

**Information & Communication Technology
Agency of Sri Lanka (ICTA)**

Government Organizations Employees Survey



Final Report
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**A survey carried out for ICT Agency of Sri Lanka
by MG Consultants (Pvt) Ltd.**

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Executive Summary

This report presents the findings of the Government Organizations Employees Survey (GOES) commissioned by the Information and Communications Technology Agency (ICTA) as a part of the Agency's Results-based Monitoring and Evaluation Program to assess the current situation of government employees and establish baseline conditions before introducing priority e-government interventions in 10 selected organizations.

The selected organizations included the Foreign Employment Bureau, Department of Motor Traffic, Department of Personal Registration, Ministry of Public Administration, Pensions Department, Laksala, Labor Department, selected regional offices of Registrar General's Department and samples of District Secretariats and Divisional Secretariats.

The survey was carried out in selected organizations by interviewing a sample of employees, covering both executive and non-executive categories. A scientific sampling procedure was adopted for selecting the sample of employees. The survey was carried out in the first two weeks of the January 2008 in the respective organizations by an experienced team of enumerators. Total of 711 employees including 212 executives 499 non-executives were interviewed in the survey. Data collected in the survey was tabulated and systematically analyzed using appropriate analytical techniques.

The survey covered following specific areas, namely: (a) ICT profile of government employees including training and literacy of ICT, ICT and internet usage in office and home, employees' attitudes and perceptions towards ICT; (b) Employees awareness on ICTA/e-Sri Lanka activities, other government e-services, satisfaction with government e-services, willingness to adopt ICT in organizations and future expectations of employees on government e-services, and; (c) Organization specific details of ICT facilities, web presence and human resources, employees assessments on efficiency and ICT involvement in services and management functions and capability to adopt ICT based tasks in selected organizations.

Results of the survey indicate that formal training on ICT as well as computer literacy acquired through informal means were significantly high among employees of the selected government organizations. Further, relatively high numbers of executives and non-executives have access to facilities of ICT and internet either through individually allocated or commonly used facilities. The survey also indicates that in general, government employees have a positive attitude on ICT and e-government.

Despite these positive features, there are also various factors that constrain the development of e-government in government organizations. In general, usage of available ICT facilities is at a basic level, preparation of letters/documents being the most common purpose of available facilities. Government employees' awareness on ICTA/e-Sri Lanka seems to be quite significant. Usage and familiarity with other available government e-services are also significant among executive as well as non-executives. However, their familiarity with specific activities of the e-Sri Lanka initiative is somewhat limited. As far as usage of government e-services is concerned,

obtaining information from government websites, making queries from GIC, making queries via e-mail from government organizations, online application for government services and networking with government organizations on official matters are the common services sought by employees. However, among them there is no prominent e-service that is widely used by all or many users. In general, participant satisfaction and rate of completion of ICTA training programs are at a high level indicating the success of human resource development activities of the initiative. Despite this positive interest on training, a fact for serious concern is that in general willingness of government employees for adopting ICT based facilities in their organizations is not very encouraging. Further, willingness to use ICT is comparatively low in regional offices than in Colombo offices.

As far as organization specific facts on ICT usage and services are concerned, a significant variation can be observed in availability of facilities as well as human resources/skills in different organizations. E-services currently provided by organizations are at an initial stage and websites are mainly information providing sites without any interactive web-based services. Employees' assessments on efficiency and ICT involvement in providing client services and undertaking management functions vary widely among organizations. In majority of organizations, employees were positive on the capability of organizations to adopt ICT in terms of availability of physical resources/facilities and ICT human resource skills. However, in almost all organizations their assessment on network/infrastructure facilities was negative.

Major recommendations of the study are:

- Conducting awareness campaign among government employees on specific e-government activities
- Carry out motivation and mobilization programs to improve the willingness of staff to adopt ICT based tasks
- Evaluation of ICTA training programs with the objective of further improvement
- Assessing the strength of the current web-based services and developing action plans to promote them

Overall, the information gathered in the survey helps to establish baselines for future monitoring of impacts and outcomes of proposed e-government interventions in selected organizations.

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1 Introduction

As the fruits of global IT revolution gradually spread over the world, many look forward towards the advent of the era of e-government. Different people expect different things from the e-government. However hard truth about the e-government in many places of the developing world is that there is a wide gap between the reality and expectations. As a result, governments all over the world have started their national initiatives for e-government to bridge this gap.

E-Sri Lanka is the national e-government initiative in Sri Lanka. It was launched by the Government of Sri Lanka (GoSL) in November 2002. The mandate of e-Sri Lanka is to spearhead the nation towards achieving the broad goals of e-government in Sri Lanka.

Transforming a developing society like Sri Lanka in to an e-society is a complicated task. It is not a task limited to providing ICT facilities to government organizations, training employees in ICT, converting manually undertaken processes in to on-line operations or automation of service transactions offered by government organizations. Achieving e-government in a developing society such as Sri Lanka needs far more in-depth changes that alter fundamental social aspects such as values, perceptions, attitudes as well as expectations of citizens. One important aspect is bridging the wide spread digital divide that embraces all spheres of activity and social segments of the country. Therefore, the challenge confronted by the e-Sri Lanka initiative is a daunting one.

Any e- government initiative involves a variety of stakeholders. They can broadly be divided in to five major groups and relationships:

- citizens (Government-to-citizens; or G2C)
- government employees (Government-to-employees; or G2E)
- businesses (Government-to-business; or G2B)
- civil society and community organizations (Government-to-NGO; or G2N) and
- government (Government-to-government; or G2G)

Citizens of the country, representing all other groups of stakeholders also within them, can be considered as the ultimate beneficiaries of the e-government. However, in addition to their role as citizens, employees, businesses and civil society groups also have specific other roles to play, which are critical for achieving broad goals of the e-government. Foremost among them is the government employees who actually deliver the various government services to citizens, businesses as well as community organizations while in return themselves are being benefited from the process.

This study examines the existing situation of government employees with reference to their involvement in transforming Sri Lanka in to an e-government nation. In the broad process of e-government initiated by the e-Sri Lanka, the role of government employees is critical in every respect. The e-Sri Lanka has introduced numerous interventions that are aimed at enhancing the capabilities of government employees

and organizations to play the demanding role expected from them in transforming Sri Lanka into an e-society. To achieve fruitful results for these investments, it needs to assess the situation of government employees beforehand and design and adjust the proposed interventions accordingly.

The whole process needs careful monitoring. Monitoring requires benchmarking so that outcomes and impacts of interventions can be assessed in objective manner. Therefore this study aims at establishing the baseline situation of the government employees in relation to e-government initiatives in respective government organizations. This baseline would be used to evaluate the impacts and outcomes of the e-Sri Lanka and other e-government interventions at a future date.

1.1 e-Sri Lanka initiative

The vision of e-Sri Lanka is *“to take the dividends of ICT to every village, to every citizen and to every business and transform the way government thinks and works”*. Having enlightened with this broad vision, e-Sri Lanka aspires to transform the country from a backward developing nation to a competitive force in the growing international economy, taking the advantage of global ICT revolution. Specific objectives of e-Sri Lanka includes:

- More effective, citizen-centred and transparent government
- Empowerment of the rural poor, women and youth through increased and affordable access to information and communication tools
- Developed leadership and skills in ICT
- Employment creation through ICT industry, IT-enabled services, and enhanced competitiveness of user industries and services

Targeted beneficiaries of e-Sri Lanka practically cover every citizen of Sri Lanka. It aims to create thousands of job opportunities while empowering the rural communities through enhancing the access to ICT. Success or failure of e-Sri Lanka would determine on which side Sri Lanka will be positioned in the global digital divide, thereby influencing the country's road to progress in significant manner. Therefore, successful implementation of the e-Sri Lanka project is absolutely crucial for realizing the nation's goal of becoming an advanced, developed society.

The Information and Communication Technology Agency of Sri Lanka (ICTA) is the implementing organization of the 'e-Sri Lanka'. It became operational in July 2003 under the *Information and Communication Technology Act*. ICTA is legally structured as a private company, yet with 100% ownership of the GoSL. It functions as a Government entity under the supervision of the Board of Directors. The aim of this organizational structure is to ensure efficiency and responsiveness, flexibility and smooth functioning, low staffing levels and operational principles based on project management, outsourcing and fostering partnerships with all types of stakeholders. ICTA has replaced its predecessor the Council for Information Technology (CINTEC) and is mandated to play a pivotal role as the leading change agent and catalyst for e-transformation by facilitating all types of developments in ICT sector in Sri Lanka.

The 'e-Sri Lanka' is consisted of 6 major components, namely:

- ***ICT Policy, Leadership & Institutional Development:*** Create a policy and regulatory environment that is supportive of ICT reform; develop ICT leadership and capacity in government and among other key stakeholders.
- ***Re-engineering Government:*** Re-engineer government business processes and improve the focus and delivery of government services to citizens, businesses, and to Government agencies.
- ***Information Infrastructure:*** Construct two Regional Telecommunications Networks (RTNs) with later expansion to cover the entire country. In conjunction, establish a network of 'Nenasalas' (knowledge centers), ensuring access for citizens in rural areas.
- ***ICT Human Resources capacity Building:*** Aims to ensure that Sri Lanka has the necessary human resources to achieve the e-Sri Lanka vision, and to use ICT to the maximum extent in teaching at all levels.
- ***ICT Investment and Private Sector Development:*** Promote local ICT products and services to the global market. Market Sri Lanka as an attractive location for global ICT Multi-National corporations to set-up operations.
- ***e-Society Development Initiative:*** Use the emerging ICT infrastructure to make available a range of information sources and services to diverse community groups throughout Sri Lanka, empowering them and providing opportunities to develop their knowledge, skills and capabilities.

Given the wide scope covered by the above components of e-Sri Lanka, it is apparent that the initiative has perceived the concept of e-government from a very broad perspective. While the *Re-engineering Government* program is entrusted with the direct task of transforming public sector organizations through different practical interventions, all other components have to play distinctive roles to create enabling environment for those changes. They are expected to introduce fundamental changes in the spheres of economic, social, legal, community/civil society and business spheres involving nation-wide stakeholders.

1.2 Re-engineering Government Program

The *Re-engineering Government* program attempts to achieve the objectives of improved efficiency, effectiveness, service quality and transparency in government organizations through number of interventions. Its fundamental working principles are:

- Client focused services
- Transparency in government operations
- Accountability for service standards
- Interconnection of government organizations and
- Public-private partnerships

The program aims to reach these objectives through several project interventions which can be categorized under following broad categories.

- ***Developing guiding framework for policies and standards:*** Develop a *ICT governance framework* to guide the ICT use in the public sector based on the principles of cost-benefit analysis, outsourcing ICT based services to private sector, developing strategic information system plans by agencies and mandatory adherence to government-wide standards
- ***Deploying an information technology infrastructure for the government:*** Establish specialized-service processing software and web portals linking all government agencies, E-gate that enables single window delivery of services and a country portal that offer consistent, client-oriented interface for information and services for the government.
- ***Providing large-scale training:*** Provide training for more than 6000 government staff, 3500 managers, 600 chief innovation officers and 1200 network specialists
- ***Reengineering public sector work processes:*** Undertake business process reengineering by studying current work processes in government agencies and developing and deploying major applications

Given the large number of government organizations involved, it is apparent that some priority areas have to be identified. Accordingly, following areas have been identified as the immediate priorities.

- E- foreign employment (Bureau of Foreign Employment; BFE)
- E-motoring (Department of Motor Traffic; DMT)
- E-citizen ID (Department of Personal Registration; DPR)
- E-public administration and HRM (Ministry of Public Administration; MPA)
- E-pensions (Pensions Department; PD)
- E-marketing/promotion of handicrafts (Laksala)
- E-management of labor welfare (Labor Department; LD)
- E-population registry (Registrar General's Department; RGD)
- E-district secretariats (District Secretariats; DS)
- E-divisional secretariats (Divisional Secretariats; DvS)

This has been identified on the basis of long-felt public needs. The organizations that deal with above specific areas of activity are covered under the present study.

1.3 Objectives of the survey

ICTA has adopted a Results-based Monitoring and Evaluation Program (RM&EP) with the objective of ensuring the achievement of desired outcomes of the e-Sri Lanka initiative. ICTA RM&EP systematically gathers data on all its programs, first establishing baselines and then measuring outcomes and impacts, periodically. Government Organizations Employees Survey (GOES) has been commissioned with the purpose of establishing and assessing the baseline situation of selected government organizations where future e-Sri Lanka interventions under the *Re-engineering the Government program* have been contemplated. It is expected to utilize the information generated by this assignment for further improvement and efficiency gains in the program. The results of the survey will be used to assess the critical needs of ICT development in respective organizations, design future interventions in custom-oriented manner to cater those critical needs and establish baseline situation for monitoring the impacts and outcomes of the proposed interventions.

The specific objectives of this survey study are as follows:

- To establish baseline measures for Re-engineering Government projects
- To measure the outcomes of ICTA interventions in the area of e-government
- To assess the provision of services by governmental organisations to citizens

1.4 Scope of the survey

The Government Organization Employees Survey (GOES) aims to generate information and establish baselines on the following scope of parameters, which can be measured by indicators identified in the ICTA results-based monitoring system.

- ICT knowledge and skills of government staff
- Perception and attitudes of government staff towards ICT
- Self-reported efficiency in processing administrative matters
- Willingness and capabilities to adopt ICT-based tasks
- Willingness and capabilities of government staff in using ICT for day-to-day tasks
- Awareness of government staff of ICTA and e-Sri Lanka
- Awareness of government staff of govt. websites and e-Services
- Expectations of government staff regarding future governmental IT services
- Participation in IT training provided by ICTA or other organisations
- Participation in any other professional training
- Opinion on ICT usage for citizens, esp. for younger people
- In future instances:
 - Satisfaction of the government staff with the new e-Government systems
 - Satisfaction of government staff with data transmission speed

1.5 Organization of the Report

The section two of the report discusses the conceptual framework of the study. It lays down a conceptual framework for benchmarking and monitoring of e-government efforts in Sri Lanka based on the accepted concepts and models of the e-government monitoring. This section is followed by the methodology of the survey covering sampling, data collection and analysis. From the section three onwards, specific areas of the survey findings organized in logical order will be presented in detail. The final section discusses the conclusions that can be derived from the survey results.

2 Government Organizations Employees Survey: Conceptual Framework for Monitoring E-Government

2.1 E-government

UNDESA has defined e-government as ‘the application of information and communication technology (ICT) within public administration to optimize its internal and external functions, provide government, the citizen and business with a set of tools that can potentially transform the way in which interactions take place, services are delivered, knowledge is utilized, policy is developed and implemented, citizens participate in governance and public administration reform and good government goals are met’. While there are many other definitions, this rather lengthy, yet comprehensive definition captures many aspects of the e-government. There are numerous applications that can be identified as e-government applications. They may be broadly categorized as:

- Access to publicly owned information and information on government activities
- Enhanced e-government services
- Citizens transactions with government
- Connectivity with the government for consultation, participation and decision making
- Networking the government

Stakeholders: In practice, following broad groups are identified as the most important stakeholders of e-government.

- citizens (Government-to-citizens; or G2C)
- government employees (Government-to-employees; or G2E)
- businesses (Government-to-business; or G2B)
- civil society and community organizations (Government-to-NGO; or G2N) and
- government (Government-to-government; or G2G)

While all other categories also are citizens, they are identified separately here considering specific roles they have to play in the realm of e-government. In other words, citizens have to play multiple roles in the e-government. Therefore, the separate category of citizens identified here represents all citizens as common public, leaving their other roles aside. Government Organizations Employees Survey (GOES) is about the section of citizens who play a crucial role as government employees.

Process: Essentially, e-government is a continuous process rather than an event. From the perspective of implementation, three broad phases of this process can be

identified, namely; (a) publish, (b) interact and, (c) transact. Publish stage of implementation implies mainly on-line publication of government information such as mandates of organizations, information on services, rules and regulations, gazette notifications, documents with public importance such as policy statements and white papers and applications/forms necessary for various services etc. However, it needs not essentially be on-line communication but any application that uses ICT to enhance the G2C communication. Government Information Centre (GIC) of Sri Lanka is an example for such applications. The basic purpose of these applications is increasing the efficiency of government communication to citizens.

Interact stage of implementation is one step ahead of the publish stage. Here, two-way communication is involved where citizens' communications to government also is allowed through interactive applications of ICT. This could range from the simplest applications such as providing on-line access to e-mail queries for citizens to citizen/government forums where citizens' views are consulted extensively for government decision making. Many advanced countries now allow citizens to submit on-line comments on legislative changes, policy proposals etc.

Transact phase of implementation allow citizens to transact with the government through internet and other channels of ICT. This is an advanced stage of e-government and it could transform in-line visitors to government organizations to on-line visitors. This can help citizens in many ways such as saving time by avoiding costly waits in long lines, decreasing transaction cost for obtaining government services, avoiding being victimized to corruption and abusive practices and minimizing frustrations over bureaucratic practices. This is more investment intensive than previous phases and usually involve establishment of back-office integration of facilities and front-end client interfaces, which could be quite expensive. Often such improvements require re-engineering the existing processes of service offering and sometimes even legislative/regulatory changes. However, quite often resulted increase in productivity and decrease in waste could compensate the cost of investments.

Access to e-government and digital exclusion: While the e-government could benefit citizens in many ways, the path to effective e-government is not a smooth one, especially in developing countries. In countries with limited access to ICT facilities by citizens, e-government could create more problems than solutions unless designed carefully to overcome access difficulties. The same progressive applications that could improve the citizens' benefits in digitally advanced societies could become great dividing factors of rich and poor in digitally less sophisticated societies. For instance, on-line consultations could easily favor small groups of relatively well-off sections by voicing their interests more loudly over the voice of the large majority of poor that has not sufficient access to ICT resources. This is called Digital Exclusion, which has become a serious concern of e-government recently. Therefore, in developing countries, introduction of e-government needs careful assessment of existing situation of mass access to ICT facilities. Hence, the process of e-government in developing societies is strongly linked not only to supply and availability of e-services but also to ensuring mass access to ICT facilities.

2.2 Benchmarking and Monitoring of E-Government

Whenever there is a progressive process, it needs benchmarking. Benchmarking is a management tool, which evaluate various aspects of a process in relation to available 'best practices'. It allows the managers of the process to evaluate and adjust their practices and adopt best practices, improving the overall performance of process. Benchmarking could be done for a selected company, an industry, a sector or a broad alliance of sectors.

Monitoring and evaluation (M&E) also is a management tool which is usually applied in the context of projects, programs or plans etc. It evaluates the performance of a project/program/plan against the logical framework or plan of action of the intervention concerned. Starting point of monitoring is usually the establishment of baselines which report the situation prior to the introduction of intervention. Thereafter, outputs, outcomes and impacts of the intervention is measured periodically with reference to the baseline situation.

GOES can be considered both as an exercise of benchmarking as well as monitoring & evaluation. Given the fact that it attempts to assess at least some aspects of the e-government process that took place in selected major government organizations, it can be considered as a benchmarking activity. On the other hand, as it is undertaken prior to the proposed interventions of e-Sri Lanka to establish baselines, it can also be considered as an exercise of monitoring and evaluation also. Many national governments and international organizations have come forward to undertake benchmarking studies on e-government as a measure to enhance national and global e-government initiatives.

2.3 Literature survey: E-government benchmarking in Sri Lanka

Sri Lanka has made few attempts to assess the situation of ICT sector and involvement of ICT in government. Some of the studies have measured certain aspects relating to e- government as well. In addition, Sri Lanka was covered by certain international e-government bench marking studies too. Therefore, it is worthwhile to examine the situation revealed by these studies, briefly.

2.3.1 Benchmarking efforts in Sri Lanka

Two studies that helped to create some benchmarks on ICT sector in Sri Lanka were *Survey on Computer Literacy-2004* and *Census on Computer Literacy of Academic Staff of Government Schools, Approved Private Schools and Pirivenas – 2006* conducted by the Department of Census and Statistics (DCS). In addition, DCS gathered data on computer literacy of government employees in the *Census on Public and Semi-government Sector Employment -2006*. Information revealed in these studies are important as they came out from censuses/large sample surveys conducted by the organization mandated to furnish official national statistics of the country.

Computer Literacy Survey-2004 has estimated levels of computer literacy in different districts as a percentage of population. Computer literacy was defined as ability to do

something on his/her own using a computer (For example, if a child of 5 years old could play a game using a computer on his/her own, he/she was considered as computer literate). The highest level of computer literacy in 2004 was observed in Colombo district reporting over 20% of computer literacy. It is followed by the Gampaha, Kalutara, Matara and Kandy districts which reported computer literacy at the range of 11.2-20%. The lowest level of computer literacy was observed in Anuradhapura, Nuwaraeliya and Moneragala districts where the literacy rate was at the range of 3.2-5.5%. The national average was 10%. As far as ownership of ICT facilities are concerned, four out of one hundred households owned a computer. Domestic computers were highest in the Western province (8 %) followed by the Central and North Western provinces (3%). Uva province reported the lowest percentage of 0.4 %.

Some of the important statistics reported in the survey were as follows.

- ⇒ 3.8 percent of the households have home computers
- ⇒ e-mail facility was available only in 9 out of 1000 households
- ⇒ nearly one fourth of the households having computers had e-mail facility
- ⇒ internet facility was available only in 7 households per 1000 households
- ⇒ one fifth of the households having computers had internet facility
- ⇒ only 3 percent of the population in the age group of 5 to 69 years could use e-mail on their own

The *Census on Computer Literacy of Academic Staff of Government Schools, Approved Private Schools and Pirivenas – 2006* was conducted in 8388 government schools, 502 pirivenas and 63 private schools. Nearly 30 percent schools have reported the availability of computers. However, National (95.2%) and Navodya (90.1%) schools reported high level of computer facilities compared with other government schools (23.9%). Availability of desktop computers in Private schools (84.1%) was high whereas only 17.0 percent pirivenas had computers. Internet facility and e-mail facility were available only in 6.4% and 4.1% schools respectively. But it was as high as nearly 50% in national schools and private schools. Number of students per computer for schools/pirivenas was 137 and teacher-computer ratio was 7. Self-reported computer literacy of teachers of schools/pirivenas is 32 %. The ratios for male and female teachers were 39% and 30% respectively.

The recent *Census on Public and Semi-government Sector Employment -2006*, has examined the computer literacy of employees in state, provincial public and semi-government organizations. This is quite relevant in the GOES though indicators are not compatible. Preliminary findings of the survey are given in the table 2.1. Interestingly, the ability to use computers among employees in the state and provincial public sector is somewhat low compared with the computer literacy of teachers. Computer use ability of semi-government employees was slightly above the computer literacy of teachers.

Table 2.1: Computer literacy of government employees

Level of computer literacy	State (%)	Provincial public (%)	Semi-government (%)
• Able to use computers	27%	29%	33%
• Able to use e-mail	13%	11%	19%
• Able to use internet	13%	10%	17%

2.3.2 Sri Lanka's position in international e-government benchmarking studies

While the benchmark data reported by the local surveys help us to develop some idea about the level of ICT literacy and availability of facilities among the common public and government employees in Sri Lanka, international benchmarking studies tell us where we stand among other countries in terms of e-government. The foremost among the international benchmarking studies is Global E-Government Readiness Survey - 2005 conducted by the UN. Accordingly, E-government Readiness Index (ERI) is calculated based in three other indices, namely, web measure index (WMI), infrastructure index (II) and human capital index (HCI). Sri Lanka was ranked 94th among 191 countries according to the ERI. ERI of Sri Lanka was 0.395. The highest ERI recorded by the USA is 0.906. Two Asian nations namely, South Korea and Singapore hold the 5th and 7th positions in terms of the overall index. Sri Lanka ranks second among South Asian nations next to India, which recorded an ERI of 0.400. WMI, II and HRI of Sri Lanka were 0.3192, 0.0359 and 0.8300 respectively. The respective figures for the highest ranking USA were 1.000, 0.748 and 0.970 for comparison.

2.4 Monitoring Model for Government Organizations Employees Survey- GOES 2008

While the information collected by the survey essentially establishes a benchmark on the current development of e-government in Sri Lanka, it is also expected to serve as a baseline for monitoring the situation of government employees in the respective government organizations before introducing proposed e-government interventions. Therefore, in this section, a monitoring model is presented on how the data from survey can be used for future evaluations of the performance of proposed interventions.

2.4.1 Evaluation Purpose

- Enable making decisions on continuous improvement of proposed ICTA interventions and adjustments necessary for smooth implementation of them
- Ensure that acceptable levels of performance are achieved in the implementation of proposed interventions

2.4.2 Evaluation Objectives

- To establish baseline measures for Re-engineering Government projects
- To measure the outcomes of ICTA interventions in the area of e-government
- To assess the provision of services by governmental organizations to citizens

2.4.3 Evaluation questions

The evaluation questions are in the form of WHAT IS (ARE) THE:

Facilities, skills and services

- Availability of ICT facilities
- Level of access to ICT facilities
- Human resource capability of ICT
- ICT knowledge and skills of staff
- E-services offered by the organizations

Attitudes, perceptions and expectations

- Attitudes of staff towards ICT
- Perception of staff towards ICT
- Expectations of staff on future govt. IT services

Awareness and satisfaction on e-services

- Awareness of staff on govt. websites and e-services
- Awareness of staff on ICTA and e-Sri Lanka
- Satisfaction of staff with the new e-government systems
- Satisfaction of staff with data transmission speed

Involvement in e-Sri Lanka and participation and satisfaction on ICTA training

- Level of involvement in e-Sri Lanka
- Level of participation in ICTA training
- Satisfaction on ICTA training

Willingness (motivation) and capabilities

- Willingness of the staff to adopt ICT based tasks
- Willingness of staff in using ICT for day-to-day tasks
- Capabilities to adopt ICT based tasks

Self reported efficiency and assessment of ICT involvement

- Self reported efficiency in providing services
- Self reported efficiency in processing administrative matters
- Level of ICT involvement in providing services
- Level of ICT involvement in processing administrative matters

2.4.4 Evaluation model

Table 2.2 presents the monitoring model that can be adopted for using GOES data for future evaluations. The idea is to take the situation reported in the GOES as the baseline and the baseline indicators will be changed in desirable manner by proposed interventions. Starting from evaluation questions it covers the variables measured, indicators for measurement and desired changes of indicators to be observed in future evaluations.

A major challenge to be faced in the evaluation is subjective nature of variables/parameters involved. Many, variables involved here are of qualitative nature and they cannot be measured through direct, quantitative indicators. Therefore, simple, easy-to-use, qualitative indicators were designed for the purpose so that they can be used conveniently in future evaluations as well. The most commonly used indicators were positive-to-negative scales for ranking qualitative phenomena by individual respondents. The existing situation regarding a particular evaluation question (e.g. 'satisfaction' of government employees' on government e-services) have to be measured in terms of composition of positive, neutral and negative responses. Desired change due to proposed interventions should usually be increase in the share (percentage) of positive responses compared with the current level. This can be measured by using a representative sample of employees in future evaluations.

In addition, there are few variables, which can be measured directly through quantitative indicators also (e.g. availability of ICT facilities, access to ICT facilities etc.). Simple indicators have been developed to measure these parameters also. Progress made in terms of these aspects can be evaluated by comparing the current availability with future availability of facilities. The information on availability of facilities was mainly gathered from the staff of ICT divisions in the respective organizations and the same can be done in future evaluations also. Access levels to ICT facilities were measured as percentage of employees in the sample who have access to respective facilities. Therefore, it can be evaluated in the future by comparing results of future sample surveys with the current survey results.

As far as employees' views, opinions etc. are concerned, which are responses to open ended questions, coded information are provided with interpretations on them. These cannot be measured using objective methods. Therefore, they have to be evaluated through subjective judgements. One should be mindful about possible biases that always arise with subjective evaluations.

Table 2.2: Monitoring model for GOES

Evaluation questions	Variables/parameters	Indicators	Expected changes in indicators
Facilities, skills and services			
<ul style="list-style-type: none"> • Availability of ICT facilities 	⇒ Physical facilities (hardware, software, networks/infrastructure)	<ul style="list-style-type: none"> ❖ Facilities by number & type ❖ Employees/facility 	<ul style="list-style-type: none"> ❖ ↑ by number & type ❖ ↓ Employees/facility
<ul style="list-style-type: none"> • Level of access to ICT facilities 	⇒ Individual and common facilities	<ul style="list-style-type: none"> ❖ Staff with ICT facilities (%) ❖ Individual facilities (%) ❖ Common facilities (%) 	<ul style="list-style-type: none"> ❖ ↑ ICT facilities (%) ❖ ↑ Individual facilities (%) ❖ ↑ Common facilities (%)
<ul style="list-style-type: none"> • Human resource capability of ICT 	⇒ Staff trained or possess skills on ICT	<ul style="list-style-type: none"> ❖ Whether separate ICT division available ❖ No. staff on ICT 	<ul style="list-style-type: none"> ❖ Separate ICT division available ❖ ↑ No. staff on ICT
<ul style="list-style-type: none"> • ICT knowledge and skills of staff 	⇒ Computer literacy, formal training	<ul style="list-style-type: none"> ❖ % staff with ICT literacy ❖ % staff with formal training 	<ul style="list-style-type: none"> ❖ ↑ % with ICT literacy ❖ ↑ % with formal training
<ul style="list-style-type: none"> • E-services offered by the organizations 	⇒ Availability of e-services and their types	<ul style="list-style-type: none"> ❖ Whether e-services available ❖ Whether specific types of services available 	<ul style="list-style-type: none"> ❖ E-services available ❖ ↑ specific types of services
Attitudes, perceptions and expectations			
<ul style="list-style-type: none"> • Attitudes of staff towards ICT 	⇒ Attitudes	<ul style="list-style-type: none"> ❖ Positive to negative scale 	<ul style="list-style-type: none"> ❖ ↑in % positive responses
<ul style="list-style-type: none"> • Perception of staff towards ICT 	⇒ Perceptions	<ul style="list-style-type: none"> ❖ Expressions of perceptions 	<ul style="list-style-type: none"> ❖ Positive change of perceptions
<ul style="list-style-type: none"> • Expectations of staff on future govt. IT services 	⇒ Expectations	<ul style="list-style-type: none"> ❖ Expressions of expectations 	<ul style="list-style-type: none"> ❖ Positive change of expectations

Table 2.2: Monitoring model for GOES (contd..)

Evaluation questions	Variables/parameters	Indicators	Expected changes in indicators
Awareness and satisfaction on e-services			
<ul style="list-style-type: none"> • Awareness of staff on govt. websites and e-services 	⇒ Awareness	❖ % staff with awareness	❖ ↑ % with awareness
<ul style="list-style-type: none"> • Awareness of staff on ICTA and e-Sri Lanka 	⇒ Awareness	❖ % staff with awareness	❖ ↑ % with awareness
<ul style="list-style-type: none"> • Satisfaction of staff with the new e-government systems 	⇒ Satisfaction	❖ Positive to negative scale	❖ ↑ in % positive responses
<ul style="list-style-type: none"> • Satisfaction of staff with data transmission speed 	⇒ Satisfaction	❖ Positive to negative scale	❖ ↑ in % positive responses
Involvement in e-Sri Lanka and participation and satisfaction on ICTA training			
<ul style="list-style-type: none"> • Level of involvement in e-Sri Lanka 	⇒ Involvement	❖ Level of involvement in scale	❖ ↑ in level of involvement
<ul style="list-style-type: none"> • Level of participation in ICTA training 	⇒ Participation and completion	<ul style="list-style-type: none"> ❖ No. staff participated ❖ No. staff passed ❖ No. staff completed ❖ No. staff not-completed 	<ul style="list-style-type: none"> ❖ ↑ No. participated ❖ ↑ No. passed ❖ ↑ No. completed ❖ ↑ No. not-completed
<ul style="list-style-type: none"> • Satisfaction on ICTA training 	⇒ Satisfaction	❖ Positive to negative scale	❖ ↑ in % positive responses

Table 2.2: Monitoring model for GOES (contd...)

Evaluation questions	Variables/parameters	Indicators	Expected changes in indicators
Willingness (motivation) and capabilities			
<ul style="list-style-type: none"> • Willingness of the staff to adopt ICT based tasks 	⇒ Willingness	❖ Positive to negative scale	❖ ↑in % positive responses
<ul style="list-style-type: none"> • Willingness of staff in using ICT for day-to-day tasks 	⇒ Willingness	❖ Positive to negative scale	❖ ↑in % positive responses
<ul style="list-style-type: none"> • Capabilities to adopt ICT based tasks 	⇒ Assessment of capability (Hardware/software facilities, Human resources, Network & infrastructure)	❖ Positive to negative scale	❖ ↑in % positive responses
Self reported efficiency and assessment of ICT involvement			
<ul style="list-style-type: none"> • Self reported efficiency in providing services 	⇒ Assessment of efficiency	❖ Positive to negative scale	❖ ↑in % positive responses
<ul style="list-style-type: none"> • Self reported efficiency in processing administrative matters 	⇒ Assessment of efficiency	❖ Positive to negative scale	❖ ↑in % positive responses
<ul style="list-style-type: none"> • Level of ICT involvement in providing services 	⇒ Assessment of ICT involvement	❖ Positive to negative scale	❖ ↑in % positive responses
<ul style="list-style-type: none"> • Level of ICT involvement in processing administrative matters 	⇒ Assessment of ICT involvement	❖ Positive to negative scale	❖ ↑in % positive responses

3 Methodology

This section provides a detailed account of the methodology adopted for the Government Organizations Employees Survey (GOES). Survey of individual employees of selected government organizations is the major source of information used in the study. This was supplemented by the data on physical and human resource capabilities of ICT sector, which was gathered with the support of IT staff in each organization. The overall design of the evaluation survey has following steps.

- 1) Selection of the study sample
- 2) Development and pre-testing of questionnaires
- 3) Creating awareness on the survey among the management of organizations
- 4) Training of survey team
- 5) Conducting of interviews
- 6) Analysis of data
- 7) Reporting of findings

3.1 Methods of data collection

Three methods of data collection were used in the survey. They were:

- Interviewing a sample of employees using a structured questionnaire,
- Checklist of IT related facilities and human resources in respective government organizations and,
- Screening of websites of respective organizations to assess the situation of current on-line services offered

These tools were designed to elicit the information on current situation of government employees with reference to their involvement with the development of e-government in selected organizations. Baseline situations were assessed using a set of indicators which would be impacted by proposed programs of e-Sri Lanka and other ICT interventions in respective government organizations. In the future, impact and outcomes of such projects could be evaluated based on the changes observed in the same variables after implementation of proposed interventions. The logical formulation of indicators starting from the evaluation questions through methods, variables/parameters were presented in the table 2.2.

Questionnaires were developed accordingly to gather information on respective indicators. They were pre-tested at three selected organizations and necessary improvements were made. They were further revised to address the comments from the ICTA. The questionnaires included two sections, (1) a common section to be identically used for employees of all government bodies covered by the survey, and (2) a section specific to given government organizations. Data collection was done through face-to-face interviews. This method was selected based on the experience of low response rates for self-administered questionnaires in developing countries like Sri Lanka and specialized ICT orientation of the questions involved. Questionnaires were initially developed in English and translated into Sinhala and Tamil. Interviews were mostly conducted in Sinhala and Tamil.

3.2 Training of enumerators

Training of the data collectors is a critical factor that determines the quality and reliability of data. Therefore, after the finalization of questionnaires and sampling procedures, all enumerators selected for conducting the survey were given one-day training program. During this training program, following major aspects were covered.

- **Purpose and objectives of survey and e-Sri Lanka initiative:** Representatives of ICTA explained the objectives and purpose of the assignment and made a detailed and comprehensive presentation of e-Sri Lanka initiative and re-engineering the government program.
- **Survey techniques:** An introductory lecture was given on the survey techniques and their applicability to the GOES. Rehearsals were conducted on specific aspects such as approaching institute heads, respondent officers etc. An appropriate introductory remark on the survey and its purpose, institutions involved etc. have been developed so that all enumerators will give the same introduction to all organizations and respondents about the survey. Special attention was given on aspects such as maintaining politeness, mobilization of respondents for enthusiastic response and strategies to eliciting accurate information etc.
- **Detailed discussion of the questionnaire:** All questions of the questionnaire were discussed one by one. More difficult questions were explained in detail by using a participatory discussion approach and practicing them as role plays.
- **Organizational structure of selected organizations:** To ensure maximum success of surveys, details of organizational structures involved were explained to enumerators.

3.3 Selection of the sample

The sampling procedure was developed after considering the scope of the survey and making pre-visits to number of selected government organizations. Based on the information gathered from these sources, sampling procedure was finalized and details of them are presented in the tables 3.1 and 3.2. There was a significant variability found among the designated organizations depending on factors such as, nature of the work involved, number and types (executive and non-executive) of employees, number of visitors, type of management involved (e.g. central government, semi-government, regional offices etc). Hence the sampling procedure was developed to take this variability into account.

The designated organizations included 08 governmental bodies in Colombo and a set of District Secretariats (DS) and Divisional Secretariats (DvS) selected representatively from the entire island. While the Colombo based organizations are usually government offices with large number of employees and numerous visitors to them, regional offices (DS and DvS) are small offices with limited cadre, yet with an island-wide representation. In order to have a proper representative samples, two separate sampling strategies were adopted for Colombo offices and DS/DvS offices.

Colombo Offices

- Since the information from each organization has to be discussed separately, sufficient number of employees was selected from each organization (Table 3.1).
- The stratified random sampling method was adopted to select employees. The strata considered were executives and non-executives.
- Considering practical difficulties, which could arise in conducting surveys within the very short period of time involved, non-executives were selected by means of randomly selected clusters (administrative units).

Table 3.1: Sampling scheme for Colombo-based offices

Organization	Sample size	
	No. Executive	No. Non-executive
Foreign Employment Bureau	15	50
Department of Motor Traffic	07	42
Department of Personal Registration	07	38
Ministry of Public Administration	33	40
Pensions Department	13	48
Laksala	8	16
Department of Labor	23	53
Registrar General's Department (selected offices)	3	10
Total	109	297

Regional Offices (District Secretariats (DS) and Divisional Secretariats (DvS))

- Since the services offered in DS and DvS are different, they were considered as two strata in sampling. In addition, island-wide Survey on Computer Literacy -2004 undertaken by the Department of Census and Statistics has categorized districts into four strata on the basis of computer literacy. Accordingly, 09 districts were selected randomly from these strata probability proportional to size (Annex 2: table 01). The DS and 2-3 DvS were selected randomly from each of those 09 districts.
- In selecting employees, two strata, executives and non-executives were considered as before and respondents were selected from each stratum randomly. Given the limited number of executive officers in regional offices, usually all of them had to be interviewed in many occasions.

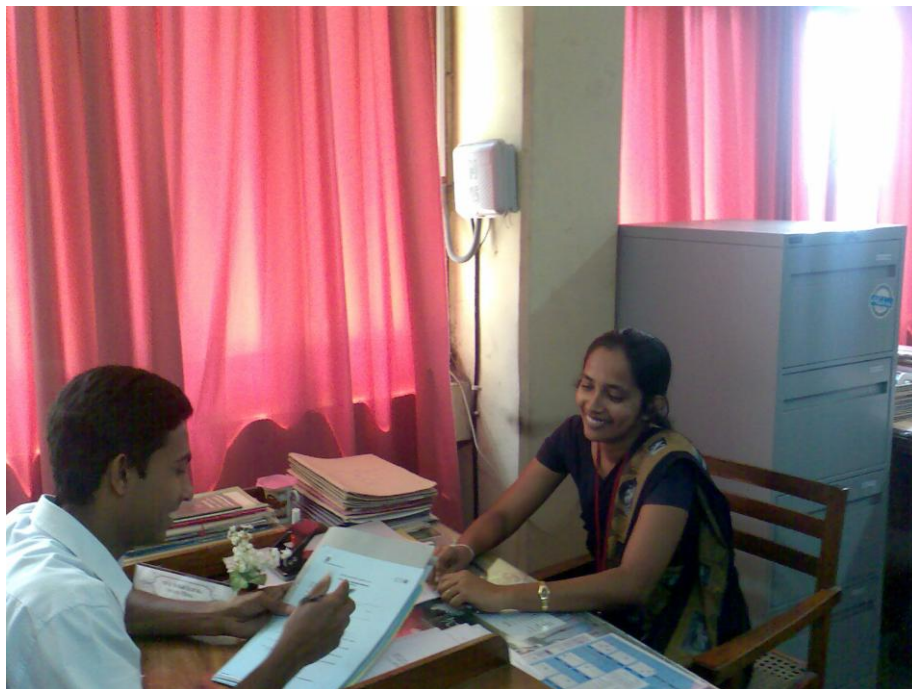
Table 3.2: Sampling scheme for DS and DvS

Organization	Sample size	
	No. Executive	No. Non-executive
District Secretariats		
Colombo	06	09
Anuradhapura	02	08
Badulla	02	10
Galle	03	08
Kegalle	04	09
Kurunegala	03	02
Matale	04	10
Matara	05	10
Nuwara Eliya	03	14
Total	32	80
Divisional Secretariats		
Colombo	05	06
Hanwella	09	12
Moratuwa	01	08
Kekirawa	01	10
Mihintale	01	08
Mahiyangana	02	05
Passara	02	04
Ambalangoda	05	05
Galle	05	04
Kalutara	06	09
Madurawela	04	05
Bulathsinghala	05	05
Bulathkohupitiya	03	05
Galigamuwa	02	06
Kuliyapitiya East	03	05
Polgahawela	02	05
Naula	03	-
Ambanganga Korale	04	05
Pasgoda	02	05
Nuwara Eliya	03	05
Kotmale	03	05
Total	71	122

Figure 3.1: Training Session



Figure 3.2: Interview of an Employee



3.4 Conducting of survey and the quality assurance

The survey was conducted during the first and second weeks of the January, 2007. Field data collection was started after informing and making prior arrangements with the management of selected organizations. This was achieved through written communications, phone conversations and pre-visits to respective organizations. Representatives of ICTA also took part in this exercise.

Survey was conducted by an experienced team of enumerators/data collectors. To ensure the quality of information, random checks and live checks were carried out by members of the team of consultants and representatives of ICTA during the survey period. Special communication arrangements were made to communicate with the field staff during the survey period and to solve practical problems that arose at the field level.

3.5 Analysis of data

A tabulation block (data entry module) was developed and used to enter primary data from questionnaires. This helped to verify ranges and consistency of the data and generate reports indicating missing data, data outside of the accepted ranges, and inconsistent answers etc. All questionnaires were quality checked by supervisors before entry. Data entry was undertaken by trained and qualified data operators under the guidance of resource persons. Upon the completion of data base, it was converted in to MS Excel spread sheet for the convenience of analysis. MS Excel and SPSS packages were used to analyze the data.

Questions were mainly presented as either single choice or multiple choices closed-ended questions. Questions that generated quantitative/numerical figures were rather few. Only few open-ended questions were included in the questionnaire (Annex 01). Information generated in the survey mainly included relevant categories or rankings of individuals of target parameters/variables. As a result, analytical methods mainly included techniques of analyzing qualitative data (categorical data). Given the scope of study, the analysis mainly involved methods such as:

- Measurement of qualitative parameters based on individual rankings
- Development of indicators based on counts and percentages of individual selections/rankings
- Calculation of statistics such as average, range (min-max) etc.
- Coding and analysis of answers to open-ended questions

Mainly tabular data analysis was used. Cross tabulation was used extensively to develop linkages among selected variables. Results of these qualitative analytical tools were organized, interpreted and presented to create the overall picture and specific details of the baseline context of the selected government organizations and employees. While the scope provided by the TOR of the client was taken as the major guideline for content of the final analysis, precise details were worked out by consultation of the ICTA staff at the design stage before finalizing the analysis.

3.6 Limitations and constraints of the study

The major limitations faced by the research team were short time duration allocated for the entire assignment and time period involved in the survey. The survey has to be undertaken within the very short period during the initial two weeks of the month of January. During this period, researchers encountered various problems in engaging employees for the survey as the organizations were concluding their last year's work and preparing for coming year's activities. In addition, number of absentees also was high during this period, which created difficulties for enumerators to cover specific number of employees from respective organizations. However, many of these obstacles were overcome by the dedication of the research team.

4 ICT Profile of Government Employees

From this section onwards, results of the survey are presented. Sections 4 and 5 present general findings, which are common to employees of all organizations. Section 6 includes organization specific information of 10 organizations covered in the survey.

4.1 General information

The total sample included 711 employees from the selected organizations. Of this, 29.8% were executives. Remaining 70.2% were non-executive officers. Among non-executives, a substantial proportion was females (71% against 29% males) whereas among executives, males were significantly higher than females.

As far as education qualifications are considered, graduates (or above) dominated among executives by 79%. Few non-graduates also have made it to executive ranks, mostly through the path of promotion. Designation titles indicate that many of them are in junior ranks of the executive staff in respective organizations. GCE/AL qualified officers were the majority group (65%) among non-executives. However, non-executive category also included 26.6% of graduates (and post-graduates).

Table 4.1: General information about the sample of employees

Parameter	Executive Officers No (%)	Non-executive Officers No (%)
Gender		
• Male	121 (57.1%)	146 (29.3%)
• Female	91 (43.9%)	353 (70.7%)
Level of education		
• <GCE/OL	0.1 %	0.8 %
• GCE/OL	0.1 %	7.4 %
• GCE/AL	19.9 %	65.0 %
• Graduate	61.2 %	25.3 %
• Post graduate	18.0 %	1.4 %
Age		
• 21-30	7.6 %	31.2 %
• 31-40	33.3 %	39.6 %
• 41-50	27.6 %	15.7 %
• 51-60	29.5 %	13.3 %
• >60	1.9 %	-

4.2 Formal Training and ICT Literacy

Skills and human resources are key aspects of promotion of e-government in public organizations. Correct assessment of ICT skills among government employees is an important necessity. Therefore, the survey study directed special attention on the computer literacy of employees as it has strong implications towards the implementation of future e-government interventions in the selected organizations.

Results indicate that significant level of e-literacy could be observed among both executives and non-executives as a whole (over 90%). Both categories include around 65% employees formally trained in ICT to some level. Out of the remaining 35% also a majority has acquired some form computer literacy at least to the level of handling common office software. Only 10% or below has indicated that they are totally illiterate in ICT.

Table 4.2: ICT Knowledge and skills of employees

Parameter	Executive Officers No (%)	Non-executive Officers No (%)
<i>No formal training or ICT literacy</i>	<i>22 (10.4%)</i>	<i>30 (6.0%)</i>
<i>ICT Literacy but not formally trained</i>	<i>50 (23.6%)</i>	<i>147 (29.4%)</i>
1. Word processing skills only	27.1%	24.9%
2. Skills in word processing + spread sheets	33.3%	24.9%
3. Skills in word processing + spread sheets + DBMS (Office software)	32.3%	14.6%
4. Office software + specialized professional packages (e.g. SPSS, Stata, Arc GIS etc.)	3.1%	1.6%
5. Skills in programming	4.2%	4.0%
<i>Formally Trained</i>	<i>140 (66.0%)</i>	<i>322 (64.5%)</i>
1. Certificate course: basic computer skills	35.0%	34.7%
2. Certificate course: intermediate/advanced	35.8%	31.5%
3. Diploma	21.9%	28.9%
4. Specialized training below degree (e.g. GIS techniques)	1.4%	1.3%
5. Degree	2.8%	3.5%
6. Specialized training above degree	2.8%	-
7. Post-graduate	1.4%	-

Considering the fact the sample covered a general profile of employees, many respondents would have to play the role of computer users rather than experts. Therefore this level of computer literacy can be interpreted as a positive situation overall, where basic e-literacy conditions necessary for e-government developments in the selected organizations have already been fulfilled to a certain extent. However

when it comes to the professional/expert ICT skills necessary to introduce proposed e-government, adequacy of the current resources cannot be assured based on the information derived from the survey. Relatively a low proportion of ICT graduates (and post graduates) have been reported among both executives (7%) and non-executives (3.5%), who can be considered as possessing true professional qualifications in the ICT.

The other issue is the quality of skill levels acquired through formal training. For over 90% of both categories, formal training in ICT is limited to basic to below-degree level diploma courses. Given that large number non-standard ICT courses have mushroomed during the recent period with no quality assurance in ICT education in the country, there is no assurance of the quality of ICT training among the government employees. Training obtained from institutes certified by recognized accreditation bodies can only be counted on for quality of skills. Therefore, this is an area which needs more in-depth studies, giving special attention to quality aspects of the ICT education among government employees, which is beyond the scope of this kind of multi-objective survey.

Considering from the e-government management perspective, an important fact is that there is no significant difference between ICT literacy between executive and non-executive ranks either in formal training or skills acquired through non-formal means. It is evident that the majority of both categories hold similar type of qualifications at the below-degree levels. As already mentioned, the quality of education offered by many institutes that provide this level of ICT education is questionable. In a future development of e-government facilities, this aspect has to be given special attention. It is evident that executives as a group has to take more important decision making responsibilities in a future e-government environment whereas non-executives mostly have to fulfill routine duties. Therefore, while 100% e-literacy is the desirable goal for both categories, it is apparent that higher depth of e-literacy that can compatible with decision-making responsibilities should be the expectation for executives.

4.3 Access and Usage of ICT

It is apparent that without sufficient access to ICT facilities by employees in selected organizations, required levels of human skills or service quality are unattainable. In this section, ICT usage of government officers both at the office and household contexts are examined. The basic aim here is to evaluate the level of current access to ICT facilities by the government employees.

4.3.1 ICT Usage in the Office

Survey indicates that ICT facilities have been provided to employees, both as individually used facilities as well as commonly used facilities. There is a significant difference exist between provision of individually used facilities among the executive and non-executive ranks. Two third (66%) of executive officers in the sample have been provided ICT facilities for individual use whereas only 21% of non-executives have individually been provided ICT facilities. Large proportion of non-executives (59.7%) use commonly provided facilities. Executives who use commonly used

facilities are relatively few (19.8%). Overall, 14% of executives and 20% of non-executives do not have access to either individually or commonly used facilities.

Details of the facilities provided for each category of employees are given in the tables 4.3 and 4.4. Accordingly most common facility is desk top computers while a few executives have been provided with laptop computers also. An important parameter is employees' access to internet and e-mail communications facilities. Significant number of (53.3% of total or 80% with those who have computer facilities) executives has access to internet connections and 30.6% have official e-mail connections too. However, level of access to internet among non-executives was substantially low 8.4% with only 3.2 % having an official e-mail connection.

Table 4.3: Provision of ICT facilities to own use of officers

Facilities	Executive Officers No. (%)	Non-executive Officers No. (%)
Availability of facilities	140 (66.0%)	105 (21.0%)
Type of facilities available		
• Desktop computer	97.9%	94.3%
• Laptop computer	7.9%	2.9%
• Internet connection	80.7%	40.0%
• Official E-mail	46.4%	15.2%
Tasks undertaken with official ICT facilities		
• Letters/documents	93.6%	80.5%
• Official communication	27.8%	17.1%
• Database	43.6%	39.0%
• Data analysis	30.7%	24.8%
• Web site improvement	7.1%	7.6%
• Network administration	10.1%	9.5%
• Web information collection	38.6%	20.0%
• Administrative functions	27.1%	12.4%
• Service providing activities to clients	22.1%	22.8%
• Networking with other organizations	17.1%	8.6%

An important factor is the purpose of utilization of these ICT facilities as it indirectly reflects the level of e-government reached by the respective organizations and employees. Large majority of executives (93.6%) and 81% of non-executives have used computers provided to them mainly for preparation of letters and documents. For commonly provided facilities also this purpose dominates among both categories, 90.4% for executives and 89.6% for non-executives respectively. This implies that computers are used by the government employees mostly for documentation purposes which can be considered as a relatively basic use of ICT facilities.

Very few respondents have reported that their computers are used for service providing activities to clients (Executives: 22.1% (individual) and 11.9% (common); Non-executives: 22.9% (individual) and 8.4% (common)). This indicates that current usage of ICT facilities by government employees for front-end client services of e-government is very low. As far as back-office integration activities of e-government are concerned, the number of employees who use ICT facilities for such uses also are very low. This is exemplified by low use of ICT for administrative functions (Executives: 27.1%; Non-executives: 12.4%), networking with other organizations (Executives: 17.1%; Non-executives: 8.5%), network administration (Executives: 10.7%; Non-executives: 9.5%), web site improvements (Executives: 7.1%; Non-executives: 7.6%) and official communication (Executives: 27.8%; Non-executives: 17.1%).

Although a relatively high proportion of employees has reported the use of ICT for data base (Executives: 43.5%; Non-executives: 39.0%) and data analysis (Executives: 30.7%; Non-executives: 24.8%), it seems that most of these functions include maintaining and handling of small-scale data gathering activities in stand alone computers, usually undertaken using spreadsheet and DBM applications rather than truly integrated management of transactional databases or analysis of such databases. ICT usage for functions such as accountancy packages, pay roles etc. seems gradually becoming popular. Employees' assessment of level of ICT usage in client-based services and internal management functions in different organizations are presented in the section on individual organizations. Somewhat high usage of ICT facilities has been reported by executive officers for web information collection (38.5%).

Table 4.4: Provision of ICT facilities for common use of officers

Facilities	Executive Officers No. (%)	Non-executive Officers No. (%)
Number of common facility users	42 (19.8%)	298 (59.7%)
Tasks undertaken with official ICT facilities		
• Letters/documents	90.5%	89.6%
• Official communication	19.0%	9.4%
• Database	23.8%	18.5%
• Data analysis	19.0%	14.8%
• Web site improvement	7.1%	4.0%
• Network administration	4.8%	2.0%
• Web information collection	23.8%	10.7%
• Administrative functions	7.1%	3.3%
• Service providing activities to clients	11.9%	8.4%
• Networking with other organizations	9.5%	2.3%

Overall, ICT facilities are mostly used by government employees at the basic level to fulfill individual official responsibilities such as preparation of letters/documents etc. They seem to use facilities in somewhat commonly for handling data and analysis purposes. Practice of searching information from the web seems to be catching up. However, from an e-governance perspective, despite such improvements, usage of ICT facilities for providing front-end client services or true back-office integration activities seems quite low.

4.3.2 ICT Usage at Home

Relatively high proportion of executive officers (61.8%) and significant number of non-executive officers (39.7%) possess ICT facilities at their homes. Details of specific types of facilities are given in the table 4.5. Thirty two percent of executives and 10% of non-executives have domestic internet connections too. Web-based e-mail facilities are the popular form of e-mail used by both groups. Among the major uses reported by respondents are letter/documents (Executives: 80.9%; Non-executives: 64.6%), education (Executives: 43.5%; Non-executives: 42.9%), web search (Executives: 34.3%; Non-executives: 15.1%), games (Executives: 24.4%; Non-executives: 28.8%), multi-media entertainment (Executives: 29.8%; Non-executives: 32.8%) and personal communications (Executives: 24.2%; Non-executives: 16.1%).

Table 4.5: Availability of ICT facilities at home

Facilities	Executive Officers No. (%)	Non-executive Officers No. (%)
Availability of ICT facilities at home	131 (61.8%)	198 (39.7%)
Type of facilities available		
• Desktop computer	93.1%	96.0%
• Laptop computer	13.7%	5.0%
• Printer	38.9%	25.2%
• Internet connection	52.7%	25.2%
• E-mail		
a. Web-based	4.8%	11.1%
b. Service provider connection	23.8%	2.0%
Uses of domestic ICT facilities		
• Letters/documents	80.9%	64.6%
• Communication		
○ Official	17.5%	9.0%
○ Personal	24.2%	16.1%
• Data and information	12.2%	8.5%
• Data analysis	16.8%	14.1%
• Official work	19.0%	6.0%
• Other professional work	7.6%	3.0%
• Web search	8.3%	6.0%
• Games	34.3%	15.1%
• Multimedia (entertainment)	24.4%	28.8%
• Education	29.8%	32.8%
	43.5%	42.9%

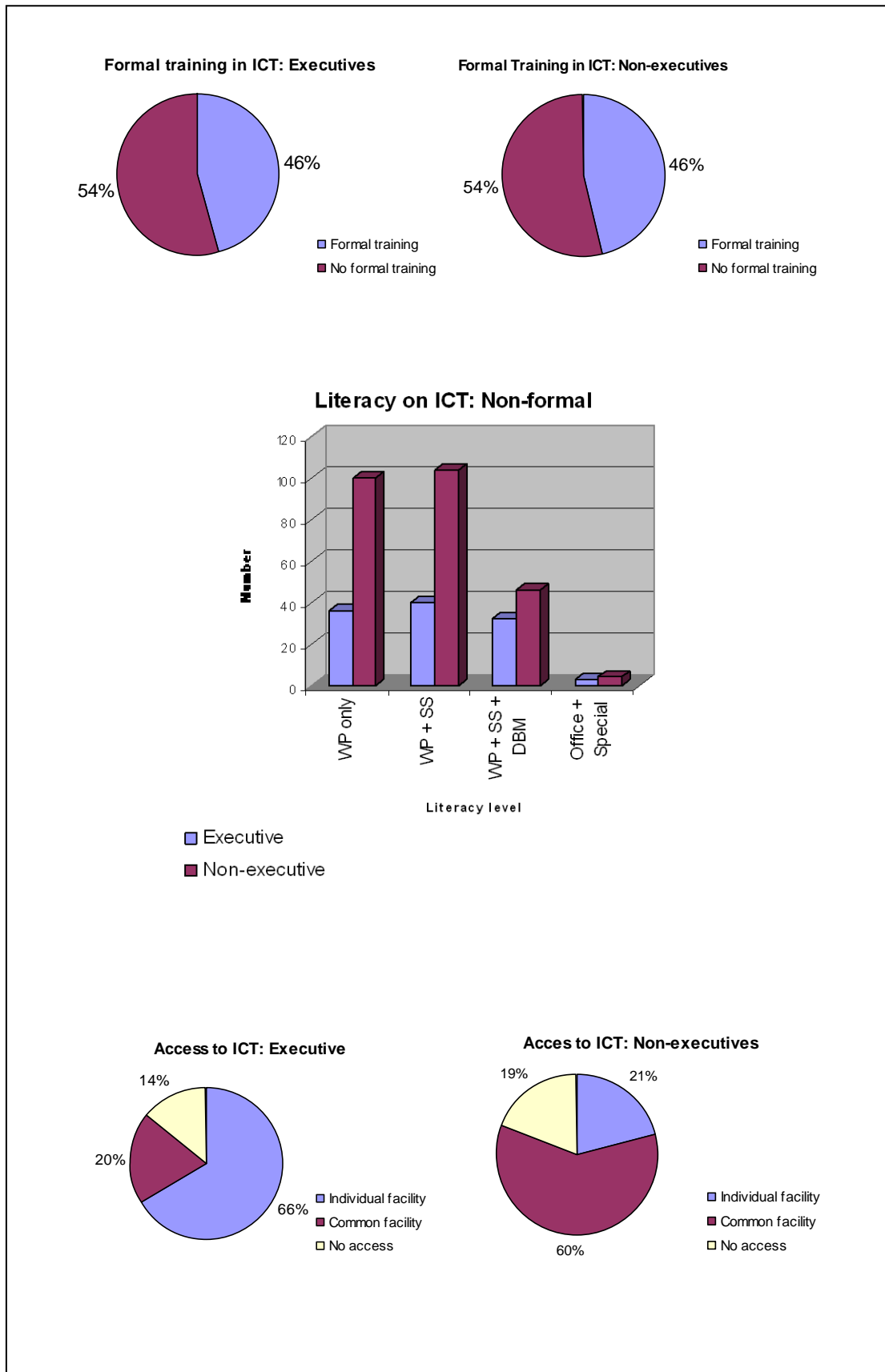
4.3.3 Internet Usage

Sixty percent of executives and 33.8% non-executives have reported that they regularly access internet. They do it daily (Executives: 43.0%; Non-executives: 39.6%), once in 2-3 days (Executives: 27.3%; Non-executives: 24.4%) or weekly basis (Executives: 29.7%; Non-executives: 36.0%). Major source of access to internet for executives (53.3%) as well as non-executives (24.6%) is the office. Although a significant number has internet connections at their homes, it seems they also use the office internet facilities as the major source of access. Few use domestic connection as the major source of access. Very few have reported internet cafes as the major source of access (table 4.7).

Table 4.6: Usage of internet by government employees

Facilities	Executive Officers No. (%)	Non-executive Officers No. (%)
Number of regular internet users	134 (63.2%)	169 (33.9%)
Frequency of access		
• Daily	43.0%	39.6%
• Once in 2-3 days	27.3%	24.4%
• Weekly	29.7%	36.0%
Satisfaction with data transmission speed	67.1%	61.7%
Place of access (according to the priority)		
• Office	85.0%	72.9%
• Home	12.8%	14.2%
• Internet cafe	1.5%	8.4%
• Other	0.7%	3.6%
Purpose of access (according to the priority)		
• E. mail	52.2%	49.1%
• Search information	29.8%	37.1%
• Education	5.2%	7.1%
• Game	-	-
• Entertainment	-	-
• Chatting	-	-
• Blogging	-	-
• Shopping	-	-
• Paying bills	-	-
• Banking	7.5%	6.5%
• News	0.7%	1.7%
• Other		

Figure 4.1: Formal Training, Computer Literacy and Access to ICT



E-mail communications is the major purpose to access internet among the both groups of regular users (Executives: 52.2%; Non-executives: 49.1%). While searching the web for information has been recorded as the second priority use (Executives: 31.5%; Non-executives: 34.9%) very few have developed other web uses. Transaction uses of internet such as shopping, paying bills, banking or expression uses such as chatting and blogging are practically at the zero level. Overall pattern of internet usage described in the table 4.7 suggest that government employees as a group is not a very web savvy community. However, this is not a situation common to all groups and is highly dependent on the age of users. Predictably, younger generation of employees is the leading group of internet users among the government employees (figure 4.1). Therefore, it can expect that usage of internet among the public officers would grow rapidly over the time.

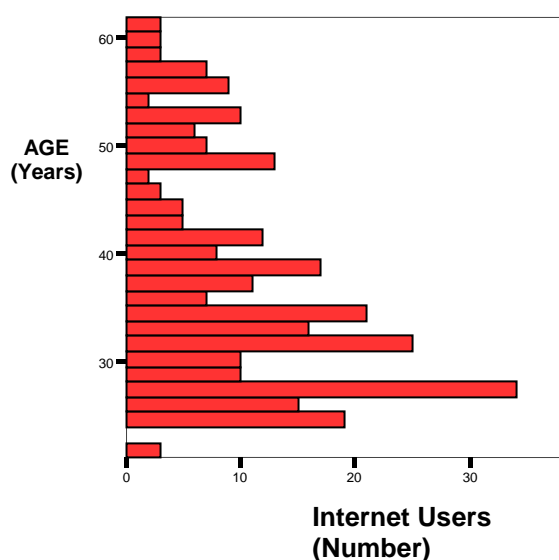


Figure 4.2: Number of internet users by age

4.4 Perception and Attitude of the Employee towards ICT

Successful introduction of e-government services is largely a matter of perception and attitudes of employees as well as clients. If the correct attitudes are not developed among these important stakeholders, it is unlikely to evolve successful systems even if other facilities and conditions are fulfilled adequately. A simple attitude test was made in the form of selecting individual opinion of government employees regarding the usefulness of ICT. While the simplicity of approach adopted here has limitations, it has its advantages too. It provides quite a clear picture about overall general attitude that prevails among Sri Lankan government employees regarding the ICT and e-government. Table 4.8 presents the results of this test.

The simple opinion test provides a significantly positive picture of attitudes among government employees about the usefulness of ICT. Interestingly, an almost identical pattern of opinions can be observed among two categories of employees, executives and non-executives.

Table 4.7: Attitude of government employees towards usefulness of ICT

Attitude	Executive Officers No. (%)	Non-executive Officers No. (%)
<ul style="list-style-type: none"> • ICT can help to improve the performance of government organizations in many ways 	143 (69.8%)	334 (69.3)
<ul style="list-style-type: none"> • ICT can be useful for improving some areas of the government service 	47 (22.9%)	123 (25.5%)
<ul style="list-style-type: none"> • ICT can be useful only if situation in other areas such as poor management, corruption, political influence etc. also improves 	12 (5.8%)	23 (4.8%)
<ul style="list-style-type: none"> • ICT cannot improve the situation in government service 	03 (0.9%)	02 (0.4%)

Table 4.9 presents the general perception about government employees on the contributions that can be made by ICT for good governance, according to the top most priority assigned by respondents for a given list. Again, a similar pattern of perception is indicated by both categories of executives and non-executives. They overwhelmingly seem to believe that improving the efficiency of government is the most important contribution by ICT for e-governance. Although not at the similar level of priority, some government employees think that ICT can reduce the discomfort to the public, improve the quality of government services and improving the productivity of government organizations too. These seems to be more in line with the top most priority of efficiency, indicating that government officers perceive efficiency benefits of e-governance more strongly than other benefits of e-governance.

Interestingly, they are totally ignorant or unconvinced about other e-governance benefits such as reducing the corruption, minimizing the harmful political influence, improving the working conditions for employees or even increasing the facilities for employees. This dominant, efficiency-biased view reflects an imbalanced perception of government employees towards e-government. Therefore, a balanced view towards the e-government should be cultivated among government employees to achieve more fruitful results.

Table 4.8: Perception of government employees on the contribution by ICT for e-government

Perceptions (according to priority)	Executive Officers No. (%)	Non-executive Officers No. (%)
1. Improving the efficiency of government sector	140 (66.0%)	371 (74.3%)
2. Improving the quality of government services	17 (8.0%)	38 (7.6%)
3. Reducing the discomfort to the public	24 (11.3%)	50 (10.0%)
4. Increasing the productivity of government organizations	16 (7.5%)	24 (4.8%)
5. Increasing the working conditions of government organizations	04 (1.9%)	11 (2.2%)
6. Reducing the corruption in government service	01 (0.4%)	08 (0.8%)
7. Minimizing the harmful political interventions	03 (1.4%)	01 (0.0%)
8. Increasing the income and facilities of employees	01 (0.4%)	-
9. All others	04 (1.9%)	05 (1.0%)

5 Employees' Awareness and Satisfaction of Government e-Services

In this section, we discuss the employees' awareness and satisfaction over the e-government efforts taken by the respective government organizations as well as the public sector in general. Starting from employees' awareness on the e-Sri Lanka, the major e-government initiative launched by the government, gradually their experience with various e-government facilities will be examined. Finally, attention will be directed towards their expectations and opinions towards the government e-services and improvement of them.

5.1 Awareness on e-Sri Lanka and ICTA

A significant number of employees from both executive and non-executive categories are aware of the ICTA and e-Sri Lanka. Awareness is comparatively high among the executive staff. This can be considered as an encouraging sign. However, when it comes to specific activities undertaken by the ICTA, level of awareness seems to drop down, which is a natural situation as all employees are not equally involved with ICT related tasks. Employees' awareness on e-Sri Lanka activities in their own organizations is higher among executives than non-executives. Even though, *Electronic Transaction Act* has been enacted recently, a considerable number of government employees, especially those who are dealing with ICT matters were aware about it. This is despite the observation that government employees' awareness on legislative matters is generally low.

When the situation in Colombo and Regional offices are concerned, interestingly level of awareness among executives on ICTA/e-Sri Lanka seems to be slightly higher among officers in regional offices than officers in Colombo. Possible reason for this situation is that in regional offices where there are only few executives, a close interaction exists among each other that lead to circulation of information in greater intensity. In Colombo offices where the number of executives is relatively high, awareness on matters pertaining to ICT is not circulated among officers in the same intensity. Among non-executives, awareness on ICTA/e-Sri Lanka is slightly higher in Colombo than their regional counterparts.

Table 5.1: Awareness of government employees on e-Sri Lanka and ICTA

Fact of Awareness	Colombo Offices		Regional Offices		Overall No. (%)	
	Exec.	Non-Exec.	Exec.	Non-Exec.	Exec.	Non-Exec.
• ICTA	91 (85.8%)	221 (77.0%)	100 (94.3%)	168 (79.2%)	191 (90.0%)	389 (78.0%)
• E-Sri Lanka	91 (85.8%)	200 (69.7%)	92 (86.8%)	142 (67.0%)	183 (85.3%)	342 (68.5%)
• LakGov Network (LGN)	37 (34.9%)	72 (25.1%)	65 (61.9%)	69 (32.5%)	102 (48.1%)	141 (28.2%)
• Activities undertaken by ICTA/e-Sri Lanka in own organizations	43 (40.6%)	68 (23.7%)	52 (49.0%)	46 (21.7%)	95 (44.8%)	114 (22.8)
• Electronic Transactions Act	47 (44.3%)	42 (14.6%)	32 (30.2%)	20 (9.4%)	79 (36.8%)	62 (12.4%)

The sample included a few employees who have involved in the activities of e-Sri Lanka in respective organizations. However, they comprise a small proportion of employees who are aware of ICTA/e-Sri Lanka and the largest section of them includes trainees of various ICTA training programs. A few has come to know about ICTA/e-Sri Lanka through their colleagues who are either e-Sri Lanka counterparts or trainees and the rest was informed through media and other sources.

Table 5.2: Involvement with activities of e-Sri Lanka and ICTA

Level of Involvement	Executive Officers No. (%)	Non-executive Officers (No. %)
1. Involved as a counterpart of e-Sri Lanka activities in the organization	36 (17.0%)	22 (4.4%)
2. Trained by e-Sri Lanka	76 (35.8%)	143 (28.7%)
3. Not involved and trained with e-Sri Lanka but know from those who are involved with it	28 (13.2%)	55 (11.0%)
4. Not involved and trained with e-Sri Lanka but know from media and other sources of information	51 (24.0%)	169 (3.9%)

5.2 Participation and perceptions on ICTA training

A significant number of employees from both categories (Executives: 35.8%; Non-executives: 28.7%) in the sample has participated in at least one of the three ICTA training programs. Their assessment of training courses is highly positive (over 75% among both categories. Only less than 10% assessed negatively). This can be considered as an important achievement as far as training and human resources development objectives of e-Sri Lanka are concerned. Many participants seem to be satisfied with content and conduct of training programs in general except in very few occasions where concerns have been raised over trainers, who have been outsourced by the ICTA.

Table 5.3: Participation and assessment of ICTA training programs

Participation	Executive Officers No. (%)	Non-executive Officers No. (%)
Number of participants	76 (35.8%)	143 (28.7%)
Assessment		
• Excellent	15.4%	23.0%
• Good	60.7%	59.7%
• Average	14.3%	14.8%
• Poor	8.3%	2.4%
• Very poor	1.2%	-

There are few participants who have not completed training programs of which only a minor fraction can be considered as dropouts. The rest is still following ongoing programs. Considering both criteria, namely high level of positive assessment by participants and high rate of successful completion, ICTA training interventions can be assessed as a success story.

Table 5.4: Level of participation in specific ICTA training courses

Level	Not Completed No.		Completed No.		Passed No.	
	Exec.	Non.Exe	Exec.	Non.Exe	Exec.	Non.Exe
e-Citizen	05	14	11	03	19	18
ICDL	09	15	27	26	32	73

The main reason mentioned for few dropouts was difficulty of finding time to study due to job responsibilities. Given that number of dropouts is rather few it is difficult to make solid conclusions on reasons for dropouts. However, another in-depth qualitative study which is mainly focused on ICTA training and human resources development is currently underway and it may be possible to find detailed information on this issue.

5.3 Awareness and satisfaction with government e-services

As a major group of stakeholders in the e-government process, the usage and familiarity of government employees on e-services of government organizations seem to be significant. Of the total sample, 75% of executives and 52% of the non-executives have responded that they are familiar with e-services offered by government organizations. It seems that employees' usage of e-services is scattered among few major services as reported in the table 5.5. Of the five major services reported in the survey 1-4 can be considered as front-end client services offered by other organizations whereas networking with other organizations represents back-office integration arrangements in their own organizations.

Table 5.5: Comparison between executives and non-executives with respect to familiarity with government e-services

e-services	Executive No. (%)	Non-executive No. (%)
Familiarity with government e-services	163 (76.9%)	262 (52.7%)
Most used e-services by government employees		
1. Obtaining information from government websites	132 (62.3%)	198 (39.7%)
2. Making queries from GIC	58 (27.4%)	75 (15.0%)
3. Making queries via e-mail from government organizations	39 (18.4%)	36 (7.2%)
4. Online application for government services	33 (15.6%)	22 (4.4%)
5. Networking with government organizations on official matters	22 (10.4%)	12 (2.4%)

The major e-service used by both executives as well as non-executives is obtaining information from government websites. It is important to note that GIC has been also sought for information by employees significantly (Table 5.5).

The level of satisfaction of employees on government e-services is reasonably positive as indicated in the table 5.6. Only few are unsatisfied or neutral (moderately satisfied) as positive responses are above 60% in both categories of employees. This can be interpreted as a positive signal towards adoption of more e-services by the government services.

Table 5.6: Level of Satisfaction of employees on current government e-services in general

Level of satisfaction	Executive Officers (%)	Non-executive Officers (%)
1. Highly satisfied	8.0%	8.1%
2. Satisfied	54.4%	60.8%
3. Moderately satisfied	30.4%	25.5%
4. Unsatisfied	7.2%	4.9%
5. Highly unsatisfied	-	0.5%

The most popular websites are the Ministry of Public Administration (MPA) website and the Department of Examinations (DE) website. The former is particularly popular among government employees for downloading various circulars as that site included a comprehensive collection of various circulars, which is being updated regularly. The demand here is mainly driven by the official requirements of employees. The latter, examination results is mostly a privately needed information. It is more popular among non-executives than executives whereas in the case of MPA website, it is more popular among executives. Other than specific e-services provided by these services (e-circulars and e-examination results), employees visit number of other government websites for information, none of them are individually popular as MPA or DE websites.

Table 5.7: The three most popular government websites among employees

Website/organization	Service	Level of popularity (%)		
		Exec.	Non-Exec.	Overall
Many gov. websites. (The highest reported is the Treasury)	Downloading/ obtaining information	49.0%	21.2%	29.5%
Ministry of Public Administration	Downloading circulars	37.3%	11.8%	18.8%
Department of Examinations	Examination results	7.5%	11.8%	10.5%

Government employees in large majority (of users), have assessed websites either as very useful or useful without no one commenting them as not useful or very poor. This appreciation should be read as a positive signal for the initiative taken to adopt web-based services. However, a majority of government websites in Sri Lanka are still at the information providing or application downloading stages with few or no interactive services attached to them.

Table 5.8: General assessment of employees on government web sites

Assessment	Executive Officers (%)	Non-executive Officers (%)
1. Very useful	39.2%	37.8%
2. Useful	51.9%	53.4%
3. Moderately useful	8.8%	8.8%
4. Not useful	-	-
5. Very poor	-	-

5.4 Willingness and motivation to adopt ICT based tasks

Adopting successful e-services by government organizations is ultimately a matter of willingness and motivation of employees. Without adequate willingness to adopt ICT among the employees, any organization cannot be expected to provide successful e-services. Table 5.9 presents the assessment of willingness to adopt ICT based tasks in organizations for official purposes for executive and non-executive categories. Positive responses regarding willingness to adopt ICT are significantly high among executives (over 60%) whereas it remains below 50% among non-executive staff. In other words, more than 50% of non-executive members in respective organizations are either neutral (moderate) or negative about adopting ICT based activities in their organizations.

Table 5.9: Willingness of employees to adopt ICT for official purposes

Assessment	Colombo Offices		Regional Offices		Overall	
	Exec.	Non. Exec.	Exec.	Non. Exec.	Exec.	Non. Exec.
Willingness to adopt for official duties in general						
1. Very high	23.5%	12.7%	20.4%	16.8%	21.1%	14.5%
2. High	44.9%	42.5%	33.0%	21.1%	39.2%	33.4%
3. Moderate	23.5%	33.1%	36.9%	46.1%	30.6%	38.8%
4. Low	8.1%	10.2%	9.7%	12.5%	9.0%	11.2%
5. Very low	-	1.4%	-	2.9%	-	2.1%
Willingness to adopt ICT in day-to day tasks						
1. Very high	16.5%	10.4%	15.8%	14.5%	15.3%	12.0%
2. High	36.0%	33.3%	30.7%	19.0%	33.7%	26.4%
3. Moderate	31.9%	37.3%	42.6%	43.5%	37.7%	39.2%
4. Low	13.4%	20.9%	9.9%	19.0%	11.7%	19.6%
5. Very low	2.0%	2.0%	0.9%	4.0%	1.5%	2.8%

Figure 5 .1: Awareness on ICTA/e-Sri Lanka, government e-services and employees’ satisfaction and willingness to adopt e-services



While the general willingness for adopting ICT in organizations reflects more long-term and organization-wide concerns, willingness to adopt ICT in day-to-day tasks represents more immediate and individual level motivation with some weight for quick action. For organizations, which are planning to adopt e-service in immediate future, this is more relevant. The responses given by the employees in this regard are even alarming as indicators have taken a systematic shift towards the negative direction. Here, the rate of positive responses goes below 50% mark even for executives and neutral/negative group among non-executives rise above 60%.

When the situation in Colombo and regional offices are considered, predictably the willingness to adopt ICT in general as well as in day-to-day tasks seems to be low in regional offices for both categories of employees. Employees in regional offices usually work with fewer ICT facilities than their counterparts in Colombo offices. Their exposure to ICT and related facilities also is comparatively low. These facts naturally lead to create less motivation towards adopting ICT facilities among employees in regional offices.

The low willingness to adopt ICT by employees revealed in the survey should be taken seriously by the management of ICTA/e-Sri Lanka as well the respective government organizations. It is apparent that some form of motivation is essential for employees in these organizations, especially for non-executive staff. Given that usually non-executives are the category who interacts with clientele in day-to-day tasks and they have to undergo more tedious routine tasks than executives who hold decision making responsibilities, maintaining high spirit among this group is critical for successful delivery of any e-services. Therefore, motivation programs, which are targeted at specific categories of employees according to their planned involvement with proposed interventions, are recommended to overcome this unfavorable situation.

In this connection, one should also take the reasonably high positive attitudes (table 4.8) reported by the same group of employees also in to account. It is reasonable to guess that this low level of willingness (motivation) is influenced more by factors other than negative attitudes. Perhaps their negative experiences in adopting innovations in government organizations may have more influence here than attitudes. Chief Innovating Officers (CIO) designated by the e-Sri Lanka have to play a key role in this connection to create a more conducive environment.

5.5 Expectations of government employees on e-government

In addition to attitudes, perceptions and willingness, the survey also examined the expectations of government employees in reference to e-services and e-government. These expectations were analyzed for two categories separately. Accordingly, the five most important expectations are discussed below.

Five major expectations reported by the executives are as follows.

1. Utilization of ICT to create an efficient and quality public sector
2. Networking of all government organizations
3. Utilization of ICT for convenience of the public
4. Computerization of the services offered by government organizations
5. Provision of adequate training on ICT to government officers

These expectations in general suggest that executives as a group think in terms of overall purpose or goals of e-government rather than intermediate goals and they visualize the future in more visionary fashion.

Five major expectations reported by non-executives are as follows.

1. Utilization of ICT to create an efficient and quality public sector
2. Provision of adequate training on ICT to government officers
3. Computerization of the services offered by government organizations
4. Develop the ICT usage in government organizations
5. Distribution of ICT equipment and facilities by the government

While three of their main expectations are overlapping with that of executives, non-executives seem to think that more immediate issues of distribution of ICT facilities, training of employees and development of ICT usage in government organizations also are important.

In general, both groups have shown a tendency to visualize their expectations over general improvements rather than on any specific areas of interest. Usually expectations over social phenomena such as this are formed and influenced by the social dialogue that exists in a given community over such phenomena. The above responses reflect that employees' expectations have been formed by a very basic level dialogue taking place in the Sri Lankan society over the matters of ICT and e-government. It has not developed into a level of forming expectations over specific areas of interest in the vast realm of ICT and e-governance. Further, low technical awareness and low exposure to e-services in general also may have influenced these opinions. While such general expectations are indicative of the direction of social preferences, they provide little guidance for useful practical action.

6 ICT Context in Government Organizations

In this section, we direct our attention to ICT context found in different organizations. Here, the employees' views on their organizations' activities are discussed together with information from ICT staff on physical availability of ICT resources. This is supplemented by the information on web-based services of respective government organizations collected by screening their websites. While Colombo-based head offices are taken as separate organizations, all regional offices are considered as two different organizations namely, District Secretariats and Divisional Secretariats. In the hierarchy of state organizations although a number of these government organizations are coming under the purview of Ministry of Public Administration, within the specific purpose and scope of this survey, the MPA also was considered as a separate government organization.

6.1 Bureau of Foreign Employment

Bureau of Foreign Employment (BFE) is the state organization mandated to cater the needs of Sri Lankans who are employed abroad. As the income from transfers of overseas employees has become a major source of foreign exchange to the country, the government has made significant attempt to facilitate the process through the BFE. Clientele of BFE mainly includes overseas employees, potential youth recruits and recruitment agencies.

6.1.1 Profile of ICT resources and e-services

Resources and Infrastructure: BFE has about 650 employees in the head office located in Battaramulla. All employees interviewed in the survey are from the head office. Table 6.1 provides a profile of ICT facilities available in the BFE as reported by the ICT staff of the organization. According to the figures given, the BFE can be considered as an organization provided with substantial ICT related resources and facilities. It has a separate ICT division with around 20 staff members. As far as physical resources are concerned it has around 2.15 employees per each PC.

Computers of BFE are connected to WAN and the system is connected to internet through a leased line facility. About 40 officers have been provided with official E-mail connections, again a significantly high number. In general, observations suggest that usage of ICT in the organizational activities of the FBE is relatively high compared with many other organizations.

E-Services: It has a website which is updated by the members of the staff. Although 60% of surveyed employees have positively commented on the response rate for the website, at present it does not provide any particular service to clients other than information. So far it is an information only website and no applications downloading facilities or interactive web services are provided by it.

Table 6.1: Profile of e-government in BFE

e-Government facilities	Profile
<u>Hardware facilities</u> <ul style="list-style-type: none"> • No. PC • No. Laptops • No. Printers • No. Scanners • No. Multimedia projectors • No. Employee/PC 	300 07 75 06 05 2.15
<u>Web presence & ICT services</u> <ul style="list-style-type: none"> • Website • Web update system • ICT services 	Yes No Yes
<u>Infrastructure</u> <ul style="list-style-type: none"> • LAN • WAN • LGN • Connect. Type • No. e-mails 	Yes Yes Yes Leased 40
<u>Human Resources</u> <ul style="list-style-type: none"> • No. ICT persons • ICT Division 	15 Yes

6.1.2 Employees' assessment: Efficiency, Information Needs and Capability

According to the employees, two most important services provided by the organization are services to foreign employees including extension of visa and social protection and welfare services. Employees' assessment of efficiency and ICT involvement in providing services to clients and undertaking management/administration functions of the organization are quite favorable as indicated by the high percentage of positive responses.

As far as management/administrative functions are concerned, the assessment on human resource management (HRM) activities is comparatively low compared with salary and other payments. The organization uses special software for accounting and payroll handling whereas no special software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 6.2: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• Services to foreign employees including extension of Visa	70%	72%
• Social protection and welfare services	100%	20%
Administrative functions		
• Training & HR Management	71%	79%
• Salary payments	83%	89%
• Other payments	81%	84%

Employees' assessment on capability to adopt ICT based tasks in the organization is net positive (above 50%) as far as hardware/software facilities and ICT human resource skills are concerned. However, assessment is below 50% positive for networks and other system infrastructure facilities.

Table 6.3: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	11	32	08	13	-
Human resources skills in ICT	13	36	10	05	-
Networks and other systems infrastructure	09	22	15	18	-

6.2 Department of Motor Traffic

Department of Motor Traffic (DMT) is the organization mandated to regulate matters pertaining to registration and control of all types of vehicles in Sri Lanka. It offers a diverse array of services to owners of private, corporate and government vehicles in the country. Since the stock of vehicles in the country has increased rapidly over the recent decades, the DMT has become an organization with large, regular flow of visitors for various services. As a result, it has been identified as a major organization that needs enhanced support of ICT for improving the efficiency of services.

6.2.1 Profile of ICT resources and e-services

Resources and Infrastructure: DMT has about 400 employees in the head office located in Narahenpita. All employees interviewed in the survey are based on the head office. Table 6.4 provides a profile of ICT facilities available in the DMT as reported by the ICT staff of the organization. The DMT also can be considered as an organization that has substantial ICT related resources and facilities although not in the same scale as the BFE. It has a separate ICT division with around 15 staff members. As far as physical resources are concerned it has around 2.67 employees per each PC.

Computers of the DMT are connected to LAN and no WAN is available. The system is also connected to the LGN. Connectivity to internet is provided through dial up, ADSL and leased line facilities. Only 02 official E.mail connections have been provided to its staff members whereas other users with internet facilities are left for web-based mail facilities. The DMT has improved its ICT usage substantially during the recent period, especially for improving the back-office integration facilities so that an efficient service is provided to clients.

Web services: It has a website with an established system for web updates. The website provides information as well as applications downloading facilities. Any interactive web services are yet to come. Employees have reported a low positive assessment regarding the response rate to its web services.

Table 6.4: Profile of e-government in the DMT

e-Government Profile	Department of Motor Traffic
<u>Hardware facilities</u> <ul style="list-style-type: none"> • No. PC • No. Laptops • No. Printers • No. Scanners • No. Multimedia projectors • No. Employee/ PC 	150 05 25 02 01 2.67
<u>Web presence & ICT services</u> <ul style="list-style-type: none"> • Website • Web update system • ICT services 	Yes Yes Yes
<u>Infrastructure</u> <ul style="list-style-type: none"> • LAN • WAN • LGN • Connect. Type • No. e-mails 	Yes No Yes Dial/ADSL/ Leased 02
<u>Human Resources</u> <ul style="list-style-type: none"> • No. ICT persons • ICT Division 	10 Yes

6.2.2 Employees' assessment: Efficiency, Information Needs and Capability

According to the employees, two most important services provided by the organization are registration of vehicles and transfer of vehicles. DMT employees' assessment of efficiency and ICT involvement in services to clients is quite high.

Employees have assessed 3 listed administrative functions also quite positively yet with slightly low assessment on ICT usage for human resource management (HRM). The organization uses software for accounting and payroll handling whereas no special software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 6.5: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• Registration of vehicles	89%	86%
• Transfer of vehicles	83%	55%
Administrative functions		
• Training & HR Management	71%	69%
• Salary payments	77%	91%
• Other payments	75%	80%

Employees' assessment on capability to adopt ICT based tasks in the organization is net positive (above 50%) as far as hardware/software facilities and ICT human resource skills are concerned. However, assessment is below 50% positive for networks and other system infrastructure facilities

Table 6.6: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	06	19	12	09	-
Human resources skills in ICT	05	24	15	04	-
Networks and other systems infrastructure	03	15	20	09	-

6.3 Department of Personnel Registration

Department of Personnel Registration (DPR), which is popularly known as the 'identity card office' is the organization that fulfills the functions of registration of citizens and issuing of National Identity Cards (NIC). With the rising concerns over security matters relating to personnel identification, necessity of using advanced technologies to produce NIC has increased. Therefore, the DPR is currently in the process of introducing e-NIC using advanced technology with the collaboration of ICTA/e-Sri Lanka also. It is aimed at providing a secure personal identification for law abiding citizens as well as delivering its services to numerous clients in efficient manner.

6.3.1 Profile of ICT resources and e-services

Resources and infrastructure: DPR has about 700 employees and the head office has around 600 of them. Only the employees in the head office were interviewed in the survey. Table 6.7 provides a profile of ICT facilities available in the DPR as reported by the ICT staff of the organization. Compared with the BFE or DMT, the DPR is an organization which has significantly low ICT facilities and human resources. It has a separate ICT division with 03 staff members. As far as physical resources are concerned it has around 9.5 employees per each PC. Therefore, level of facilities available can not be considered as favorable for bringing in important technological changes to the organization's services. Therefore, DPR is an organization, which needs substantial upgrading of physical ICT facilities as well as the strength of ICT staff.

Computers of DPR are connected to LAN and the system is connected to internet through an ADSL facility. No official e-mail connections have been provided to its staff members, which can be considered as quite a backward situation. However, around 15 officers have access to internet facilities and they all use web-based mail facilities. In general, observations suggest that usage of ICT in the organizational activities of DPR is significantly low compared with other organizations.

E-services: It has a website which has no established system for updating. It provides information as well as applications downloading facilities. No interactive web services are provided. Only 20% of staff members responded positively regarding the response rate to the DPR web site.

Table 6.7: Profile of e-government in the DPR

e-Government facilities	Profile
<u>Hardware facilities</u> <ul style="list-style-type: none"> • No. PC • No. Laptops • No. Printers • No. Scanners • No. Multimedia projectors • No. Employee/PC 	60 - 15 08 01 9.5
<u>Web presence & ICT services</u> <ul style="list-style-type: none"> • Website • Web update system • ICT services 	Yes No No
<u>Infrastructure</u> <ul style="list-style-type: none"> • LAN • WAN • LGN • Connect. Type • No. e-mails 	Yes No Yes ADSL -
<u>Human Resources</u> <ul style="list-style-type: none"> • No. ICT persons • ICT Division 	03 Yes

6.3.2 Employees' assessment: Efficiency, Information Needs and Capability

The only task listed by the employees as the major services is issuing NICs. Employees' assessment of efficiency and ICT involvement in providing the service to clients is substantially low compared with other organizations such as the BFE or DMT. Slightly above 50% positive responses were reported on the efficiency of offering this service whereas assessment on the ICT involvement is low as 20%.

Employees have assessed administrative functions of salary and other payments quite positively. However, their assessment on the efficiency and ICT involvement in human resource management (HRM) activities is significantly low. The organization uses software for accounting and payroll handling whereas no special software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 6.8: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• Issuing of NIC	55%	20%
Administrative functions		
• Training & HR Management	49%	50%
• Salary payments	91%	86%
• Other payments	87%	78%

Employees' assessment on capability to adopt ICT based tasks in the organization is net negative (below 50% positive responses) in terms of all three aspects concerned, namely hardware/software facilities, ICT human resource skills and networks other system infrastructure facilities.

Table 6.9: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	09	13	12	14	07
Human resources skills in ICT	08	11	14	11	-
Networks and other systems infrastructure	09	05	07	16	08

6.4 Ministry of Public Administration

Ministry of Public Administration (MPA) is the central organization that deals with public administration at national and district levels. It coordinates a number of other government organizations. Therefore, adoption of ICT facilities in MPA is important not only for the efficiency of the Ministry alone, but for numerous other organizations in the entire public service which are distributed throughout the entire island. Four other government organizations in this survey namely, Pensions Department, Registrar General's Department, all Districts Secretariats and Divisional Secretariats are coming under the direct purview of MPA. In addition, it controls the recruitment and staffing, promotions, transfers and pensions of almost entire public sector through the affiliated service boards and associated institutes. The main clientele of the MPA Head Office located in the Independence Square is usually numerous public officers who visit the Ministry for various official matters related to their public sector career. However, its network of associated organizations distributed throughout the entire island entertains a large number of common public also on a daily basis.

6.4.1 Profile of ICT resources and e-services

Resources and infrastructure: MPA has about 500 employees in its head office. All employees interviewed in the survey are based on the head office. Table 6.10 provides a profile of ICT facilities available in the MPA as reported by the ICT staff of the organization. According to the figures given, the MPA has developed a significant profile of ICT related resources and facilities over the years. It has a separate ICT division with around 06 staff members. As far as physical resources are concerned it has around 2.23 employees per each PC which can be considered as favorable.

Computers of the MPA are connected to LAN and there is no WAN available. The system is connected to the internet through a leased line facility. About 60 officers have been connected with e-mail facility, which is the highest number in all surveyed organizations.

E-services: As already discussed in the previous section, website of the MPA is the single most popular website among all government officers surveyed in the study. It provides three major services, namely information; facility to download all public administration circulars and facility to download various forms and applications etc. It has an established updating arrangement. Fifty four percent (54%) of employees have reported positively about the response rate for the MPA website.

Table 6.10: Profile of e-government in the MPA

e-Government Profile	Ministry of Public Admin.
<u>Hardware facilities</u> <ul style="list-style-type: none"> • No. PC • No. Laptops • No. Printers • No. Scanners • No. Multimedia projectors • No. Employees/PC 	224 03 92 06 05 2.23
<u>Web presence & ICT services</u> <ul style="list-style-type: none"> • Website • Web update system • ICT services 	Yes Yes Yes
<u>Infrastructure</u> <ul style="list-style-type: none"> • LAN • WAN • LGN • Connect. Type • No. e-mails 	Yes No Yes Leased 60
<u>Human Resources</u> <ul style="list-style-type: none"> • No. ICT persons • ICT Division 	06 Yes

6.4.2 Employees' assessment: Efficiency, Information Needs and Capability

According to the employees the most important service provided by the organization is dealing with recruitments, promotions and retirements of the public sector officers. MPA employees' assessed the efficiency and ICT involvement of providing services to clients at a reasonably high level.

Employees have assessed 3 listed administrative functions also quite positively. Their assessment on human resource management (HRM) activities is comparatively low compared with salary and other payments. The organization uses special software for accounting and payroll handling whereas no special software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 6.11: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• Recruitments, promotions and retirements of public service	68%	58%
Administrative functions		
• Training & HR Management	69%	71%
• Salary payments	88%	88%
• Other payments	85%	83%

Employees' assessment on capability to adopt ICT based tasks in the organization is net negative (below 50% positive responses) in terms of all three parameters, namely hardware/software facilities, ICT human resource skills and networks other system infrastructure facilities.

Table 6.12: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	05	21	17	25	04
Human resources skills in ICT	05	31	25	07	03
Networks and other systems infrastructure	05	14	26	20	05

6.5 Pensions Department

The Pensions Department (PD), like its mother organization MPA, is an organization that is catering to the entire public sector. It looks after all matters pertaining to the processing and payment of pensions to public sector officers who retired after serving various government organizations. While the Head Office of the Department mainly responsible for processing pensions, its services are provided to island wide clientele, mainly consisted of retired public officers, through the network of other public administration organizations such as District Secretariats and Divisional Secretariats. Over the years, the PD has adopted some level of ICT based facilities helping to improve the efficiency of its services in progressive manner.

6.5.1 Profile of ICT resources and e-services

Resources and infrastructure: PD has about 750 employees in the head office. All employees interviewed in the survey are based on the head office. Table 6.1 provides a profile of ICT facilities available in the PD as reported by the ICT staff of the organization. The PD has limited amount of ICT facilities according the figures given in the table. However, it has a separate ICT division with around 25 staff members, which is quite a high number. It has around 12.9 employees per each PC. While the former is quite low, the latter can be considered as highly favorable compared with the situation in other organizations.

Computers of the PD are connected to LAN and WAN is not available. It is also connected to LGN also. The system is connected to internet through ADSL facility. Only 01 official e-mail connection has been provided to the entire organization. Others with internet access use web-based mail. Despite its relatively low profile of physical resources, the PD has acquired some organizational capability in ICT over the years.

E-services: It has a website with an established updating system. It provides information and applications/forms downloading facilities. About 55% of surveyed employees have positively commented on response rate to the PD website.

Table 6.13: Profile of e-government facilities in the PD

e-Government facilities	Profile
<u>Hardware facilities</u> <ul style="list-style-type: none"> • No. PC • No. Laptops • No. Printers • No. Scanners • No. Multimedia projectors • No. Employee/PC 	58 01 38 03 01 12.9
<u>Web presence & ICT services</u> <ul style="list-style-type: none"> • Website • Web update system • ICT services 	Yes Yes Yes
<u>Infrastructure</u> <ul style="list-style-type: none"> • LAN • WAN • LGN • Connect. Type • No. e-mails 	Yes No Yes ADSL 01
<u>Human Resources</u> <ul style="list-style-type: none"> • No. ICT persons • ICT Division 	25 No

6.5.2 Employees' assessment: Efficiency, Information Needs and Capability

According to the employees two most important services provided by the organization are processing of pension salaries and pension allowances. Employees' assessment of efficiency and ICT involvement in providing services to clients is quite favorable as indicated by the high percentage of positive responses.

Employees have assessed 3 listed administrative functions also quite positively. Their assessment on human resource management (HRM) activities is comparatively low compared with salary and other payments. The organization uses special software for accounting and payroll handling whereas no special software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 6.14: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• Pensions	82%	69%
• Pensions Allowance	71%	80%
Administrative functions		
• Training & HR Management	69%	57%
• Salary payments	98%	89%
• Other payments	93%	82%

Employees' assessment on capability to adopt ICT based tasks in the organization is net positive (above 50%) as far as hardware/software facilities and ICT human resource skills are concerned. However, assessment is below 50% positive for networks and other system infrastructure facilities.

Table 6.15: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	10	18	14	18	-
Human resources skills in ICT	9	26	18	7	-
Networks and other systems infrastructure	08	18	26	05	03

6.6 Laksala

Laksala is the only commercial government organization covered in the survey. It is the commercial arm of Sri Lanka Handicrafts Board, a statutory organization coming under the Ministry of Rural Industries and Self Employment Promotion. The major functions of the Laksala include promotion and marketing of handicrafts in Sri Lanka training of craftsmen and provision other various services to craftsmen/entrepreneurs. It operates through a network of sales centers and regional training centers. The head office is located in the York Street, Colombo. A majority of visitors to the Laksala is consisted of buyers of handicrafts.

6.6.1 Profile of ICT resources and e-services

Resources and infrastructure: Laksala has about 350 employees in the head office, a sample of whom was interviewed in the survey. Table 6.16 provides a profile of ICT facilities available in the Laksala as reported by the ICT staff of the organization. According to the figures given in the table, Laksala has very limited ICT related resources and facilities. As far as physical resources are concerned it has around 12.3 employees per each PC, which can be considered as quite low.

Computers of Laksala have been connected to LAN as well as WAN. The system is connected to internet through dial up, ADSL and leased line facilities. Only 04 officers have been provided with official e-mail connections, which can be considered as a relatively low number. Laksala is the only organization which has attempted to achieve commercially oriented ICT facilities among the organizations covered in the survey.

E-services: It has a website which is currently under renovation/construction. It is the only website operated by the surveyed organizations with e-payment gateway facilities. However, when it was accessed for the survey, the payment facility did not function properly. In addition, it provides information on the organization and products available for sale with their photographs. Despite these interactive arrangements in the website, employees have commented that response rate for the site is very low.

Table 6.16: Profile of e-government in BFE

e-Government facilities	Profile
<u>Hardware facilities</u> <ul style="list-style-type: none"> • No. PC • No. Laptops • No. Printers • No. Scanners • No. Multimedia projectors • No. Employee/PC 	43 - 15 01 - 12.3
<u>Web presence & ICT services</u> <ul style="list-style-type: none"> • Website • Web update system • ICT services 	Yes Yes Yes
<u>Infrastructure</u> <ul style="list-style-type: none"> • LAN • WAN • LGN • Connect. Type • No. e-mails 	Yes Yes No Dial up, ADSL, Leased 04
<u>Human Resources</u> <ul style="list-style-type: none"> • No. ICT persons • ICT Division 	42 Yes

6.6.2 Employees' assessment: Efficiency, Information Needs and Capability

Two most important services provided by the organization are marketing of handicraft products to buyers (visitors) to and training of craftsmen. Employees' assessment of efficiency of providing the former is significantly high whereas latter's position is quite low. For both services, their assessment of current ICT involvement remained below 50% level.

Their assessment on efficiency and ICT involvement in human resource management (HRM) activities is the lowest among all organizations. However, they assessed salary and other payments well above the HRM. The organization uses special software for accounting and payroll handling whereas no special software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 17: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• Marketing of handicraft products	75%	25%
• Training of craftsmen	40%	40%
Administrative functions		
• Training & HR Management	21%	22%
• Salary payments	79%	71%
• Other payments	62%	63%

Despite low ICT capability of the organization reflected in many ways, employees' assessment on capability to adopt ICT based tasks in the organization is quite positive (above 50%) as far as hardware/software facilities and ICT human resource skills are concerned. However, assessment is below 50% positive for networks and other system infrastructure facilities.

Table 6.18: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	08	08	01	07	-
Human resources skills in ICT	07	11	03	03	-
Networks and other systems infrastructure	08	02	07	04	03

6.7 Department of Labor

Department of Labor (DL) is the organization mandated to foster good industrial relationships between employers and workers and promote the welfare and social protection of workers. It handles industrial disputes between employers and workers. It has a network of offices distributed throughout the country. It also oversees the services undertaken by other organizations for workers welfare such as Employees' Provident Fund (EPF). The clientele of the head office mainly include members of the working community who visit for various services including EPF matters.

6.7.1 Profile of ICT resources and e-services

Resources and infrastructure: DL has about 550 employees in the head office located in Narahenpita. All employees interviewed in the survey are based on the head office. Table 6.19 provides a profile of ICT facilities available in the DL as reported by the ICT staff of the organization. DL is an organization which has significant ICT related resources and facilities (table 6.19). It has a separate ICT division.

Computers of LD are connected to LAN and WAN system is not available. The system is also connected to the LGN and internet is provided through ADSL and leased line facilities. About 15 officers have official e-mail connections. Overall, the LD seems to be an organization which has made limited improvements in ICT usage to increase the efficiency of its services compared with other organizations in the survey.

E-services: It has a website which has no established web updating system. It provides information and applications downloading facilities. No interactive web services are provided by it. Employees have reported that response rate for its website is negligible since at present it does not provide any particular service to clients other than information.

Table 6.19: Profile of e-government in LD

e-Government facilities	Profile
<u>Hardware facilities</u> <ul style="list-style-type: none"> • No. PC • No. Laptops • No. Printers • No. Scanners • No. Multimedia projectors • No. Employees/ PC 	250 12 100 20 10 2.2
<u>Web presence & ICT services</u> <ul style="list-style-type: none"> • Website • Web update system • ICT services 	Yes Yes -
<u>Infrastructure</u> <ul style="list-style-type: none"> • LAN • WAN • LGN • Connect. Type • No. e-mails 	Yes No Yes ADSL, Leased 15
<u>Human Resources</u> <ul style="list-style-type: none"> • No. ICT persons • ICT Division 	(NA) No

6.7.2 Employees' assessment: Efficiency, Information Needs and Capability

Two most important services provided by the organization are improving the industrial cooperation and solving the labor disputes and providing social protection and welfare services for the working community. Employees' assessment of efficiency in providing former is significantly high whereas positive responses received on the efficiency of latter are zero. Their assessment on ICT involvement in both is very low.

Employees have assessed two administrative functions namely salary payment and other payments quite positively. Their assessment on efficiency and ICT involvement in human resource management (HRM) activities is quite low. The organization uses special software for accounting and payroll handling whereas no special software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 6.20: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• Improving the cooperation and solving the labor disputes	81%	25%
• Social protection and welfare services	0%	0%
Administrative functions		
• Training & HR Management	67%	22%
• Salary payments	95%	81%
• Other payments	81%	83%

Employees' assessment on capability to adopt ICT based tasks in the organization is net negative (below 50% positive responses) in terms of all three parameters, namely hardware/software facilities, ICT human resource skills and networks and other system infrastructure facilities.

Table 6.21: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	07	27	20	17	03
Human resources skills in ICT	07	33	28	07	-
Networks and other systems infrastructure	07	23	20	21	04

6.8 Registrar General Department

Registrar General's Department (RGD) fulfills important functions of registering all births, marriages, deaths and property transactions taking place in the country, issuing certificates to confirm them and keeping legal records of all these events. In addition to the provision of important services to all citizens of the country, it becomes an important source of data on country's population too. It has an island wide network of offices and registrars/notaries who usually offer their services in their own offices.

6.8.1 Profile of ICT resources and e-services

Resources and infrastructure: The RGD has about 1450 employees in the entire organization including regional offices. Employees interviewed in the survey are not based on the head office but 04 regional offices in Homagama, Colombo, Kandy and Gampaha. The profile provided in the table 6.1 however provides information on ICT facilities available in the Head Office as reported by the ICT staff of the organization. The Head Office of the RGD possesses relatively a low profile of ICT related resources and facilities. It has a separate ICT division.

Computers of the organization are connected to LAN and no WAN is available at the Head Office. The system is connected to the internet through dial up and ADSL facilities. Only one official e-mail connection has been provided to its staff members indicating the low tendency of using e-communication in the organization. Overall the facilities in the RGD Head Office do not indicate a situation favorable for adopting ICT based improvements on an urgent basis.

E-services: It has a website with established arrangement for updating it. It provides information and applications downloading facilities but no interactive web services.

Table 6.22: Profile of e-government in the RGD

e-Government facilities	Profile
<u>Hardware facilities</u> <ul style="list-style-type: none"> • No. PC • No. Laptops • No. Printers • No. Scanners • No. Multimedia projectors 	30 - 01 02 -
<u>Web presence & ICT services</u> <ul style="list-style-type: none"> • Website • Web update system • ICT services 	Yes Yes No
<u>Infrastructure</u> <ul style="list-style-type: none"> • LAN • WAN • LGN • Connect. Type 	Yes No Yes Dial/ADSL
<u>Human Resources</u> <ul style="list-style-type: none"> • No. ICT persons • ICT Division 	03 No

6.8.2 Employees' assessment: Efficiency, Information Needs and Capability

According to the employees, two most important services provided by the organization are issuing of birth, marriage and death certificates and registration of lands. Employees' assessment of efficiency and ICT involvement in providing services to clients and management of the organization are quite positive except in case of ICT involvement in registration of lands.

Employees have assessed 3 listed administrative functions quite positively. There assessment on human resource management (HRM) activities comparatively low compared with salary and other payments. The organization uses special software for accounting and payroll handling whereas no special software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 6.23: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• Issuing of birth, marriage and death certificates	83%	83%
• Registration of lands	100%	50%
Administrative functions		
• Training & HR Management	69%	46%
• Salary payments	100%	85%
• Other payments	83%	58%

Employees' assessment on capability to adopt ICT based tasks in the organization is net negative (below 50% positive responses) in terms of all three aspects concerned, namely hardware/software facilities, ICT human resource skills and networks and other system infrastructure facilities.

Table 6.24: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	01	02	06	02	02
Human resources skills in ICT	-	05	05	02	01
Networks and other systems infrastructure	-	04	04	05	-

6.9 District Secretariats

District Secretariats (DS) are the main district level central government administrative offices in Sri Lanka. Sri Lanka has 25 District Secretariats, each headed by a District Secretary, usually a senior civil servant in the public service. All DS are coming under the purview of the Ministry of the Public Administration. Usually a DS covers a wide variety of services to the public in a given district. It also is the representative office for many other government organizations at the district level, housing number of officers from such organizations within a given DS.

6.9.1 Profile of ICT resources and e-services

Resources and infrastructure: In this survey, employees of 09 DS offices listed in the table 3.2 were interviewed. Table 6.25 provides a profile of ICT facilities available in these DS offices as reported by the ICT staff of them. According to the figures given, DS can be considered as organizations with limited ICT related resources and facilities. Of the selected DS, Matara and Galle only had separate ICT Divisions.

Computers of some DS are connected to LAN and LGN. All DS have been connected to internet through either dialup or ADSL or leased line facilities. About 48 officers have official e-mail connections in selected DS offices.

E-services: Certain DS have websites. So far they are information only websites and no applications downloading facilities or interactive web services are provided. About 44% of surveyed employees have reported that a high response for their websites although at present they do not provide any particular service to clients other than information.

Table 6.25: Profile of e-government in DS

e-Government facilities	Profile
<u>Hardware facilities</u> <ul style="list-style-type: none"> • No. PC • No. Laptops • No. Printers • No. Scanners • No. Multimedia projectors • No. Employees/ PC 	143 45 66 7 8 7.8
<u>Web presence & ICT services</u> <ul style="list-style-type: none"> • Website • Web update system • ICT services 	Yes (except Matale and Badulla) Only in Colombo, Galle, Kalutara Yes
<u>Infrastructure</u> <ul style="list-style-type: none"> • LAN • WAN • LGN • Connect. Type • No. e-mails 	Yes (except K'gala, Matara, A'pura) No Only in Colombo, Kalutara and Badulla Dial up, ADSL 48
<u>Human Resources</u> <ul style="list-style-type: none"> • No. ICT persons • ICT Division 	19 Matara and Galle. Others No.

6.9.2 Employees' assessment: Efficiency, Information Needs and Capability

According to the employees, two most common services provided by the organization to the public include licensing fire arms and explosives and administering pension salaries for pensioners within the district. Employees' assessment of efficiency and ICT involvement in providing these services to clients are moderate.

Employees have assessed administrative function of salary payments quite positively. Their assessment on human resource management (HRM) activities and other payments is comparatively low. The organization uses software for accounting and payroll handling whereas no special software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 6.26: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• License for explosives and fire arms	69%	38%
• Pension salaries	63%	50%
Administrative functions		
• Training & HR Management	45%	18%
• Salary payments	82%	75%
• Other payments	54%	34%

Employees' assessment on capability to adopt ICT based tasks in the organization is net positive (above 50%) for hardware/software facilities, ICT human resource skills and networks and other system infrastructure facilities.

Table 6.27: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	15	54	27	03	-
Human resources skills in ICT	17	47	30	05	-
Networks and other systems infrastructure	17	39	27	15	01

6.10 Divisional Secretariats

Divisional Secretariats (DvS) are the main below-district level central government administrative offices in Sri Lanka. Sri Lanka has 323 DvS, each headed by a Divisional Secretary. All DS are coming under the purview of Ministry of Public Administration. Within a district DvS are responsible to DS for certain functions. Usually, DvS cover a wide variety of services to the public in a given division. It also is the representative office for many other government organizations at the divisional level.

6.10.1 Profile of ICT resources and e-services

Resources and infrastructure: In this survey, employees of 21 DvS offices listed in the table 3.2 were interviewed. Table 6.28 provides a profile of ICT facilities available in these DvS offices as reported by the ICT staff of them. According to the figures given, DvS can be considered as organizations with limited ICT related resources and facilities. No DvS had a separate ICT Division. Computers of some DS are not connected to any type of networks and they are usually operated as stand alone machines. Many DvS have been connected to internet through either dialup or ADSL or leased line facilities. About 20 official e-mail connections have been provided to officers in selected DS offices. No DvS has a website.

Table 6.28: Profile of e-government in DvS

e-Government facilities	Profile
<u>Hardware facilities</u>	
• No. PC	291
• No. Laptops	13
• No. Printers	107
• No. Scanners	13
• No. Multimedia projectors	03
• No. Employees/ PC	5.2
<u>Web presence & ICT services</u>	
• Website	No
• Web update system	No
• ICT services	No
<u>Infrastructure</u>	
• LAN	No
• WAN	No
• LGN	No
• Connect. Type	Dial up, ADSL, Leased
• No. e-mails	20 (only in few)
<u>Human Resources</u>	
• No. ICT persons	06
• ICT Division	No

6.10.2 Employees' assessment: Efficiency, Information Needs and Capability

According to the employees, two most common services provided by the organization to the public include licensing fire arms and explosives and administering pension salaries for pensioners within divisions. Employees' assessment of efficiency and ICT involvement in providing these services to clients are somewhat favorable.

Employees have assessed administrative function of salary payments quite positively. Their assessment on human resource management (HRM) activities and other payments is comparatively low. The organization uses special software for accounting and payroll handling whereas no special below-district level software is used for HRM/administration. This explains the relatively high assessment on ICT usage in salary and other payments.

Table 6.29: Self reported efficiency and ICT usage of selected major services and administrative functions of the organization

Major Services (According to the ranking of employees)	% of positive assessments on the efficiency	% of positive assessments on current ICT involvement
Services to the clients		
• Pension salaries	70%	55%
• License for explosives and fire arms	63%	55%
Administrative functions		
• Training & HR Management	29%	21%
• Salary payments	84%	89%
• Other payments	44%	36%

Employees' assessment on capability to adopt ICT based tasks in the organization is net negative (below 50%) for hardware/software facilities, ICT human resource skills and networks and other system infrastructure facilities.

Table 6.30: Employees' assessment on capability to adopt ICT based tasks in organizations

Organization	Employers Assessment				
	Very good	Good	Moderate	Poor	Very poor
<i>Capability to adopt ICT based tasks in the organization</i>					
Hardware and software resources	08	72	69	31	07
Human resources skills in ICT	02	69	67	31	09
Networks and other systems infrastructure	04	61	64	42	12

7 Conclusions and Recommendations

In this section, major conclusions that can be drawn on the results of the survey and recommendations that are forthcoming from them are discussed. Attention is directed on major findings with policy and management implications. Recommendations suggested here are mainly for the benefit of management of ICTA/e-Sri Lanka and their counterparts in respective government organizations

7.1 Conclusions

Results of the survey indicate that employees of the respective government organizations have significantly high level of formal training on ICT. Of the rest who are not trained formally on ICT, the majority has a certain level of computer literacy acquired through informal means. This can be considered as a significant positive factor that can help e-government interventions in the organizations. However, this factor has its limitations as the quality of the formal training cannot be assured due to poor standards of numerous ICT training institutes. Further, even though existing training and literacy rates are adequate for computer users, strength of expert/professional ICT skills of organizations does not seem to be significantly high. There is no significant difference in ICT training and literacy rates among the executives and non-executives in terms of level of training and skills.

Significantly high numbers of executives and non-executives have access to facilities of ICT and internet either thorough individually allocated or commonly used facilities. Despite reasonable access to ICT facilities, their usage is at the basic level. The most of ICT facilities are used for the purpose of letter/document preparation and only few employees are engaged in service providing or management related activities using ICT facilities. Usage of ICT for advanced technical tasks such as databases or data analysis also is very low. Substantial number of employees belonging to both categories has reported availability of domestic ICT facilities also. Government employees are not very web savvy community and usage of internet is more popular among younger generation.

In general, government employees have a positive attitude on ICT and e-government. However, their perceptions on benefits of e-government seem to be overwhelmingly biased towards efficiency related objectives/benefits of the e-government. Their perceptions are quite unbalanced and they seem to be quite ignorant or unaware of the other potential advantages such as minimizing corruption, reduction of political influence and improved working conditions etc. Their expectations are quite general and apparently formed by less advanced social dialogue currently taking place on the ICT and e-government in the country.

Government employees' awareness on ICTA-e Sri Lanka is significantly high although it drops down when it comes to the knowledge on specific activities. While this can be considered as a natural situation since usually few are directly involved in ICT development activities of organizations, a higher awareness of employees on ICTA/e-Sri Lanka activities taking place in their own organizations would certainly be a positive feature for successful implementation. Substantial number of employees

from the selected organizations have participated in the ICTA organized training courses and a large majority of them assessed ICTA training very positively.

Other than ICTA/e-Sri Lanka activities, government employees' familiarity and usage of e-services of government organizations seem to be reasonable. Substantial number of executives and non-executives reported to have sought e-services offered by government organizations for searching information and downloading circulars etc. Major e-services popular among employees are information from websites and GIC. Among the most popular websites are websites of the Ministry of Public Administration for downloading the circulars and the Department of Examination for examination results. A majority of government employees who use e-services positively assessed the usefulness and satisfaction from it.

A fact for serious concern is that willingness of government employees for adopting ICT based facilities in their organizations is not very encouraging. This drops even further when it comes to willingness to adopt ICT for day-to-day tasks. Motivation is comparatively low in regional offices than in Colombo offices.

As far as organization specific facts are concerned following matters are important.

- A significant variation exists in ICT facilities as well as human resources/skills available in different organizations.
- The Bureau of Foreign Employment, Pensions Department, Department of Motor Traffic and the Ministry of Public Administration are in relatively leading positions compared with other organizations concerned in the survey as far as ICT facilities/resources are concerned.
- Department of Personal Registration, Labor Department, Laksala and Registrar General's Department are in comparatively less advantageous positions.
- Relatively less enhanced situation of ICT facilities and human resources skills are found in regional offices (District Secretariats and Divisional Secretariats) than Colombo offices.
- All surveyed organizations including some DS (except DvS) operate their own websites. Facilities to maintain and update websites vary among organizations. Despite the varied facilities all websites are at more or less the same stage of development. Facility for downloading administration circulars in the website of Ministry of Public Administration is the most advanced web-based service offered by the surveyed organizations and it seems to be reasonably popular among government employees.
- Other than that Laksala has the only interactive services website with e-payment gateway facilities. However, at the time of survey this facility was non operational.
- All other websites provide information and application/forms downloading facilities and e-mail links for queries. However, employees' assessments are not consistent about response rates for these web-based e-services.
- Employees' identifications of major services of respective organizations were mostly limited to few common services. They usually tend to evaluate the efficiency of the services rather positively. However, their assessments on ICT involvement with these tasks are relatively low.

- Employees have positively assessed the efficiency and ICT involvement in management functions of salary and other payments in almost all organizations. All organizations have used accounting and payroll software and it explains the positive assessments. However, employees' assessment on efficiency and ICT involvement in training and human resources management (HRM) tended to be rather low in all organizations. None of the organizations operated specialized software for HRM.
- Employees' assessment on organizations' capability to adopt ICT as measured in terms of physical ICT resource/facilities, human resource skills and networks/infrastructure facilities varied among organizations from net positive for all 3 aspects (over 50% positive assessments) to net negative for all (below 50% positive). These assessments are generally corresponding with the level of availability of ICT facilities/resources in respective organizations as described.
- In number of organizations employees positively assessed the capability in terms of physical resources/facilitates and human resources whereas in almost all organizations, their assessments on network/infrastructure was negative.

7.2 Recommendations

Following recommendations can be made according to the findings of survey and conclusions.

- Strong motivation and mobilization programs should be carried out in respective organizations to improve the willingness of staff to adopt ICT based tasks. This should be implemented as an essential component of all types of programs introduced by e-Sri Lanka in government organizations. Unless proper commitment and necessary mobilization of government employees is achieved, efforts undertaken by the e-Sri Lanka could not be expected to generate desired results. This could be carried out by using participatory methods.

Participatory consultation and mobilization programs: Participatory programs such as FGDs and workshops should be conducted to create positive attitudes among employees and mobilize their support for successful implementation of e-Sri Lanka activities. Same programs can be used to consult the opinions of employees and fine tune proposed interventions for successful implementation.

Awareness campaigns in government organizations: Well designed awareness campaigns should be implemented in respective government organizations targeting employees as well as users of new e-government facilities. They should be focused on:

- ⇒ General awareness on e-government highlighting advantages and benefits to employees and users
- ⇒ Awareness on specific e-government improvements in respective organizations and their advantages and benefits

Established organizational channels of communication should be used to communicate essential messages to correct target groups.

- Objective assessments of physical and human resource skills are necessary before adopting proposed e-government interventions. This can be achieved through evaluation of information collected in this survey together with information collected in the previous ICT usage survey. It could be achieved through focus group discussions involving participants from different sections of organizations for critical assessment of the situation and needs of ICT for practical action.
- While the current implementation of ICTA training programs seems quite successful further improvement could be introduced to future training programs.
- Strength of the current web-based services should be consolidated by participatory assessment and developing action plans to promote them. By this way unnecessary visits of clients and wastage of resources can be avoided. Significant improvements may be achieved through simple measures such as displaying posters/notices for visitors' use, educating the staff to motivate visitors and complementing the visitors access through GIC and Nenasala etc.