some quarters to be a handicap."* (Compaine 2001: xi.)

So from the above citation we can understand the importance of ICT (Information Communication and Technology) in various level of the society. E-government helps develop the life of disadvantage people by sharing information through the use of information communication and technology (ICT).

3.3. Area and scope of e-governance

E-governance includes a vast area of sector within it, which is government to government (G2G), government to citizen (G2C), government to business (G2B). These three distinct sectors are described shortly in the following

❖ Government to government (G2G)

Before giving the citizen online service or electronic service, and conduct with private corporations in matter of ICT based facilities government should improve their internal administrative system and procedure. Government to government (G2G) sector is the backbone of the e-governance. Government to government (G2G) involves electronic data sharing among inter governmental agency. (Seifert 2003: 7.)

❖ Government to citizen (G2C)

The main goal of e-governance is to increase the participation in government activities. The main goal of government to citizen (G2C) to make citizen life easier which will reduce all hassles that as usual government service give. It will increase such facilities of online service for example online paying taxes, applying for passport mainly all time-consuming services. If G2C service going successfully, then the interaction between government and citizen will increase. (Ibid.7.)

❖ Government to business(G2B)

Through online transaction government to business (G2B) service brings the opportunity of simple business process and reduces the complex bureaucratic system. It helps create a more competitive business environment. Government to business (G2B) creates an electronic market environment for government. (Ibid.7.)

3.4. Some steps to achieve successful e-governance project

E-Governance is the key to remove all deficiencies of governance. Though many e-governance projects are not getting success and facing bottlenecks. In the following I will describe some steps which are very essential to achieve successes in e-governance project. These are especially applicable for developing nations.

Understanding e-governance

The first step of e-governance is to understanding the process of governance. E-governance is not an information technology (IT)   initiative rather it is a governance issue. E-governance is an inclusive system which consists of some concepts like Knowledge Management, change Management, Legal Reforms, Technology Management, Resource Management, Administrative Reforms, Organization Re-structuring, Information Management and many more components. E-Governance is concerned with transformation of process not just computerized existing system. For a successful e-governance project we need experts in governance not only information technology (IT) experts. (Sachdeva 2006:150.)

Vision and strategic objectives of e-governance

E-governance vision and objective must connect with the countries development vision and objective. The main mission of e-Governance projects to make improvements in

governance process with socio-economic development. Online facilities of e-government enlarged the complexity of dealing with Governments rather decreased the gap between government and citizen. It is assumed that only e-governance can resolve the troubles of Governance. Actually e-governance is work as an apparatus for government and meets various challenges of Government. That's why e-Governance experts give a statement like this "think big, start small and scale fast." (Sachdeva 2006:150.).

The main vision of e-Governance is to make citizen the center of the development process. The Vision of e-governance must be clear and valid not rhetoric. In e-governance process citizen must have access to various delivery channels not only restricted to online services. The main objective of e-governance projects to bring improvement and efficiency in governance services. Collaboration among different organs of government is very important in e-governance projects. The output of e-governance projects should be clear and another important thing is that the performance should be measured against those outputs. Partnerships with the private sector will be another main issue in e-governance projects and it should well defined from the very beginning of the projects and give priority in project objectives. Another objective of e-governance will be treated citizen as customer of government and try to develop the customer relationship between citizen and government through the whole project. Here I like to highlight the e-governance vision of Australia and Mexico. The e-governance vision of Australian government is like that "The Federal Government's aim is to develop more and better online, integrated services that break down the barriers of Government structure and jurisdiction, and meet the real needs of individuals and business."(Sachdeva 2006) The e-governance vision of Mexican government is like that "The vision is focused on three key elements content, connectivity and services, the services encompassing health, education, science and technology, government and trade." (Sachdeva 2006:150.)

Formulation of e-governance roadmap

The e-Governance Roadmap of a country concerned with certain questions like why, what, how, who, when and where and the answers of the questions are accordingly related with concepts like policy, strategy, plan, capacity building, opportunity cost, area. It is necessary give prioritize on certain point when formulate e-governance road map. For example, give importance to those projects which are replicated easily. Give prioritize to those projects which have scope for Public Private Partnerships (PPP). The most important thing is that choose projects that must have development agenda of a country and last, but not the least select projects that have less opportunity cost. (Sachdeva 2006 :151.)

Leadership for e-governance

Leadership is one of the important aspects of e-governance. The commitment of leader is vital for e-governance. Leadership commitment is very important for project implementation and not only important for Political and Bureaucratic issue. The leader will act like a reformer in e-governance projects. Sometime leadership can also come from the private sector where private partners run the project for government. In some countries, e-governance project have slow progress because it does not serve the political interests of the major stakeholders especially senior public officials. However, the success of e-governance project mainly depends on the leadership commitment. "The Roadmap for e-Government in the Developing World – 10 Questions e-Government leaders should ask themselves" by Pacific Council on International Policy identifies a few questions for the e-Government leadership (Sachdeva 2006: 152; Pacific Council on International Policy 2002.)

1. Why are we pursuing e-government?
2. Do you have clear Vision and Priorities for e-government?
3. What kind of e-government are we ready for?
4. Is there enough political will to lead e-government effort?
5. Are we selecting e-government Projects in best ways?

6. How should we plan and manage e-government Projects?

7. How will we overcome resistance from within the Government?

8. How will we measure and communicate progress?

9. What should be our relationship with the Private Sector?

10. How can e-government improve citizen participation in public affairs?

(Pacific Council on International Policy 2002).

The Leaders should answers the above questions to achieve true e-governance. So the President, Prime Minister or the Head of state of a country should aware about these questions for successful e-governance.

Institutional framework for e-governance

To achieve successful e-governance projects it required some institutional arrangements like e-governance implementation commission, national e-governance planning commission, e-cooperation Commission which creates cooperation amongst different Departments and different levels of Government, data protection and privacy commission, e-governance audit commission, interoperability commission, information security commission, legal and administrative reform commission, internet consumer rights commission, local language commission, telecom commission, national infrastructure commission, national commission for internet content, online quality assurance commission, national commission for international cooperation. (Sachdeva 2006:152.)

Re-engineering of government process

To achieve efficient and effective administration government have to re-engineering their process. Actually re-engineering is the rethinking and radical redesign in process to achieve dramatic improvements in performance like cost, quality, service, and speed. Re-engineering process proceed with computerization and there are certain steps in the re-engineering process like understand the processes, document the process, change in the existing process initiate smaller processes, examine the process, eradicate the

processes which are difficult to put into practice, modify those processes which are critical to implement, keep on those processes which get high criticality, but easy to implement, combine the processes, computerize the process steps and lastly ensure change management. The e-Government Handbook for developing Countries published by Infodev highlights (Infodev 2002) some recommendations to process reforms which are firstly, plan carefully update and consolidates offline processes before putting them online. Secondly, don't automate inefficiencies try to eliminate them. Thirdly, respond to local needs mainly concerned about them who will use the system and join the support. Fourthly, try to make projects from the user perspective. Fifthly, give training to civil servants to support reform. Sixthly, make sure commitment of resources for the long-term. Seventhly, it is very important to get employee and customer feedback to understand the real requirement of the system and its most priority and another thing should be taken care of whether the existing processes are required or not. Eighthly, consultants or experts findings, scope and expectations should be clearly described. Ninthly, make sure about executive support, sponsorship. Tenthly, the main point is to appoint full-time members who have the skills and knowledge of the process and re-engineering. Eleventh point is that observe both internal and external environmental forces. Document the plan in a charter with clearly defined scope, expectations, and measures of success and estimated resource requirements. Lastly, hire a full-time cross functional re-engineering team to manage change. (Infodev & The Center for Democracy and Technology 2002; Sachdeva 2006:152.)

As a result, re-engineering process should start with a clean sheet of paper and if necessary break all the rules and define an ideal process. After that, build up alternatives and use process benchmarking to find the best practices currently employed by other countries. It is very important to test the consequences of adopting radical designs and trim them back step-by-step as little as possible. It is also very necessary create an idealized design, expand possibilities and then select the best design and recommended plans to all stakeholders and sponsors. Re-engineering project improvements should reflect the e-governance project goals and objectives. (Sachdeva 2006:153.)

Legal reforms

For successful implementation of e-governance legal reforms is a very important matter. Legal reforms should be concerned about the following matters

E-Governance legislation: A complete legislation should initiate for closer cooperation between all authorities providing e-governance services. It should assist with recognition to electronic signature, a freedom of choice between means of communication for submissions of documents, forms to the public administration. The legislation also covers the rights and duties of bodies who are involved in the development of information systems for public administration. (Sachdeva 2006:153.)

Right to Information: It is very caution matter for e-governance project. Legislation should control to give access to public information for the Government Agencies. It creates a legal obligation on the public officials to answer questions regarding their areas of responsibility. (Ibid.)

Data Protection: Data Protection is a very sensitive issue in e-governance projects. So legislation should make conform about the pre-conditions for the lawful sharing and transfer of data. The Act should also specify that the data must be processed lawfully, used for specified lawful purpose only, updated, Kept secure, kept for no longer than necessary and transferred to countries where similar protections are there. (Ibid.)

Privacy legislation: E-governance systems have to use personal data of citizen for quick delivery service. In e-governance process citizen personal data are kept government server to get information about citizen instantly. So legislation may provide a right to privacy with respect to the processing of personal data which actually relate with right to information and also rectification of incorrect data for removal of unlawfully processed data. It concerned with individual right protection of personal data and its illegal use. (Ibid.)

E-Commerce legislation: This act actually applicable for all virtual services provided over the internet. It concerned with the matter of information society services like online-information, online-advertisement, access services and search engines. (Ibid.)

E-Communications legislation: This act takes care of the bandwidth and communication networks and may legalize the inter operator or inter-network communication. It also has a framework for interoperability. (Ibid.)

E-identity legislation: Legislation should recognize electronic signatures of citizen by satisfying certain security requirements (Sachdeva 2006:154).

E-procurement legislation: The e-Procurement is a matter of public procurement. It actually specifies the regulations applicable for communication, storage of data and use of specific procedures for example e-auctions and dynamic purchasing systems. (Sachdeva 2006:154.)

Human capacity building

The human capacity building not only concerned about information technology (IT) skill building, but also need skills in areas like management, change management and communications. It is very important to make clear plans about human capacity development. E-governance projects should identify the gap areas for human capacity building development. Those who have proper understanding of technology and governance can run e-governance project effectively. Training program should arrange also give a high priority to attitude change since a key tentative block to e-governance is the lack of motivation inspiration amongst stakeholders. School of e-Governance or equivalent to it can be established which may play a lead role in the training to develop human capacities. (Sachdeva 2006:154.)

Cost benefit analysis

Before starting any project, it must have clear understanding of its cost and e-governance project also bound to this rule. So it is very important to look into the Cost-Benefit-Analysis of e-governance project. Generally, projects main intention always to get proper return of investments. So e-governance project must careful about certain matter like expected expenditure income streams and deadlines these things applicable for both short-term and long-term plans. E-governance get project fund by donor agencies, private sector or public sector. If e-governance project funded by private sector, then they are very careful about the commercial interests. There are certain reason for taking e-governance as a way to save costs of government like manual transfer of information that need huge employees, time loss, paperwork and probability of human error, so it is very costly service. Broadcasting of government information through media is a matter of huge expenditure through media coverage to reach the people, but with e-governance, the access is wider and information is always available. E-governance cut the administrative cost and cost of corruption due to increased transparency tough sometime more resources invested due to create corruption free environment. In e-governance project initial investment sometime bear by Private partner (2006:154.) E-governance gives some benefits like improvement in service delivery and social welfare of citizens. There some net benefits create by e-governance are for example, operation cost reductions+ revenue increased − costs of development of the application = net financial benefit to the government agency. Cost reduction (Less Delivery Charges) + increased citizen revenue (due to efficiency) − cost of deployment of new system = net financial benefit to the citizen. Social benefit like increased health and education facilities, create employment opportunities and governance benefit like better transparency, accountability, effectiveness and contribution in government activities. Actually the e-governance project evaluated by according to all these above benefits and corresponding costs. (Sachdeva 2006:155.)

Sustainable business model

There some sustainable business models for e-governance. These models are concerned both about sustainability and business side. To create a successful e-governance projects one country should take one of the following sustainable business models (Sachdeva 2006:155).

Government owned model funding, designing, building and owning all are operated by government or its own agencies. Actually this sustainable business model builds on public money and government can charge a transaction and operation fee from Citizens or subsidize it from public funding. (Ibid.)

Private Partners is another sustainable business model. In this sustainable business model fund will provide by the government and government also the owner of the project. On the other hand, the designing, building and operation of the project are operated by private partner. After some time when primarily the project developed by private party then government can take the operations to itself. (Ibid.)

BOO (Built-own-operate) model, a private company can be established the right to develop, finance, design, build, own, operate, and maintain a transportation project. That's mean private company have overall right in this build own operate (BOO) model. "The private sector partner owns the project outright and retains the operating revenue risk and all of the surplus operating revenue in perpetuity." (Ibid.)

Project accomplishment time and transfer is the main factor in BOOT (Built-own-operate-transfer) model. In this built –own –operate –transfer (BOOT) funding model mainly involves a single organization, or association for designing, building, funding, owning and operating the plan for an agreed period of time and then transferring this ownership across to the agreed party. (Ibid.)

This Special Purpose Vehicle (SPV) model is a collaborated model where government collaborated with a private agency or international agency or even government agency to form a special purpose vehicle to fund the project. (Ibid.)

Externally Funded Projects (EFP) model runs through a mutually agreed methodology. In externally funded projects (EFP) the international donor agencies funds in various projects by giving grants to the government or government agencies. (Ibid.)

Service delivery paradigm

Government Service Delivery paradigm have to face various challenges. It has to take into account both regulatory execution and cost cutting matters for improving service delivery. World's best corporate companies follow the strategy of new service delivery method, so now government of different countries take such initiatives to get speed, quality, reliability, convenience and cost effective service for citizen. In this service delivery paradigm information technology (IT) can perform an immense role. For example, 24-hour one-stop online government shops for service delivery. In service delivery paradigm citizen feedback is very important improving the government Services. Unless the government listens to its citizen what is their demand can't find the real requirement of citizen. With e-governance system the service delivery paradigm in government is changing fast. There is huge difference between past and present service delivery paradigm. For example, in past the service deliver in department centric way, but in present with the e-governance system the service deliver in citizen centric way. The past service delivery is concerned with certain matters like process orientation, output based assessment and it has departmental view. On the other hand, present e-governance system tries to provide such kinds of service delivery that is concerned about service orientation, outcome based assessment, integrated view. Integrated Service Delivery is a new service delivery system that is not yet explored to citizen. The access of personal computer or PCs and internet is very low in the some developing country which needs some framework to be worked out for delivery of the e-services and would be accessible to the rural people. (Ibid.)

Collaboration for e-governance

Collaboration is obviously an important factor for e-governance project. In e-governance project collaboration among stakeholders are needed. For example, collaboration among centre, state and local government collaboration, collaboration between government and non-government organization (NGO), collaboration among government, businesses and private sector, inter-government agency collaboration, collaboration between citizen-government, government – employee collaboration, collaboration among government, academics and civil society, collaboration between government and donor agency. In the preliminary stage of e-governance project is necessary to establish a consultative meeting among all stakeholders that can be done either directly or indirectly which must be affected e-governance initiative. Collaboration with private sector will help to get expertise from private sector for e-governance project. Cooperation with donor agencies will help to get fund for e-governance project. It will be benefited for e-governance project to create business opportunities so that the private sector may be attracted to invest in e-governance Projects. E-governance project also build local leadership and ownership wherever the project is implemented and collaborate with them. (Sachdeva 2006:156.)

E-content

In the age of information citizen want to use maximum e-governance services for more information. This information can help citizen to resolve their problems of daily dealing with government. If citizen these information citizen it will help them to keep observation in government activities and increase accountability amongst civil servants. Actually access of information of government activities put pressure on government staff to perform well and to improve public understanding of government. For this reason, government needs to be transparent in its activities. Here, right to information can work as a fundamental right for the citizens. E-governance project can make formal government in to informative government. A good information government should provide certain information like economic (including revenue and expenditure) data,

performance indicators for government activities, government internal policy documents. (Sachdeva 2006:156.)

Building national information infrastructure

National Information Infrastructure (NII) is not only about physical facilities of technological equipment which used to transmit, store, process, and display voice, data, and images (Sachdeva 2006:156.)It enclosed with certain matters which are describe below

National information infrastructure NII needs to building foundations for living in the information age and integrate and interconnect technological physical components like scanners, keyboards, telephones, fax machines, computers, switches, compact disks, video and audio tape, cable, wire, satellites, optical fiber transmission lines, microwave nets, switches, televisions, monitors, printers, and much more for the public, business, libraries, and other non governmental entities. (Ibid.)

Information is the key point for National Information Infrastructure (NII). The information can keep in the form of video programming, scientific or business databases, images, sound recordings, library archives, and other media. Large quantities of data and information exist in government agencies archives and even more valuable information is produced in government laboratories, studios, publishing houses, and elsewhere. (Sachdeva 2006:157).

National Information Infrastructure (NII) concerned about those applications and software which allow users or citizen to access, manipulate, organize, and digest information. (Ibid.)

Data Centers are important element in e-governance implementation. The data center store various databases at National, State and Local Level. The databases may include databases for citizens, property, vehicles and companies (Ibid).

Kiosks are the place where people can get various information and services. Mainly it situated in the local places and connected to the nearest server either district or block. These Kiosks are works as information disseminator and place where citizen give feedback. These kiosks give facilities like web browsing. To build kiosks certain technological physical equipment are needed like PC's, modem, UPS, printer, dial-up / leased line. Information Kiosks mainly established in public places for example in shopping centers, post office, railway station, libraries. (Ibid.)

E-governance technological architecture

To build new information technological infrastructure is a set of guidelines, concepts, principles, rules, patterns interfaces and standards are needed which provide e-governance technological architecture. E-governance architecture is a complex system which allows a large number of different technologies and based on open Standards. It provides adequate security and data protection and should be accessible to all stakeholders. It may be scaled for future and it is interoperable. E-governance technological architecture should maintain e-governance Standards and the standards will make easy the clear guidelines for achieving interoperability across various organs of the Government and across various agencies with regard to administration information. (Sachdeva 2006:157.)

Privacy and security

E-governance systems build with citizen trust. So in e-governance system privacy and security of citizen is very important. Actually for getting electronic service from government agencies or offices citizen have to share very important personal information. So it is very important to assure citizen about privacy of their information. Citizen should be ensured that their information flow through reliable channels and flawless network. Security is another important issue when in e-governance system. It is very important to check properly the identity of citizens before giving service. To verify citizen identity digital signature can play an important role. Maintaining this privacy

and security issue is very expensive and requires constant maintenance. If e-governance system can provide reliable privacy and security system and compelling concerned authorities to ensure the authenticity in citizen transactions which help to gaining absolute trust and confidence of the citizen. E-governance system should cautious about various security concerns. For example, virus attacks, outside and inside attacks, user frauds, false identity, unauthorized disclosure, theft or duplication of access, rejection of service attack, misinformation and propaganda, abuse of inscrutability, violation of accountability, failure to recover business information and loss or theft of monetary value. (Sachdeva 2006:157.)

People's participation

It is one of the major concerns in e-governance process. People's participation is very crucial in e-governance system to run government activities properly. People's participation can be put into practice by following these methods.

E-inform: In e-governance system it is very important to inform citizen about government   policies and program, budgets, laws and regulations etc., This can be possible through e-participation tools like websites, web forums, e-mail lists, news-groups and chat rooms. Media can also be very important way to delivering government information to citizen.

E-consult: To take some major decisions about the country issue government can consult with citizens for example about various legislatures, proposed policies etc., The web tools can offer citizen to submit their proposal through online discussion meeting and archived it with audios and videos. For matters like e-decisions government take citizen input through e-forms or online forms and can get actual feedback on the outcome of specific issues.

Local Language should be introduced in web tools so that can many people can participate in government decision making issues. (Sachdeva 2006:158).

Pervasive accessibility

All citizens of the country should get opportunity of introducing e-governance initiative. But the matter of regret is that from whole population only a small portion of population can access to internet. Actually e-governance application is not only for this small portion of population it should be ensure to give the opportunity for the whole population through delivery channels which are universally accessible. This less opportunity of information communication technology (ICT) is termed as digital divide and there are many causes behind it. Language barrier is one the main reasons for this digital divide. In reality online services are designed in a very sophisticated way that in cannot reach to the general people. In the rural areas internet Kiosks should be introduced to access into e-governance system and these access require to be combined with the training. (Ibid.)

Create awareness about e-governance initiatives

E-governance program can be got success when citizen aware about the facilities of it. For this reason, marketing and publicity are needed for successful e-governance system. Awareness can create among general people through various ways like front line government employees can promote to use online services, advertising agency, media (news paper, TV channels) and campaign of rural leader. Seminars, Community outreach programs, educational programs and speakers' bureaus, offer other potential channels can be arranged by the rural and urban civil society to encourage e-governance facilities. Business Groups can also target to spread the message of e-governance initiatives. Training programs can also engage people in e-governance efforts. (Ibid.)

E-governance program management

E-governance program management concerned about control of scope, time, quality, scope, human resources, communications and risks. Effective program management also takes care of that if the stated goals are accomplished or not. The e-governance program management includes multiple projects and also incorporating, documenting

and communicating change requests of stakeholders. The time management is a very important factor in e-governance program management and it starts from the beginning of the projects to completion of various components. A project schedule is based on the project scope. The total cost of the project is calculated by the E-governance program management. E-governance program management should be careful about one very important thing that is the project should be completed on time and within budget. E-governance program management takes care of multiple projects which in an integrated manner will contribute to an effective program. E-governance program management ensures that the e-governance plan is going on fruitfully for which it was undertaken. E-governance program management takes care about quality. To maintain quality standard e-governance program management make a quality plan that is necessary to control over the activities need to be carried out. This quality standard has major impact on time and cost of e-governance project. Some projects become remarkably good if it given more time and fund. (Sachdeva 2006:159.)

Human resource management is another important factor in e-governance program management. E-governance program management should ensure that the most effective people are involved with the program. E-governance program management also arrange communication plan for effective communication between the team members and key stakeholders. E-governance program management identified project risks and should be analyzed it so that can it mitigate risks and necessary action is taken on time. The various activities of e-governance program management are scope definition, cost estimation, project planning, assessing risks and estimating resources, organizing the work, acquiring human and material resources, assigning tasks, directing activities, controlling project execution, reporting progress, analyzing the results based on the facts achieved, quality assurance, monitoring and evaluation and finally feedback and improvement.(Ibid.)

E-governance software development

In e-governance program software development is a significant aspect. Software development is the step of e-governance program that is away from conceptualization

and architecture. This software development task can be done in both ways through in-house (by government own human and technical resources) and outsourced (by private sector expertise and software companies). Software development follows some steps and the steps together call as Software Development Life Cycle (SDLC) which done by the following steps. (Ibid.)

The first step is requirement analysis. In this step the development team visits the customer place and talk with them for understanding what their requirement is. Afterwards, the group studies the system and developed the business process. In this step the requirement analyses being studied for developing the new system model specially focused on the software. (Ibid.)

The second step is system analysis and design. In this step the whole system structure is designed. This step concerned with package architecture, the database design and the data structure etc. In this step a model is developed which become the basis of code generation. (Ibid.)

The third step is code generation. Generation of code is the main task of Software Development Life Cycle (SDLC) and uses programming tools like Compilers, Interpreters, and Debuggers to generate the code. As well as high level programming language like C, C++, Pascal and Java are used for coding. (Ibid.)

The fourth step is testing. It used to locate the bugs or error in the system. It is the next step after code generation (Sachdeva 2006:160).

The final step is maintenance. It is very an important step because it assures the constant passage of software development life cycle (SDLC). Software changes for various reasons so it should be developed to accommodate with such changes. (Sachdeva 2006:160).

Change management in e-governance system

Mainly e-governance comes in to existence to bring administrative, process and legal changes in government activities. So the main intention of e-governance is to bring elementary changes in the way government works. It tries to empower government employees and de-layering of decision making process. The changes e-governance system brings it must be accepted by citizens and different interests groups like employees unions. E-governance aim to bring change in the mindset of the people and tried to carry out a total Reengineering process. Change management is a beginning point of e-governance. Change management done with various steps like define and identify the various areas of reforms, ensure commitment to change, facilitate the participation of stakeholders, identify a device of communication strategy, facilitate an information technology (IT) Training, set up a mechanism for continuous learning, monitor, evaluate and analyze the change process and finally provide support whenever required.(Ibid.)

Evaluating e-governance projects

E-governance project should have obvious objectives and the project needs to be evaluated according to those objectives. The success of e-governance project depends on how close it goes to its determined objectives. Sustainability is another parameter which can evaluate the success of e-governance project that present how long the project goes on. Sometimes e-governance project evaluate by return of its investments. The e-governance project successes may also be estimated by service delivery, technology, reliability. The e-governance project should evaluate regularly for constant improvement. The barriers or bottlenecks and causes of delays should be documented for further improvement. The successful projects can be imitating later on other places of the country. (Ibid.)

Continuous feedback

Feedback is the way to correct the mistake and get improvement. In e-governance can get from various stakeholders including citizen, civil society, private sector, donor agencies etc. The feedback process starts from the vision or aim and commitment of a project. Feedback can be in the form of comments, observations on documents and reports as prepared. E-governance feedback mostly depends on the citizen satisfaction. The feedback cycle start from the very beginning of the project and it maintained throughout the project for success. The purpose of feedback is to get success. This whole feedback process cycle requires reviewing, communications, discussions, observations, brainstorming, listening, testing and many more. E-governance feedback depends on the maturity levels of stakeholders. In most cases the feedback is taken from the Project director and another concerned authority, but the feedback can collect from the citizen through online or from survey reports. Sometime e-governance project cannot satisfy all the stakeholders. It is difficult to get proper feedback sometime because of lack of knowledge of stakeholders. So citizen surveys will be a good method of getting feedback. Though these type of survey would be mainly analyzed qualitatively and not quantitatively. The responses which are not valuable should not be taking into consideration. The main thing is that the process of feedback should be continuous. (Ibid.)

Integrated government (i gov)

The integrated approach of government can be found in Integrated Government or iGov it is an evolving concept. Integrated Government or iGov main aim is to integrate services of federal, state and local government. Integrated government is a government that merges various agencies and departments of government and work as a single window for government transactions. Integrated Government or iGov create a single identity for itself for all citizens through which they can access all government services. To achieve Integrated Government or iGov the back end integration among different Departments and levels of governments is very necessary. If a country constitution provide power to central government and local government then it is very difficult to

achieve Integrated Government or iGov. In India very few states took initiative for implementing Integrated Government or iGov. For example, e-seva program of Andhara Pradesh have started Integrated Government or iGov services in a limited range. (Sachdeva 2006:161.)

Integrated Government or iGov cannot be direct as a form of department like information technology (IT). It needs to work as a lead unit under the Prime Minister so that it has an overall authority towards departments and agencies of centre and local levels. To build Integrated Government or iGov it is very important to start national consensus. Those projects which are implemented separately have to face various difficulties to achieve the goal. So Integrated Government or iGov is the way to get successful e-governance program in a country. (Ibid.)

3.5. Obstacles of e-governance Failure

To bring massive change is not an easy task. So e-governance project is very difficult to implement especially in the developing countries. E-governance implementers have to face many obstacles to implement e-governance project in the developing countries. So e-governance project should be aware about the obstacle when implementing e-governance project. The obstacle of e-governance describe in the following

 Planning to fail or fail to plan

Planning is the key to success in any project. If plan made without a clear objective it fails to bring successful project. Plan is the starting step for any project. In case of e-governance project, the basic problem is that plan are made by non-skilled and non-expertise plan maker. But, the success of the project will largely depend on the skill and expertise of plan maker. Another crucial problem found in e-governance planning is that the concerned person spend a very few amount of fund in making plan, but to make a good plan it needs a large amount of money. E-governance project is not a small project so it needs a lot of money in making plan for this project. Another reason for failure of

e-governance projects is that unskilled individual take decision in the planning time. Issues like risk assessment, feasibility assessment, prioritization and strategy should take care at the planning time, but in reality most of the time these things are ignored by inexpert planner. (Sachdeva 2008.)

Mission Impossible

The reason of project failure is that it make plan in a way, which is almost impossible to achieve. Actually inexperienced planners and consultant of different government departments make plan in a way, which is far from reality. So if a large gap found between vision and reality in a project like e-governance then it is impossible to achieve target result. Another problem is that when unskilled planner starts to planning they forget that government has its on limitations. Otherwise, there are always found procedural and departmental constraints, legal constraints and constitutional constraints to make a successful e-governance project. Planners makes plan without realizing the ground reality and proposed solutions which are unnecessary, non-practical and non-achievable. As a consequence their planning reports lie in the shelves of government offices catching dusts. Over expectations of planners and consultant face the problem to manage customer expectations later. So mainly the vision and reality gap is one of the towards e-governance failure. (Sachdeva 2008.)

Hindrance to make changes

In developing countries it is found that most of the senior level officer and secretaries are used to with the manual system of working. They do not take e-governance project initiative willingly because they would be afraid about the computerized system. Even the lower level staff also not ready to adapt the computerized environment. Though some public banks the computerized system get appreciation, but the government department and agencies the scenario vice-versa. Another familiar problem is that the top rank officers are near retirement so they keep less interest for this huge change by e-governance. As a result this type of governance projects does not get support and lost before it starts. If one secretary likes to adopt the change it is found that he/she will

transfer to something else post and it is a problem to continue his taken initiatives. Sometime unskilled project leader are appointed and e-governance project get failure result. (Sachdeva 2008.)

Vendor driving e-governance activities

In the rural areas and even in some urban areas vendors driving e-governance activities may shock news for the whole nation. In the rural areas the people cannot connect themselves to computer and internet facilities for economic problem and less facilities of internet connection. So government cannot arrange computer and internet facilities to all over the country for the lack of fund and technological expertise. So e-governance planners take initiatives to start 24 hours internet service shop or one-stop-shop (integrated service delivery) and some kind of Kiosks at the rural level which will run by the local vendor. This 24 hours internet service shop or one-stop-shop (integrated service delivery) and kiosks owners are local vendors and some time government give loan to start this kind of internet shop. This initiative gets success in some places. In some places it is difficult to   start that can of shop because of the less interest of local vendors, lack of fund and lack of trained technological expert vendor. To start an online shop or centre vendor needs hardware, databases, operating systems, software applications etc. which sometimes difficult to get. Another reason for failure of this kind of shop is that lack of maintenance of technological physical equipment and less organizing ability to run online shops. (Sachdeva 2008.)

Focus on 'e' than Governance

E-governance is mainly about governance not only about 'electronic' or 'internet'. Though implementers of e-governance project yet not realized about the actual meaning of e-governance. Even majority of countries of the world run e-governance projects under Ministries of Information Technology, but it should placed under the prime minister or president office to run it successfully. The team members of e-governance project mainly hired from information technology (IT) and electronic sector. Usually they do not hire experienced public officers who have much more knowledge about

governance or government activities. The e-governance project can be successful if it planned with multiple access facilities and not focus on information technology (IT) and electronics. (Sachdeva 2008.)

Lack of consultations with all Stakeholders

In most government projects take government employees as the only stakeholders. Even only the senior government employees get priority in consultation and other stakeholders are neglected. Government sometime believes that they know all the requirements of the stakeholders and don't want to spend time and money for consul with other stakeholder. Sometime private sector consultant and donor agencies get involved in the project because they put pressure on that matter or otherwise they will stop funding or sending expertise. So the main stakeholder citizen cannot get opportunity to say about their needs and ideas. So neglect different type of stakeholder is a barrier for successful e-governance project. (Sachdeva 2008.)

Insufficient time for e-governance project implementation

E-governance is actually a vast project to implement. So it needs proper time to achieve its goal. Political leaders who become the countries head and make some commitment to citizen. Ministers or leaders make announcements about deadlines of project completion without concerning about the real situation and put pressures to e-governance team member to complete it as early as possible. It may be quite tough challenge for e-governance team member to complete it in a hurry. For a project to be successful proper time is needed. It may take minimum two or three years to accomplish e-governance project properly. E-governance project will attempt to make various changes in government activities so it is not an easy task to implement e-governance project. All stakeholders have to keep patience for implementing e-governance project. If proper time given to e-governance project then it will improve and rectify the project. Impossible timeline turned e-governance as a failure project. Minister and leaders can launch e-governance project when it almost done. (Sachdeva 2008.)

Large, complex & centralized systems

E-governance is a large, complex and centralized project. Most of the time it is very difficult to manage this kind of big project which have lots of cross departmental linkage and took long time to implement. In e-governance project central government and local government are integrated with each other which are quite challenging to implement in reality. Actually federal, state, and local governments worldwide are under pressure to deliver services more professionally at lower cost and recognize e-governance as an attractive option both commercially and politically (Soliman 2006:13.) The achievability of such projects is the most vital matter in the whole process. That's why e-governance projects have to be implemented with proper planning or else its fail to get its goal. (Sachdeva 2008.)

Inadequate communication and lack of encouragement

E-governance is a very wide project and it has numerous stakeholders. One of the main reasons of failure of this kind of huge project is that insufficient communication of stakeholders, which is very necessary for proper implementation of e-governance project. Lack of encouragement is another reason of failure of e-governance initiatives. Actually this neglected encouragement create gap among various stakeholders and their expectations. Encouragement is also required even for the in-house employees of the administration. So the implementers should lead an encouragement or support campaign for e-governance project. (Sachdeva 2008.)

Blame game in e-governance project

Everyone wants to take the recognition for success, but no one wants to take the responsibility for failure. As e-governance project took a long time to implement so most of the time it is found that the project stuck in the middle stage. Then, it gives to another team to implement. The new team instead of start to re-engineering the project starts to give blame to the previous team. So in reality it is found that if the project fails to get success, then the first team blames the second and second team blame the first.

The blame games block the way to get success of the e-governance project. (Sachdeva 2008.)

3.6. ICT situation in developed and developing countries

Here, I want to give a general idea about the Information and Communication Technology (ICT) situation in developed and developing countries. Both developed and developing countries are trying to involve information and communication technology (ICT) for economic development and to create efficient administration in public service. As World Bank report said

> *"Governments in both developed and developing countries are taking active steps to leverage the potential of information and communication technology (ICT) to improve the efficiency, effectiveness, and accountability of public sector organizations. In many countries, harnessing the power of ICT is a critical element of achieving goals to improve governance. As of 2003, 70– 90 countries had national e-strategies, with e-government the most common area of focus."* (World Bank 2009: 67.)

World Bank analysis on 120 countries shows that the penetration of broadband services for every 10% point increase and also the economic growth increase about 1.3 percent points. So the rate of increase was more in broadband service than economic growth. According to World Bank "this growth effect of broadband is significant and stronger in developing countries than in developed economies, and it is higher than that of telephony and Internet …" (World Bank 2009: 5.) The penetrations of broadband services in the developed and developing countries are shown by the following figure 8.
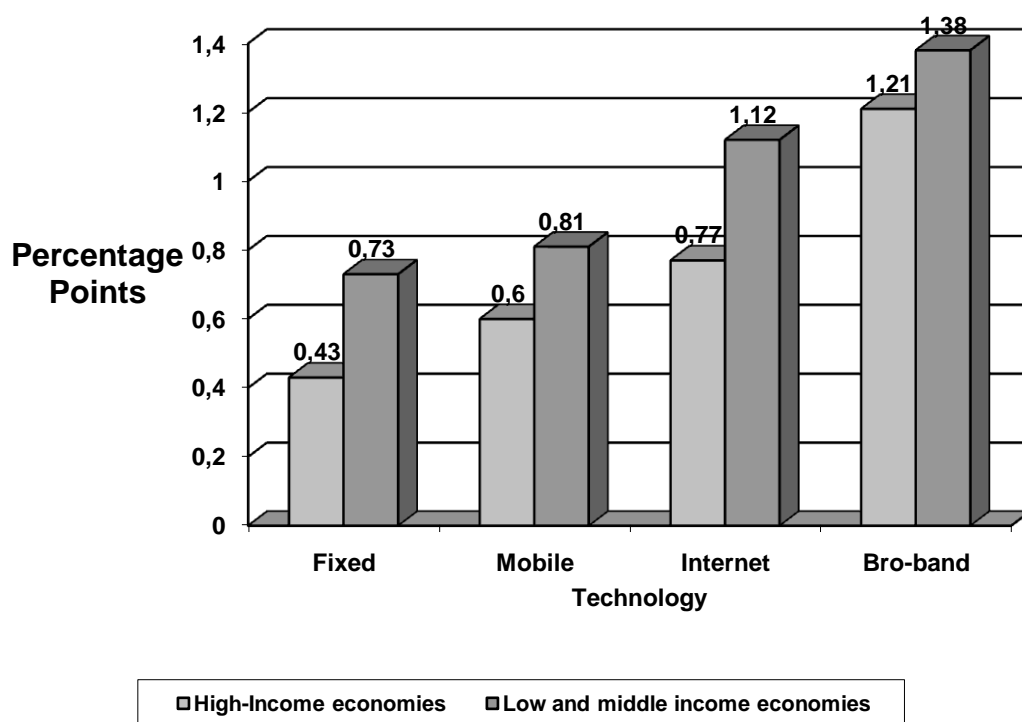
Figure 8.Growth effects of Information and communication technology (World Bank 2009: 5).

Figure 8 shows economic growth in y axis and technology services in the x axis where we can find that the usage of broadband line increases in an extreme way.

The table 2 will show web measure index that was evaluated by United Nations. Through this table we can get an idea of governments' accessibility and sophisticate Web presence and use. It will present the advance use of ICT in daily work-flows among government, citizen and business in developed countries. But on the other hand, numerous developing countries are still premature in using ICT system and network in government activities. (World Bank 2009: 130.)

Table 2. Measures of E – government in developed and developing countries (World Bank 2009: 131).

Country group	Web measure index (2007)
Developed	0.61
Developing	0.27
Ratio of developed and developing	2.2

3.7. Summary

This paper mainly deals with the concept of e-government and e-governance. So in this chapter, various aspects of e-governance and e-government have been discussed in order to bring fair, clean and efficiency in public service.

4. THE CASE STUDY METHOD

In this research paper I choose case study method as a way to finding out the result of my research paper. I choose case study method for my research work because here in this research I do not deal with e-governance problems of various countries. In this research I only want to show e-governance initiative of developing countries and as a specific case I choose Bangladesh. Before discuss elaborately case of Bangladesh e-governance. I want to discuss briefly about case study method.

4.1. What is case study method?

The case study carries a vivid position in the discipline of social science. It is one of the ways to doing social research. Case study includes individuals, organizations, events, processes, programs, neighborhoods, institutions. In that way it makes itself as a research method. The main objective of a case study is to find out the complexity and distinctiveness of a single case within significant circumstance where the case expected to be more specific and functioning. (Yin 2009: 17; Stake 1995: xi.)

> *"The case study as an intensive study of a single unit for the purpose of understanding a larger class of similar units. A unit connotes a spatially bounded phenomenon –e.g. a nation-state, revolution, political party, election, or person –observed at a single point in time or over some delimited period of time." (Gerring 2004: 342)*

To clarify this definition John Gerring establish the relationship of the case study which is a set of nested definitions ; like ,

> *"A "population" is comprised of a "sample" studied cases as well as unstudied cases. A sample is comprised of several "units" and each unit is observed at discrete points in time, comprising cases. A case is comprised of several relevant dimensions or variables each of which is built upon an observation or observations. In this nested definition observations conceptualize as cell, variables as columns, cases as rows and units as either groups of cases or individuals cases these are depending upon as proposition and the analysis. For example a country may function as a case, a unit, a population or a case study" (Gerring 2004: 342)*

Actually a case study is an empirical analysis which investigates contemporary phenomenon deeply within its real-life context. The main characteristic of a case study is generally doing inquiry when the borders between phenomenon and context are not clearly apparent. Case study relies on many more variables of interest than data point. It needs multiple sources of evidence to unite in a triangulating fashion. (Yin 2009:18.)

Mainly three points distinguish case study from other social science researches. Generally case study used as a research method in social science when it questions with "how"and "why". Then, when it was assumed that researcher has control over the events. Lastly, case studies focus on contemporary phenomenon within real life context. Otherwise, all the social science research studies are quite similar to each other and there are no boundaries among them. (Yin 2009:2.)

Investigators have to apply technically distinguish approach to make case studies more genuine and authentic. They should merge data point as well as multiple sources of evidence. Although this procedure seems hard, but traditionally it has been a soft form of research. (Ibid.)

Case study research method has two different types called accordingly single and multiple case studies. For some social science field like political science and public administration tried to distinguish between these approaches used the term as comparative case method as a unique form of multiple case studies. Actually single and multiple case studies are two variants of case study design. (Yin 2009:19.)

There are some misconceptions, disadvantages and limitations exist about case study research method. Like case study research method only used as preliminary research method and cannot be used to describe or test proposition. Another view about case study researcher does not follow any systematic procedures and allowed to use ambiguous evidence or biased view in their research. A third disadvantage about case study research method is that they are usually too long and the outcome is also massive and unreadable. But actually this misconception is mainly appropriate for the way which case study done in the past, traditional case study research accused for lengthy

narratives. The greatest limitation of case study research is that not have "generalizability". "Generalizability" is the ability to represent findings about a population based on data from a sample. So findings based on one case cannot be used to make larger statements about the population. For example, if we may have found some new understandings about a caste or social group culture, but it will not applicable for the whole nation. (Yin 2009:14-15; Dan 2008:144.)

When investigators investigate something, they generally use some rules to proceed. Case oriented method is one of those rules that rule has some good features. One of them is that, deviating cases need cross tabulation of causes and effect. Using this method they can easily differentiate their cases. (Ragin 1989:52.)

Investigators want to keep their cases in some particular cells following the first feature. This feature is relatively impenetrable to the frequency distribution of types of cases. If any case exists in any of the deviating cells they must be questioned the causal relation make note of it. So, this feature is less important as it is not concerned with relative distribution of cases with different patterns of causes and effects. In this feature the important thing is relative frequency. (Ibid.)

In case oriented method investigators bound to take their cases in one substance. The casual complexes that produced specific outcomes boost them to view cases as a bundle. In this way different parts that make up a case are understood in relation to each other. There treated together as composing a single situation. However, this approach differs keenly with how they are treated in other type's investigation. In most statistical analysis population or sample patterns determine how the parts of a single case are understood. (Ibid.)

Case oriented method triggers a rich dialogue between ideas and evidence. This technique need variable in their approach to the evidence for some simplifying assumptions and they do not either restrict the examination of evidence or force investigators to view casual conditions as opponents in the struggle to explain variation. Actually, they provide a basis for examining how conditions combine in dissimilar ways

and different aspect to produce various outcomes. (Ibid.)

Therefore, we may conclude in this way that though case oriented studies has unparalleled strengths, it has also some limitations. The extra ordinary characteristics of the case oriented approach are highlighted when contrasted with the variable oriented approach, the nucleus of next reading assignment. Actually case study research is very difficult to do though traditionally it considered a "soft" research method because case study researchers do not follow systematic procedures. Sometimes researchers are interested in studying a single instance, such as an extraordinary person or a historical event. So an in-depth study of a single person, event, community or group is called a case study. Case studies have a long history in the social sciences like in political science, social welfare and in public administration as well as in other fields. (Yin 2009: 21; Dan 2008: 143; Ragin 1989:52.)

4.2. Selection of the research topic

In my thesis I choose the case of e-governance in Bangladesh. The reason for choosing this topic is that in this information age as a developing country Bangladesh government work hard to make its service more efficient, transparent and citizen friendly. That's why Bangladesh government took information and communication technology (ICT) as a thrust sector to implement e-government and e-governance. Nowadays, the main target of government is to grasp new information communication technologies (ICT) to reinvent its structure whether it is a developed or developing country. That's why some developed and developing countries had applied e-governance to achieve good governance and achieved success. In that case as a developing country Bangladesh is not an exception and trying to achieve good governance by applying e-governance.

To implement a new process is not an easy task for government because it is very difficult to change the government pattern as a whole. In that case to implement information communication technology (ICT) needs many things such as resources, technological infrastructure, and education. Here, in this thesis I like to analyse the

barriers that Bangladesh has to face in implementing information communication technologies (ICT).

Ministry of planning is a very important ministry in Bangladesh; it plays a vital role to implement any change in government structure. Here, in this paper I will present the SICT (Support to ICT Task Force Program) project which run under Ministry of planning for strengthening e- governance in different sectors. In my research work I will discuss the obstacles that planning ministry has to face in implementing SICT (Support to ICT Task Force Program) project.

4.3. The case of Bangladesh

Bangladesh emerged as an independent sovereign state or country in the world map on the 16th of December 1971. Formally it was part of Pakistan. It became independent as a result of a bloody war through declaration of independence on the 26th of March 1971 by Bangabandhu Sheikh Mujibur Rahman the leader of the Awami league parliamentary party in the then Pakistan parliament. The Pakistan government stated war and genocide against the people of the then East Pakistan in the midnight of 25th March 1971. Subsequently the people of Bangladesh opposed it and Bangladesh government was formed on the 17th of April 1971 at Mujib Nagar in the present Meherpur district of Bangladesh. The liberation war had been continuing for 9th months and ultimately then Pakistani army surrendered to Mukti Bahini (combined force of Indian army and Bangladesh army). By this on the 16th of December 1971 Bangladesh got its independence. (Khan 1996: 12-15.)

Parliamentary democracy is prevailing in Bangladesh. In the form of government a president of a country is the titular head and the real power of the government lies in the hand prime minister. There is a parliament consisting of 300 elected members and 45 female members in the reserve sit for women who are nominated by the ruling party and the opposition party in proportion to their seats in the parliament. The majority party elects their leader of the house and accordingly the president summons him or her to

form the government. The prime minister selects members of cabinet on his accord and submits the list to the president. Accordingly the president appoints the Prime minister and his council of ministers. They take over office from the president and starts functioning. The Prime minister so long earns the confidence of the majority members of the house, holds the power. If no confidence motion is passed in the parliament, then the Prime minister resigns from office. Generally the term of office of the prime minister is five years. (Ibid.)

The prime minister runs the administration of the country through a council of minister. At present, there are about 32 ministries in the government. The ministries are headed by prime minister, cabinet minister, deputy minister and state minister. The ministers act on the advice of prime minister and hold office so long he earns the confidence of prime minister. (Ibid.)

4.4. Government Structure of Bangladesh

Government of the People's Republic Bangladesh is unitary in character. It is not federal because there are no provinces in Bangladesh. All powers of administration are in the hand of central government and the central government runs the administration directly through field administration.

Central government of Bangladesh is basically a two tier administrative system which reflects a hierarchical order. In this two tier system the upper tier consists of ministries and divisions which make the policy. To implement those policies there are huge number of departments/directories and statutory bodies are established.

> *"At present, the Bangladesh civil service has more than one million civil servants in 37 ministries, 11 divisions, 254 departments and 173 statutory bodies".*(Jahan 2006.)

Bangladesh local government consists of seven divisional headquarters headed by a divisional commissioner, 64 districts headed by Deputy Commissioners (D.C.), 490 Upazila (Sub-district) headed by Upazila Nirbahi Officer (UNO) chief executive of an

Upazila (sub-district). (Banglapedia: National Encyclopedia of Bangladesh.) Please see appendix 2 to view the structure of local government.

> *"Under the close supervision of the district administration, there is a local government system composed of elected Union Parishads (Local council: the lowest level of government in rural sector) and Municipal Pourashavas (The lowest level of government in urban sector), and appointed Upazila (Sub-district) and district committees…The local authorities have little capacity or authority to collect revenues and depend heavily on central government transfers. The local authority staffs are hired by the central government."* (Department of Economic and Social Affairs (DESA) & Division for Public Administration and Development Management (DPADM) of United Nations 2009.)

Bangladesh government hierarchical structure is basically centralized in nature. The local government is not powerful and more dependent upon central government financially, administratively and politically. The local government organizations are not fully autonomous that's why in major decision local government mainly depends on the central government. The main problem of local government is lack of coordination among different levels of tiers. The communication between central government and local government is not well-organized and it took much time to contact with each in matter of necessary mutual decision. The gap between central government and local government can only be reduced by e-governance system, which can improve the communication between central government and local government through the use of ICT. (Department of Economic and Social Affairs (DESA) & Division for Public Administration and Development Management (DPADM) of United Nations 2009.)

4.5. Bureaucracy of Bangladesh

By Bureaucracy we mean a professional, stuffed and permanently paid body of official's. It means that it is primarily a body of professionals' administrators to run the administration of the country. The requirements for civil service are that impartially selected, administratively competent, politically neutral and indeed with the spirit of service to the community. A civil servant is one whose main function is to administer the law of the land. The civil servants are mainly of two classes' lower clerical staff and higher administrative staff. The higher administrative staff is directly connected

political heads of the concern department. The lower clerical staff helps the administrative staff and works under his/her direct supervision and control. Bangladesh was under British rule for a long time and it bureaucracy is the legacy of the past. Bureaucracy some time use with contemns. Bureaucrats are charged with red tapisom, corruption, inefficiency, wastefulness and what not. In spite of these the existence of a professional class is essential for the administration. Lightly said, bureaucracy is a professional class of technically skilled people, who are organized in a hierarchy way and serve the state in impartial way. The administrators rule on the basis of rules and regulation rather on grounds of favoritism. Their treatments are uniform and impartial. In Bangladesh British colonial system of bureaucracy is still functioning. Although there is great demand from the public to change the system, but yet no visible change is found. By hierarchy we mean that all the civil servants are organized into a firmly order system where in each one is subordinate to the other. The pattern is depicted in the following figure 9.

Secretary

↓

Additional Secretary

↓

Joint Secretary

↓

Deputy Secretary

↓

Senior Assistant Secretary

↓

Assistant Secretary
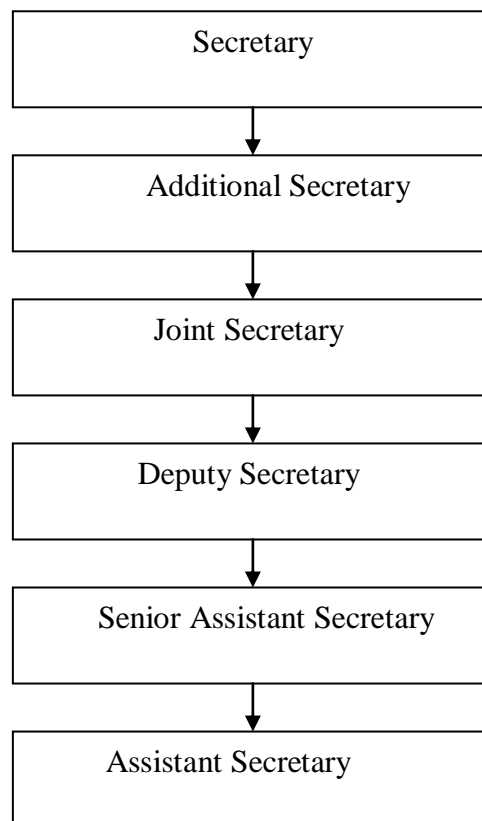
Figure 9. Bureaucratic structure of Bangladesh.

The field level administration handles by divisional commissioner, deputy commissioner and Upozila Nirbahi Officer (Sub –district officer).

4.6. Technical infrastructure in Bangladesh

Information and communication technology (ICT) takes a promising place in Bangladesh. For that reason, this sector regarded as a thrust sector in 1997. Government of Bangladesh promised to invest a lot of fund in this sector. ICT sector can bring enormous changes in the organizational and technical level of a country. Gradually mobile phone has captured the market and changed socio–economic livelihood of people. Bangladesh government has taken some initiative in the ICT field and trying to operate them successfully. Bangladesh government has already initiated e-government activities in a holistic perspective. The tele density rate in Bangladesh is 23.24% per among 100 people both for Mobile & PSTN service. (Alam and Ahmed 2008; Kundu 2007.)

To build proper telecom infrastructure certain established telecom structure are needed which are Public Switched Telephone Network (PSTN), mobile operator, data connectivity and the power sector of Bangladesh. Bangladesh Telecommunication Company Ltd (BTCL) and Telephone Board (BTTB) is a government organization it has the largest share Of PSTN market. 1, 12 million people are using fixed land phones. Bangladesh Telecommunication Regulatory commission (BTRC) has divided the whole country into six regions and issues license on that basis. Mobile phone has brought dramatic change in Bangladesh. It has started its journey in Bangladesh in 1993 and now 31.42 million people under mobile network. The whole country is under mobile coverage. There are six main operators work in Bangladesh. Bangladesh came under submarine cable connection in 21st of May 2006. Bangladesh Telegraph and Telephone Board (BTTB) is the main authority to operate and maintain this submarine cable connection. Submarine cable link gives the best advantage for large scale software export and scope for Increase IT based services such as call centre, tele-medicine. Internet users in Bangladesh are 19.04 per among 10,000 inhabitants. Electricity is the

main source to enhance the ICT sector. But electric supply is not satisfactory in Bangladesh because it always hangs with the problem of load shading though the situation is improving, but not in a satisfactory level. There are four main governments owned organizations that take care of the overall electric supply situation. These are Bangladesh Power Development Board (BPDB), Dhaka Electric Supply Authority (DESA), Dhaka Electric Supply Company (DESCO) and Rural Electrification Board (REB). (Alam and Ahmed 2008; Kundu 2007.)

For an efficient administrative system the central administration must exchange data sharing with local and district level administration. For that reason, The Support to ICT Task Force (SICT) Program has been set up for strengthening government information and communication technology (ICT) sector for government administration. Later in this chapter I will discuss elaborately about the Support to ICT Task Force (SICT) Program.

4.7. Data collection

There are various data collection techniques and methods. Social researchers use method according to the need of the topic. Social research methods like surveys and experiments are more appropriate for collecting quantitative data, whereas others doing in-depth interviewing and participant observation for gathering qualitative data. (Dan 2008: 103.)

This research paper is mainly based on existing recent data. This thesis paper data are collected from books, journals, reports published from international organization like World Bank, government website especially ministries website and their project website. I give the data in a way which will easily understand by the reader. I both use e-resources and printed resources.

4.8. Summary

In this chapter I short glimpse of case study method. Then, I tried to give some general information about Bangladesh government structure and its socio-economic condition because my thesis mainly deals with the case of Bangladesh. I also give a short statement about the data collection that I used in my research work.

5. E-GOVERNANCE SITUATION IN BANGLADESH: EMPIRICAL FINDINGS

This chapter is the empirical part of my work. Here I will elaborately discuss about both background and present condition of e-governance in Bangladesh.

"The twenty –first century will be an era of increasing global economic, social and political interaction, in which states will have to play new and different roles than they had in the past".(Rondinelli and Cheema 2003: 243.)

Like many other developing countries Bangladesh government has taken a plan to use ICT in its different ministries and sectors to implement its different functions. Bangladesh government had understood the importance of ICT so declared it as the thrust sector in 1997. To bring transparency, accountability and efficiency Bangladesh government is trying to adopt e-governance. As it declared ICT as a thrust sector so the government has to invest a lot of fund in this sector. Already the mobile phone companies have been capturing a huge market in Bangladesh from 1990 and have brought a massive change in the lives of people. So the government of Bangladesh has taken e-governance as a toolkit to bring development in different sector (Alam & Ahmed 2008.) To connect the central government to the local government e-governance plays a vital role. Only e-governance can implement a proper decentralization in government structure. E-governance in Bangladesh is playing role of mediator to connect government with the citizen. It can be shown by the figure 10.

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┌──────────────┐         ╭─────────────────────╮         ┌──────────────┐
│ The-         │  ══⟹    │  E governance: work  │   ⟸══   │              │
│ Government   │         │  as a mediator       │         │  The         │
│ of           │         │  through the use of  │         │  citizen     │
│ Bangladesh   │         │  ICT like online     │         │              │
│              │         │  service, government │         │              │
│              │         │  web portal          │         │              │
└──────────────┘         ╰─────────────────────╯         └──────────────┘
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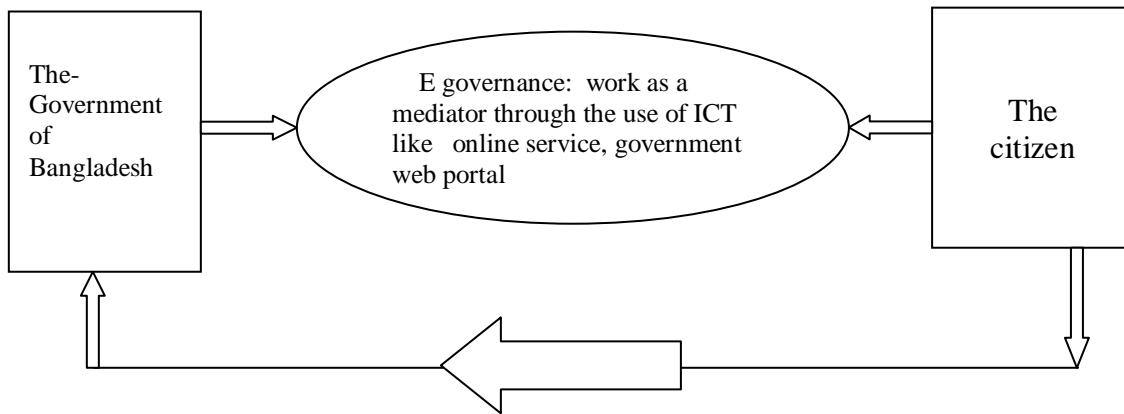
Figure 10.E-governance work as a mediator.

E-governance enhances the relationship between government and citizen through the use of online services. As a democratic country Bangladesh government must have a good connection with its citizen because government may change after every five years by the vote of the citizen. So it is citizen right to know about the decision that government takes for the welfare of the citizen. But this cannot be properly possible without e-governance.

Bangladesh government pattern is made by the 200 years old bureaucratic structure. The government structure mainly followed the British bureaucratic model. So in the age of globalization it cannot possible to bring prosperity if Bangladesh government follows the old model of bureaucracy. Only ICT sector can change the government pattern in a citizen friendly way. Through the use of online service citizen can save their time and hopefully won't have to face the hassle of red type service of bureaucracy.

For a quick delivery of function government should implement e-governance. If government performs their internal work with Information and Communication Technology (ICT), it brings efficiency in government administration.
In 2002 Bangladesh government has taken a Project under ministry of planning called SICT (Support to ICT Task Force Programme) project. I will give full description of this project later in this chapter. It is an ongoing project of planning ministry.

From 11th January 2007 to 29th December 2008 Bangladesh government ruled under the caretaker government because some reason of political crisis. The caretaker government also worked for e-governance to bring efficiency overall efficiency in the country. The SICT project also went on in that term of government. (Khan 1996: 40-49.)

After that in 29th December 2008 the new Awami League (AL) government has come with the new challenge to transform the Bangladesh government into digital government within 2021 when Bangladesh will celebrate its golden jubilee of independence. The election manifesto of AL pledged to build a 'Digital Bangladesh' where people will get a develop life, free from crime, corruption, misrule and can face the challenges of the 21st century. (Khan 1996: 40-49.)

5.1. Problems of e-governance in Bangladesh

To implement any initiative or plan some barriers or obstacles came to the front. In this case, Bangladesh e-governance initiative is not an exception. Government has to face various challenges to implement e-governance in Bangladesh. Actually there are various problems coming in front of government while applying ICT in its different sectors. Thus, citizen are also deprived to enjoy the facilities of e-governance which can give citizen friendly services. They have to face the hassle to get the public services which following the manual services and kill the time of both government and the citizen. As Bangladesh government following the traditional bureaucratic form of structure of British government so as usual they are also blamed with red tapism. So Bangladesh government is now trying to reduce the deficiencies of those services and improve the service by implementing information and communication technology (ICT). The barriers Bangladesh government has to face in implementing e-governance are discussed in the following points.

5.1.1. Political barriers

Bangladesh is a democratic country. So there are many political parties exist in this country, and from them one political party gets the power to handle the government activities for five years. This way the power changes every five years. The political parties come in to power by the vote of the citizen of the country. They elect the political party for five years to handle the government service efficiently. Before coming into power, every political party has their own manifestos to make understand the citizen how good their plan and policies to implement government activities. Actually on the basis of the manifestos people's elect the political parties in power. In the following I like to highlight the problems that Bangladesh government has to face in implementing e-governance.

The first opportunity came in 1988, when Bangladesh government first received its offer to link itself to the information super highway with a submarine cable. But the then the military dictator Lieutenant General H.M. Ershad rejected the offer by the fear of free flow information which may focus of his illegitimate government. (Hasan 2003.)

After establishing democracy in 1991 when Bangladesh Nationalist Party (BNP) had come into power, got another offer to connect Bangladesh to the Information Super Highway through a submarine cable together with all South Asian countries. But again this political party rejected this offer by showing cause of security purpose of the state, though other South Asian countries like India, Sri Lanka and Pakistan took the opportunity then. (Ibid.)

After so many obstacles, when 1996 Awami League (AL) government had come into power they took ICT as a thrust sector and connected the country with the Information Super Highway through Submarine Cable. (Ibid.)

5.1.2. Resources barriers

Bangladesh is one of the developing country which striving strongly for proper implementation of information communication technology (ICT). Though there are several resources barriers to implement ICT initiative activities in Bangladesh. The barriers are described below

Inadequate ICT Infrastructure and Planning

Bangladesh government offices like ministries and departments face the problem of poor computer and internet facilities. In some government offices the computer remains unused because of training and willingness of the government officials. It is only because of inefficient planning and information and communication technology (ICT) infrastructure. (Alam 2007.)

Wrong use of ICT by government officials

There is seen inequality in the distribution of computers and other information and communication technology (ICT) facilities in Bangladesh government offices. Actually in most cases senior officials acquire more information and communication technology (ICT) facilities than lower level or desk level officer. But the entry-level officers are more enthusiastic to use information and communication technology (ICT) facilities than the older officers. (Ibid.)

Lack of Awareness of government official

The main reason of behind the less use of information and communication technology (ICT) among government officials are lacks of awareness. Due to be short of fund and proper planning government offices cannot arrange training program for government officials to introduce information and communication technology (ICT) among them. That's why employees are not encouraged to use information and communication technology (ICT) facilities. Another reason behind lack of awareness of government

official is that government officials don't want to change their as usual working environment of manual work. (Ibid.)

Non-acceptability of IT systems

In most cases it is seen information and communication technology (ICT) facilities not get warm reception from government higher officials. The reason behind this discouragement is that they are used with the typical bureaucratic manual work and afraid to use the new technological system. (Ibid.)

Lack of proper training programs

In Bangladesh, e-government projects or other information and communication technology (ICT) related projects were not arranging proper training program for government officials. Sometime they have to hire information technology (IT) specialist from developed countries with higher payment. But if they arrange proper training for government official it will be both benefit for the government employees and reduce cost of the projects. In most cases, when they used information technology (IT) specialist from other countries, they came for a certain period and after that they return to their home country. The main thing is that information technology (IT) will not require for a certain period. For proper implementation of information and communication technology (ICT) Bangladesh need permanent IT specialist. (Ibid.)

Inadequate human resource capacity

The seventh highest populated country of the world named Bangladesh have lack of IT specialist, due to proper plan. If Bangladesh face the problem face the IT specialist, then it is not possible to implement e-governance project in Bangladesh. A very little number of students studied in IT related subjects. The number of IT students accordingly only 1,630 incoming students in public universities, 2,370 at private universities and 1,120 at polytechnics. Most of them after graduation leave the country for better opportunities in foreign countries. (CIA fact book 2010; Alam 2007.)

High-cost and low-reliability of Internet access

Internet access is very costly in Bangladesh. The average numbers of people are middle class and most of the people live in below poverty level. So it is very difficult for them to use ICT facilities due to high price. Another important thing is that internet facilities are more available in the major cities. Personal computer price is also very high so the general people cannot afford it. Though public sector supplies mostly dial-up internet service and bandwidth situation is very poor in it. On the other hand, some mobile companies supply high-speed internet service almost all over the country, but their internet connection rate is very high expensive. (Alam 2007.)

Lack of consistent maintenance

Bangladesh government offices face another major problem that is unavailability of information technology (IT) technicians. Actually information technology (IT) technicians maintain the information communication technology (ICT) equipment. Sometimes government office information communication technology (ICT) equipment damaged due to lack of maintenance. Some government offices have contracts with local hardware companies for maintenance, but their services are very slow. (Ibid.)

Lack of regulatory/legal framework

There is no accurate legal framework regarding information and communication technology (ICT). That's why Bangladesh government cannot make proper plan for information and communication technology (ICT). This is a large barrier for e-governance implementation in Bangladesh. (Ibid.)

Lack of reliability on electric documents

Still Bangladesh government office employees cannot rely on electronic documents like e-mail. They are still believed in paper documents. That's why the use of information

and communication technology (ICT) is less in public offices than the private offices. (Ibid.)

Few local software companies

To implement large scale e-governance projects government need the help of software companies. But in Bangladesh the scenario of software companies is different. There is a lack of information technology (IT) expertise and the software companies are not large enough to handle the projects like e-governance implementation. (Ibid.)

Supply of electricity across the nation

E-governance implementation in Bangladesh is a two step project for Bangladesh government. As a developing country Bangladesh have electric supply problem. In the rural areas still people have to face the electricity connection problem. On the other hand, though people in the urban areas have electricity supply, but there is always problem of shortage of electric supply and black out through electricity power cuts. (Ibid.)

5.2. Brief history of planning commission

Any plan is made in order to achieve some goal, without doing no planning no goal can be possible to achieve. Actually planning is mainly made for development purpose and if the planning is made for a country's development then it must be made in a broader perspective. For that reason most of the countries have its planning institution or in different names like planning division, planning ministry or planning commission. And Bangladesh is not an exception. (Planning commission 2009.)

Bangladesh government has its own planning ministry also known as planning commission. The state of Bangladesh in Article 15 of its constitution committed for higher living standard for its citizen through a planned development. With this aim the

planning ministry was established in January 1972 mainly with the aim to improve the standard of living of the citizen. Though it mainly established in mid 1950 under the united front government of the then East Pakistan (present Bangladesh). (Ibid.)

The chief adviser is the chairman of planning commission. At the policy level the commission consists of vice chairman and five members. The planning commission mainly runs long-term and short-term plan. It also runs many developments projects by the approval of National economic council (NEC) which is headed by the prime minister. The planning commission interacts with different ministries, divisions, and agencies of the government.

5.3. SICT project under ministry of planning

Government of Bangladesh declared ICT as a thrust sector. Understanding the importance of information and communication technology (ICT) the government of Bangladesh formed a national ICT task force headed by the honorable prime minister. The project has been undertaken by the planning commission   and it titled as "Support to ICT Task Force Programme". With the directives authority of National Task force, this project is implemented by the planning commission. (Report of SICT project 2008.)

In November 2002 the project was approved by The Executive Committee on National Economic Council (ECNEC) with an estimated cost of Tk. 8316.20 Lac (9,695,406.81 EUR). According to the project director SASM Taifur SICT project works as an umbrella for e-governance initiatives in Bangladesh. SICT project works with different ministries and divisions.

The main mission of Support to ICT Task Force to ensure information access to every citizen by using all types of online ICT enabled services and e-governance. The objectives of SICT project are to create a favorable atmosphere for the effective development of ICT sector to take efficient and effective decision making. Development, expansion and implementation of ICT related program. Introduce e-

governance to use Information and communication technology (ICT) in a planned way for making the government more efficient. Undertake different pilot projects and programme to reinforce the stakeholder to participate in the ICT sector. Monitor the activities of government and non government agencies to implement the decision that taken by the ICT task force. (Ibid.)

5.3.1. Information and communication status

To initiate e-government in Bangladesh the SICT project has been working for eight years (2002 to till present). SICT is bound to promote ICT in all government ministries, divisions and other offices. In 2008 a survey report was made under SICT project to examine the government information and communication status. The status of information and communication in Bangladesh ministry, division and other office shows on Table 3.

Table 3. The status of information and communication in Bangladesh ministry, division and other offices (Report of SICT project 2008).

Name of the Government Organization	Network connectivity (In percentage %)	Internet connectivity (In percentage %)	Websites (In percentage %)
Ministry and divisions	LAN connection 73.2 % PC connected with LAN 80.8% Server 57.1%	Internet connection 96% PC connected with internet 65% Modem 51.8%	100%
Department , corporations and commissions	LAN connection 14.1 % PC connected with LAN 70.6% Server 7.6%	Internet connection 37% PC connected with internet 44% Modem 38.7%	72.1%
Academic institutions	LAN connection 31.3% PC connected with LAN 93.7% Server 25.0 %	Internet connection 48% PC connected with internet 40% Modem 53.1%	59.4%

In the table 3 it is found that the position of ministries and divisions is much better position than department, corporations & commissions and academic institutions. In this report it is mentioned that one of the objective of the SICT project is to raise awareness of all government offices for use of ICT. SICT project has developed websites for good number of ministries/corporations/offices for promoting e-government.

5.3.2. SICT (Support to ICT Task Force Programme) human resource

To implement government ICT activities the government offices need human resource Human resource can operate e-government smoothly. In Bangladesh public sector ICT

work is done by either professional IT expert or temporary IT professional who hired for a definite time or for a single project work.

According to the SICT survey report 2008 in the ICT arena, human resource is divided into two major categories respectively ICT professional and computer operators. In this survey in the ICT sector various categories of human resources found for example, there is only one computer operator and professionals like programmer, network administrator, web developer, database expert, web administrator, system analyst and computer trainer are available in ICT sector under Bangladesh government .(Report of SICT project 2008.)

The SICT survey report 2008 shows the percentage of availability of human resource in different government organization like ministry and division; department, corporation and commission; and academic institutions. The data of availability human resource is like that in the ministry and division 55.4% professionals and 42.9% operators are found. In department, corporation and commission 8.75% professionals and 30.3% operators are available. In the academic institutions 74.9% and 42.2% operators are presented. It is found that 30% of the offices of Departments, Corporations and Commissions have at least one computer operator, but the rate of ICT professionals is very low. No web administrator or computer trainer is found in the Ministries and Divisions, but a huge amount of computer trainers are found in the Academic Institutions. According to the survey report it is also found that among the total number of human resources, 73% computer operators and the remaining 27% ICT professionals. (Report of SICT project 2008.)

On the other hand, I want to show some data about the normal officials and employees who are not appointed as IT expert or computer operator. They are the officials and employees who did the various form of work of the government. But it is important to show the data of the government official and employees because these data use as an indicator in the e-Government readiness, for example the number of PC user is an important indicator for e-Government readiness. The SICT survey report 2008 found that the percentage of PC users with respect to the total number of officers and

employees are as low as 43% and 31% respectively. In table 4 the data of PC users and email users are shown in case of different government organization. (Report of SICT project 2008.)

Table 4. The data of PC users and email users are shown in case of different government organization (Report of SICT project 2008).

Name of the government organization	PC user (In percentage %)		E mail user (Total user %)
	Officials	Employees	
Ministry and divisions	59.3%	56.6%	46.6%
Department , corporations and commissions	36.0%	20.1%	22.2%
Academic institutions	34.3%	32.2%	41.8%

5.3.3. Findings and conclusion of SICT project

The SICT (Support to ICT Task Force Program) has started its journey in 2002. Many sub- projects completed successfully, some are ongoing and some are in procurement stage. Mainly 36 subprojects work under SICT project. In appendix 1 I will show the present status of the 36 sub projects of SICT (Support to ICT Task Force Program). Among the 36 sub projects of SICT (Support to ICT Task Force Program) 18 projects were completed successfully, 10 projects are on going and 8 projects are in the procurement stage. This is the present situation of SICT project under planning ministry. (Report of SICT project 2008.)

SICT project has faced various problems in implementing its function under different ministries such as proper technical support, mismanagement and lack of plan advisory body. Sometimes technical expertise are hired from outside organizations for short period contract wise, it one of the main obstacle of the programme. On the other hand, Bangladesh private sector organizations have much technical expertise than public

sector. So Bangladesh government should work collaborate way with private sector for proper implementation of e-governance in Bangladesh. (SICT 2008.)

5.4. Challenges of e-governance in Bangladesh

As a developing country Bangladesh has to face various challenges to implement the blessing of ICT in its different sector. Most of the developed countries already have achieved the blessing of ICT, as well as some developing countries such as India. These countries are efficiently handling the challenges of implementing e-governance.

As Bangladesh is in the early stage in implementing e-governance, so the government officials and citizen both have to face numerous challenges to get the facilities of e-governance. In my thesis I mainly concern with government service efficiency and effectiveness where government officials and citizen are main stakeholders. So Bangladesh government has to face two challenges these are internal challenges within government arena and external challenges from citizen side.

Internal challenges within government arena:

 Insufficient infrastructure of ICT within government is a big challenge for Bangladesh government. Still the government officials of Bangladesh public service mostly doing their work in manual way. Ministries still are not totally equipped with ICT facilities. In chapter four of my thesis I have already mentioned the rate of personal computer (PC) user and internet user in ministries of Bangladesh. So the internal network does not work properly through ICT facilities. (Taifur 2006.)

Most computers placed in the high level official desk that is another challenge for government official. They have to face limited access of computers. Most of the computers placed in the high officials' desk even though junior officers have much eager to use the ICT facilities. (Ibid.)

ICT facilities do not get warm reception from government officials. Human beings are habituated to work in a familiar environment. So the government officials of Bangladesh don't want to change the familiar working environment by introducing new technology like computer. Another reason behind ignoring ICT facilities by government official of Bangladesh is that they are afraid if computer will take their place and they would lose their job. (Ibid.)

Lack of training program for government officials is another challenge for implementing e-governance. Bangladesh government officials are not well trained in information communication and technology (ICT). As some e-government projects recruit some information technology (IT) specialist for certain period, but the rest of the officials are not efficient in operating in daily computer database works and internet browsing. So it is major obstacle for internal networking within government officials. (Alam & Ahmed 2008.)

Lack of maintenance of computers is another problem. If a personal computer or any ICT goods like printer, scan machine, internet connectivity in government office does not work then it gets much time to repair it. A huge formal procedure makes computers unused for days after days. (Taifur 2006).

Lack of Bangla standardization is another challenge because still there is no standardization of Bangla in the electronic format. Most of the government electronic documents are in English format. So, for ordinary government employees it is a big challenge when they ordered to use information and communication device (ICT). (Alam & Ahmed 2008.)

External challenges from citizen side:

ICT infrastructure in Bangladesh is very poor. Information and communication technology (ICT) infrastructure is not in good condition in Bangladesh. The submarine cable connectivity had faced several political barriers before when there was a proposal

to connect it in a free of charge. But later submarine cable connected by costing a huge amount of money. Still some rural areas are not connected with internet. (Taifur 2006.)

The rate of ICT user is very insignificant in Bangladesh. This can be understood by estimates like internet hosts per 10,000 inhabitants 0.015 (estimated), internet users per 10,000 inhabitants 19.04 (estimated) and internet cafes/ tele centers per 10,000 0.19 (estimated) (Kundu 2009.) If the rate of internet connectivity is like this, then it is difficult to provide e-governance facilities to government. It is a very big challenge for both and citizen government.

Yet the concept of ICT is not much popular in Bangladesh. In Bangladesh most of the people still not connected with internet and also not familiar with the use of computer. So they don't feel interested about public service delivery through ICT. ICT use still limited within rich and elite people. (Taifur 2006.)

Lack of electricity supply is one of the major external challenges that Bangladesh government has to face when implementing e-governance. Daily Load Shedding is a common problem in Bangladesh. So it is a two step problem to get the facilities of e-governance or public service delivery through ICT. So if the supply of electricity is not sufficient, then how it is possible to provide ICT facilities to citizen. (Ibid.)

Internet connectivity cost is very high in Bangladesh. Internet broadband connection is only available on the capital city of Bangladesh and some major cities. According to Taifur "Most ISPs are dependent on VSAT transmission and the bandwidths being used varies from 64Kbps to 4Mbps. 60% ISPs are between 128Kbps and 1Mbps in this concern. This is far below then the requirement of current demand. Current situation of dial-up Internet connection is rather poor. Connection over 21Kbps to 31Kbps is the speed in home use." (Ibid.)

5.5. Lessons from neighboring countries

E-governance is a new concept for Bangladesh government. Still it was hard to implement e-government in various public offices. However, it should give more concentration on e-governance to get overall socio-economic development. That's why here in this part of the thesis I like to give two examples of e-governance project from India and Sri Lanka. These both countries are neighboring country of Bangladesh. So they have many similarities in culture and socio-economic pattern. Bangladesh can learn lessons from two successful e-governance project of India and in future can implement these types of project in Bangladesh.

5.5.1. Similarities and ICT situation in Sri Lanka, India and Bangladesh

Geographically India and Sri Lanka are neighboring country and India and Bangladesh are also neighboring country. There are so many similarities among these countries like social and cultural. Many similarities among these countries are given in table 5.

Table 5. Similarities among Sri Lanka, Bangladesh, India (CIA 2010 ; The Economist Intelligence Unit 2009).

Similarities	Sri Lanka	India	Bangladesh
Region/ geographical position	South Asia	South Asia	South Asia
Economic position	Developing	Developing	Developing
Government Type	Democratic	Federal republic /democratic	Parliamentary Democracy
State	Unitary	Federal	Unitary
Literacy rate	90.7%	61%	47.9%

As my core topic is e-governance so I will measure information and communication technology (ICT) situation among these three countries with statistical analysis. The statistical analysis of these three countries divides in to four parts which are based on recent publication of World Bank 2009 on e-government. These parts are Access to ICT, Usage, Quality, Applications. Table 6 will show the information and communication technology (ICT) situation among these three countries.

Table 6. ICT situation in Sri Lanka, India, and Bangladesh (World Bank 2009: 170,219,284).

ICT measurement indicators	Sri Lanka	India	Bangladesh
Access to ICT (per100 people)	Telephone lines →13.7 Internet subscribers →1.0 Personal computer →3.7	Telephone lines →3.5 Internet subscribers →1.2 Personal computer →3.3	Telephone lines →0.7 Internet subscribers →0.1 Personal computer →2.2
Usage (per100 people)	Internet user -3.9	Internet user -7.2	Internet user -0.3
Quality	Fixed broadband subscribers (% of total Internet subscriber) – 31.3 International Internet bandwidth (bits/second/person)-118	Fixed broadband subscribers (% of total Internet subscriber) – 23.2 International Internet bandwidth (bits/second/person)-32	Fixed broadband subscribers (% of total Internet subscriber) – 0.0 International Internet bandwidth (bits/second/person)-26
Applications	ICT expenditure (% of GDP)-6.0 E-government Web measure index – 0.39 Secure Internet servers (per 1 million people, Dec. 2008) - 3.2	ICT expenditure (% of GDP)-5.6 E-government Web measure index – 0.48 Secure Internet servers (per 1 million people, Dec. 2008) - 1.3	ICT expenditure (% of GDP)-8.0 E-government Web measure index – 0.35 Secure Internet servers (per 1 million people, Dec. 2008) -0.1

Now I will briefly discuss two success stories of India and Sri Lanka which Bangladesh government can adopt for its e-governance project.

5.5.2. E-seva project of India

India's position is higher than Bangladesh in the e-government index. Andrapradesh e-seva project is one of the pioneering and successful e-governance projects of India, which can be a good example for Bangladesh to follow. India is a neighboring country of Bangladesh and it is a big country with a Federal system of government whereas Bangladesh is a small country with a centralized government. The government structure of India is different from Bangladesh government because it is a   Federal state which has some provinces. India has 28 States and seven Union Territories. (Central Intelligence Agency 2010) India is a democratic country where central government is elected through the general election. Though India is the largest country in South Asia (One-third of size of the United States) so the government structure is much more big and complex. (Malik, Kennedy, Oberst & Robert 2008: 13). The central government structure of India found in appendix 3.

Indian bureaucracy is quite similar with Bangladeshi bureaucracy because India and Bangladesh both ruled under British colony for 200 years. That's why Indian bureaucratic structure is similar with British bureaucratic structure. But India is a big country so its civil services divide in three major categories such as All-India services, Central (Union) Services, State civil services. (Malik et al. 2008: 79.) Indian bureaucracy is also attached with certain concept like inefficiency, red tapisom, and dilemma in decision making. So Indian government also looking forward to changing its administrative deficiency by ICT (Information and Communication Technology)

Current status of E-Seva project: According to World Bank (2009) recent publication "In 2002, 45 E-Seva centers became operational in Hyderabad, the capital of Andhra Pradesh. These one stop service centers now deliver 135 services from central, state, and local governments and public utilities, and are used by 3.1 million people per month at 275 locations in 190 towns." (World Bank 2009.) The main objective behind E-Seva

project was "to take ICT to the doorsteps of the common man in the street." (Manohar 2005.) E-Seva one of the pioneering e-governance service in India and Andhra Pradesh was the first state which formulated and implemented e-governance project in India. The Government of Andhra Pradesh is more aware of the fact of digital divide and tries to reach to the rural & urban, rich & poor, literate and illiterate people to provide the benefit of ICT. Like the ordinary citizen get benefit from a variety of services through the Andhra Pradesh State Wide Area Network (APSWAN). (E-Seva website.) E-Seva offers a wide range of citizen-friendly services that will keep citizens the difficulty of running around various departments. The facilities are provided by the E-Seva center, are mentioned below in Table 7.

Table 7. E-Seva Services in Andhra Pradesh (Government of Andhra Pradesh 2010).

Payment of Utilities Bills : Electricity bills, Water bills, Telephone bills, Property Tax and Sales Tax etc.,	**Certificates**: Registration of birth and death and Issue of birth and death certificates	**Labour department** : License registration and license renewal.
Other Services at e-seva Centers: Sale of passport application forms and receipt of applications.	**Internet Services:** Internet-enabled electronic payments , Downloading of forms and Government Orders, Filling of applications on the web and receipt of complaints or requests in connection with citizen services	**Polices Services:** Payment of Inquest and payment for post mortem

Similar project of (e-seva) in Bangladesh rural areas: e-centre

Like India, Bangladesh also have started 'E –Centre' to provide more ICT (Information and Communication Technology) facilities to rural people. As Bangladesh is a developing country so most people live in the rural areas. The rural people are mostly farmer, small business owner, handicraft worker etc. The literacy rates of rural people were still very poor and their economic condition is not good. It is impossible for the rural people to have their own computer and getting online facilities. For some

information the rural people have to go very far. Now some areas the problem is solved by the nearest E –Centre, which provides all the facilities of ICT (Information and Communication Technology). (Digital Bangladesh 2010.)

In May 2007, the CeC (Community-based e- Centre) started as a pilot project under Democratic Government Thematic Trust Fund (DGTTF) in two unions named Madhainagar in Sirajganj district and Mushidhat at Setabganj upazila in Dinajpur district. Among 25,000 people of Madhainagar now getting all information about agriculture, education, health, business through Community-based e- Centre (CeC), which today is known as Union Information and Service Centre (UISC). The inhabitants of Madhainagar union have made tremendous change in their socio economic life through Union Information and Service Centre (UISC). This pilot project first stage ended in December 2009. Now Union Information and Service Centre (UISC) joined with Access to Information (A2I) Programme of Prime Minister office which has financial assistance from UNDP (United Nations Development Programme). (Digital Bangladesh 2010.)

India started its e-seva project in 1999. So now it's an established project and increasing the areas for more e-seva centers. But Bangladesh is in initial stage to establish Union Information and Service Centre (UISC) in some Union Parishad (local council).

5.5.3. E-governance experience from Sri Lanka

Among the South Asian country Sri Lanka got the highest success in case of e-governance. Sri Lanka is a neighboring country of Bangladesh so cultural, social and government structure is quite similar. Before describing e-governance project I would like to give a brief description about Sri Lankan government structure.

From 1947 to 1972 Sri Lankan political system modeled like the British Westminster form of government, after that a similar unicameral government followed from 1972 to 1978 in Sri Lanka. Then, in 1978 a French system of government applied. But the French government did not get much popularity so Sri Lankan people again wants to back to the Westminster form of government with major changes which reflect Sri Lankan society and

culture. But after that no changes have been made regarding this issue. (Malik et al. 2008: 319.)

Sri Lanka is a unitary state. The major government decisions are made in Colombo and the decisions are followed by the rural areas of Sri Lanka. The national government has power to use the revenues which are generated by the government. In colonial time the country is divided into nine provinces. But now districts become the main unit of local administration. (Malik et al. 2008: 330).

The Sri Lankan administrative system is structured like the British system of administration. The Sri Lankan public service is hierarchical that is quite similar to Indian Administrative system. Like other developing countries bureaucracy, Sri Lankan bureaucracy also criticized several times for being partisan, lethargic, and inefficient to meet the public needs. The Structure of Sri –Lankan Government found in appendix 4. (Malik et al. 2008: 329.)

"E-Sri Lanka an ICT Development Roadmap" is a recognized initiative for implementing e-governance in Sri Lanka. Actually e-Sri Lanka came into existence in November 2002 when e-government was in critical situation in Sri Lanka and need some significant step to move it forward. For this reason, e-Sri Lanka came as an institutional framework for implementing e-governance. The main aim of e-Sri Lanka Roadmap is to achieve social and economic development in various sectors by using information and communication technology. E-Sri Lanka not only gives emphasis on the use of information and communication technology (ICT) in various sectors, but also use and communication technology (ICT) as an advance tool to improve public service. (Rainford 2002.)

Objective of e-Sri Lanka

E– Sri Lanka mainly designed in a way which will capable to integrate the national ICT strategy and Sri Lanka's overall development strategy. (Hanna 2008: 66) The main objectives of e-Sri Lanka are to create a citizen-centered and business-friendly government. E-Sri Lanka helps to create an affordable information structure for all. For this e-Sri Lanka increase the use of information and communication technology (ICT) in

an affordable way in multiple sectors especially in the rural areas to improve the life of the rural poor, disadvantaged groups, women, and youth. It tries to develop leadership and skills in information and communication technology (ICT) and increased the amount of information and communication technology (ICT) and IT enabled services use in industry sector. Create a competitive environment in private and public sector like industry and service delivery. Bridging the digital divide and e- Sri Lanka help to increase Sri Lanka's socio-economic growth and as well as work for poverty reduction strategy. (Rainford 2002;

Hanna 2006: 63.)

Six components of e-Sri Lanka

E– Sri Lanka consists of the following six component programs

1. Information and communication technology (ICT) policy, leadership, and institutional development: strengthening an environment for knowledge economy and extend local institutional capacity for implementing information and communication technology (ICT) program. (Hanna 2006: 48.)

2. Information and communication technology (ICT) human resource development and industry promotion: to build Information and communication technology (ICT) human resource for dynamic ICT sector. Donor institution, private sector and local investment need for Information and communication technology (ICT) sector and also distributed Information and communication technology (ICT) facilities between small and medium-size enterprises. (Hanna 2006: 48.)

3. Regional telecommunications network development: to extend the information infrastructure to serve poor and rural areas to get easily available public services (Hanna 2006: 48).

4. Tele-center development: To develop Information and communication technology (ICT) skills and literacy among citizen for proper implementation of e– Sri Lanka (Hanna 2006: 49).

5. Re-engineering government: to distribute quick, efficient, and transparent government services to all citizens and private sectors (Hanna 2006: 49).

6. E-society: to use Information and communication technology (ICT) for socio-economic development and increase public involvement, toward promoting mutual understanding, and equitable access to knowledge (Hanna 2006: 49).

These six components are very important for e-Sri Lanka. These six components found in figure 11.
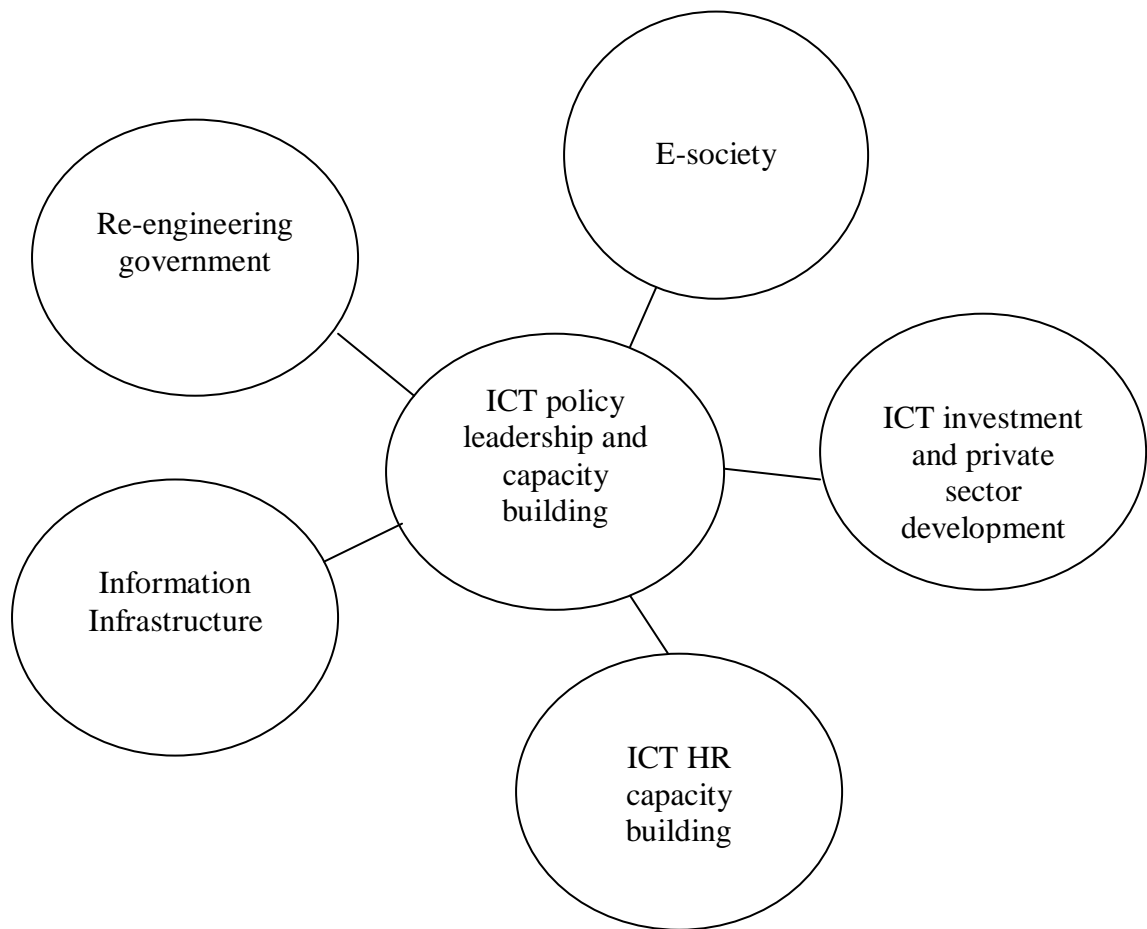
Figure 11. Six components of e-Sri Lanka (Rainford 2002).

5.6. Need national strategy

Government as well citizen contribution can make possible the successful journey of e-governance in Bangladesh. To implement e-governance properly government should consider the some strategies.

Integration with development

Ministry of Finance and Ministry of Planning can play a vital role to integrate e-governance with the countries development process. Lots of investments are needed for e-governance implementation for example ICT based institution which requires harmonization with national development policy and goal. This integration can only be possible if policy makers take decision by integrating national development process with e-governance. (World Bank 2009.)

Coordination across e-governance components

E-governance basically concentrates in client –centered public service. For this government have to coordinate with ICT based transformation. Government may be spanning their ministries and agencies due to implement client-centered public service. Building common enterprise architecture with technological imperatives government should maintain some things like need to empower agencies, ministries should articulate their service priorities, implement their ICT-enabled service transformations, integrate ICT with their sector strategies. (World Bank 2009.)

Degree of centralization

E-governance is the way that can bring government service more close to citizen. So the centralize government concept will have changed after adopting e-governance transformation and the government service will become more decentralize. Both bottom-up innovation and top-down reforms necessary for e-government implementation. To get actual benefit from e-governance local e-government initiative should also introduce. (World Bank 2009.)

Fit with institutional architecture and capabilities

Sometime it takes time to adjust with a new setting of arrangement. So many problems will occur when e-governance will have implemented nationwide. So some new

strategies should take which need to fit in e-governance arrangement in national institutional architecture and capabilities (World Bank 2009.) These are e-governance can change country's political culture and institutional structures so policy maker should aware of it and take proper steps to resist any kind of mismanagement. Government, private sector, academia and civil society should work together to implement e-governance nationwide. Ministry of Planning and Ministry of Science and Information & Communication Technology should arrange more seminar, training program and fair to fit e-governance arrangement in national institutional architecture and capabilities. (Ibid.)

Synergies between e-government and the rest of e-development

Need appropriate institutional leadership and networks to synergies among e-government, telecommunications infrastructure, ICT literacy and human resources. Make ICT as a core sector or either ICT as an enabler or productivity driver for all sectors of the national economy. (World Bank 2009.)

5.7. Summary

In this chapter I discuss e-governance situation in Bangladesh. After that, I have described elaborately about a project of Bangladesh government under Ministry of planning namely SICT (Support to ICT Task Force Program). This project is the pioneering step towards e-governance in Bangladesh. Then, give challenges of e-governance of Bangladesh. Some national strategies suggested for the betterment of e-governance situation in Bangladesh. This thesis mainly concentrated on two e-governance project of India and Sri Lanka. I have also tried to explain similarities and statistical difference in Sri Lanka, India and Bangladesh. Later two projects on e-governance of India and Sri-Lanka have been discussed details. Lastly, I want to show the digital index of these three countries Sri-Lanka, India and Bangladesh through table 8.

Table 8.Digital access index of Sri Lanka, India and Bangladesh (Hanna 2006: 45).

Country	Global rank	Access level	Score
Korea, Rep. of	4	High	0,82
Sri Lanka	106	Medium	0,38
India	119	Medium	0,32
Pakistan	129	Low	0,24
Bangladesh	138	Low	0,18

Here in table 8 we can see in digital access index Sri Lanka lead among the other two south Asian countries India and Bangladesh.

6. CONCLUSION

In this section I will explain some major findings. This is the last chapter of this paper so after all analysis and discussion I like to structure a model which Bangladesh government can implement for e-governance project.

6.1. Main Findings

1. Bangladesh got some improvement in Information and communication technology (ICT) sector, but that is very insignificant for implementing successful e-governance project. E-governance now becomes the main requirement to get effective, efficient and transparent public administration as well as with socio-economic growth.

2. Bangladesh is not yet organized to adopt the advanced e-governance services, which some developed countries applied and got success. However, Bangladesh can apply the e-governance strategies which some developing countries applied, especially from other neighboring and south Asian countries like India and Sri Lanka. In my thesis I discussed two successful e-governance projects of India and Sri Lanka which can be role model for Bangladesh government.

3. Bangladesh is a unitary state; it is easier to apply big projects in unitary state than federal state. I already describe about the government structure of Bangladesh where it is found that Bangladesh government structure is not much complex and big project like e-governance can be easily implement there to get transparent and effective administration. The main barrier to implement e-governance will be lack of coordination between central government and local government administration. Bangladesh government should careful about this deficiency under administration to ready for some basic building blocks. Collaboration is needed to implement successful e-governance project. So government should work in a cooperative way to get the success and this way they can get a reinvent government.

4. Here, in this thesis I described about some steps for successful e-governance. Actually, these steps should be followed by the planner and implementer of e-

governance project. I also described some barriers of e-governance which should be avoided by the government when implementing e-governance project.

5. Bangladesh government gives much concentration on e-government rather than e-governance. The Support to ICT task force program (SICT) is the first formal initiative to information and communication technology (ICT) for the betterment of government service. This project implement by ministry of planning and work on both e-government and e-governance projects. But, e-governance project should implement by prime minister close observations.

6.2. The collaboration model

To achieve a big goal socially we need collaboration. That's why to achieve a goal nationally government need collaboration. E-governance is a wide range program for any government so to implement this project is not an easy task. Government need collaboration model to implement e-governance. Bangladesh is a developing country and there are various barriers stand in front of it to implement e-governance project properly. Here, I will propose a model that is inspired from the e-Sri Lanka model of Sri Lanka. The structural design of e-Sri Lanka is arguably unique. So, other countries governments can adopt it particularly in developing countries.

The main goal of this model will be social and economic development through the proper use of information and communication technology (ICT). To achieve long-term socio-economic development of a country information and communication technology (ICT) should use simultaneously in various sector. That's why government need to apply multi-stakeholder project to run e-governance program properly which can be able to give a long time impact. Multi-stakeholders in the e-governance program will be the Donor agencies like The World Bank or IMF (International Monetary fund), private sector, civil society and citizen. Before explaining the collaboration model stages, I would like to show the collaboration model in figure 13.

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┌─────────────────────────────────┐
│ Stage 5: Use ICT as a Key Lever for │
│ Economic and Social Development   │
└─────────────────────────────────┘
           ↑
┌─────────────────────────────────┐
│ Stage 4: E-government: Delivering │
│ Citizen Services                  │
└─────────────────────────────────┘
           ↑
┌─────────────────────────────────┐
│ Stage 3: Develop ICT Human        │
│ Resources                         │
│                                   │
│ World class IT professionals      │
└─────────────────────────────────┘
           ↑
┌─────────────────────────────────┐
│ Stage 2:Build National Information │
│ Infrastructure                    │
└─────────────────────────────────┘
           ↑
┌─────────────────────────────────┐
│ Stage 1:  Build Implementation Capacity │
│ • Create ICT agency               │
│ • Appoint Implementation team     │
│ • Select Implementation partners  │
└─────────────────────────────────┘
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┌─────────────────────────┐
│ Stakeholders            │
│ • Private-Public        │
│   Partnerships          │
│ • Donor Agencies        │
│ • Civil society and     │
│   Citizen               │
└─────────────────────────┘
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Figure 12. The collaboration model (Rainford 2002).

There are five stages of this collaboration model. These stages are

- Stage 1: Build Implementation Capacity. This stage has three sub-stage this are
  - Create ICT agency
  - Appoint Implementation team
  - Select Implementation partners.
- Stage 2: Build National Information Infrastructure.
- Stage 3: Develop ICT Human Resources with world class IT professionals.
- Stage 4: E-government aim to delivering efficient citizen service.

- Stage 5: Use information and communication Technology (ICT) as a Key Lever for Economic and Social Development.

  (Rainford 2002).

Now I will explain stages of collaboration model.

Stage 1: Build Implementation Capacity: This is the core stage of collaboration model. E-governance is a very challenging project for government. For this reason, the first stage establish with three sub-stages. These are

- Create Information and communication technology (ICT) agency: To perform various government activities with information and communication technology (ICT), government need an Information and communication technology (ICT) agency.

- Appoint Implementation team: To implement e-governance program nationally government will need a team which monitoring as well as implementing e-governance activities.

- Select Implementation partners: It should be arranged in way that representative from every sector can attend in the implementation process. For example, minimum one representative from donor agency, minimum one representative from private sector and several representative from government sector.

Stage 2: Build National Information Infrastructure: This is a pre-requisite for the collaboration model because to implement information and communication technology (ICT) government should set up this national information infrastructure.

Stage 3: Develop ICT Human Resources with world class IT professionals: Bangladesh is a developing country. There is a lack of Information Technicians (IT) professional. But to apply information and communication technology government should hire from Information Technicians (IT) from developed countries and invest more money to build own Information Technicians (IT).

Stage 4: E-government aim to delivering efficient citizen service: Citizen will be the key beneficiaries of the collaboration model. The main reason behind to apply

information and communication technology (ICT) in government activities is that it can give efficient and time-consuming services. It gives national service to all over the country.

Stage 5: Use information and communication Technology (ICT) as a Key Lever for Economic and Social Development: Bangladesh is a part of the globalized world. Other develops and developing countries enjoys the benefits of information and communication technology (ICT) and already achieved the socio-economic development nationally. So the government of Bangladesh should apply information and communication technology (ICT) in its different sector to find improvement in social and economic sector.

Two important aspect of collaboration model is public-private partnership (technical support), donor agencies funding and civil society or citizen feedback. These aspects are very important for every stage of the collaboration model. E-governance is a huge program and it is impossible for the government to implement it nationally alone. So public- private partnership (Technical support), donor agencies funding and civil society or citizen feedback is a part of this model. The benefit of public-private partnership is that it brings transparency and efficiency in the e-governance program. Bangladesh is a developing country it can't alone involve information and communication technology (ICT) in government activities for resource and technological barriers. That's why donor agencies involvement is very necessary from the financial perspective. It is also very important to get the civil society or citizen feedback because in this way government can bring change in existing e-governance model and in the future it will be fruitful both for government and citizen. The collaboration among these sectors (Government, donor agencies, private sector and civil society or citizen) is very important for e-governance implementation.

The synergies and inter-dependencies within donor agencies, private sector and government are evident. Government and citizens need to be connected to be able to interact with one another. The most important thing is that citizens should be able to take advantage of information and communication technology (ICT). Create awareness

between citizen and capacity building at the community level is of vital importance. (Rainford 2002.)

6.3. Further research

Bangladesh is a densely populated country of the world. Bangladesh is the 7th populated country of the world. But Bangladesh has an area of only 144 000 square kilometers, which is almost the same as like Florida of Unites states. So to give this huge population efficient service is not an easy task for the government because the government employees are not enough for this vast population. For this reason, government should find a solution to provide efficient service through information and communication technology (ICT). If government starts to provide e-government services then citizen can be done most of their work through internet which will be a great relief for both government employees and citizen.

As Bangladesh public service is full with deficiency and corruption so to reduce these problems Bangladesh government embarking towards e-governance to make public service more fair and accountable. In this connection, it has already started the project called SICT (Support to ICT Task Force Program Project) under Ministry of Planning though yet it not get the success as it promised, but it is the pioneering step to e-governance movement for Bangladesh government. So, government should concentrate only on citizen-centric projects not techno-centric projects. Government can introduce citizen-centric and governance-centric strategies in e-governance projects. In this paper, I suggested a collaboration model to implement e-governance in Bangladesh. This model is originated from e-Sri Lanka model. As a developing country, Bangladesh had to face two major barriers which are resources and technological barrier. These barriers can be solved if Bangladesh collaborated with donor agencies and private sector. Donor agencies can mitigate the resource barrier problem and private sector can help to establish information infrastructure which can also alleviate technological barrier.

Bangladesh can also follow the e-governance experience of other countries. In this thesis, I have described two successful projects of Sri Lanka and India. India and Sri Lanka are also south Asian countries and the culture and socio-economic background of these countries are quite similar to Bangladesh. So Bangladesh can easily adopt the strategies of India and Sri Lankan e-governance model to implement information and communication technology (ICT) efficiently.

Another main thing is that follow up the feedback of e-governance projects. Representative from different sector (International organization, donor agencies) can help in this matter. Government should also arrange different seminars and program to get feedback from the citizen and also take suggestion from them.

E-governance is the way to achieve effective, efficient, transparent, accountable government service for citizen. Government cannot follow one strategy for a long time because day by day the demands of the citizen increase. International organizations and various countries try hard to get the best way to deliver citizen service. For this reason, after bureaucracy New Public Management (NPM) came and then e-government as an effective way to run government activities. After e-government, e-governance came as a way to make government transparent, efficient and effective, which is a combined step where government, NGO (non-governmental organization), donor agencies, private sector, civil society even citizen can work in a collaborated way. So e-governance need further research for better government service. Developing countries should apply new projects like e-governance for better citizen service.

E-governance will help to reduce the gap between citizen and government. It also diminishes the gap between local government and central government. In e-governance system government always accountable to citizen as they give the feedback of government activities), donor agencies as they give fund to it, private sector as their interest also involve in it because it gives fund and technical support to e-governance project). E-governance is a project which involves many stakeholders like citizen or civil society, private sector and donor agencies etc. which is a very important for a successful project. E-governance project get much benefit that's why new concept of

iGov (integrated government) come in to existence. So it needs much research to get more collaborated project like e-governance.

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APPENDICES

Appendix 1. Sub projects under SICT (Support to ICT Task Force Program) (SICT website).

No.	Sub project of SICT (Support to ICT Task Force Program)	Status
1	E-governance application at Sher-e-Bangla Nagar Telephone Exchange under Ministry of Post and Telecommunication	Completed
2	Online Public Exams Results and Education statistics under Ministry of Education	Completed
3	E – governance application and online daily market price at the department of agriculture marketing under ministry of agriculture	Completed
4	Interactive website of Ministry of Expatriate welfare and overseas employment	Completed
5	Interactive website for ministry of labor and employment	Completed
6	Hardware and connectivity of Bangladesh tea board	Completed
7	Interactive website of the ministry of land	Completed
8	Land record archiving and automation of record room at Manikganj DC's office under the ministry of land	Completed
9	Process automation at board of investment	Completed
10	Hardware , Software and Connectivity at special security force (SSF)	Completed
11	Interactive website for cabinet division	Ongoing
12	The automation of result and other internal processing at public service commission	Ongoing
13	Office automation and automated finger-print identification system for Rapid Action Battalion (RAB)	Completed
14	Backbone Connectivity of Armed Forces Division Computer Network	On Going

	with PM Office and Allied Support.	
15	Process Automation at Bangladesh Livestock Research Institute	Completed
16	e-Police	On Going
17	IT system development and interactive website of River Research Institute (RRI), Faridpur.	Completed
18	Process Automation of Fisheries Research Institute, Mymensingh	Procurement stage
19	Interactive Website of Ministry of Liberation War Affairs.	procurement stage
20	Interactive Website of Ministry of Civil Aviation and Tourism	Completed
21	Interactive Website of Ministry of Chittagong Hill Tracts Affairs.	Completed
22	Interactive Website of Rural Development and Co-operatives Division	Procurement stage
23	Interactive Website of Ministry of Industries	Procurement stage
24	Process Automation and Network Connectivity for Jail Department, Eleven Central Jails	On Going
25	Development of the Interactive website and eGovernance application of Dhaka DC Office	On Going
26	Development of the Interactive website and eGovernance application of Jamalpur DC Office	On Going
27	Development of the Interactive website and eGovernance application of Sherpur DC Office	On Going
28	Development of the Interactive website and eGovernance application	On Going

	of Comilla DC Office	
29	Interactive website for Bangladesh Karmachari Kallyan Board	Procureme nt Stage
30	BIMAN Corporation Training Centre	Completed
31	Interactive Website and Process Automation at Supreme Court	Procureme nt Stage
32	Hardware, Software and Connectivity at President's Guard Regiment (PGR).	Completed
33	LAN set-up and connectivity among Ministries based at Bangladesh Secretariat	On Going
34	Setting up GIS Facilities in Agriculture Division of the Planning Commission and e-Government Survey	Completed
35	President's Office Automation	Procureme nt stage
36	e-governance at NSI	Procureme nt stage

Appendix 2. Structure of Local government (Rahman 2008).

Chart A : Structure of Local Government

SPECIAL AFFAIRS DIVISION		MINISTRY OF LGRD & COOPERATIVE	
HILL DISTRICTS LOCAL GOVERNMENT PARISHAD 3		RURAL URBAN	

ZILLA PARISHAD 61	CITY CORPORATION 4
UNION PARISHAD 4449	POURASHAVA 1006

POURASHAVA	1006
CLASS A	31
CLASS B	29
CLASS C	46
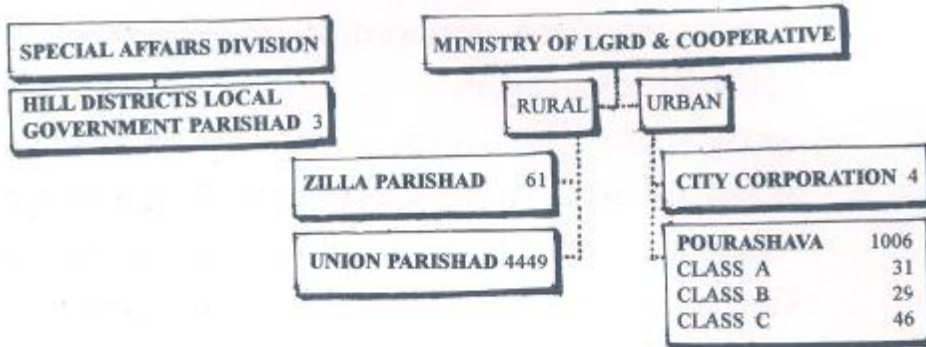
CHART B : TYPES OF LOCAL GOVERNMENT BODIES AND COMPOSITION

I   CITY CORPORATION · · · · · · · · · · MAYOR
        WARD   WARD COMMISSIONERS

II POURASHAVA · · · · · · · · · · · CHAIRMAN
        WARD · · · · · · · · · · · · WARD COMMISSIONERS

III ZILLA PARISHAD · · · · · · · · · · CHAIRMAN
                                       MEMBERS

IV UNION PARISHAD · · · · · · · · · · CHAIRMAN
        WARD · · · · · · · · · · · · · MEMBERS
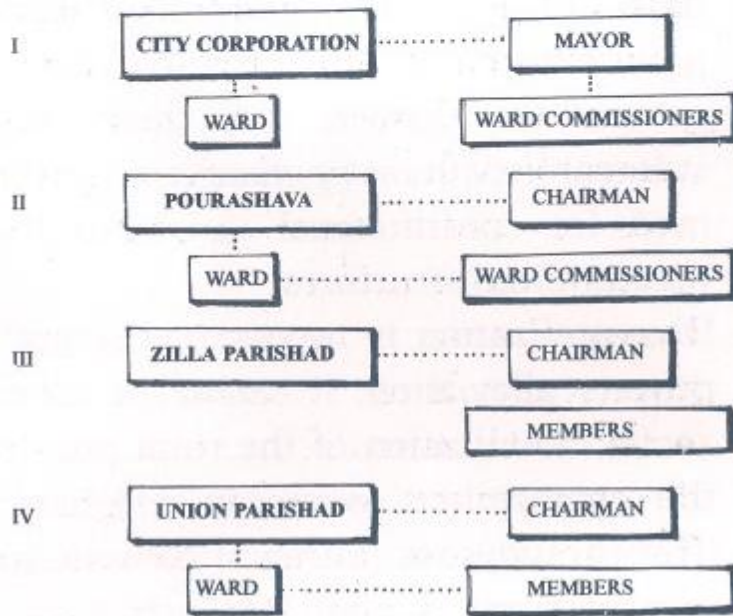
Appendix 3. Organization of the central government of India (Malik et al. 2008: 49).

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                  ┌─────────────────┐        ┌──────────────────┐
                  │   President     │────────│  Supreme Court   │
                  │ (Chief of State)│        │                  │
                  └─────────────────┘        └──────────────────┘
                           │
                  ┌─────────────────┐
                  │ Vice President  │
                  └─────────────────┘
                           │
                  ┌─────────────────┐
                  │ Prime Minister  │
                  │(Head of Government
                  │ and the Council of
                  │   Ministries)   │
                  └─────────────────┘
                           │
                  ┌─────────────────┐
                  │   Parliament    │
                  └─────────────────┘
                           │
              ┌────────────┴────────────┐
   ┌────────────────────┐      ┌────────────────────┐
   │ House of the People │      │  Council of States │
   │   (Lok  Sabha )     │      │   (Rajya  Sabha )   │
   └────────────────────┘      └────────────────────┘
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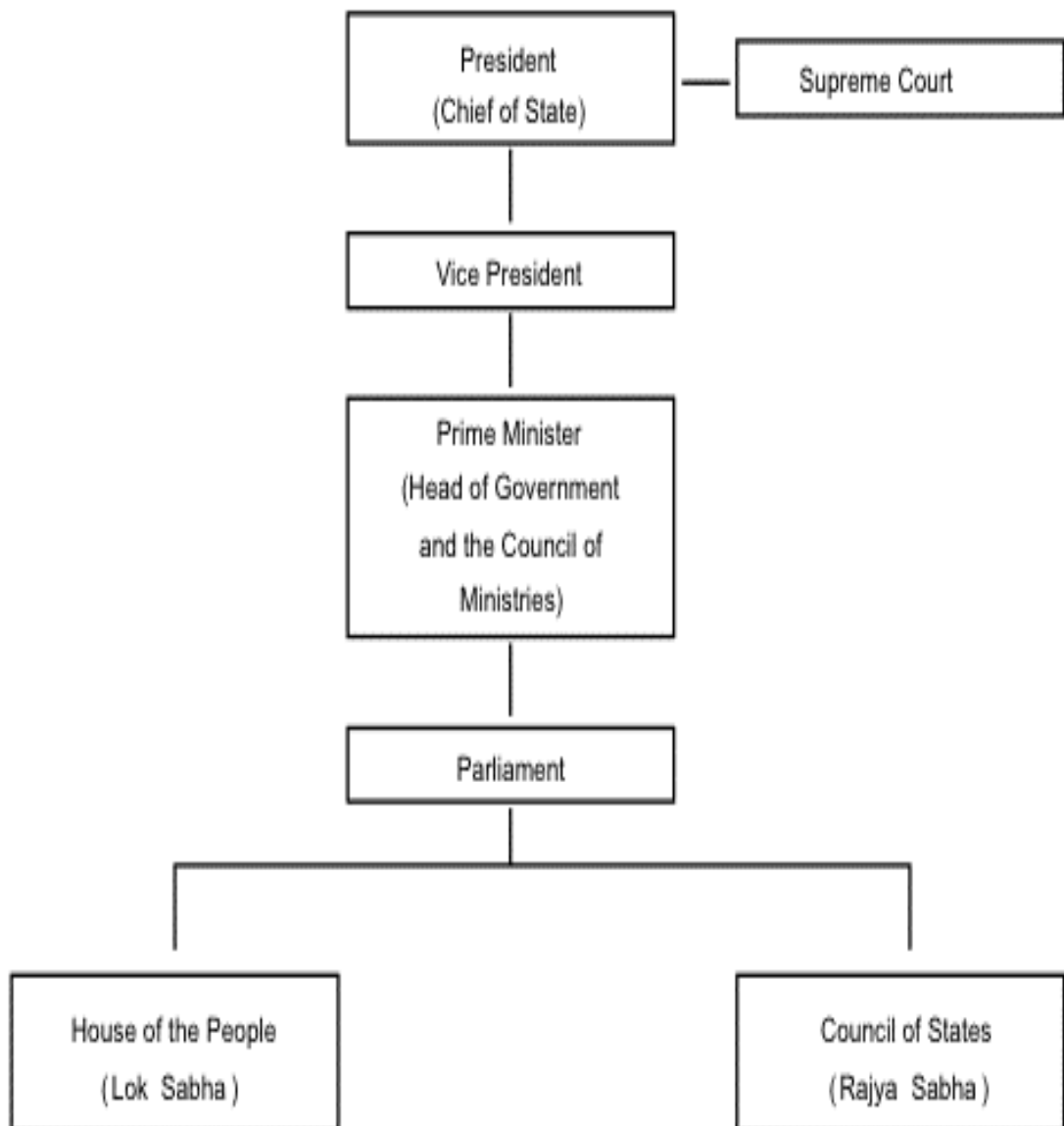
Appendix 4. Structure of Sri –Lankan Government (Malik et al. 2008: 322).