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**Challenges in Implementing E-Governance in Addis Ababa City
Land Administration: The Case of Nefas Silk Lafto Sub-city**

Fikadu Wamisho

**A Thesis Submitted to
The Department of Regional and Local Development Studies**

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**Presented in Partial Fulfillment of the Requirements for the Degree of
Master of Arts (Urban Development and Management)**

**Addis Ababa University
Addis Ababa, Ethiopia
June 2012**

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School of Graduate Studies

This is to certify that the thesis prepared by **Fikadu Wamisho**, entitled: **Challenges in Implementing E-Governance in Addis Ababa City land Administration: The Case of Nefas Silk Lafto Sub-city** and submitted in partial fulfillment of the requirements for the degree of Degree of Master of Art (Urban development and Management) complies with the regulation of the University and meets the accepted standard with respect to originality and quality.



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Abstract

*Challenges in implementing e-governance in Addis Ababa City Land Administration:
The case of Nefas Silk Lafto Sub-city*

Fikadu Wamisho

Addis Ababa University, 2012



E-governance is an emerging technique that is capable of connecting people with the political process at various levels. The integration of data currently held in different departments in dissimilar formats and often with diverse reference systems is complex, either technological or institutionally in the Sub-city. The awareness of the existence of electronic information is also limited and there is less cross-linkage between the information systems. Thus the transformation in using the e-governance system is not clearly evident in the sub-city.

The objectives of this research are to identify factors that are affecting the implementation of e-governance system in land administration and analyze solutions that are put in place to the difficulties of the system. The study employed quantitative and qualitative approaches and used questionnaires, key informants interview and focus group discussions for data collection.

The results of the research demonstrated that human infrastructure, technological infrastructure, unclear and up-dated data and lack of financial resources are the major factors that are affect the implementation of e-governance system in the sub-city. Moreover, misunderstanding of e-governance by functionaries, problems of

professionals' politics and level of bandwidth are the main challenges identified by the stakeholders in implementing e-governance system in land administration. However, development of human resources, stakeholders' involvement, awareness and expansion of ICT infrastructure are essential in implementing e-governance system. The study concludes that e-governance is not an easy system rather it is a complex process requiring many things to be considered for its successful implementation. The research recommend that awareness creation, training and education, developing sectoral policy, develop stakeholders co-ordinations, and enhance internal organization capacity are essentials for successful e-governance implementation in land administration.

Key words: E-governance, land administration

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List of Acronyms

AACLA	Addis Ababa City Land Administration
AAICTDA	Addis Ababa Information Communication Technology Development Agency
AAILDIP	Addis Ababa City Integrated Land Development Information Technology Project
BA/BSC	Bachelor of Art/ Bachelor of Science
BPCDMO	Beautification, Park and Cemetery Development and Management Office
BSC	Bachelor of Science
COSTECH	Tanzanian Commission of Science and Technology
CSC	Computer Science
CSOs	Civil Society Organizations
DCPC	Design and Construction Permit
E-	Electronic-
ECA	Economic Commission for Africa
EEPC	Ethiopian Electric and Power Corporation
ETC	Ethiopian Telecommunication Corporation
G+3	Ground plus Three
GB	Giga Byte
GDP	Gross Domestic Product
GIS	Geographic Information System
HRD	Human Resource Development
ICT	Information Communication Technology

List of Acronyms

INSA	Information Network Security Agency
IT	Information Technology
LDAO	Land Development Administration Office
LDBURC	Land Development Bank and Urban Renewal Center
LDOAC	Land Development and Ownership Administration Center
MCT	Ministry of Communication and Technology
MOE	Ministry of Education
n.d	Not dated
NSLSC	Nefas Silk Lafto Sub-City
NSLSCA	Nefas Silk Lafto Sub-city Administration
SMART	Simple, Moral, Accountable and Transparent
UNECE	United Nation Economic Commission for Europe
UNESCO	United Nation Educational Scientific and Cultural Organizations
UPIPI	Urban Plan and Information Preparation Institute

Definition of Terms

The listed conceptual definitions are specified concerning the key ideas and conditions that are in use in the thesis and it is in the direction of these justifications that the thesis attempted to analyze them.

Information communication technology (ICT): A term that encompasses all forms of computing, information technology, and Internet.

E-governance: Using information communication technology for internal government operations.

ICT Infrastructure: The large-scale ICT system, service, and facilities of a country that is necessary to public service delivery.

Chapter One: Introduction to the Study

1.1. Background of the Study

We are living in the age of information technology. It is believed that there will not be an organization without an information communication technology of its own in the future. While recognizing the potential of information and communication technology (ICT) in transforming and redefining processes and systems of governance, the planning commission of India (2001) suggested that e-governance is the logical next step in the use of ICT in the system of governance in order to ensure wider participation and deeper involvements of citizens, institutions, civil society groups and the private sector in the decision making process of governance. 'E'-has now become an inseparable part of governance around the world. Without e-governance, world will be lagging behind and increasingly losses power (Rathee and Rishi, 2001: p. 451).

Throughout the world, governments, businesses and NGOs are working together to adopt e-governance (Islam and Ahmed, 2007: p. 31). The adoption of e-governance needs the involvement of all stakeholders to ensure its successfulness. E-governance initiatives are not just experiments in new modes of service delivery but are in practice. E-governance requires embracing – and is driven by – new models of policy formulation, new forms of citizenship, new patterns of relationship and power, new options for economic development, and the search for new ways to connect people with the political

processes¹. The rapid adoption of e-governance is facilitated by dynamic technological and telecommunication innovations. In many countries, information and communication technologies (ICTs) are seen as a catalyzing tool for governance². "After e-commerce and e-business," as *The Economist* comments, the next internet revolution will be on e-governance (*The Economist*, 2000: p. 3)." It is expected that e-governance will result in transparency, speedy information dissemination and improved service in public administration. In the era of informed citizens, e-governance is also seen as a vehicle for cost-effective and efficient way of public service delivery and information for ensuring transparency of governments.

It is not difficult for people in developed countries to imagine a situation in which all interaction with government could be done through one counter 24 hours a day, 7 days a week, without waiting in lines. However, to achieve this same level of efficiency and flexibility for developing countries, it is going to take time and is relatively difficult in terms of cost and ICT infrastructure in place (Basu, 2004: p. 110).

Most of the developing countries owing to lack of resources would still depend largely on their existing paper-based systems and technology and resource aid from richer nations. Both are constraints in a short-run for countries like Ethiopia, in terms of self-affordability and criteria sets tied with aid. Citizen and government contact through the website in e-governance; all forms filled, legislations reviewed, news disseminated and other information made available online and less contact with service givers. This

¹ Islam and Ahmed (2007), Ibid, pp.31

² Islam and Ahmed (2007), Ibid, pp.31

enhances confidentiality; diminish issues of nepotism and corruption as well as lives to tastes of citizens of this century. It is efficient in time and effective in processing.

A variety of approaches have been used to define, build, and assess the development, performance and consequences of e-governance (Dawes, 2008: p. 94-97). These include experimentation with new IT tools, performance and capability assessments and improvement efforts, and model and theory-building work. Taken as a whole, at least some progress has been made toward each of the five e-governance objectives (Ibid). These objectives include Progress toward a policy framework, Progress on enhanced public services, Progress on improved management and Operations, Progress toward citizen engagement and Progress toward administrative and institutional reform (Ibid).

The most progress by far has been made in enhanced public services and improved management. Policy development has continued to move forward, although new policy issues continually add to an increasingly complex set of questions. The least progress appears to have occurred in enhancing democracy and exploring the implications of e-governance for administrative and institutional reform (Dawes, 2008: p. 9). In the United States in 2003 a survey of 2,600 municipal and county governments has found that although the vast majority of local governments had established Web sites, very little had been done to integrate e-governance into their daily affairs because of marketing, privacy, and funding barriers. The finding has also shown that municipalities had achieved more than counties (Edmiston, 2003: p. 20).

Another study in the United States in 2005 also has shown that the number of local governments adopting Web sites is growing rapidly, with higher rates of adoption among

larger governments. However, few local governments reported any impacts from e-governance, and most lacked sophistication mainly for lack of technical resources and funding, management of privacy and security issues (Norris and Jae, 2005: p. 64).

As developing countries, Ethiopia lack of availability of the necessary resources, lack of the importance of e-governance on an organization and low literacy and lack of resources of beneficiaries/-customers at various levels. This shows that the challenges are both from lack of resources for expansion (supply) and nature of readiness of users (demand).

Absence of appropriate ICTs investment and capacity building in the sub-city land administration creates a gap for necessary conditions establishing accurate land development and administration and core geo-data management for sustainable development. This opens a door for lack of sufficient information within the organization which creates also the gaps in land development and administration system in the sub-city

In this respect, this paper explored the benefit obtained by Addis Ababa City Land Administration (AACLA) sector after the adoption of e-governance for land management in the city. The study assessed the factors that affected the development and implementation of e-governance in the implementation and interventions for overcoming these challenges with the collaboration of government and stakeholders. The case of Nefas Silk Lafto Sub-city was learnt for generating substantive evidence for analysis.

1.2. Statement of the Problem

Good governance has come into the development word list even though how to achieve good governance remains debatable. Systems in the government are not only administration oriented but are at times totally oblivious of the perception of the citizen. There is an increasing demand for urban data, which must be produced quickly or at short intervals. Presence of delay at every level, lack of transparency and existence of documents that are difficult to handle or use and management has made the system totally user-unfriendly. The old manual systems of data storage and retrieval do not allow compiling very general statistics for management information. The integration of data currently held in different departments in dissimilar formats and often with diverse reference systems is complex, either technological or institutionally in the Sub-city. Sharing of data between government departments is often weak or minimal. The growing demand for increasing complex spatial data requires an appropriate management system for collection, processing and dissemination of information for the users on suitable time (Daniel, 2003, p.281). Because of the absence of appropriate ICTs investment and capacity building creates a gap for necessary conditions establishing accurate land development and administration and core geo-data management for sustainable development. This opens a door for lack of sufficient information within the organization which creates also the gaps in land development and administration system. Thus poor governance is pervasive in Ethiopia in general and in Addis Ababa in particular.

In order to solve this problem, the government is implementing various reform programs. The reforms that are implemented in governmental organizations are seen as a

prerequisite for development and transformation by the Ethiopian government (Ciborra and Navarra, 2005: p. 141). The Addis Ababa city land administration and sub-city administration has been engaged in reform works recognizing that land is an essential asset of the city. Developing land in the manner will ensure development and has been linked to innovative and ICT based records and management. It is one of the system to ensure effective, efficient and quality and allocation and service delivery in transparent and informed manner to its citizens (residents). The reform programs, the sub-city's institution developing electronic information systems and planned to cater various information and service needs of different categories of users (residents) in the city. However, there is limited exchange of information among the institutions, between the information providers and the consumers (residents). Thus the transformation in using the e-governance system is not clearly evident in the sub-city. The awareness of the existence of electronic information is also limited and there is less cross-linkage between the information systems, since most of the operations are not available in electronic form. Lacking access and co-ordination of the nation's information flows is presenting an important bottleneck to good governance in terms of an effective and transparent policy formulation and implementation using the e-governance system. It also hampers access to information required by the government, private business, NGOs and the general public in the sub-city.

This thesis analyzing the factors that affect its implementation and solutions put in place by the city government in Addis Ababa City Land administration the case of Nefas Silk Lafto Sub-city.

1.3. Research Questions

The research inquires the challenges in implementing of the e-governance in land administration of Nefas Silk Lafto Sub-city in Addis Ababa City and developed questions for the research. The specific research questions are:

1. What are the current bottlenecks that hinder the implementation of e-governance in land administration of the Nefas Silk Lafto Sub-city?
2. What are the solutions forwarded by the functionaries for the challenges in implementing e-governance system in land administration of the Nefas Silk Lafto Sub-city?
3. How do stakeholders involve and what are the solutions put in place by them for the challenges of e-governance implementation in land administration of the Nefas Silk Lafto Sub-city? and
4. What are the capacities improved by the workers due to the process of implementing e-governance system in land administration of the Nefas Silk Lafto Sub-city?

1.4. Objectives of the Study

The main objective of this thesis is to analyze the difficulties of the implementation of e-governance system in land administration of Nefas Silk Lafto Sub-city in Addis Ababa City. The specific objectives are:

1. To identify factors that impede the implementation of e-governance system in land administration sector of Nefas Silk Lafto Sub-city

2. To analyze the solutions that are put in place for difficulties in the implementation of e-governance system in land administration of Nefas Silk Lafto Sub-city
3. To examine the challenges faced by stakeholders and identify the solutions forward by them in the implementation of e-governance system in land administration of Nefas Silk Lafto Sub-city and
4. To assess the changes in the capacity of the land administration institute in the process of implementing e-governance system in land administration of Nefas Silk Lafto Sub-city.

1.5. Scope of the Study

The geographic scope of the study mainly concentrated in Nefas Silk Lafto Sub-city land administration sector. The thematic scope of the research was to analyze the difficulties of the implementation of e-governance system in land administration in Nefas Silk Lafto Sub-city in Addis Ababa city.

1.6. Significance of the Study

The study is significant in social and empirical dimensions. Analyzing the challenges in implementation of the e-governance in the institution can generate policy information. It enhances also awareness of the challenges and solutions so that to think of capacity and institutional constraints. Thus the study also has significance for government officials, policy-makers and non-governmental organizations which are collaborating in the implementing of e-governance in the institution. The study findings thus inform policy. The study result is also beneficial for the citizens that involve in the study collation.

Moreover, the study is significant in documenting systematic results: challenges and successes. It can also benefit future researchers on the theme.

1.7. Limitations

Since it was a new approach for most of the institutions, the researcher found it difficult to get data on the implementation of e-governance. Unavailability of organized data in Nefas Silk Lafto Sub-city as well as the concerned institutions was challenging. There was also bureaucratic hassle in the institutions to get accurate and reliable data. Land administration sector was also challenging. Moreover, getting key government officials with knowledge in the e-governance practice was also challenge. However, the diverse methods and tools used and by looking convenient timing, reliable data was collected.

1.8. Organization of the Paper

This paper has five Chapters. The first chapter introduces the background of the problem, research objectives and questions and significance and limitations. The second chapter presents review on conceptual and analytical frameworks. It presents also reviews on empirical literature. The third chapter presents the research site and the methodology. The fourth chapter presents data results and discussion of findings. The last chapter presents the conclusion and recommendation of the thesis.

Chapter Two: Literature Review

2.1. Theoretical Issues

The word 'e-governance' can be viewed at the crossroad of two major shifts - governance and information revolution. The issue of 'governance' has been around for the few decades. Essentially, 'governance' refers to the act of governing. The word derives from the Greek verb [kubernáo] which means 'to steer'. Governance, then, is what governments do: the exercise of political authority and institutional resources to 'steer' a society – typically at the level of the nation state. More recently, 'governance' took a distinct meaning. The term has been increasingly used to depict an alternative to what governments traditionally do. It reflects a search for what they should do to respond to emerging challenges, including environmental issues. In this sense, governance is no longer a synonym for government. Rather, governance signifies a change in the meaning of government, referring to a new process of governing, or a new method by which society is governed (Rhodes, 1996: p.653).

According to Islam and Ahmed (2007) clearly 'governance' gets into development discussion around the period of late 1980s. Intense globalization of market and trade, after the collapse of Soviet Union in 1989, left most countries but to join the World Trade Organization (WTO), which gave concern about the markets being opened to cheaper products and labor forces. This resulted in creation of safety nets and bureaucracies to be involved with regulatory governance mechanism. But at the same time because of trade globalization and networked economy, the countries cannot avoid creating a level playing

field with transparent governance mode. This openness and predictability of government functioning is further echoed at e-governance (Islam and Ahmed, 2007: p.33-35).

Globalization with the emergence of new information and communication technologies (ICTs) had a profound impact in the development of e-governance notion. ICT replaced two basic elements of productions - 'labor' and 'capital' by 'information' and 'knowledge' for the first time in the last two centuries. Internet created the same break through as the printing press did in the 15th century. It shapes the ability to communicate, share, distribute, exchange, formalize, use and network information at a speed that is not experienced before. Political activism on the other hand, is also using the space with increased number of public interest groups, community or voluntary organizations are propagating their demands and activities in the electronic network³.

E-governance echo this process of re-invention and re-engineering in governance and 'is aimed at adapting administration to the further rising flow of information: accelerating the process of decision making by optimizing resources, and making the mechanism for decision making self-regulating' (Baev 2003: cited in Islam and Ahmed, 2007, p.34). This led 'governance' be defined independently from the 'the act of government' to the practice of getting the consent and cooperation of the governed. The concrete objective of e-governance is to support and simplify governance for all parties - government, citizens and businesses through online services and other electronic means. In other words, e-governance uses electronic means to support and stimulate good governance (Backus

³ Islam and Ahmed (2007), Ibid, pp.33-35

2001: cited in Islam and Ahmed, 2007, p.34). These ideas also agree with the World Bank expression about e-governance. The World Bank shows that e-governance is about digitalizing internal and external activities to interact with different parties without any barriers.

However, the core ideas and techniques associated with “putting government online” first emerged in the most technologically advanced Western countries, especially those whose populations were pioneers in the adoption of the Internet in the 1990s. In the United States, President Bill Clinton’s administration’s aim to “reinvent government” closely followed the managerial path, and the Bush administration has further developed this agenda, with an even greater emphasis on cost reduction through efficiency gains. In the British case, the managerial use of ICTs emerged as a strong theme in the Labor administration’s obsession with “joined-up government”- a phrase that has recently crossed the Atlantic to the U.S. At the level of the European Union, despite greater recognition of the democratic potential of new ICTs, most discussion has centered on issues of efficiency and “service delivery”⁴. It was the United States and Britain (along with other countries, notably Canada and Australia) that led the way, both in establishing a basic informational form of Web presence in the mid-1990s and in developing what became known as “e-governance” in the late 1990s (Chadwick and May 2003: cited in Islam and Ahmed, 2007, p.34).

⁴ Islam and Ahmed (2007), *Ibid*, pp.34

2.2. Defining E-Governance

Although the term 'e-governance' has gained currency in recent years, there is no standard definition of this term. Different governments and organizations define this term to suit their own aims and objectives. Sometimes, the term 'e-government' is also used instead of 'e-governance'. Some widely used definitions are listed below:

According to Narayan (2011),

....the use of Information and Communications Technologies (ICT) for improving governance process is termed as e-governance; e-governance not only refers to providing services to citizens via Internet but also digitizing and using the ICT for all governance processes. But some necessary conditions such as, literacy, communications infrastructure, public information systems, and appropriate legal frameworks have to be met for successful functioning of e-governance.

Backus (2001) gives e-governance a commercial impetus. The author argues that e-governance is a form of e-business in governance and defines it as

....the application of electronic means in the interaction between government and citizens and government and businesses, as well as in internal government operations to simplify and improve democratic, government and business aspects of governance. In this definition interaction stands for the delivery of government products and services, exchange of information, communication, and system integration.

In this case government consists of levels and branches. Government levels include central, national, regional, provincial, departmental and local government institutions.

Felix et, al. (2011) defines e-governance as the leveraging the benefits of information and communication technology to improve effectiveness and efficiency of government activities. E-governance results in the empowerment of citizens and an increased transparency of government sector.

According to the World Bank⁵ expression:

“E-governance refers to the process of using information technology for automating the internal operations of the government as well as its external interactions with citizens and other businesses.”

In this definition automation of internal operations can reduce the associated cost and can improve the response time. At the same time it allows the government processes to be more elaborating which in turn raises their effectiveness. Automation of interactions with citizens can reduce the overhead for both the government and the citizens, thereby creating value for the economy.

Electronic governance (e-governance) also defined as the application of Information and Communication Technology (ICT) to the government processes to bring Simple, Moral, Accountable, Responsive, and Transparent (SMART) governance (Jain and Ramani, 2005: cited in Naz, 2009, p.190).

The UNESCO⁶ defined e-governance as:

“E-governance is the public sector’s use of information and communication technologies with the aim of improving information and service delivery, encouraging citizen participation in the decision-making process and making government more accountable, transparent and effective. E-governance involves new styles of leadership, new ways of debating and deciding policy and investment, new ways of accessing education, new ways of listening to citizens and new ways of organizing and delivering information and services. E-governance is generally considered as a wider concept than e-government, since it can bring about a change in the way citizens relate to governments and to each other. E-governance can bring forth new concepts of citizenship, both in terms of citizen needs and responsibilities. Its objective is to engage, enable and empower the citizen.”

⁵ World Bank, Available on: <http://www1.worldbank.org/publicsector/egov/index.htm>

⁶ UNESCO (2011), Available on: www.unesco.org/new/index.php

2.3. E-Governance in Public Organizations

Currently, e-governance is no more an alternative or something to be predictable with (Felix et.al, 2011, p.15). Streamlining operational processes, transcribing information held by government agencies into electronic form, connecting different databases, and improving ease of contact to services for members of the public are attained by the beginning of e-governance (Singh et.al, 2010, p.256). E-governance methods enhance competition, reduce flexible power, remove bottlenecks in regular transactions, raise reliability and predictability of government procedures, ensure better and equal access to information and services, and encourage transparency and accountability in government organizations⁷. A pure e-governance solution removes discretion from the equation promoting corruption by intermediating services and allowing citizens to conduct transactions themselves⁸.

ICT in government organization (e-governance) can simplify and speed up administrative objectives by increasing good governance, human rights, democracy, peace and security (Menda, 2005, p.36). E-governance facilitates more efficient and effective interface in public organizations. In so doing it promotes transparency and accountability as well as efficient and effective leadership across the government organizations. Thus, e-governance can be a key to better government leadership and as a result a stimulant to rapid, successful and sustainable development – in political, social and economic realms.

⁷ Singh et, al. (2010), Ibid, pp.256

⁸ Singh et, al. (2010), Ibid, pp.256

However, this can be achieved with the proper application of modern information and communication technologies in public organizations⁹.

Moreover, e-governance have the potential to contributions to improving public organizations and reducing corruption, they can best do so by helping improve overall relationships between governments and citizens (Pathak, R., 2008, p.66).

2.3.1. E-Governance and Urban Service Delivery

E-governance is broadly recognized as a doing well tool of service delivery and equated with Good Governance by developing countries and all developed countries in general (Prasannakumar, n.d, and p.3-4). Information Technology is now universally received as a rapid, trustworthy, widely and easily reached, low cost and effective tool for delivery of services by government (Karwal et.al, 2005, p.130). Based on (Monga 2008, p.53) regarding service delivery,

.....the quality of delivery of services to the citizens by the government has been more pronounced in recent years with the advent of e-governance. E-governance, which is a paradigm shift over the traditional approaches in Public Administration, means rendering of government services and information to the public using electronic means. This new paradigm has brought about a revolution in the quality of service delivered to the citizens. It has ushered in transparency in the governing process; saving of time due to provision of services through single window; simplification of procedures; better sector and record management; reduction in corruption; and improved attitude, behavior and job handling capacity of the dealing personnel.

According to Prasannakumar information and communication processing technologies are developing more rapidly than ever before and these aid the procedure of development

⁹ Menda (2005), Ibid, pp.36

and good governance. As the critical goal of good governance is the betterment of the lives of the citizens the advancement in the technological fields are useful for good governance if people could be provided with prompt adequate and timely services through information technology, governments must be able to avail the unique opportunity of interacting with the people effectively.

E-governance shall facilitate the delivery of government services to the masses through procedural simplicity, speed and convenience. E-governance is also seen as a multi dimensional concept that improves efficiency in administration brings about transparency and leads to the reduction of cost in running the government¹⁰. E-governance is a transparent smart e-governance with faultless access, secure and authentic flow of information crossing the interdepartmental fence and providing a fair and unbiased service to the citizen¹¹.

2.3.2. Stakeholders in Implementation of E-Governance

E-governance is strategic to the economic and social development of any society. E-governance initiatives require external agencies to take part (Felix et.al, 2011, p.17, 22). E-governance must not be considered simply as a medium for reducing public administrative expenditure and put into practiced in a business like fashion. In terms of developing overall strategy, there is a fundamental responsibility to know the desires of government, organizations and citizens from a stakeholder standpoint. The idea of

¹⁰ B.R. Prasannakumar, Ibid, Available on: www.napsipag.org/pdf/BR_PRASANNAKUMAR.pdf, pp.4

¹¹ B.R. Prasannakumar, Ibid, Available on: www.napsipag.org/pdf/BR_PRASANNAKUMAR.pdf, pp.4

citizens and organizations working together with government as stakeholders is not new by any ways.

The Stakeholders in e-governance are the government, Investors, Employees, and non-governmental organizations for its successful implementation in an organization. Without the collaboration of these stakeholders its successfulness falls under question. When an institution think to implement successful e-governance system in the organization it should be able to imagine the stakeholders for well develop system of governance. This shows that e-governance is not only the affairs of a government but it involves other parties other than government for its successful implementation by minimizing the challenges that hamper the adoption of it. Different environment variables applying an impact upon implementation of e-governance are Social, Political, Legal and Economic variables (Nandan, 2007, p.44-45). The political system by itself should be able to allow such types of system in the sector for transparency and effective public service delivery. The political system should be revealed in the sector by formulating policies and supporting the scheme by providing the necessary resources such as finances, infrastructures etc. for the successful implementation of the system. In the absence of such types of political system it is difficult to implement the successful e-governance system properly in the sector. In addition to the political system, the e-governance system should be able to be accepted by the society. Things will be done by the society, through the society and for the society. Society should be able to participate in the process of planning and implementation of e-governance system in land administration for its successfulness. Implementing the e-governance system without involving the society

might result in failure of the system, since it is performed in the absence of main variable in the system of e-governance for an institution. Moreover, the e-governance system requires strong legal system for its successful implementation in an institution. Such legal system is helpful in operating the system within the internal as well as the external environment. Security and privacy issues will be handled in the presence of strong legal system in the process of e-governance implementation in an institution. Finally, economic variables are also one of the main factors for the implementation of e-governance in an institution. Well developed economic system is helpful in implementing the system successfully in an institution. Weak economic system will hamper the implementation of e-governance in an institution, since e-governance by itself requires huge capital for its successful implementation in an institution. To have such huge capital the economic variables are a determinant factor in case of such types of system in an institution. The case of good e-governance needs stakeholder participation at all levels (Dieter, 2005, p.15). If e-governance is to be successful, different stakeholders' should be identified in the beginning and they should be involved from the initial stages and should be kept involved throughout development and implementation (Felix et.al, 2011, p.18).

E-governance implementation usually covers a long time and touch a large extends of stakeholders. The achievement or failure of e-governance is largely depending on the coordination between various stakeholders, effective management and optimal use of technology (Bhat, 2011, p.22).

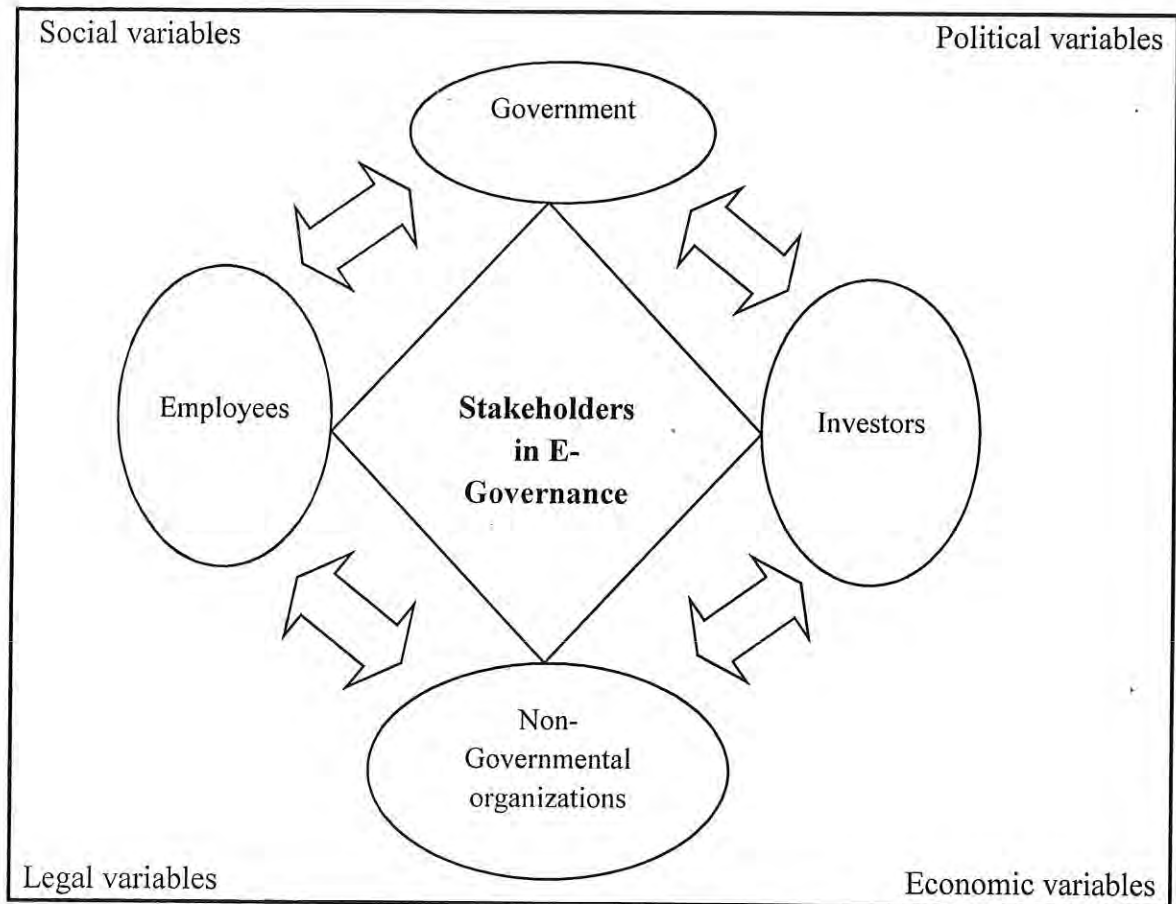


Figure 2.1 Stakeholders in e-governance

Source: Adapt from the Literature Review: Stakeholders of E-governance (Feb. 2012)

2.4. E-Governance for Urban Land Management

It has been experienced over the last decade that the method that has been through has proven ineffective for urban management and implementation of urban plans (Anbessa, 2003, p.302). Efficient land management is a foundation for sustainable urban development. Good and sound land management and development creates accurate, accessible, interoperable, timely/update, secure, and complete land information system about land and property in an affordable and efficient way that promotes confidence

between the public, its commercial enterprises, and government (McLaren and Stanley 2011, p.344 and Solomon, 2003, p.259).

Land as a natural resource plays a major role in the livelihood of people and in the growth of a nation. Access and use of land for agriculture, habitation, wealth generation, employment and recreation is fundamental to civilization. As land holds important in many spheres, it is required to have a system to gather, distribute and update information of land records. The system can be used for various activities like agriculture planning, infrastructure planning, information on ownership etc. (Bhat, 2011, p.9). Delivery of social justice through proper land management and development is important for effective governance and effective public distribution required efficient land management as land is a source of wealth generation¹². A strong program management is needed to ensure that any hindrances or delays are managed in an effective way with proper governance system¹³.

The records commonly carried out for land administration are also the foundation for integrated spatial information systems that link numerous users in the provision of government services by e-governance (McLaren and Stanley 2011, p.344). E-governance in municipalities helps to advance efficiency and effectiveness in interaction between local government and its citizens and other stakeholders, improve quality of internal local government operations and management information systems to support and stimulate good governance and bring about transparency and accountability in urban local body

¹² Bhat (2011), Ibid, pp.10

¹³ Bhat (2011), Ibid, pp.11

operations. In addition to the above benefit e-governance enhances efficient inter-departmental coordination, provide timely and reliable management information relating to municipal administration and provide effective decision-making.

Achieving the benefits of e-governance may not be easy and goes far beyond mere computerization of government processes (Jain et.al, 2011, p.300). Its successful implementation poses technical challenges as well as it requires a fundamental change in the working environment and strategic of the government. Governments are likely to face the challenges of re-engineering the government processes and functions and related issues of new responsibilities for civil servants, businesses and citizens¹⁴. Yarney (2005) also emphasizes that financial issues, human resource issues, equipment and gathering information from the relevant governmental institutions, non-governmental institutions and from the public at large are remain a significant challenge in implementing e-governance in the institution.

In addition to the above mentioned challenges Kalsi et al (2009) also indicated that countries face two challenges in implementing e-governance in the organization. First, the strategic challenge of e-readiness: preparing six identified pre-conditions for e-governance i.e. Data Systems Infrastructure, Legal Infrastructure, Institutional Infrastructure Ready, Human Infrastructure, Technological Infrastructure, and Leadership and Strategic Thinking. Second, the tactical challenge of closing design-reality gaps: adopting best practice in e-governance projects in order to avoid failure and to achieve success.

¹⁴ Jain et, al. (2011), Ibid, pp.300

However, ICT has an increasingly basic role to play in improving the process of land management and in making information services more readily accessible in support of land markets and urban economic development (McLaren and Stanley 2011, p.344). They often give the key data required by all local and central government organizations and, to a lesser degree, by the public.

This new way of governance adopted by the public administration for the delivery of services on the Internet and Intranet, constitute the concepts of e-governance in geographic information system (Rathee and Rishi, 2011, p.451). The basis for e-governance is fusion of information with communication technologies (ICT) supporting and transforming the governance by processing and communicating Data in the field of geographic sphere¹⁵. Functions of e-governance include planning, preparation and approval of mega-plans, management of existing infrastructure and restructuring of facilities. 80%-90% of government data is geographic in nature-containing an address, service boundary, pin code, or latitude and longitude co-ordinates. In local government, city planners' view maps for development plan; engineers need information on utilities to forecast how serving a new colony will affect overall service; and the estate sector updates data with measurements taken from a recent survey¹⁶. Karnataka government in India uses the e-governance for land records. Under this e-governance project, all 20

¹⁵ Rathee and Rishi (2011), Ibid, pp.451

¹⁶ Rathee and Rishi (2011), Ibid, pp.452

million land records of 6.7 million land owners in 176 taluks of Karnataka have been computerized¹⁷.

The use of computers forces standardization in the collection and processing of land information; speeds up the processes of first registration of title; decreases the cost and space required for storing land records; reduces unnecessary duplication; simplifies the preparation of 'disaster' copies of registers; improves access to land-related data and improves their distribution; reduces the time and cost involved in transferring property rights and in processing mortgages; facilitates the monitoring and analysis of market and rental values of land and property; and provides built-in system for quality control (UNECE, 2005, p.91-92). However, the conversion of data into computer-readable form has proved to be a challenging and time-consuming task¹⁸. However, improved environmental stewardship, improved housing delivery, guarantee of ownership and security of tenure, facilitated land reform, improved land resources management, improved public confidence in conveyance, develop and monitor land market, land disputes reduction, increased revenue generation, provide security for credit, improved land market monitoring, improved management of state-owned land, improved spatial land use planning, improved service delivery and improved public safety can be achieved through modern land administration system (UNECE, 2005, p.22-24).

ICT significantly supports good governance in land administration by facilitating open, transparent access to land records for all (McLaren and Stanley, 2011, p. 362). E-

¹⁷ Rathee and Rishi (2011), Ibid, pp.451-452

¹⁸ UNECE (United Nation Economic Commission for Europe) (2005), Ibid, pp.91-92

governance is the ICT-enabled route to achieving good governance. The success of an e-governance is depending on the applicability of technology so that it benefits all the stakeholders (Felix et.al, 2011, p.16).

2.1.1. Global Experience

Australia and New Zealand's developing initiatives to widen access to and use of geospatial information for decision making. According to (McLaren and Stanley, 2011, p.349) Australia and New Zealand's Spatial Information Council, this is responsible for coordinating the collection and transfer of land-related information between the different levels of government; and promoting the use of information in decision making. National Data Spatial Infrastructure initiatives involve the cooperation of public and private organizations to implement interoperable technologies, data standards, and business approaches within a policy framework that facilitates the sharing and reuse of geospatial information (Williamson et al. 2010 cited in McLaren and Stanley, 2011). This attempt usually supports the invention of geospatial information at first but ultimately supports web-based services based on that information/ data as a Service. Over time, the myriad versions of similar data sets will be harmonized to generate and to reference common base themes in the data, such as transportation networks, property addresses, administrative boundaries, and land ownership, substantially increasing interoperability. Based on the experienced acquired land information system encourages the culture transfer for government agencies to share interoperable land and property information and leads to more integrated and effective e-governance services for land administration (McLaren and Stanley, 2011, p.349).

Denmark public databases with land information have been digitalized and associated maps been developed and every one of these systems have been developed with World Wide Web access for private citizens and professional users. This development has been based on isolated information technology-strategies for each public authority and without any organizational change in the basic structure in governmental bodies and administrative levels. This strategy focus on the individual citizen and to do it easier for him/her to access land and planning information through portals instead of a long row of web-sites managed by individual authorities with land management. The strategy is strictly based on governmental demand on cost reduction and more effectiveness. The strategy request a new theoretical paradigm for handling land information and introduce quite new user-interfaces and interaction with different user segments within different data domains like environment, property, traffic instead of the traditional focus on existing organizations within and between public bodies. The reform has been decided and has affected that Planning and Land Management at Regional Level – mostly nature protection, environmental management and Regional Spatial Planning – is changed by law and divided between State authorities and the new bigger Municipalities. Carrying out this reform in Land Management is based on the integration of Geographical Information Systems and E-governance (Jensen and Sorensen, 2006, p.1).

India e-governance programs designed at cost effectively taking different facilities to citizens. Innovations in the area of land records, taxation, procurement etc were witnessed in the sector with the internet pass through significant government transactions (Agrawal et.al, 2003, p.3).

The e-governance policies and programs of the national and state governments in India have made great progress during the last ten years. The national as well as the state governments have been working together to widen the reach of e-governance applications to the “common citizens” in India. According to IANS highlights that “some Indian state governments are waking up to the advantages of e-governance” (IANS 2006, p. 3). For land administration where corruption is widespread the Indian government is planning to start on a comprehensive drive to place all land records online. Some states have already made advancement in this direction. The computerized records will be connected with a national management information system. This will generate a reliable database on land ownership, tenancy rights, crop details, land revenue, and previous transactions. The proposed scheme will replace two existing central schemes of computerization of land records and strengthen revenue administration. To facilitate the integration of registration processes with land record management, responsibility for registration has been transferred to the Department of Land Reforms SMART governance, therefore, is possible with increased use of e-governance in land management.

2.4.2. SSA (Sub-Saharan Africa) Experience

According to Mambwe (2005) “e-governance for African municipalities,” which began in 2001 and involved selected municipalities from five African countries Mali, Mozambique, Niger, Tanzania, and Zambia and Zambia e-governance project’s objective is to promote free flow of information and thus to open dialogue among municipalities and the local communities they serve. African municipalities are frequently heavy bureaucratic structures with unclear actions and processes for treating requests from city

residents. Furthermore, these municipalities tend to operate in isolation and fail to benefit from the experiences and best practices of other municipalities within improve productivity. For instance, information technology has enhanced the Council's operations by improving communication among the workers, about 50% of whom are now using ICTs. The local network has also smoothed the operations of the departments. In addition, the e-governance strives to improve access to information required for decision making, to communicate effectively with citizens and to establish a municipal information system using ICTs¹⁹.

Tanzanian e-governance is in its infancy. The central government, some government branches and local government authorities have focused on e-governance initiatives (Menda, 2005, p.36-37). The e-governance project was the brain child of the Tanzanian Commission of Science and Technology (COSTECH), intended as a follow-up to the recommendation of the 1998 national ICT for governance facilitated. The project proposal followed a feasibility study of August 1998 conducted to investigate, identify and recommend possible areas for sustainable computerization in the local governments²⁰. The feasibility study identified data flow patterns and their reporting system within and across various government sectors²¹.

COSTECH faced a challenge in illustrating to key Kinondoni Municipal Council officials how ICT and the e-governance would improve the council performance in all

¹⁹ Mambew (2005), Ibid, pp.38-39

²⁰ Menda (2005), Ibid, pp.36

²¹ Menda (2005), Ibid, pp.37

departments²². The main concerns of the council were cost saving and improvement in tax revenue collection, so the COSTECH team had to demonstrate how the e-governance would boost good governance as well as revenue collection and service delivery without excessive costs and extra burden to tax payers²³. With financial and technical support from COSTECH the pilot project took off in 1999 and succeeded. Thus the Kinondoni Municipal Council became the first of the 126 local government authorities of Mainland Tanzania (municipalities and districts) to initiate an e-governance project²⁴. “At that time there were only two sector computers at the headquarters,” this is the challenges encountered in presenting the e-governance idea to the council leadership. According to the IT consultant for the council, in 2005 there were more than 120 computers in use, most with Internet access²⁵.

Lusaka City Council can now use ICTs as a means of improving responsiveness and reliability in its services. ICTs could improve economic opportunities, lower the cost of delivery of public and private goods, help streamline the bureaucracy, and enhance the transparency in the institution’s administration (Mambwe, 2005, p.38). In the past, citizens had to walk to the city council headquarters to access information; today, e-governance has opened municipal services to the city’s population (Mambwe, 2005, p.39). The Lusaka city council is searching for financing alternatives to help establish an

²² Menda (2005), Ibid, pp.37

²³ Menda (2005), Ibid, pp.37

²⁴ Menda (2005), Ibid, pp.37

²⁵ Menda (2005), Ibid, pp.37

Information Centre to improve interaction with the public and to enlighten people on the benefits of e-governance, still very much in its infancy in Zambia. Although e-governance has opened a window on new opportunities for the city council, its workers need training sessions both to improve their basic computer and ICT skills and to help educate the public on how to use ICT to interact with the city council effectively²⁶.

2.4.3. Ethiopian Experience

According to (Singh, 2010) at present, Ethiopia spends one-tenth of its GDP every year on IT. The government plans to invest some 100 million Birr in computers for the public sector over the next five years. It aims to equip hundreds of government sectors and schools with broadband internet connections. Efficient implementation of e-governance could substantially reduce the cost of government, for example, by increasing civil service productivity, dramatically cutting time spent on processing information and regulatory implementation, and the wide implementation of e-procurement (Singh, et. al, 2010, p. 259-260).

Broadband and infrastructure initiatives in 2005 and 2006 were intended to bring the country closer to the information society. With such new ICT-based programs the government of Ethiopia is endeavoring to improve deteriorating public services. Its dream relies on the spread and usage of internet technology²⁷.

²⁶ Mambew (2005), Ibid, pp.39

²⁷ Singh, et. al. (2010), Ibid, pp.260

To showcase the value of ICT for facilitating information delivery in local administration, recently the Economic Commission for Africa (ECA), in collaboration with the Information Technology Center for Africa, launched a multimedia touch-screen kiosk in Amharic (the national language of Ethiopia) at the Nefas Silk Lafto Sub-city of the Addis Ababa Municipality. The kiosk is part of the Development Information Services Division's (DISD) input to the cooperation framework established in 2003 between ECA and the Mayor of Addis Ababa²⁸.

In addition to the above mentioned experience the Addis Ababa city government apply a cadastre which helped to provide a complete and up-to-date official register or inventory of land parcels in any state or jurisdiction containing information (Solomon, 2003, p.254). However, the challenges had the potential to hinder the effort of establishing a concrete land management system in the city. To overcome such challenges of land management occurring from the expansion of the city and growing magnitude of the Addis Ababa population, Addis Ababa city municipality started recording system of land for different purposes. But these systems had no digital integration of socio-economic and physical data and could not able to manage with the increasing need of the residents. The lack of the digital integration of socio-economic and physical data could result in multi-faceted and complicated socio-economic and physical problems. To alleviate some of these problems, the urban information project was initiated by the city government to implement land information system for Addis Ababa city which was the direct application of e-governance in land administration sector.

²⁸ Singh, et, al. (2010), Ibid, pp.260

Chapter Three: Research Site and Methodology

3.1. Description of the Study Site

Urban land management in the sub-city is becoming the central issue in urban development and management and it is the major responsibility of urban managers for its managing and transfers to the users. However, ineffectiveness was reflected by the sub-city due to lack of land information system. The poor land information system was bringing difficulty for the residents even to do activities on land that was available on hand and it was also takes additional time for data interpretation that removes obstacles for understanding on plots of lands. Therefore, the study deals with challenges in implementing e-governance system particularly in Nefas Silk Lafto Sub-city land administration sector. The Sub-city was organized into Woredas and each of these woredas was included in the study.

3.1.1. Location and Settlement Demography

Nefas Silk Lafto Sub-city is one of the 10 Sub-cities of Addis Ababa City Administration with twelve Woredas. The geographic location of Nefas Silk Lafto Sub-city is situated in the South master corner of Addis Ababa. In the North it is bordered by Kirkos and Lideta Sub-cities, in West it shares boundaries with Kolfe Keranyo Sub-city; in the North East it is surrounded by Bole Sub-city; in the East it is neighbored by Akaki Kality Sub-city and in the South it shares boundary with Oromiya Region.

According to the housing and population censuses (1999) the total population living in the Sub-city estimated to be 316,108. The annual growth rate of the population in the Sub-city is found to be 2.1% per year. This makes the total population of the Sub-city in 2004 estimated to be 350, 724.

The Sub-city has a total area of 5250 hectare which makes it the fourth Sub-city in the area coverage from the ten Sub-cities of the Addis Ababa City Administration.

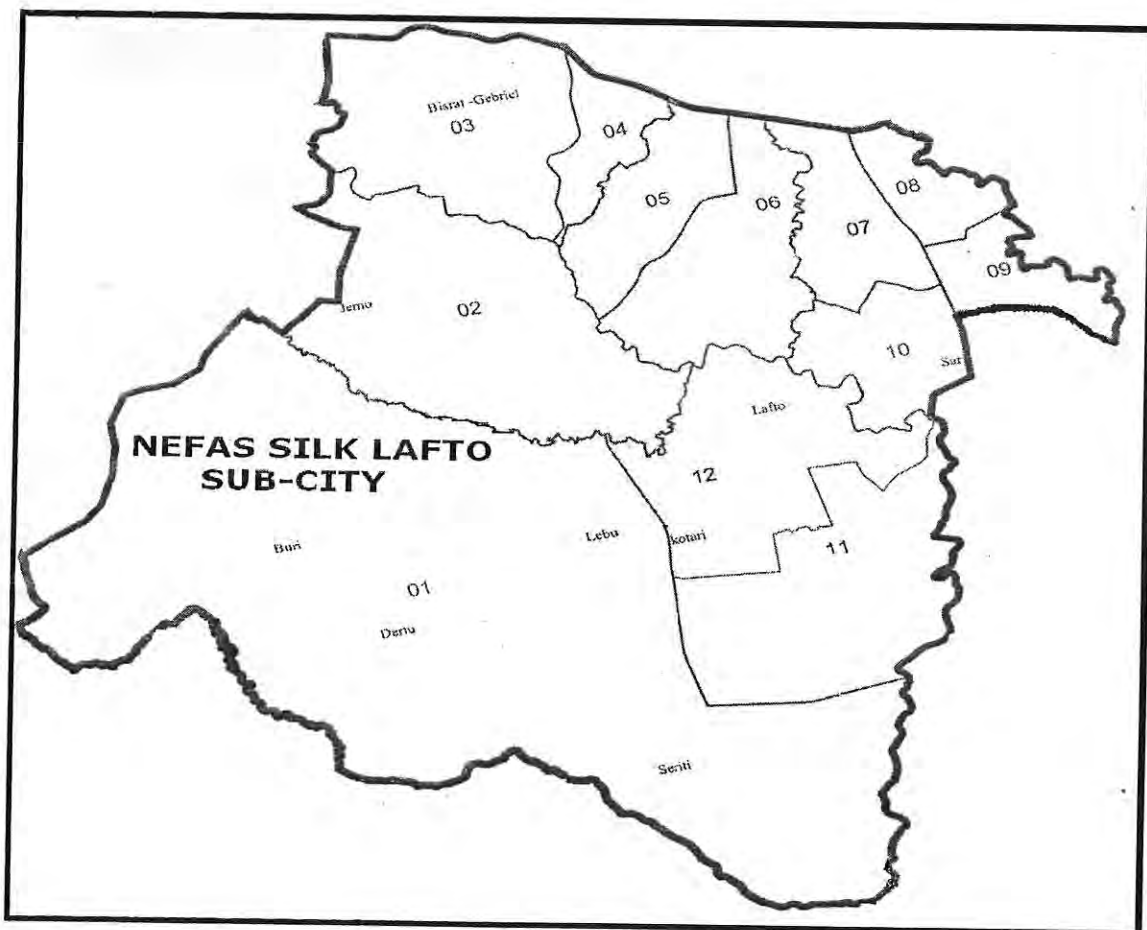


Figure 3.1 Nefas Silk Lafto Sub-city maps

Source: Nefas Silk Lafto Sub-city Urban Plan and Information Preparation Department (Feb. 2012)

3.2. Research Approach and Design

The study employed both qualitative and quantitative research approaches; thus mixed research design was used to the study to analyze the challenges in implementing in e-governance. Since the research theme was complex one, the mixed approach employed was convenient for selection of methods and data instrument, data collection and analysis.

3.3. Sources and Types of Data

This study used primary and secondary sources. The primary sources were individual respondents and institutions involved in land administration. The instruments used were questionnaires, in-depth interview guides with selected government officials and stakeholders and Focus Group Discussions (FGDs). Open ended questions and guides were used for interview and FGDs. The secondary sources were government documents, academic research reports, journals, internet, books, policy documents and international organizations reports. Thematic checklist was used as instrument of data collection.

The types of data used in this study were both quantitative and qualitative. The quantitative data types included numerical information related with the challenges in implementing e-governance in NSLSC in land administration sector. The qualitative data types included non-numerical facts that described challenges in implementing e-governance obtained through KII, FGDs.

3.4. Methods of Data Collection

The study employed four methods: these were survey, focus group discussion, key informant interviews and desk review. The survey method was used to collect data on, socio demographic data that is essential to identify challenges for e-governance, data on e-governance issues, factors that are affecting the implementation of e-governance system, current e-governance situations in the land administration system, difficulties in implementation of e-governance system and the changes in the capacity of the land administration sector in the process of implementing e-governance system. The focus group discussion was used to collect data on challenges that hamper the implementation of e-governance, data on solutions that are put in place for difficulties in the implementation of e-governances. The key informant interview was used to collect data on the participation of stakeholders in finding solutions to the difficulties in implementing e-governance in land administration, future direction in implementing the e-governance for better land administration system and factors affecting in implementing e-governance in the sector. The desk review was used to collect secondary data on policy issues, benefit obtained after implementing the e-governance in the institution. The methods were selected to triangulate data sets, perspectives and analysis of evidence from the field. The instruments that were used in line with the methods were questionnaire (for survey), thematic guides (for FGDs and KII).

3.4.1. Survey and Questionnaires Design

The study analyzed the challenges in implementing e-governance in NSLSC in land administration sector. Thus it employed cross-sectional survey design. The questionnaire

was designed in such way that appropriate to achieve the desired objectives. The questionnaires were structured and administrated to the selected employees of the institution. In addition to these the questionnaires were close and open ended. This was useful for generating descriptive statistics on the current e-governance challenges in the institution, factors affecting its implementation, solutions for the problems, participation of stakeholders and capacity of the institutions in implementing e-governance.

3.4.2. Key Informants Interview

Respondents here included key experts and knowledgeable persons in the area. The persons were selected based on the role and responsibilities they had in the concerned institutions. The interview themes focused on data on the participation of stakeholders in findings solutions to the difficulties in implementing e-governance in land development and administration, future direction in implementing the e-governance for better land administration and factors affecting in implementing e-governance in the institutions. Because these key informants were assumed to give information on e-governance implementation in the institutions for the reason of better land development and administration in the institution. Thematic guides were used for collecting qualitative data and supported the numerical data.

3.4.3. Focus Group Discussions

Respondents here included key experts, knowledgeable persons and selected citizens in the area. They were selected according to the operations they carried out in the institutions and their educational background. The Focus Group Discussion (FGDs) themes focused on challenges and solutions to overcome difficulties in implementing e-

governance in land administration sector for better land management system for the benefit of government, stakeholders and citizens. The FGDs helped identifying perspectives from different persons. Thematic guides were used here.

3.4.4. Desk Review

The desk review engaged on policy documents, implementation reports and materials available on e-governance in the Sub-city (optional). It focused on secondary and qualitative data.

3.5. Sample and Sampling Design

3.5.1. Sampling Design

The sampling design of the research was snowball sampling technique. Snowball sampling technique was preferred because this technique used to identify people who meet the criteria for study or who were experts or knowledgeable persons in the areas of e-governance system in the institutions. The site was purposefully selected because of its accessibility for the researcher to conduct the thesis. Otherwise all Sub-cities had equal chance to be included in the sampling design.

3.5.2. Sample Size Determination

The total population (sample frame) included employees in Urban Plan and Information Preparation Institution (UPIPI), Land Development Bank and Urban Renewal Center (LDBURC), Design and Construction Permit Center (DCPC), Land Development and Ownership Administration Center (LDOAC) and Information Technology Center (ITC) from twelve (12) Woredas of the Sub-city. The total number of employees in UPIPI,

DCPC, LDBURC, LDOA and ITC were 17, 36, 36, 60 and 9 respectively in the twelve woredas of the sub-city. The total population of the study was estimated to 158. Since the population was unknown clearly, in the use of electronic governance in land administration sector, 50% of the population was taken as a sample size. The sample size was thus 79 respondents.

3.6. Methods of Data Analysis

The study employed various analysis tools. Data was trimmed and organized and entered into SPSS. The quantitative data were analyzed using data summary from SPSS, version 15. This comprised numerical data on facts. Variables like the number of internet connection, number of software used, number of information technology professionals in the institution and capable number of human resource to carry out e-governance and number of employees took training in the last 12 months. The qualitative data were analyzed by interpreting and describing the obtained data narratives (results). It included factors affecting the implementation of e-governance, availability of ICT infrastructure, participation of stakeholders, solutions put forward to overcome challenges in implementing e-governance and the capacity of the institution in implementing e-governance. The Desk review data were analyzed using contents and themes.

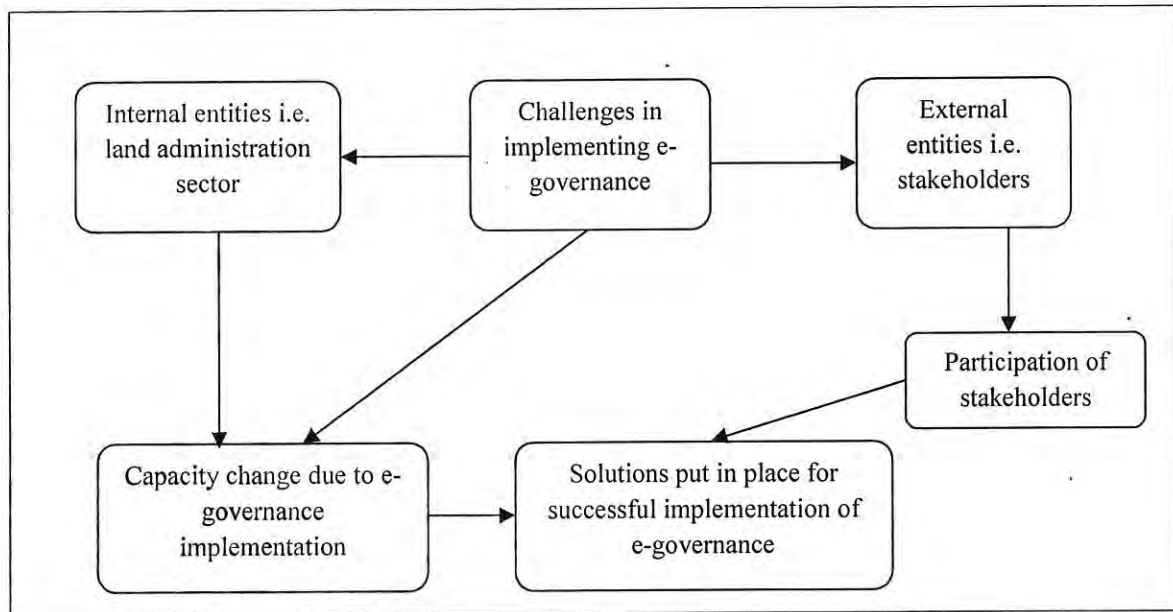
3.7. Analytical Framework of the Study

To carry out a more logical analysis and to reach at a clear understanding the issues under study i.e. the challenges in implementing e-governance in land administration sector was investigated using different techniques which helped to meet the research objectives as

specified in the thesis. The framework was developed based on considering the potential factors that impeded the implementation of e-governance in land administration sector. The research shows that urban land management is now-a-days becoming the core issues in urban development and the key task of urban managers for its handling and disposing. The ineffectiveness is reflected by widening gap between demand and supply of land as the result of ineffective land information.

Having such challenges in mind the research tried to analyze the major challenges that hamper the implementation of the system in land administration sector by including literatures which have direct relation with the research objectives. These challenges can be external or internal. The internal challenges (the human infrastructure, technological infrastructure and change in the capacity by employees due to e-governance system) were these challenges which have the potential for affecting the implementation of e-governance in land administration sector. The research also analyzed other external entities i.e. stakeholders these have the potentials to be involved in the implementation process of the system in land administration sector. In this case the study analyzed the participation of stakeholders (in what way they participated) in the process of implementation of e-governance in land administration sector.

Figure 3.2 Analytical framework of the study



Source: Adapt from the research analytical framework

Chapter Four: Analysis and Findings

Chapter four presents the data results and the major findings from the survey, key informant interview and focus group discussion and desk review held with professionals. In this study 41(54.67%) male and 34(45.33%) female respondents were included in the survey research and 79 questionnaires were prepared and distributed for the sample. A total of 75 (94%) questionnaires were returned for analysis and had complete responses for analysis.

Table 4.1 Sample of survey respondents

R.NO	Departments in land administration sector	Population	Sample
1.	Urban plan and information preparation institute (UPIPI)	17	16
2.	Land development bank and urban renewal center (LDBURC)	36	14
3.	Design and construction permit center (DCPC)	36	17
4.	Land development and ownership administration center (LDOAC)	60	21
5.	Information technology center (ITC)	9	7
	Total	158	75

Source: Own Survey (March 2012)

The focus group discussion was undertaken with professionals in order to complete the responses obtained through the survey research. A total of five professionals were

involved in the discussion. Participants were not only employees of the sector but professionals and knowledgeable persons in e-governance issues from other governmental and non-governmental organizations and they were from different educational back. The focus group participants were males and the discussions were undertaken based on the willingness of the employees, professionals and knowledgeable persons.

This part also revealed the findings of the KII that was carried out among three governmental sectors and one governmental project that have direct relationship with the issue on study.

4.1. Educational Level of Employees

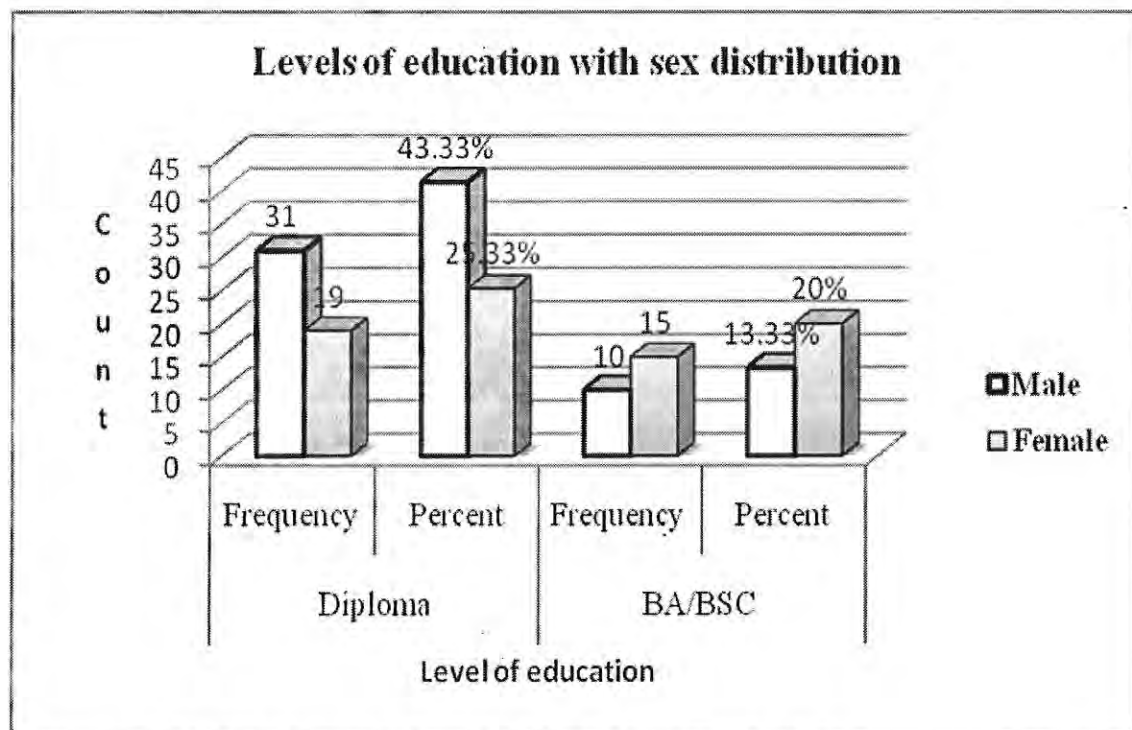


Figure 4.1 Educational levels of employees with sex distribution

Source: Own Survey (March 2012)

The data on educational level is displayed in Figure 4.1. None of the respondents were under grade 12. And 41.33% of male and 25.33% of female respondents were hold diploma while 13.33% of male and 20% of female respondents were holding BA/BSC. None of the respondents were hold MA. The number of occurrences for diploma was 31 and 19 for males and females respectively. While the number of occurrence for BA/BSC was 10 and 15 for males and females respectively. The survey result shows that lack of enough educated human resource in the e-governance area was the major problem to implement the system properly as it was expected. Yarney (2005) shows that human resource issues which help to carry out the system are continuing significant challenge in implementing e-governance in the institution. This shows that e-governance to be implemented the quality, quantity and level of education should be able to get attention in land administration sector. In addition to the above scholars Kalsi et, al. (2009) shows that human infrastructure is one of the key pre-conditions to implement e-governance system in the institution. In this case to implement e-governance as a system in the institution human resource development should be considered by the sector. Without such activities it is difficult to implement successful and sustainable e-governance in the land administration sector.

4.2. Types of Education Distribution

Based on Figure 4.2 majority of the respondents' educational background were drafting and civil engineering. However, land administration departments were organized with different educational background. But related educational background was an essential component for a department to lead the work with knowledge and skills. E-governance in

land administration demands the development of new skills, a new way of thinking about operations and new ways of working. Due to lack of institutionalized means of developing related skills e-governance implementation suffer from lack of skilled human resources. In this case it was very essential to develop skills like system analysis, database management systems, system administrations etc. in addition to the present educational background. ICT basic skills were important but it was not enough to bridge the gap for successful implementation of e-governance.

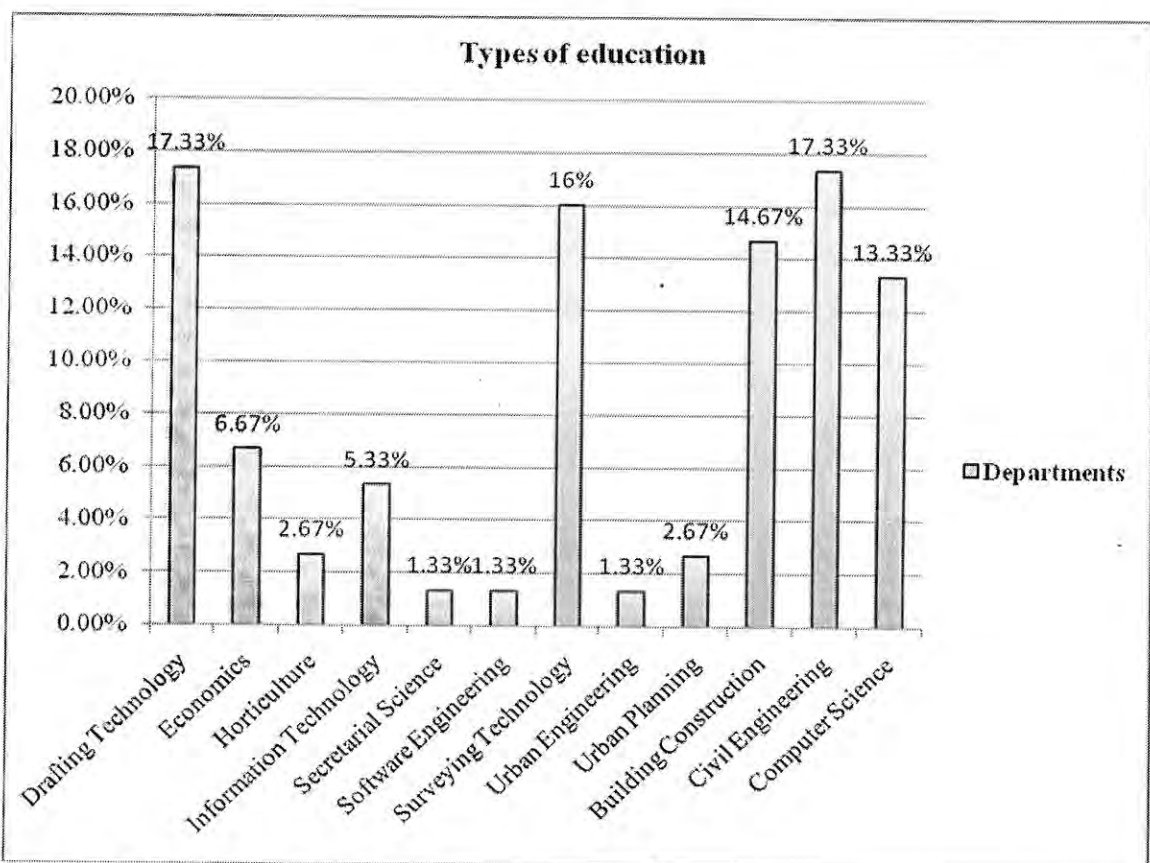


Figure 4.2 Types of education

Source: Own Survey (March 2012)

Moreover, there should be courses like GIS, AutoCAD, database management systems etc. for the functionaries in land administration to enhance the skills associated with

implementation of e-governance system. Ndon (2004) agrees with these ideas. The scholar emphasized that the availability of appropriate skills is central for the successful implementation of e-governance in the sector. The Ndon argue that the skill should be able to be appropriate for the successful adoption of the system. Here we can understand that there were other skills which might not be appropriate for the implementation of the system in the sector. Therefore, the land administration sector should be able to develop appropriate skills which directly fit with the adoption of the system.

4.3. E-Governance Issues in the NSLSC Land Administration

4.3.1. Information Communication Technology

Lack of appropriate ICT in the departments was one of the major problematic issues that hamper the successful implementation of e-governance system in land administration sector. Lack of appropriate ICT i.e. lack of personal and organizational wide computer system, lack of internet facilities, lack of software, lack of network connection with other departments etc. in the sector was a problem in implementing the system. All these points mentioned above had the potential to impede the successful adoption of e-governance in land administration sector. The survey result on Table 3 shows that 88% of the respondents were used database management system or operating on software or transferring data using network connection within the departments to perform their activities. However, 12% of the respondents were not used database management system or operating on software or transferring files using network connection within the departments to perform their activities in the sector. But most of them were used only software available in the departments. Based on the survey result 28% of employees

(respondents) were had the knowledge to use software such as GIS, AutoCAD, cadastre etc. that was available in the departments to carry out operations. However, operating only in software did not prepare employees for the successful implementation of e-governance in the sector.

Table 4.2 Types of ICT used for operation in land administration departments

R.No	Types of ICT	Frequency	Percent
1.	Not operating in any application	9	12%
2.	Operating on database	4	5.3%
3.	Using software available in the departments	21	28%
4.	Transferring data/files using network connections	8	10.7%
5.	Operating on database and using software	4	5.3%
6.	Operating on database and transferring data/files using network connections	3	4%
7.	Using software and transferring data/files using network connections	3	4%
8.	Operating on database, using software and transferring data/files using network connections	5	6.7%
9.	Others (system administration, network administration, system analysis, computer programming etc.)	3	4%
	Total	75	100%

Source: Own survey (March 2012)

According to the Karwal (2005) ICT is now universally received as fast, low cost and effective tools for delivery of service by government. In this context IT means not only

packages that were indicated on Table 4.2 but it encompasses more other types of packages which were not specified on Table 4.2. Therefore, ICT plays a key role in the e-governance system. Felix et, al. (2011) agree that the success of e-governance is depending on the application of ICT. Here ICT is a basic tool for the implementation of e-governance in the sector, since e-governance is the use of information communication technology for improving governance process. In the areas where e-governance was practiced, ICT was one of the main pillars that hold and make to precede the system in land administration sector.

Table 4.2 shows those who used one and more than one types of information communication technology application. The survey result shows that there were challenges to implement successful e-governance system in the near future in land administration sector. Perhaps functionaries who had the knowledge of system administration or network administration or system analysis or computer programming were 4% and it was small figure for the successful implementation of e-governance. This shows that a lot of work was not done on ICT training. At least basic ICT knowledge that meets the requirement of e-governance application should be given for functionaries in order to reach the expected goal in the next period.

4.3.2. Benefit Obtained by Functionaries due to ICT

The survey result shows that 48 % male and 37.33% female respondents who used ICT for their operation were get a benefit due to using it. However, 6.67% of male and 8 % of female respondents shows that they did not get a benefit of easy of work or easy of exchange of information or having clear and accurate data on land after using ICT. This

shows that there was unrelated ICT which might not be used directly for the operation in the departments. According to the respondents' response, different types of benefits were obtained due to ICT. The survey result shows that 33.33% of male and 32% of female respondents were given a benefit of easy work (it is possible to do a job with little effort), 29.33% of male and 29.33% of female respondents were given a benefit of easy exchange of information within the departments, and 10.67% of male and 12% of female respondents were given a benefit of having clear and accurate data on land. Based on the survey result, ICT which was directly used for the land administration system was less when it was compared with other types of ICT which were used as a general purpose. The land administration should be able to expand land-related ICT widely for applying the successful implementation of an e-governance system which helps to digitalize all land-related information easily in a short period of time in the institution by minimizing the challenges that arise due to weak ICT infrastructure. From the respondents' point of view, the application of information communication technology leads to higher efficiency. McLaren and Stanley (2011) shows that ICT significantly helps good governance in land administration by facilitating open, transparent access to land records for all (citizens, governments, employees, CSOs etc). In this context, ICT can play a key role in the land administration sector by facilitating activities. Data captured by an electronic system often permits more frequent and accurate data sharing across departments which results in minimizing loss of data or files, closer monitoring of employee efficiency, easier identification of points for delay and corruption, and improved collection of historical data that can be needed for policy analysis. In this context, ICT is used for different purposes in an organization. However, all these benefits will be achieved through the application of

appropriate ICT in the land administration sector. But the presence of appropriate ICT only will not result in a benefit. Rather it requires training for the employees in how to use it and enhance their performance through the use of ICT to maximize the benefits in land administration.

4.3.3. Value Given for ICT

For successful implementation of e-governance system in land administration, the sector needed to give high value for information communication technology. ICT is the most vital tool that either performs the work directly or is used to assist people carry out their work properly and effectively.

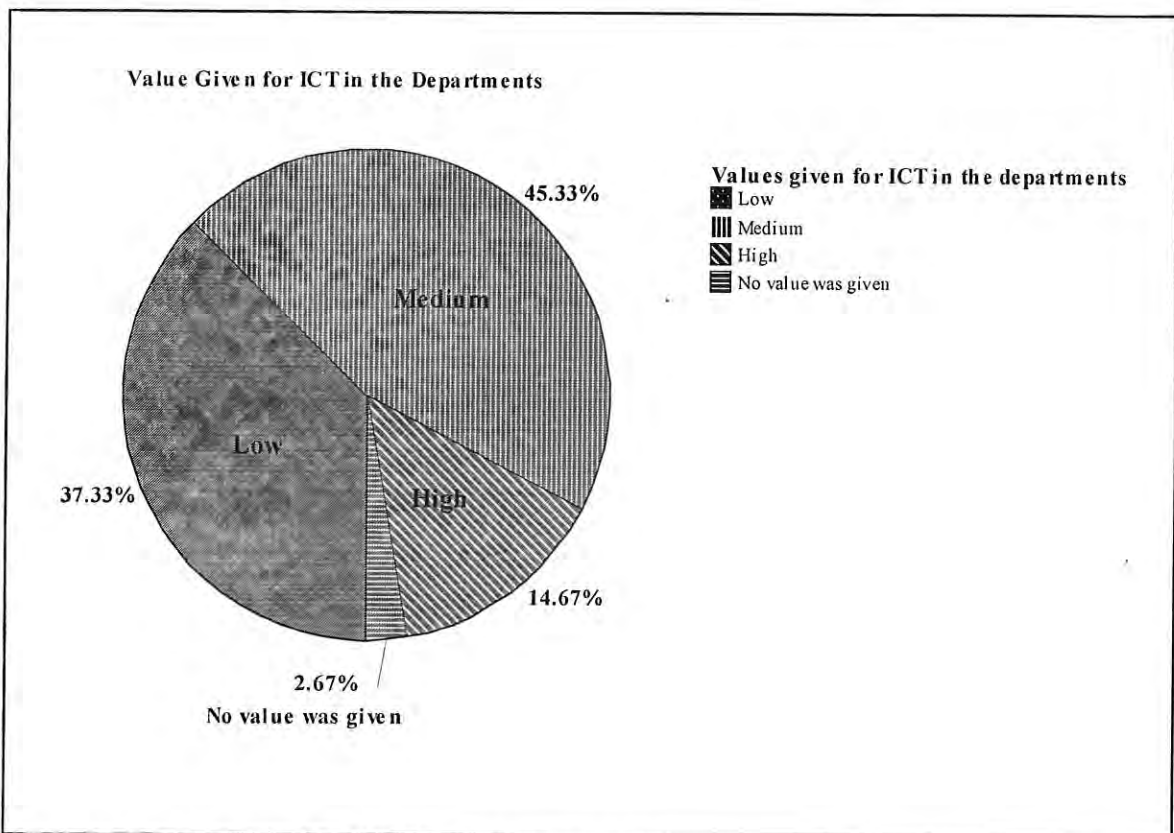


Figure 4.3 Value given for ICT in the departments

Source: Own Survey (March 2012)

An institution who gives no attention for information communication technology will be far away not only from starting but also thinking to implement the system successfully. As shows in the Figure 4.3 only 14.67% of the respondents believed that high value were given for information communication technology in the departments. As mentioned earlier e-governance denotes the application of IT (Information Technology) to the process of government functioning in order to bring about better governance which has been innovatively termed as SMART (Simple, Moral, Accountable, Responsive and Transparent). This definition by itself indicates that information communication technology is an input for e-governance system. However, land administration was not properly ready for the successful implementation of e-governance system, since they did not gave high value for information communication technology in the departments. In this case people attach value for ICT with internet connections, number of computers, network connections across the departments, ICT skill trainings, availability of software in the sector etc.

4.3.4. Personal Computer in Land Administration

The survey result shows that 59.15% of the respondents had personal computers in the departments for their operation. However, this was not high figure for the successful implementation of e-governance in land administration sector. Each employee needs personal computer for the successful implementation of the system. Participants in FGDs also show that the introduction of enough numbers of computers for functionaries were simply the indication of e-governance system in land administration. Lack of sufficient number of computers in the departments for employees were one of the main challenges

in implementing successful e-governance system in the sector. However, such personal computers should be able to be supported by broadband internet facilities, network connections across the departments, software etc. in land administration sector. But all computers in the departments were without internet as well as network connections across the departments. Such issues were hampering the implementation of successful e-governance in land administration sector.

4.3.5. Training Facilities on ICT in Land Administration

Training is an essential tool that makes functionaries competitive to perform their activities in an orderly manner. It also introduces a functionary with new way of techniques and technologies which were important to pursue the activity. Lack of training makes the successful e-governance late for implementation at the right time and at the right sector. For the successful implementation of e-governance training should be able to include all functionaries and it should be able to be continuous. Episodic training for functionaries was not helpful. Training has a direct relationship with e-governance readiness in land administration. Institutions who invest much on training make the functionaries more ready for the successful e-governance system in the sector. However, almost all Woredas of land administration sector did not have adequate training facilities on information technology that were essential for the successful implementation of e-governance system. Based on Figure 4.4, 52% the respondents show that there were lack of training on the last 12 months to up-grade their knowledge and enhance the performance. Training opportunity was critically necessity for introducing users with

information technology that helps for e-governance application. Without supporting expertise of individual end users with training, no system can achieve its full potential.

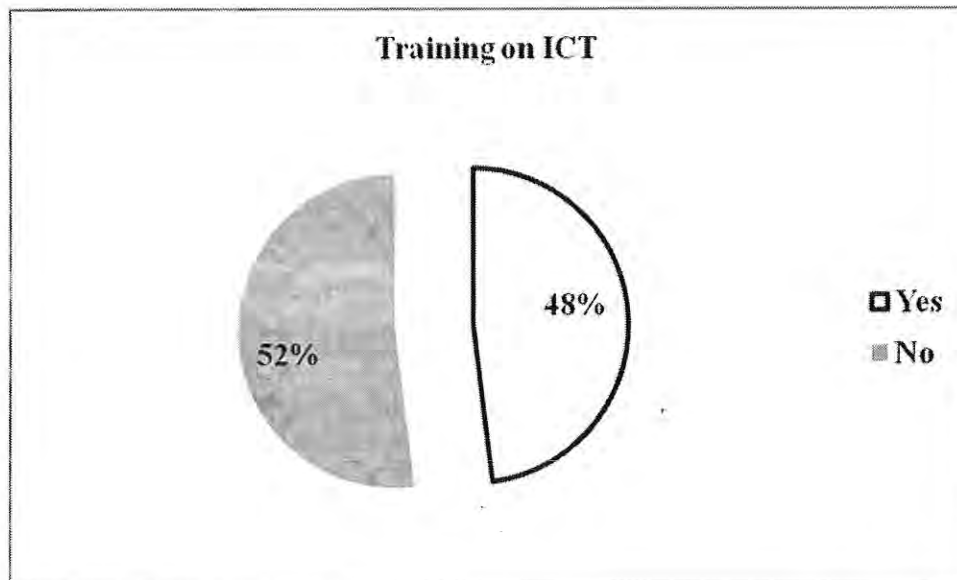


Figure 4.4 Training on ICT

Source: Own Survey (March 2012)

Based on the survey result the training was not detail as required for the successful implementation of e-governance system in land administration. The functionaries had interest to learn usages of computer to carry out their operations but obtaining it was difficult because of the problems of financial resource for training facilities and weak participation of stakeholders in the activities. According to Felix et al (2011) IT skills training is not evidently well-run while e-governance necessitate the staff to be aware and be trained to use the ICT feature. In this case successful implementation of e-governance is achieved through appropriate training in the institution. Mambwe (2005) argue that workers need training session for e-governance both to improve their basic computers knowledge and ICT skills. Therefore, it is essential to conduct training periodically for

functionaries in the sector. The stakeholders' involvements to provide training for employees were less and it was an obstacle to get the training facility. For the last 12 months training for some employees were focused on AutoCAD, maintenance and networking and most of the training was given for IT department workers. The training given did not include majority of the functionaries and this would create imbalance to run the system in all departments equally.

4.3.6. Information Sharing in Land Administration

Each department needs to share information with each other and another department. Perhaps land development bank and renewal center as indicated in the Figure 4.5 exchange information with other departments say urban plan and information preparation, design and construction permit, land development and ownership authority, urban land lease sector, Beautification, Park, and Cemetery Development and Management Sector (BPCDMO) and with others which needs information for its operation. However, such relationship as shown in Figure 4.5 was existed theoretically in the departments and it was carried out manually which was difficult to exchange information across the departments without network connection to access information from another departments. As the population increases and the city grow it might be impossible to give immediate response to the customer with the current manual system. In this modern information age, Information and Communication Technology (ICT) has become almost compulsory in everyday operation. E-governance is also a by-product of ICT. The expected goals will not be achieved unless there is a commitment to designing and implementing effective land information sharing system. Therefore, E-governance

requires for organizing, processing and dissemination of land information across the departments for better land development and administration in the sub-city. Based on the survey result 40% of the respondents were show that information exchange with internal and external entities were done totally by manual system in all the five departments. Manual system is a system in which activities are carryout by paper based system or an operation which does not use electronic means for exchange of information in the sector. And 53.33% of the respondents were used more manual and less electronically to exchange information and 6.67% of the respondents were used more electronically and less manually.

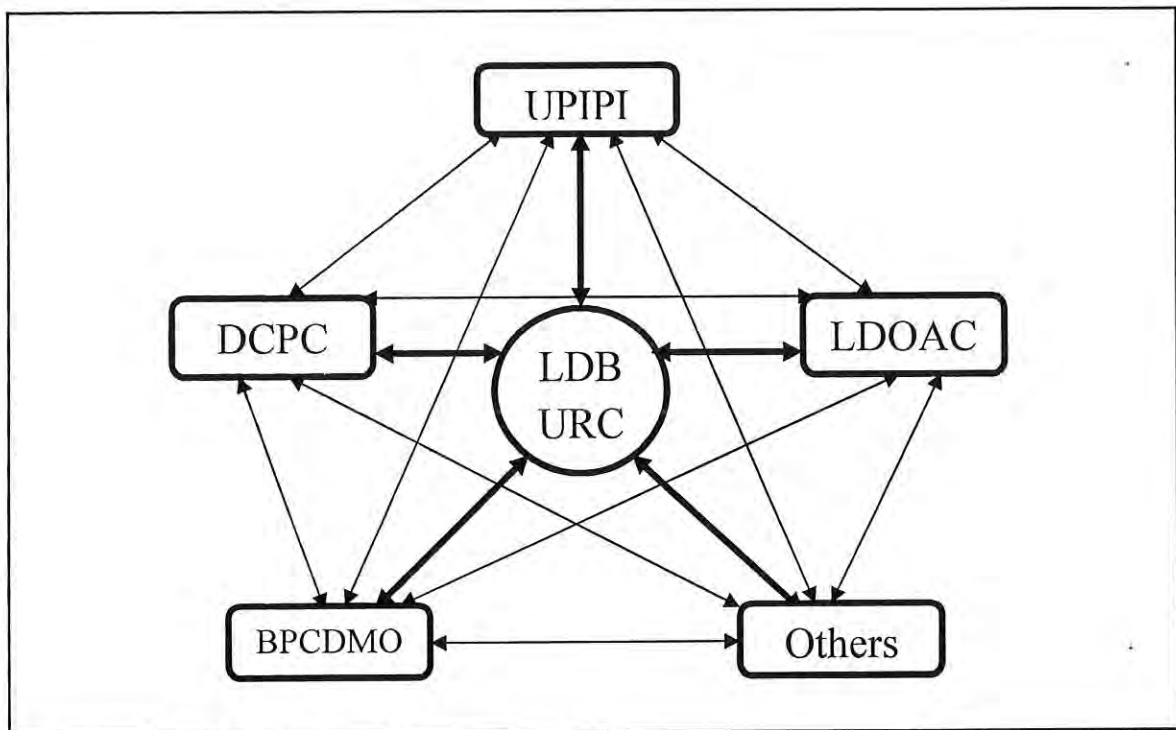


Figure 4.5 Interdepartmental interrelationship

Source: Own survey (March 2012)

However, none of them used totally electronic means to exchange information with other departments or stakeholders. Information sharing across the departments was dominated by manual methods. This makes the information sharing weak. Electronically means of information exchange across the departments are fast and one can get information simply without physically visiting each departments. Therefore, application of e-governance system in the departmental interrelationship will result in connecting all departments for well developed managing system of land and accelerate decision making process in the land administration sector. This opens a door for good governance in the institution which has a direct relationship with e-governance.

4.3.7. Professional/ICT Literacy Rate in Land Administration

Professional or ICT literacy rate was one of the major factors for the successful implementation of e-governance in land administration sector. Low level of ICT literacy means the institution has less potential for the successful implementation of e-governance system for operations. The survey result directly agrees with scholar's findings. According to Narayan (2011) ICT literacy is very essential for the implementation of e-governance system in the institutions. Based on the scholar's findings ICT skilled functionaries in all land departments were essential to strengthen the capacity of the institution to delivery appropriate services and .to manage the land properly by e-governance system. However, the survey result shows that only 12% of the functionaries were good in using ICT in the departments. Table 4.3 shows that ICT literacy rate was less when compared with the institution expectations for the successful implementation of the e-governance system. The survey result shows that there were gaps in ICT literacy

and e-governance implementation in land administration sector. A lot will be expected from the land administration in this direction and ICT skills are required from all functionaries in all departments for the purpose of successful implementation. ICT literacy means not only knowing computer but one should have knowledge and skills of using electronic means which directly meet the requirements of the departments. Perhaps professions such as surveying should be re-engineered and re-invented to fit into the required position in the departments and it should be a modern interdisciplinary profile. This includes adoption of modern technologies and the existing field of study which is suitable for performing this modern role.

Table 4.3 Department * ICT literacy in the departments

R.No	Departments	ICT literacy in land departments		
		Poor	Satisfactory	Good
1.	Urban plan and information preparation	37.5%	50%	12.5%
2.	Land development bank and urban renewal center	28.57%	35.71%	35.71%
3.	Design and construction permit center	56.52%	34.78%	8.70%
4.	Land development and ownership administration	60%	40%	-
5.	Information technology center	57.14%	42.86%	-

Source: Own Survey (March 2012)

4.3.8. Appropriate IT Materials

Lack of appropriate information technology material is one of the bottlenecks to implement e-governance system in the institution. E-governance requires proper information technology materials for its successful implementation. It needs hardware and software for suitable functioning. Based on the survey result 85.3% of the respondents indicated that there were no appropriate information technology materials in the departments for the successful implementation of the system. This was the main challenge in implementing the system and delays its successfulness in land administration sector. 74.7% of the respondents also show that there were no appropriate software packages that were directly related with the departments. This shows that less attention was given for suitable software purchasing which exactly met for the requirement of the departments. Software is one of the essential components for the successful implementation of e-governance in the organization. Giving less attention for appropriate software packages which were exactly fit for specific purpose shows that there was less probability to run the e-governance system successfully in the sector. All these ideas also agree with the literature. Based on Yarney (2005) appropriate equipments are one of the significant challenges in implementing e-governance in the institution. It is possible to say that equipments are very essential to implement e-governance in the land administration sector. Without such essential equipments it is difficult to think successful e-governance system in the sector.

Appropriate IT materials in the departments also revealed in the form of the level of ICT. ICT is not only as tool for improving governance but also more significantly as a means

to enhance the internal government operation, process and for better service delivery. However, the survey result shows that current ICT level in the departments was not promising for the successful implementation of the system. It demonstrates that much work was left for the land administration sector. Based on the survey result on Table 4.4, 72% of the respondents show that ICT level was poor in the departments and only 1.3% of the respondents show that ICT level in the departments was good and it was less number or insignificant figure. The government needs to consider developing ICT level in land administration for its successful implementation. Radical change might not be possible and do not expected but through time with the collaboration of all parties (government, citizens' business organizations and CSOs) will make it successful.

Table 4.4 ICT level in the departments

ICT level	Percent
Good	1.3%
Satisfactory	26.7%
Poor	72%
Total	100%

Source: Own Survey (March 2012)

4.3.9. Commitment for ICT

For successful implementation of e-governance a lot of factors are considered. Allocation of significant budget is one of the main factors that necessarily considered for the system. Research shows that successful e-governance system is typically spend about 10 percent of their budget on training and capacity building. The probability of having a successful

e-governance is directly depend on the government' overall capability and willingness to spend on the required information technology and associated expenses.

Table 4.5 Commitment for ICT in the departments

R.NO	Commitment for ICT	Percent
1.	Allocation of enough budgets for ICT	1.33%
2.	Presence of training on ICT	14.67%
3.	Presence of government commitment to expand ICT	58.67%
4.	Allocation of enough budgets for ICT and Presence of training on ICT	1.33%
5.	Presence of training on ICT and Presence of government commitment to expand ICT	20%
6.	Presence of training on ICT and aware the use of ICT	1.33%
7.	Allocation of enough budgets for ICT, Presence of training on ICT and Presence of government commitment to expand ICT	2.67%

Source: Own Survey (March 2012)

Based on the survey result, there was inversely relationship between the organization budgeting and ICT investment. According to the result 5.33% of the respondents' show that the institution had fund for ICT in the departments. However, as shown in the Table 4.5 majorities of the respondents i.e. 81.34% emphasized that government was committed to expand the ICT in the land administration sector. But there was less budgetary allocation by the government. Therefore, the government should be able to allocate enough budgets in order for the successful implementation of e-governance system in land administration sector. According to Okot-Uma and Ssewanyana (2010) commitment

must be backed up by a sufficient budgetary resource allocation to supply for the implementation of the system. Generally most of the respondents show that poor attention was given for ICT in the departments. This less attention also revealed in the form of lack of training, poor infrastructure, lack of enough budgets for information technology etc. in the departments. Therefore, in order to maximize the benefits of e-governance for land administration budgetary issues should be given serious attention.

4.3.10. Interdepartmental Integration in Land Administration

Stand-alone departmental system may work as long as they are isolated, but for all practical purpose that does not happen. Unless all the departments are interconnected the process flow is not complete and most of the governmental works require multi-departmental collaboration. This makes it imperative to have interdepartmental collaboration for e-governance to succeed. However, there was no much coordination between different departments in land administration sector. Each department was spending individually for the similar operation. Perhaps one department say land development bank and urban renewal center has needs to share information with urban plan and information preparation institute, design and construction permit, land development and ownership authority, municipalities institutes, Beautification, Park, and Cemetery Development and Management Sector (BPCDMO), communities, etc. Therefore, there was the danger of creating islands in different departments that cannot communicate each other for practical purposes. Based on the survey result 49.33% and 65.33% of the respondent show that there was no interdepartmental integration and there was a communication problem in case of land related issue between departments

respectively. This interdepartmental integration and communication problems were the result of weak e-governance system in land administration sector. This shows that there was a problem of successful e-governance implementation in the departments. McLaren and Stanley (2011) argue that e-governance improve efficient interdepartmental coordination. This shows that e-governance can connect all departments and support communication, process and activities. However, this did not exist in land administration sector due to weak e-governance system in the departments.

Moreover, Based on the survey result 77.33% of the respondents show that there were decisions made by other departments without involving another department. This shows that there was lack of transparency in the departments in case of decision making processes. However, e-governance in government operation was to facilitate a speedy, transparent, efficient and effective process for performing activities in the department. Decision in such types of activities should be clear, transparent and be participatory. Unclear and isolated decision making in the departments result in weak decision making and will lead to wrong planning and policy formulation in the institution. For such types of purposes implementation of successful e-governance system was a basic tool to solve problems exists across the departments.

4.4. Challenges in Implementing E-Governance in Land Administration

Based on the survey result 96% of the respondents show that there were challenges in implementing e-governance in land administration sector. The general problematic issues

that hamper the implementation of e-governance mentioned by the respondents include other than the above mentioned points were;

1. Lack of Well-Trained Personnel

Lack of well-trained personnel in the departments was a problematic issue in e-governance implementation in land administration sector. Well-trained human resources were basic for the adoption of e-governance system. Well trained IT personnel help to manage, maintain and scale-up the system when needed. Lack of well-trained personnel in the departments forces managers/institution to employ IT professionals from the market for up-grading and maintenance of e-governance system which is likely to result in failure of the system as such professionals might be expensive in the market through time. Departments which are eager of implementing e-governance systems are required to simultaneously build up the required competencies at various levels (from lower levels to higher levels) which exactly fit the requisite place. However, 72% of the respondents in the survey result show that there was a problem of well-trained personnel to carry out e-governance in land administration. The present personnel might needs different types of training which support them for implementing the system properly. In this case strong human resource manager is vital in employing the right personnel at the right place in the departments.

2. Rapidly Changing Technology

Technology is dynamic by its nature. It forces every functionary to adopt the recently invented technology else the current systems by itself pull back and make the departments operation very weak and unable to create standard service delivery to the

expected customers. However, functionalities did not move with the changing of technology to perform the present activities in the departments. Due to this they were isolated from the right path in which the whole system travel in the departments. But this can be achieved through providing continuous on job training and education for functionalities working in different departments.

3. Lack of Infrastructure

An e-governance infrastructure in general comprises inter facilities, network infrastructure, hardware and operating system and system management platform, application server environment, data and content management tools, security infrastructure and application development tools. However, the sub-city did not have such infrastructures necessary to organize e-governance throughout its sector. Absence of such infrastructure in the departments results in weak implementation of e-governance system in the institution. The institution needs to acquire such infrastructures for the successful implementation of e-governance system.

4. Lack of Privacy or Security Issues

Another problematic matter for e-governance was lack of privacy or security issue. According to 50.67% of the respondents privacy/security was one of the challenges for the systems. The functionalities indicated that the land administration may lack the technical knowledge and skills that necessitate to administrator or control all these issues in order to have uninterrupted e-governance system in the departments. Implementation of e-governance without proper planning and design of privacy/security issues will result in failure of the systems. Having knowledge and control of how personal information was

available, pass on and used was the major instrument to protect privacy. Moreover, network and document security was an essential issue that must be considered in e-governance system and the institution work on security which is better than the current security system in the departments because security is by no means complete rather it is comparative.

5. Lack of Training that Specifically Meets the Demands

Training is an essential tool that makes functionaries competitive to perform their activities in an orderly manner. It also introduces a functionary with new way of techniques and technologies which are important to pursue the activity. Lack of training makes the successful e-governance implementation late at the right time and at the right institution. 52(69.33%) believed that there were lack of training on the last 12 months to up-grade their knowledge and enhance their performance in the sector activities. The training given did not include majority of the functionaries. For the successful implementation of e-governance training should be able to include all functionaries and it should be continuous. Episodic training for functionaries was not helpful. Training has a direct relationship with e-governance readiness in the departments. Institutions which invest much on training make the functionaries more ready for the successful implementation of e-governance system.

6. Lack Up-date and Clear Data

Land information is crucial for social and economic development of a city. Government by its nature is an information demanding organization. Lack of clear data might lead to inappropriate decision making and policy formation that directly affect not only the sub-

city but the whole city in general. From survey result 86.67% of the respondents replied that they did not have clear, accurate and up-date land information for their operation. This was also hinders the implementation of successful e-governance in the sector. Yarney (2005) argued that gathering update information from the relevant governmental institutions, CSOs and from the public at large are remains as a significant challenge in implementing e-governance in the institution. This shows that updated information was very essential for the successful implementation of e-governance system in the sector. Data infrastructure should be able to be ready for e-governance system in the institution and lack of land information resulted in; 1) Inability to produce land related data as a base for social and economic development 2) Insecure ownership and security of tenure and 3) Lack of updated data to provide the required information on topography, boundaries and land use. These mentioned problems were continuing to hinder the effect of establishing a sound land management and the effective implementation of activities on land through e-governance system. Moreover, this lack of clear, accurate and up-date land information might lead to collection of data again to make the data infrastructure ready for the successful implementation of e-governance system in land administration sector. This creates another challenges and causes the institution to incur additional scares financial resources to gather the required data in a newly way.

Finally an idea raised by FGDs participants as a challenge was the issue of ability to use native language in the system of e-governance. Lack of access to use native langue in ICT was a huge challenge for the successful implementation of e-governance in the institution. In Ethiopian case, the use of local language in the IT system was not well

developed while research was carried out in such types of issues. This was also reflected in the sub city land administration sector. The use of information would have to be made accessible in the language most comfortable and unproblematic to use for all functionaries and users. Using local language has a benefit for all workers from lower level to higher level to be participated in the system.

4.5. Solutions for E-governance Challenges by Functionaries

Solutions put forward by the sub-city land department functionaries to overcome the challenges that hamper the implementation of e-governance included;

1. Government Commitment

One of the solutions forward by the employees for successful implementation of e-governance was government commitment. This was highly essential for the e-governance implementation and without such commitment it was difficult for the adoption of successful system in land administration sector. Based on the survey result 60% of the respondents were shows that government commitment was essential for the successful implementation of e-governance in the institution. When government commitment was considered many things should be imagined to analyze the situation. It is difficult to start these types of system from scratch in an institution rather it requires at least some pre-conditions to fulfill for its successful implementation. Some of the pre-conditions include policy formulation at national or sectoral level, provision of finance for the system, giving continues attention for infrastructures, development of human resources, monitoring and evaluation of policy implementation etc. should be able to undertaken by

the government. The government should be able to show initiatives on these issues in the institution for the successful implementation of the system.

2. Development of Human Resource Infrastructure

Another solution put in place for the successful implementation of e-governance by the functionaries was the requirements for the development of human resource infrastructure in the sector. Based on the survey result 61% of the respondents were shown that development of human infrastructure was an important issue for the successful implementation of e-governance in the sector. While considering the development of human resource infrastructure, it should be able to be seen from different angles in the sector. The institution should be able to recruit competent human resource and able to provide on job trainings for the existing human resources to acquire better skills and knowledge in the area of e-governance system in the organization. Training of the personnel at all levels (from top-level managers to lower level employees) was required. It is fundamental to teach all employees in basic computer usage and technical operations. There should be workshop for all levels. The new as well as the existing human resources need to be trained frequently for learning new and updating skills as the progress in ICT going at a very speedy rate.

3. Raise the Involvements of Stakeholders

One of the solutions that were suggested by functionaries for the successful implementation of e-governance in land administration was calls for the involvements of stakeholders in the process of e-governance system. Stakeholders' involvements were essential for the successful implementation of e-governance in land administration sector.

Based on the survey result 60% of the respondents were show that calls for the involvements of stakeholders were important for the successful implementation of e-governance in land administration sector. Based on Felix et, al. (2011) successful e-governance is the result of involvements of external and internal agencies in the implementation process of the system. These internal and external entitles are stakeholders who have interest to develop and implement the system in the institution. Here implementation of the system is not only the responsibilities of the government but it includes all the concerned parties for its successful operation. The land administration sector should be able to involve these entities/stakeholders (government, non-governmental organizations and private sectors) for the successful implementation of e-governance which was in infant stage in the institution. Therefore, all entities/stakeholders should be able to be participated in the process of e-governance implementation in the institution. Expecting successful implementation of e-governance in the institution without involving stakeholders is difficult and it takes longer time to achieve well functioning system.

4. Enhance Technological Infrastructure

Another solution shown by the functionaries was development of technological infrastructure in land administration sector. Based on the survey result 75% of the respondents were suggested that development of infrastructure was basic components for the implementation of e-governance in an institution. According to Kalsi et, al. (2009) technological infrastructure is one of the main pre-conditions for the successful implementation of e-governance system in the institution. Even if there are other

conditions for e-governance, technological infrastructure is the basic pillars for its successful implementation. Therefore, not only adequate but appropriate technological infrastructures are essential for the adoption of the system, since technological infrastructure is a prerequisite for the successful implementation of e-governance in land administration sector.

5. Awareness Creation Work

Create awareness about e-governance among functionaries and at the top-level managers was very important to implement the system fully in an organization. Based on the survey result 54.67% of the respondents were shows that creating awareness was vital for better adoption of e-governance in an institution. However, such activities were not done well in the institution for the successful implementation of the system. Creating awareness facilitates the successful implementation of e-governance, since awareness introduces the potential benefit of e-governance in the institution among the functionaries, managers and lower level employees. Moreover, Annex1 shows the respondents' response on different types of solutions to overcome challenges in implementing successful e-governance system in the institution. However, each and every points mentioned by the respondents' response were very vital to overcome challenges in implementing e-governance in the land administration sector.

4.6. Capacity Needs to Implement E-Governance System

Capacity improvement directly attaches with society, organizational and individual level. The individuals' level addresses the need for individuals to function efficiently and effectively within the entity and within the broader system. Human Resource

Development (HRD) is about assessing the capacity needs and addressing the gaps through appropriate education and training. E-governance needs capacity to implement successfully in land administration sector. In this case technical skills, basic computer skills, operating on different software packages, working on new environments, ability to learn new way of systems etc. should able to be considered in the capacity of the users. Moreover, the users should be able to integrate their educational background with the new system for successful implementation of e-governance in the institution. Without such integration the e-governance challenges remains an ongoing in the institution. Therefore, land administration expected to require such capacity for better e-governance implementation.

4.6.1 Capacity Improvement by Functionaries in the Process of E-Governance

Capacity improvement in the process of e-governance can be expressed in the form of transparency, efficiency, effectiveness and decision making through the involvements of other departments in an institution. Functionaries in land administration were not improved the expected capacity in the process of implementing e-governance system in the departments. Based on the survey result 40% of the respondents were shows a progress in the capacity and 58.67% of the respondents were not improving the capacity through the process of implementation of e-governance in land administration sector. Perhaps 21.33% and 20% of the respondents were developing the capacity of transparency and effectiveness in their operation through the adoption of the system in land administration sector. However, respondents who developed combined capacity (transparency, effectiveness, efficiency and decision making through the involvement of

other departments) were small. But 5.33% of the respondents were developing the capacity in transparency and effectiveness while 9.33% of the respondents were increased the capacity in transparency and efficiency and 8% of the respondents were developed the capacity in terms of efficiency and increasing decision making through the involvements of other departments. These figures were small and it shows that the land administration needs to do much work on developing the capacity of functionaries in order to make them ready for successful implementation of e-governance system. These capacity can be develop through continues training and education which exactly fit with the required positions.

4.7. Information Technology (IT) Department in Land Administration

Presence of Information Technology (IT) in land administration is very essential for different activities. Supporting the land administration with stand alone IT department makes the e-governance system smooth than having no stand alone IT department. However, the department was not stand alone but it was included in the urban plan and information preparation institute and this department was not organized by different professionals that were essentially required for the successful implementation of e-governance system. There were no technicians, programmers, database administrators, network administrators, senior managers in information technology, system analysts, system administrator etc. But there was a single functionary in the department who was software engineer or IT professional or who learned computer science or secretary science. Due to this the department was unorganized to support the other departments for successful adoption of e-governance in the sector. These functionaries were giving a

support like maintenance, networking, installing software, and giving some simple on job trainings which was not adequate to carry out better e-governance system in the institution. Less number of professionals and unorganized department were one of the main challenges for the successful implementation of e-governance in land administration. Even if the department had information sharing policy they did not used it as the required level. Based on the survey result 18.67% of the respondents were used this information sharing policy for the process of implementing e-governance in land administration sector. Perhaps the department did not have a website which was used for announcing organizational systems, rules and regulations etc. of land administration and which was very important for e-governance system in the institution. This shows that there was a gap in departmental arrangement in implementing the successful e-governance system in land administration. Therefore, this might call the requirements of new departmental reorganization that directly fit with the implementation of e-governance in land administration sector.

4.8. Stakeholders Participation in E-Governance Implementation

High stakeholders' involvements result in successful implementation of e-governance in an institution. Such types of system implementation will not be carried out by the institution alone rather it calls the involvement of various stakeholders in process of adoption of the system. Such stakeholders play a great role in developing and implementing the systems like e-governance in the institution. Stakeholders were participated in the sub-city in different activities like;

1. Software development based on the department needs for e-governance activities
2. Financial support to initiate develop and implement the system and
3. Provide training facilities which directly meet the required target.

However, stakeholder's involvement in e-governance initiative, development and implementation was less in land administration sector. Based on the respondents' response the level of stakeholders' involvement in such activities were low. These stakeholders involved in activities like software development, financial support and training facilities which were insignificant for the successful adoption of e-governance in the institution. This shows that the institution was fall to call the involvement of stakeholders (governmental organizations or private sectors or civil society organizations) for well developed techniques that was supported by electronic governance system. Developing partnership with private sectors, which should be concerned in providing skill training and society based capacity building, as well as hardware and software developments which are essential for the successful implementation of e-governance was missing by the sub-city land administration sector.

According to Dieter (2005) the case of good e-governance requires stakeholders' involvement at all level from the early stages and should be kept involved throughout development and implementation. This shows that stakeholders' involvement at every stage of e-governance system was highly essential for well developed implementation of e-governance in an institution. These ideas also matched with FGDs participants. The participants were shows that stakeholders' involvements were essential for better adoption of the system. As shown in Annex2 FGDs participants were identified different

stakeholders with their responsibilities to overcome difficulties and for the successful adoption of e-governance in land administration sector.

E-governance system required large amount of financial resources for its successful implementation. Sometimes it is not possible only by the institution capacity to invest large amount of finance in case of such activities. This might needs identifying stakeholders to engage in implementing even using Public Private Partnership (PPP). As displayed in Figure 4.6, 25.33% of the respondents show that there were financial supports by stakeholders for the successful implementation of e-governance system in land administration sector. And 6.67% and 20% of the respondents show that there were software development and training facilities by stakeholders for well developed e-governance system in the institution.

A variety of solutions in the PPP are being employed today to bridge the gap between the expected levels of speed, efficiency and spread of public projects especially in the areas of creation of infrastructure and provision of services. Therefore, the land administration sector should be able to consider such directions to overcome the challenges faced for the successful implementation of e-governance system. The concept of Public Private Partnership (PPP) essentially arises out of considerations like, the imperative to provide infrastructure of high quality, shortage of public funds and above all, the profit motive driving high efficiencies and quality in the privately managed areas.

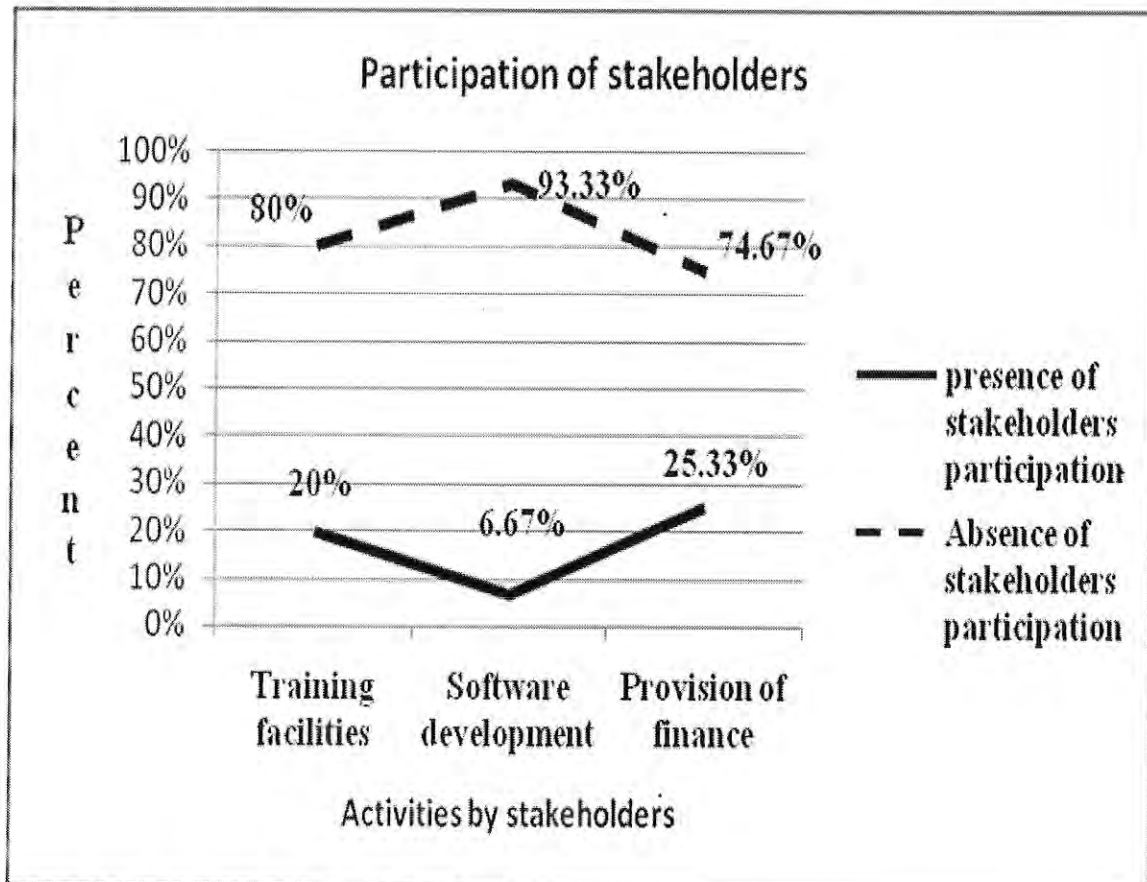


Figure 4.6 Participation of stakeholders

Source: Own Survey (March 2012)

As a stakeholder, based on the key informant interview result from the government ICT directorate development sector at the MCT explained that there will be challenges in implementing electronic governance system in institutions like land administration system. Some of the challenges mentioned by the directorate are 1) technological challenges and 2) Human Resources challenges. The use of ICT might be sometimes challenging for its successful implementation. The lack of access to ICT, poor technological infrastructure and absence of adequate connectivity to bandwidth are difficulties to the achievement of electronic governance system in the institutions including land administration. It needs technologies in terms of software development,

hardware and networking. Without such infrastructure it is unthinkable to achieve successful e-governance system in any organizations.

The implementation of technologies without developing human skills and capacities to manage, integrate and continuing the system is somewhat difficult to achieve the desired result or outcome. A major challenge comes from the fact that there is considerable lack of requisite human capital and skilled ICT personnel. The key to sustainability of land administration system through e-governance is human resource development, and mainly education and training both by government and private sectors.

According to the key informant interview result, even if the challenges exist in implementing e-governance system the ministry formulates a strategy in order to tackle the problems in government institutions including land administration. Various activities for enhancing communication and information technology development includes development of communication and technology infrastructure, development of e-governance through use of information technology, enhancing role of private sector in ICT, and facilitates the development of the required ICT human resource through an appropriate mix of quality and quantity, promote applied and need based ICT research and development and provide ICT related consultancy for the institutions. The ministry also uses in-house software development, out-sourcing and private public partnership (PPP) which provide infrastructure of high quality, shortage of public funds and above all, the profit motive driving high efficiencies and quality in the privately managed areas to enhance ICT. In addition to the above mentioned points the ministry works on:

1. Promote ICT skilled development at all levels of education with the aim of increasing the development and use of ICT;
2. Organize need based short-term specialized and advanced ICT trainings for different target groups;
3. Develop ICT occupational standards and ICT curriculum framework for different level of education and training in collaboration with concerned stakeholders;
4. Software development based on the organization needs to achieve the required objective and
5. Enable the private sectors to contribute its share to the development of communication and information technology.

4.9. Stakeholders Views on Challenges of E-Governance

In order to realize the major activities carried out by stakeholders in relation with challenges and solutions in implementing e-governance, key informants interview were undertaken among two governmental organizations and one major project carried out by Addis Ababa city administration that were directly related with the objectives of the research. The key informant interview carried out in organizations included;

1. Nefas Silk Lafto Sub-city Administration (NSLSCA)
2. Addis Ababa Information Communication Technology Development Agency (AAICTDA)
3. Addis Ababa Integrated Land Development Information Project (AAILDIP)

4.9.1. Major Challenges by NSLSCA

Land is a natural resource which has social, economic and political value in a country. And land administration is a broad concept and it includes activities like determining, recording and disseminating information about land and land related issues. However, this land administration mechanism has problems which may affect the institution responsibility. Some of the major problems included;

1. Problems of well-trained professionals
2. Lack or loss of appropriate data
3. Weak government to customer relationships and
4. Problems of essential infrastructure

4.9.1.1. Solutions Put by NSLSCA

According to the key informant interviewee, the sub-city tried to expand ICT and related issues to facilitate efficient and effective public service delivery. Therefore, the administration thinks a new way of system for sustainable land development and administration. The administrative believed that land information is essential for social and economic development of the sub-city. For such purpose ICT in general and e-governance in particularly is an essential tool for well developed land information system. The sub-city was working on computerization i.e. to have personal computer for each employees. The sub-city idea was directly related with the Planning Commission of India (2001). The planning commission shows that the initial point of e-governance is introduction of computer. In addition to introduction of computers for employees the sub-city was working on development of human resource through training for the adoption of

e-governance in land administration. The sub-city was generally working on good governance which was very important for public service delivery in land administration. According to the interviewee explanation, the concept of good governance encompasses many issues like transparency, effectiveness, efficiency, accountability etc. The sub-city administration was put into practice good governance through the process of implementing e-governance system in land administration sector, since e-governance is one way of implementing good governance in the institution. Such inspiration exactly fit with the ideas of Menda (2005). The scholar indicates that e-governance can simplify and speed up administrative objectives by increasing good governance. It also shows that e-governance means good governance. It is obvious that appropriate, easy and accessible system of governance is vital for better public service delivery in the institution. In such issues e-governance can play significant role in land administration sector.

4.9.2. Major Challenges by AAICTDA

Regarding network issues, the project expert who was working in network connection for land administration system said that the project was meant for network connection to enhance land administration through e-governance system. This network connection was carried out by AAICTDA with a vision to install and expand information network which facilitate internal operation of the institution and service delivery which benefited the society at the whole. According to the key informant interviewee, others stakeholders' were also participating in the network connection to carry out the successful implementation of the system in the sub-cities.

Table 4.6 Stakeholders participating in e-governance implementation

Stakeholders	Responsibilities
ETC	to carry out the network connection between ETC and head quarter and installation for internet protocol
EEPC	to provide the necessary amount of energy for the proper implementation of the project
MCT	which were also responsible for standard level of network connection and build network infrastructure system
INSA	which were responsible for security issue in case of network connection

Source: Own Survey (March 2012)

Some of the stakeholders participated in network connections included; Ethiopian Telecommunication Corporation (ETC), Ministry of Communication and Technology (MCT), Information Network Security Agency (INSA) and Ethiopian Electric and Power Corporation (EEPC) and their responsibilities were summarized in Table 4.6. The project would be implemented in all sub-cities of Addis Ababa city. It was implementing in Addis Ababa city land administration. The project was mainly focused on connecting all sub-cities with the head quarter through network connections. Ground plus three (G+3) building for this purpose was completed in all sub-cities with the city administration budget. In this case the city administration was greatly devoted to construct the building which was very essential for the successful implementation of the system and essential installations had performed in order to carryout e-governance system in land administration. The system performs registrations activities at all levels. Every data registered in the sub-city level was also registered at the city level and up-dating

performed at the sub-city level also performed at the city level. Each sub-city has a server room which was connected with the head quarter server. However, there were challenges in implementing the network connection which was one part of the e-governance system. According to the interviewee some of the challenges included;

1. Level of Bandwidth

Government-wide adequate and appropriate infrastructure for information has to exist across the sub-city with sufficient bandwidth. According to the expert adequate and appropriate infrastructure for information technology did not exist across the city with sufficient bandwidth. Perhaps the Germany Company named HASAN were demand 10GB bandwidth for network connection from ETC to head quarter and 1GB from head quarter to sub-city for improved (high quality) network connection. However, ETC was unable to provide the proposed GB for the network connection and the request was not feasible and this was a main challenge while implementing the system in all the sub-cities. High level of bandwidth means a capacity to take high traffic with speedy to transmit data across the network connections.

2. Level of Power Supply

Insufficient access to electricity is one of the main bottlenecks that make uncertain obstacle in the process of adoption of the system. For effective operation of any ICT based services like e-governance, regular electric supply was indispensable. There was also a gap in demand and supply in the city. That was one of the major challenges while implementing ICT based services, since it was almost supported by the electric power.

3. Less Number of Professionals

Appropriate numbers of professionals and materials were essentials for the successful implementation of e-governance system in an institution. However, there was less number of professionals in the project to carry out the network connections. This situation was affecting the project to implement the required level of standard in all the sub-cities. Work load might create inconvenience in the successful implementation of the system and finally result in properly unsupervised project. While doing such projects sufficient number of professionals should able to be involved in order to achieve the required objective.

4. Problems of Compatibility

Compatibility was highly important issue in network connections. The connections to work successfully there should be compatible software and hardware in harmonious or congenial combination. However, there were problems of software compatibility that were developed in other places by other stakeholder without analyzing the system that were important for the project. Well established software development which directly fit with project was challenging. Absence of such compatible software in the system results in well undeveloped implementation of the e-governance system in land administration sector.

5. Delays of the Necessary Materials

Delays of the necessary materials for the project was one of the most but not the least problems in implementing the e-governance system in an institution. The project was greatly multifaceted process requiring of hardware, networking and software to carry out

the activities properly at the standard level. Delaying or losing such materials stumble the operations which affect the whole activities in the process of adoption of the system.

4.9.2.1. Solutions Put by AAICTDA

As the expert explained there were solutions put forward to overcome challenges exist to carry out the project for e-governance application. In case of delays of materials the project overcomes the problems by reuse of materials that were available in the project. In this case the project used materials which met the level of the standards to carry out the project. In case of compatibility, the project developed compatible software which directly required for the operation in order to carry out the network connection. In case of less number of professionals, they were overcome the problems by keeping on discussion with the responsible bodies to had sufficient number of professionals for the purpose of quality of work. They also used other staffs for the purpose of the operation these were well-trained in network connections.

In case of bandwidth, the project took readjustment system to carry out the network connection with the available resource in order to continue the project. Due to this the bandwidth level was adjusted again by 30MB from ETC to head quarter and 10MB from head quarter to sub-city. However, it did not mean that this level of bandwidth was enough to carry out activities in advanced way. But it would be expected to improve the bandwidth level in the future after testing the network connection. In case of power supply the project did continuous discussion with EEPC to insure the constant supply of power for the project, since EEPC were responsible to provide the necessary amount of power and energy that were required for the proper implementation of the project. EEPC

was committed to supply the required amount of demand and would work for providing continuous supply of power to assure the implementation of the project. In such types of system the power supply should not be interrupted for the successful operation of the system.

After testing the connection it will be upgraded for effective operation of the connection. Internet protocol (IP) configuration, hardware and software firewall developed in order to minimize the challenges arise due to security problems. Finally due to the implementation of the system the sector will expect secure land information system and corruption will be minimized, since land is administrated through electronic governance system. Moreover, immediate response will be assured through the adoption of the system.

4.9.3. Major Challenges by AAILDIP

The main aim of the project was to organize, improve, disseminate, utilize and update appropriate land data. It was also focused to develop, scale-up and implement the appropriate collected cadastre data. The key issue from the project that has attempted to establish e-governance was the significance of considering why they were started and what impacts they achieved. First of all it was understand that the land data at the time of this research was inappropriate/out of date, the existing organizational arrangement was unable to meet the existed socio-economic needs and there was no appropriate human resource to meet the need of the existed demand in all aspects. Therefore, it need to analyze the information gap and decided what really constitutes cadastre data. Therefore, the basic aim of this project was to organize appropriate cadastre data and to store it in a

digital form with an enhanced security system. The cadastre data would constitute real estate cadastre system and right registrations (documents that show ownership). These two aspects of data will be accessible for appropriate persons only and can be formidable against manipulation. It was to provide a digital form of data using a client server system. This was the direct application of e-governance system to the land administration system.

However, they have to consider additional elements other than technology to implement e-governance system in the institution. Human resource was a very important aspect of an advanced land administration system. The system always needs personnel which has the appropriate skill and knowledge to run the operation based on the required criteria and which was suitable for skill upgrading. Training like downloading, data base and others based on the required for users, administrators and top level managements were critical for the success of the project. Also it was required rearranging organizational structure to implement the system. The system was needed to add positions or roles in the organizational arrangement and to cut other unsuitable positions. For example the system may not needed personnel that have a job to keep paper files and documents. As a result the system will needed change in declare proclamation and formulate the appropriate policy to ensure the existence of the system. Then the question comes, how do you manage the change/system? The system has to satisfy the interests of many individuals at the same time. That was where the challenges come in implementing the system in land administration system. The challenges included;

1. Misunderstanding of the Project

One of the most common problems with any implementation was the inclination to resist any change in the institutions. The parties involved, the top level management, customers and lower level employees all strived for maintaining their own interest. Negative observation could be made about e-governance project in Addis Ababa city land administration. The transition to e-governance was hardly smooth and timely adopters in any way do not have the interest to facilitate activities of transition. The dominated working culture was also a resistance to implement e-governance system in land administration. There were also outside stakeholders like banks, whose employees had formed their own interest in relation to land. These individuals may be corrupted and would fight for the survival of their interest. All did not understand the overall importance of the project and therefore could be considerably obstacle. Employees who have worked before the introduction of the system may see themselves as very important staff and fight to reduce change which results in their job at jeopardy. Top management officials may see the change in the system set up and administrative as offence to their legitimate and illegitimate benefits by virtue of their professional occupation and may take the same stance as lower employees. The same goes to banking officials as well. The other potential problem that could prevent the project from being successful was the fact that it was not given merit it deserves by powerful people (people within the overall city administration) otherwise the project will end up in a division which seldom has the will or the authority to implement it.

2. Problems of Professional Politics

There were fighting problems existed between different fields of study who engaged in a various profession or engaging in as a profession or means of livelihood involving intrigue to gain authority or power in the project. According to the interviewee, when you rearrange your organization you might start to create new roles and new positions. When you tried to delegate the appropriate personnel with the appropriate technical skills and knowledge different people with different backgrounds would propose their educational background as the appropriate field to fill the gap. There was even a tension between groups of respective fields who feel they were the ones accurately qualified for the job. For example people who had a background in Information Technology (IT), Computer Science (CSC) and Geographic Information System (GIS) might found themselves at longer heads for a job description that needs a new field of study. On the other hand individuals who had plenty of experience on the field think that these “new comers” were useless in doing the task when compared with them. All might not be fitted to fill the newly created positions therefore you needed individuals with a unique set of knowledge and skills.

3. Problems of Skills and Knowledge Gap

There were lots of gaps between (technical) knowledge and skill required and the project that needed to carry out the operation properly as expected. Lack of the capacity to build, operate, and manage, the technology was critical problems in implementing e-governance projects. There was major deficiency in building knowledge and skills in land administration through e-governance in higher education/universities. The project by

itself requires specific skills and knowledge for its success. The task was often vast and not manageable with the resource available (existed fields of studies) and expert knowledge was not developed in the previous times. Information technology was an advantage gained by being in a position to use it and it was unproductive with less quality in land sector. For example the system by itself needed system analyst, expert on database administrator and system development expert in the newly formed organization. The system was also needs a new expert with a different back ground to fill and manage the position.

4. Problems of Organizational Politics

E-governance initiative would lead to obligatory organizational and Institution modifying that directly or indirectly affecting both people and technique at all crossing point of the system sequence. Organizational dynamics is fastest than ever in this time. This means the land administration response to mange that relation will always require change. The existed systems had different stands and many of them were not even compatible with each other. To implement e-governance, these exiting systems would have to be reengineered so as to establish best network. Jain et, al. (2011) also indicated that successful e-governance implementation has technical challenges as well as it requires a basic modification in the working environment and strategic of the government. When the system rearranged according to the required structure the internal as well as the external stakeholders might not needed this change. If one did not analyze the business he cannot consider organizational arrangement. The existed organization might be considered as the best when compared with the newly formed organization. However, the

current organizational arrangement might not fit during the project implementation. Therefore, it needed a total change of organizational system which results in conflict between the different organizations. Even if the project implemented as an independent organization side by side with the existed organization it raised a question of eliminating the power of patronage.

4.9.3.1. Solutions Put by AAILDIP

E-governance is a vastly complex course of action necessitating prerequisite of software, hardware and reengineering of the actions for assessment of cases and decision making. But these challenges by itself did not provide ground for rejecting on e-governance system in land administration. On opposite, they signified the particular requirements of the Addis Ababa city or sub-city land administration for modernized system of governance, assisted by the most recent technology.

In case of understanding problems, the project was working on creating awareness on the most important aspects of the project benefit after the implementation which brings of a change in the mindset of the government functionaries who have been familiar to work in manual and IT system. Proper diffusion of information, educating the personnel about the potential benefits and training was a must to overcome this problem and to ensure a smooth transition. These ideas were agreed with the FGDs participants. Based on the participants respond the issue was the first point that must be considered before even the introduction of the system. Lack of awareness was one of the challenges that keep the institution to accept and implement e-governance throughout the operations. The users should be able to be aware about the system and its benefit provided for the whole

operation in the departments. It is obvious that, unless awareness was created in the mind of the functionaries, it was difficult to implement e-governance in the department. Even if other conditions were satisfied but not awareness, the institution may take longer time for the successful implementation of the system properly. A lot of work should be able to be done in human mind than materials for the successful implementation of the system. Some functionaries might attach the system with loss of jobs. However, it was not about loss of jobs but the issue of up-grading the performance of employees.

In order to avoid the challenges arise due to skills and knowledge gap the project was working with Ministry of Education (MOE) to design new curriculum which directly fitted for this operation. In addition to this the project was working with technical and vocational training institute in order to overcome the challenges. The project was aim at train employees from level I through level IV to Bachelor of Science (BSC) that specifically meets the required position in the project. The project was also working on subsequent short term training based on the requirement of operations. Moreover, the project was also targeted to pay appropriate salary for employees and struggle to make the working environment more attractive and pleasant which makes the employees to perform their work with interest and with all the potential they have.

Finally, in such project government commitment was highly essentials for successful implementation. One of the key question facing countries is readiness to implement e-governance and long term political, financial and institutional commitment is one of the critical success factor in case of readiness for its implementation. In this case, the Addis Ababa city government was committed to implement the project. The government was

providing the necessary financial resource for the construction of the G+3 buildings and human resources to implement the project. There was a board who follow-up activities and had the responsibility until the implementation of the project. The political objective of the government was governance and development. The government believed that *“failure of the project means government cannot perform land administration system”*

4.10. Recognizing Readiness and Moving Further

One of the key issues facing land administration was their readiness for the successful implementation of e-governance. While implementing e-governance the land administration faced the strategic challenge of e-readiness and the challenge of adopting best practice in e-governance system in order to avoid failure and to achieve success. Some of the questions to be answered before achieving a successful e-governance are: what about data system? what about institutional arrangement? what about human infrastructure? what about technological infrastructure? What about legal infrastructural? What about strategic thinking? and what about political commitment from departments and managers?.

These basic questions should be considered and the institution which has initiation to implement e-governance should be able to give response for such indicators that make it ready for successful e-governance systems adoption in the departments.

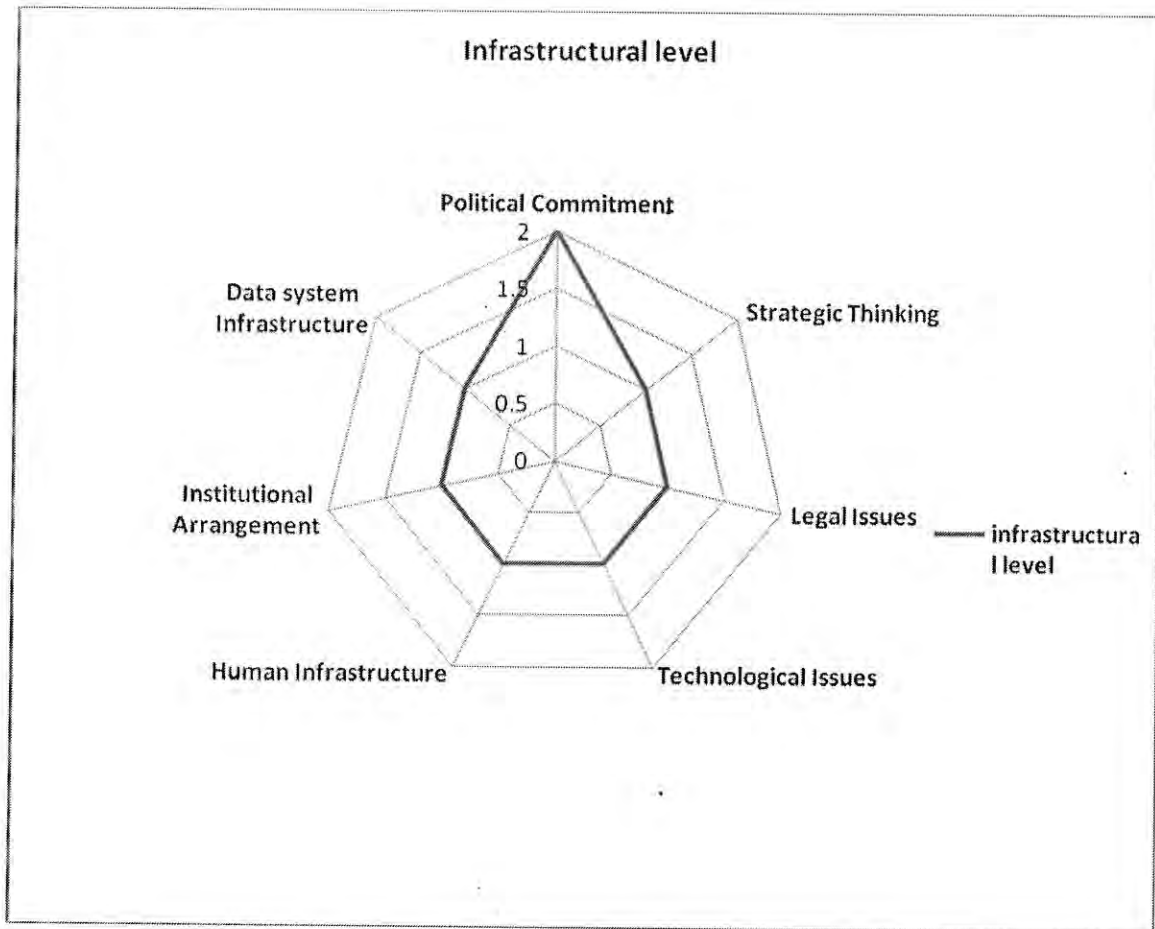


Figure 4.7 Infrastructural levels in land administration

Source: Own Survey (March 2012)

Where: 1= Low, 2= Medium, 3= High

Based on the survey result the above mentioned points were not meet. However, government was committed to expand the system in land administration. Even if this commitment was essential for the initiation and implementation of e-governance, it might take longer time for the government commitment alone to attain the preferred goal. An adequate infrastructure did not presence in land administration. All indicated infrastructure should be able to be ready for the successful implementation of e-governance. Without such basic points it was unable to try to implement successful

system. Attempting such system without fulfilling the above mentioned points causes to fall without achieving the objectives of the system.

As shown in Figure 4.7 political commitment was better than other issues and the existence of top level commitment by the government was critical success factor for e-governance system in land administration. Government have a strategy to develop and expand ICT related infrastructure in sectors like land administration. This strategy can be perceived to be government commitment for such activities. Commitment should be able to be shown in implementation of the strategy. However, there was a gap between strategy and implementation. This was because there were financial problems to fulfill the gaps even if there was political commitment. This gap can be revealed in weak form of others infrastructures as indicted in Figure 4.7. All other infrastructures or issues were at low level except government or political commitment.

This result directly related with the result obtained from key informant interviewee. The key informant interviewees also indicated that there was government commitment in such activities. But all key informants show that there was a gap in others issues like human infrastructure, awareness, and technological infrastructure. It did not mean that the government alone can perform all these activities. But with the collaboration of other stakeholders the government can solve problems step by step in order for the successful implementation of e-governance in land administration.

Chapter Five: Conclusions and Recommendations

5.1. Conclusions

The objective of this research was to find out the factors that were the most challenging issues which have the potentials to hamper the implementation of e-governance system in land administration of Nefas Silk Lafto Sub-city. E-governance implementation in each department was exposed to unique types of challenges and there were also common problems the departments faced. The following were the conclusions of the findings of this research based on the survey, focus group discussion, in-depth interview and disk review.

E-governance by itself was not an easy system rather it was a complex process requiring many things to be considered for its successful implementation. It was very difficult for the successful implementation of the system without fulfilling basic requirements.

The result shows that e-governance starts from good awareness among users. Lack of good awareness among the users was a key bottleneck to start and implement successful e-governance system in land administration. Users did not have adequate understanding about the e-governance system and its benefits. Moreover, sector was not taking indispensable steps to enhance the awareness among the functionaries, managers and all end users of the system.

The research found that ICT infrastructure was the major significant challenging issue in implementing the successful e-governance system in the sector. Without appropriate ICT infrastructure it was difficult to implement successful e-governance in land administration sector.

ICT was one of the main components of e-governance in the sector. Most of the functionaries used only software available in the departments. But those who were using other types of system were very small and this became the obstacles for the successful adoption of e-governance. Users who were got the benefits due to using ICT were not much attractive and promising and there were presence of information technologies in the sector that were not related with the departments operation.

E-governance denotes the application of information technology to the process of government functioning but the sector was not given high value for ICT. This was makes the challenges to continue for e-governance and did not contribute any support to stop the continuing challenges in the sector.

Introduction of computerization indicated an initiation of e-governance implementation. However, users who had stand alone computer did not have any internet connection and there was no interdepartmental network connection to share information and to make clear decisions on land with other departments.

There was lack of electronic means for information sharing in the sub-city. Majority of the functionaries were exchange information manually or paper based system. The

transition from manual to electronically system was weak. It was less encouraging to use electronic system for sharing of information.

Lack of training was also one of the main obstacles to implement successful e-governance in land administration sector. Training facilities in the sector was weak in the last 12 months. Training did not get attention by the sector for better adoption of the system. Moreover, the training was given in an interrupted manner which facilitates the challenges of e-governance implementation in land administration sector than reducing it.

Financial issues should be able to be addressed for implementing any e-governance systems in the sector. However, financial issues did not get attention in the sector. This was also one of the challenges for the successful implementation of e-governance in the sector. By nature e-governance requires huge investment to develop and implement in any institutions. Its successfulness had strong attachment with the financial resources.

Lack of professionals/ICT literacy and well-trained personnel were the main challenge in the process of e-governance implementation. Things were done with human and to human. To carry out such activities like e-governance ICT was very essential. ICT literacy rate in the institution was not good. A gap was recognized between ICT literacy and e-governance implementation in land administration sector.

The levels of infrastructure say hardware, software, internet connection (broadband), network connection etc. was poor in the land administration sector. These had the potentials to hamper the successful implementation of e-governance system in the institution.

There were many solutions foreword to overcome challenges in implementing e-governance in land administration sector. But different sectors needed different solutions based on their challenges. Land administration needed solutions like high government commitment, training facilities based on the sector needs, involvement of stakeholders, creating awareness and expansion of infrastructures (human infrastructures, technological infrastructures, data infrastructures, legal infrastructures etc.) for the successful adoption of e-governance in the sector.

Stakeholders' involvement was critical in implementing e-governance system in the sector. However, stakeholders' involvement was at the lower rate in terms of providing training facilities, software development and provision of finance in land administration sector.

The stakeholders' working on e-governance faced challenges from their point of view in land administration. They faced problems of technological challenges, human resource challenges, lack of enough level of bandwidth, less number of professionals, and problems of software compatibility. But the stakeholders were put solutions in order to overcome problems like promoting ICT skilled personnel, software development based on the organization needs to achieve the required objectives, and readjustment of the bandwidth level with available resource etc.

The last but not the least point here was the issue of using in the system of electronic governance. Local/native language in the information technology was one of the tools in implementing successful e-governance system in the sector because native language can encompass majority of the users (functionaries, managers or end users). However, the use

of local language was in an infant stage and the process was not well developed. This was also became one of the challenges in implementing e-governance system in the sector.

Finally different conditions should be met in order to implement successful e-governance in the sector as it was expected. Data system infrastructures, political commitment, strategic thinking, legal issues, technological issues, human infrastructures and institutional arrangements were should be able to be ready for the successful implementation of e-governance in the sector. Except political commitment all other conditions were at the low level. Without fulfilling such conditions it was difficult for the successful implementation of e-governance system in the sector.

5.2. Recommendations

5.2.1. Awareness Creation Work

Awareness about e-governance benefit has to rise among senior civil servants and political leaders for its successful implementation. Changing the state of mindset of the government employees who were used to functioning only in the manual mode was important. This was a huge function and needs tolerance and vigilant setting up. A brief intensive course for a small group emphasizes on problem solving, seminars, and training programs are required to be organized to spread awareness among the employees at all levels. The initial criterion for successful implementation of e-governance from city administration through sub-city to Woreda level is neither practical nor technological. It is awareness creation work. Attitudinal change needs to take place from top-level through middle to lower level of the users.

5.2.2. Training and Education

Trainings are important for the successful implementation of e-governance in land administration sector. Training should be designed at technical institutes and on departmental level. The training that is given for the functionaries and managers should be continues. Interrupted training will result in increasing the challenges of successful e-governance implementation in the sector. The training given for the functionaries should be related and directly fit with the required operation in the departments. Training is required for managers, who need to define project deliverables and supervisors on using information technology.

Development of human resources for ICT through enhanced use of ICT in educational institutions and through academic and training is an essential factor that are used to overcome the challenges in implementing successful e-governance in the sector. Human resource that directly meets for the implementation of e-governance is an important input for the system. The knowledge and skills gap exist for implementation of e-governance should be fulfilled with the appropriate human resource. For this purpose the sector will work in collaboration with ministry of education and technical and vocational training centers to design a new curriculum that directly fit with the system. Moreover, the institution must develop a short term uninterrupted training that introduces the functionaries and manager with the new technology.

5.2.3. Revising and Developing Suitable Policy Framework

Addis Ababa City land Administration need to develop sectoral policy frameworks, supported by law for e-governance, that have direct relationship to strategic development

and transformation plan in land administration sector. This helps to perform the activities in the given policy framework for initiate, develop and implement e-governance system in the sector. Moreover, this policy will help the government for monitoring and evaluating of activities done in e-governance system in the sector.

Policy also requires in promoting and sustaining the e-governance system in the sector for managing not only provision of new technology but also the organizational politics, the professionals' politics and gaps in human resource allocation and organizations. Therefore, without effective policy formulation it is impossible to think of successful e-governance in the sector.

5.2.4. Enhance Stakeholders Co-ordinations and Effort Synergy

The sub-city should be highly vigorous to initiate for involving stakeholders in implementing a successful e-governance system in the institution. Without stakeholders involvement the e-governance will not come in to expected e-governance. A good e-governance system in which stakeholders is highly participates in the process of implementation. Stakeholders should able to be participating in all activities of implementation i.e. from initiation to development up to implementation.

5.2.5. Enhance Internal Organizational Capacity

The land department by itself should have stand alone information technology department which support the other land departments on the application of information communication technology. In other word the institution organizational structure should be re-arranged in a manner that able to implement e-governance system. The departments

should have all types of professionals in order to facilitate the successful implementation of e-governance in the sector. The department should be organized with diverse types of professionals like programmers, system analyst, database administrators, software engineers, IT professionals etc. which supports the implementation of e-governance in the sector.

The organization should develop network connection across the departments. Even if Presence of Peer-to-peer connections were encouraging but the institution should work on connecting one department with another departments. This will help the department to exchange information and increase the performance of participatory decision making as well as facilitates the communication process between departments. Moreover, interdepartmental integration plays a great role in implementing successful e-governance system in the sector.

The sector should have website which helps to publicize the organization rules, regulation, system, organizational structures, policy and other important information about the institution. It is one of the indications for the initiation of e-governance. This also helps the customer not to visit the sector frequently in person. The customer can get information anywhere at any time i.e. 24 hours a day from the institution website and makes the customer to save time and cost.

5.2.6. Improve Political Commitment

The government has commitment to expand the e-governance system in land administration system which was encouraging and initiatives to carry out the system. This will help the city to have well developed land administration system which benefits

the country as whole. However, the government commitment should be able to be responded with adequate budgetary allocation for e-governance system in land administration, since initiating e-governance project requires huge money for purchasing of hardware and software in order to make the implementation process successful in the sector.

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Annex 1 solutions forwarded for the challenges of e-governance implementation

R.No.	Solution forwarded in order to overcome challenges in implementing e-governance	Frequency	Percent
1	Supporting employees with training	7	9.33%
2	Expansion of internet infrastructure	5	6.67%
3	Commitment of the government	4	5.3%
4	Supporting employees with training and expansion of internet infrastructure	3	4%
5	Supporting employees with training and having professionals in the departments	1	1.33%
6	Supporting employees with training and calls for the involvement of stakeholders	5	6.67%
7	Supporting employees with training and commitment of the government and creating awareness	2	2.67%
8	Supporting employees with training, expansion of internet infrastructure and having professionals in the departments	1	1.33%
9	Supporting employees with training, expansion of internet infrastructure and calls for the involvement of stakeholders	1	1.33%
10	Supporting employees with training, expansion of internet infrastructure and commitment of the government and creating awareness	1	1.33%
11	Supporting employees with training, having professionals in the departments and calls for the involvement of stakeholders	1	1.33%
12	Supporting employees with training, having professionals in the departments and commitment of the government and creating awareness	1	1.33%
13	Supporting employees with training, expansion of internet infrastructure, having professionals in the departments, calls for the involvement of stakeholders	6	8%
14	Supporting employees with training, expansion of internet infrastructure, having professionals in the departments, and commitment of the government and creating awareness	5	6.67%
15	Supporting employees with training, expansion of internet infrastructure, having professionals in the departments, calls for the involvement of stakeholders and commitment of the government and creating awareness	32	42.67%
	Total	75	100%

Source: Own survey (March 2012)

Annex 2 Actors involved in implementation of e-governance by FGDs participants

Actors	Responsibilities
Government	Policy formulation and political commitment to implement the policy
Employees	Aware and ready to implement the system based on the policy framework
Citizens	Should be optimist and willing to cooperate and implement e-governance system
CSOs	Participate in providing facilities such as training, finance, materials etc.

Source: Own Survey (March 2012)

ADDIS ABABA UNIVERSITY

INSTITUTE OF URBAN DEVELOPMENT STUDIES

EMPLOYEE QUESTIONNAIRE

Introduction: This is a survey intended to collect information for conducting Masters Thesis on the Topic: Challenges in implementing electronic governance in Addis Ababa City Land Administration: the case of Nefas Silk Lafto Sub-city

Statement of Consent:

Dear respondent;

This is an assessment purely for academic purpose. The information obtained from you is by no means used out of the purpose of analysis for fulfilling the requirements for MA degree in the field of my attendance. Your information is kept both confidential and strictly private. Regarding also to your participation in the research, you are free to respond or stop your participation at any moment in the survey process. Thus I asked your permission and willingness to give the answer you think is correct for my questions and frank in responding. You are also free to give any information you felt you missed giving me in the interview time after my departure. Please, this is my address including my telephone number. Mr. Fikadu Wamisho; Tele: +251 913799812; Addis Ababa University, Addis Ababa, Ethiopia.

Thank you so much for the participation.

Instruction: there are choices of possible answers given for each closed-ended question below. Please, encircle the choices you feel are right answers for each question on the spaces provided or write the code number. If you feel you can give multiple answers from the choices, please give more than one answer. If you feel you have not given the answer you feel are right in the choices, write your preferred answer on the spaces provided.

This questionnaire should be filled by all employees of all Woredas of Nefas Silk Lafto Sub-city by UPIPI, LDBURC, DDPC, LDOAC and IT departments.

Electronic-governance: the application of information communication technology for internal activities of the government institutions.

Stakeholders': Government organizations, non-governmental organizations, investors etc who cooperates with the department to develop and implement electronic governance mechanisms.

Part I: Socio-Demographic Data

R. No	Questions	Answers	Code
1.	Sex	1) Male 2) Female	
2.	Place of work	1) Sub-city 2) Woreda	
3.	Level of Education	1) MA 2) BA 3) BSC 3) Diploma 4) others, specify	

R. No	Questions	Answers	Code
4.	Types of education attended in college or university	1) Urban planning 2) Urban management 3) Urban engineering 4) Civil engineering 5) Computer Science 6) Information technology 7) Other specify	
5.	In which department currently you work for	1) Urban plan and information preparation 2) Land development bank and urban renewal 3) Construction permission 4) Ownership administration 5) Information technology department 6) Other specify	
6.	Current working position in your department	1) Officer 2) Expert 3) Coordinator 4) Other specify	

Part II: Data on E-governance Issues

R. No	Questions	Answers	Code
7.	What are the major tasks in your department with the given position? Specify the major tasks		

R. No	Questions	Answers	Code
8.	Do you use information communication technology for your operation?	1) Yes 2) No	
9.	If your answer above is yes, what are these information communication technology do you use? (you can encircle more than one choice)	1) Operating on data base 2) Using software available on the department 3) Operating on website 4) Transferring data/files using network connection 5) Others, specify	
10.	Do you get a benefit after the application of information communication technology to perform your operation?	1) Yes 2) No	
11.	If your answer above is yes, what are the benefits obtained after the application of information communication technology in your operations? (you can encircle more than one choice)	1) Easy of works 2) Easy of exchange of information 3) Having clear and accurate data on land 4) better working system and land administration mechanisms 5) Save time and cost 6) Minimize loss of files 7) No loss of data/files 8) Effective in your operation 9) Others specify	

R. No	Questions	Answers	Code
12.	How much value is given in your department for information communication technology for internal operation and to make clear decision?	1) Low 2) Medium 3) High 4) No value is given	
13.	Do you have stand alone computer?	1) Yes 2) No	
14.	Do you have network connection with other departments to access land related information for your operations?	1) Yes 2) No	
15.	Did you take training on information communication technology in the last 12 months while working in this position?	1) Yes 2) No	

R. No	Questions	Answers	Code
16.	If your answer above is yes, what types of information communication technology training did you take for your operations?		
17.	Do you have internet infrastructure?	1) Yes 2) No	
18.	Do you have any need to share information with other departments/stakeholders?	1) Yes 2) No	
19.	If your answer above is yes, which departments/stakeholders do you exchange information with? Please specify these departments/stakeholders?		
20.	How do you currently exchange this information with other	1) Totally manual 2) Totally Electronically 3) More manual and less Electronically 4) More Electronically	

	departments/stakeholders?	and less manual	
R. No	Questions	Answers	Code
21.	How do you rate information communication technology literacy in your department?	1) Poor 2) Satisfactory 3) Good 4) Excellent	
22.	Do you have a software packages in your department for your operations?	1) Yes 2) No	
23.	Do you have an appropriate information technology material for your operation?	1) Yes 2) No	
24.	How do you express information communication technology in your department? (you can encircle more than one choice)	1) Allocation of enough budgets for information communication technology 2) Presence of training on information technology based on the needs of the department 3) Presence of government commitment to expand information communication technology in your department 4) Please	

		specify others	
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R. No	Questions	Answers	Code
25.	How do you rate information communication technology in your department based on the above answer?	1) Poor 2) Satisfactory 3) Good 4) Excellent	

Part III: Data on Challenges and Solutions to Electronic Governance

R. No	Questions	Answers	Code
26.	Do you have interdepartmental integration?	1) Yes 2) No	
27.	Is there a decision by other departments without involving your department?	1) Yes 2) No	
28.	Is there a communication problem in case of land related	1) Yes 2) No	

	issues between your department and other departments?		
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R. No	Questions	Answers	Code
29.	Are there challenges in implementing electronic governance mechanisms in the department?	1) Yes 2) No	
30.	Is there availability of well-trained personnel to implement electronic governance mechanisms in your department?	1) Yes 2) No	
31.	Do you have enough/well developed infrastructure say internet infrastructure?	1) Yes 2) No	
32.	Do you have clear, complete and accurate data on land for	1) Yes 2) No	

	your operation?		
33.	What are the factors that affect the implementing of electronic governance mechanisms properly in your department? (you can encircle more than one choice)	1) Lack of enough financial resources 2) Lack of legal framework 3) Lack of privacy or security issues 4) Lack of training 5) Lack of packages (software development based on the department needs) 6) Others specify	
R. No	Questions	Answers	Code
34.	What solution do you foreword in order to overcome challenges in implementing electronic governance mechanisms in your department? (you can encircle more than one choice)	1) Supporting employees with training 2) Expansion of internet infrastructure 3) Having professionals in the department 4) Call for the involvement of stakeholders in developing and implementing electronic governance 5) Commitment of the government 6) Others specify	
35.	Is there stakeholders' involvement to develop and implement electronic governance mechanisms in	1) Yes 2) No	

	your department?		
36.	Are there solutions put forward by the stakeholders' to overcome challenges in implementing electronic governance mechanisms in your department?	1) Yes 2) No	

R. No	Questions	Answers	Code
37.	Is there provision of finance by the stakeholders' to develop and implement electronic governance mechanisms in your department?	1) Yes 2) No	
38.	Is there Software development by stakeholders' based on the department needs to implement electronic governance mechanisms?	1) Yes 2) No	
39.	Is there training facilities by the stakeholders' to develop and	1) Yes 2) No	

	implement electronic governance mechanisms in your department?		
40.	How do you rate the stakeholders' involvement in developing and implementing electronic governance mechanisms in your department?	1) Low 2) Medium 3) High 4) No stakeholders involvement 5) Other specify	

R. No	Questions	Answers	Code
41.	Did you improve the capacity in the process of implementing electronic governance mechanisms in your department?	1) Yes 2) No	
42.	If your answer above is yes, what are the changes in the capacity due to the process of implementing electronic governance mechanisms in	1) Developing transparency in your activities 2) Effectiveness in your operation 3) Efficient in your operation 4) increasing decision making through involvement of other	

	the department? (you can encircle more than one choice)	departments 5) Other specify	
43.	How do you rate the current electronic governance mechanisms in your department?	1) Low 2) Medium 3) High 4) No electronic governance at all 5) Other specify	

Part IV: Data filled by only Information technology professionals

R. No	Questions	Answers	Code
44.	Do you have a standalone Information Technology (IT) department?	1) Yes 2) No	
45.	If your answer above is yes, indicate how many of the following you have in the department?	1) Technicians 2) Programmers 3) Database/network administrator 4) Senior manager in information technology 5) Other specify	

46.	What kind of computer network does your department currently have?	1) Peer-to-Peer 2) Server-based	
47.	Do you have a website?	1) Yes 2) No	
48.	If your answer above is yes, for what purpose do you use the website? (you can encircle more than one choice)	1) To download essential files 2) To announce the department rules and laws 3) To post the department notice 4) To announce the department working system 5) To post the department strategy and programs 6) Other specify	
R. No	Questions	Answers	Code
49.	How does your department connect to the internet?	1) Dial-up 2) High speed 3) No internet connection	
50.	Do you have information sharing policy or strategy document?	1) Yes 2) No	
51.	Do electronic governance mechanisms included in your information sharing policy or	1) Yes 2) No	

This is an assessment purely for academic purpose. The information obtained from you is by no means used out of the purpose of analysis for fulfilling the requirements for MA degree in the field of my attendance. Your information is kept both confidential and strictly private. Regarding also to your participation in the research, you are free to respond or stop your participation at any moment in the interview process. Thus I asked your permission and willingness to give the answer you think is correct for my questions and frank in responding. You are also free to give any information you felt you missed giving me in the interview time after my departure. Please, this is my address including my telephone number. Mr. Fikadu Wamisho; Tele: +251 913799812; Addis Ababa University, Addis Ababa, Ethiopia.

Thank you so much for the participation.

A. Questions for the Sub-city land Administration

1. Does the institution have problems in land administration process?
2. If your answer above is yes, what are these problems?
3. Do you use e-governance in land administration?
4. If your answer is yes, what challenges does the institution encounter to implement the e-governance system?
5. What solution is in process in order to overcome the challenges institution face due to e-governance the process of implementation?

B. Questions for Addis Ababa Information communication Technology Agency

1. Are there any initiatives by the agency to implement e-governance in land administration office?
2. If our answer is yes, what are the major challenges exist to implement e-governance system in land administration?
3. What are the solution suggested or take by the agency to overcome the challenges in implementing e-governance in land administration system?
4. Is there any collaboration with the stakeholders to implement e-governance in the land administration office?

C. Questions for Addis Ababa Integrated Land Development Project

1. What is the purpose of the project?
2. What was done in the process of implementing the project in land administration?
3. Is the project has the relationship with the direct application of e-governance system in land administration?
4. If your answer is yes, what are the key challenges by the project in implementing e-governance system in land administration?
5. What are the solutions considered and undertaken by the project in order to overcome the challenges the project face in the implementation process?
6. Is there any cooperation with stakeholders in implementing the project successfully?

D. Questions for Ministry of Communication and Technology

1. Are there any initiatives by the ministry to implement e-governance?

2. If the answer above is yes, what are the initiatives done by the ministry to implement in land administration office?
3. What challenges does the ministry encounter to implement e-governance system in the institutions including land administration?
4. What solution are put forward by the ministry to overcome the challenges exist in the process of e-governance in the institutions?
5. What are the ministry strategies to implement e-governance in the institutions?

E. Questions for Focus Group Discussions (FGDs)

1. Do you have any knowledge about e-governance?
2. Are there challenges to implement e-governance system in the institutions?
3. If your answer above is yes, what are the major challenges to implement e-governance?
4. What should be done to implement e-governance system in the institutions?
5. Who is responsible to implement e-governance system in the institutions?
6. Please, suggest any other things about e-governance in relation with challenges and solutions?