Manual for Management of ICT Professionals

དཔལ་ལྡན་འབྲུག་གཞུང་། བརྡ་དོན་དང་བརྒྱུད་འཕེལ་ལྷན་ཐག།
Ministry of Information & Communications
Royal Government of Bhutan
Thimphu: Bhutan

FOREWORD

The Royal Government of Bhutan has prioritized ICT sector with the vision to create an ICT-enabled knowledge based society. Apart from building adequate infrastructure and ensuring a healthy regulatory environment, Ministry of Information and Communications (MoIC), has emphasized the need for a team of specialized ICT professionals. This is to serve the nation in fulfilling the aspirations of the citizens and to improve service delivery. Department of Information Technology (DITT) and Telecom, MoIC is responsible to organize, train and manage the ICT professionals in the government system as a skilled team to provide the full range of ICT services in the Government.

The ICT management initiative is a strategy to strengthen the institutional setup to meet the growing demands placed on the ICT sector in Public service delivery and to streamline the government's ICT planning and response to the evolving needs. The ICT team will provide holistic support mechanism to enable all ministries and government agencies to achieve their goals by tapping the opportunities of Information & Communications Technologies.

DITT has produced a broad manual for the ICT Professionals covering all aspects of ICT Management system. It supplements the e-Government System document approved by the Government on 3rd January 2014 which encapsulates both the e-Government Governance system and ICT Management system. This manual has been reviewed by Royal Civil Service Commission and I am pleased to note that it is in line with the existing rules and regulations and aligns with the overall vision of the commission.

The manual clearly outlines the responsibilities of ICT officers and ICT associates in the Ministries, Autonomous Agencies, Dzongkhags and Thromdes. This manual also covers career progression, capacity development, talent management and performance management, which are important components of the whole ICT parenting framework. It further covers the formation of ICT Divisions in the Ministries and agencies, and cluster ICT Divisions at the Thromdes and Dzongkhags to ensure innovation through collaboration.

I am confident that with this manual in place ICT officials will be aware of their roles and responsibilities and strive towards achieving innovative and creative applications/systems that contribute towards improvement in delivery of services throughout the Government.

(Dasho Karma W. Penjor)
Secretary

PABX Tel: (975) 2 321238 / 322144 / 322567 / 323017 / 324439 *Fax: (975) 2 332467
P.O. Box No. 278, Website: http://www.moic.gov.bt

Table of Contents

CHAPTER 1

INTRODUCTION

The Royal Civil Service Commission (RCSC) approved to the formation of ICT Parenting Framework for ICT Professionals in 2009. However, due to the complexities involved in conceptualization and implementation of the system, the work got delayed. The Department of Information Technology & Telecom (DITT) sought the assistance of International Development Agency (IDA), Singapore to assist the Ministry in development of the ICT Parenting framework through Temasek Foundation funding.

The study revealed that unlike other agencies that have defined roles and responsibilities of either being a regulatory body or a service provider, the ICT Professionals are more involved in innovation and development to improve the functioning of the Government and service delivery. The ICT Officials deployed in various agencies have unique role while continuing to comply to the standards, goals and aspirations of their parent agency for the purpose of seamless integration of systems, achieving synergies, etc. Therefore, it took longer to conceptualize/develop this framework.

The principles of this framework is aligned to the Parenting structure, provided by the RCSC, and are complimentary to their structure and policy. Through the HR projections have been made for all agencies based on the services and systems that they either provide or host, the projections are dynamic in nature and should the number of systems and its complexities increase, there is room to revise HRrequirements through consultative process.

The HR projections are made on the basis of the overall policy of the Government to have a small, compact and efficient civil service.

Objectives:

The objectives of the parenting initiatives are as follows:

a. To set a standard ICT HR requirement for all Ministries/Agencies/ Dzongkhags.
b. To facilitate innovation and optimal usage of the competencies of ICT professionals.
c. To align career tracks for all ICT officials based on their competencies, talent and aptitude.
d. To put in place a mechanism that promotes effective monitoring and evaluation system, career progression system, training needs assessment system, and a fair and transparent HR management system.
e. To oversee development of capacity of ICT professionals and enhance competencies, skills and career progression based on best practices.

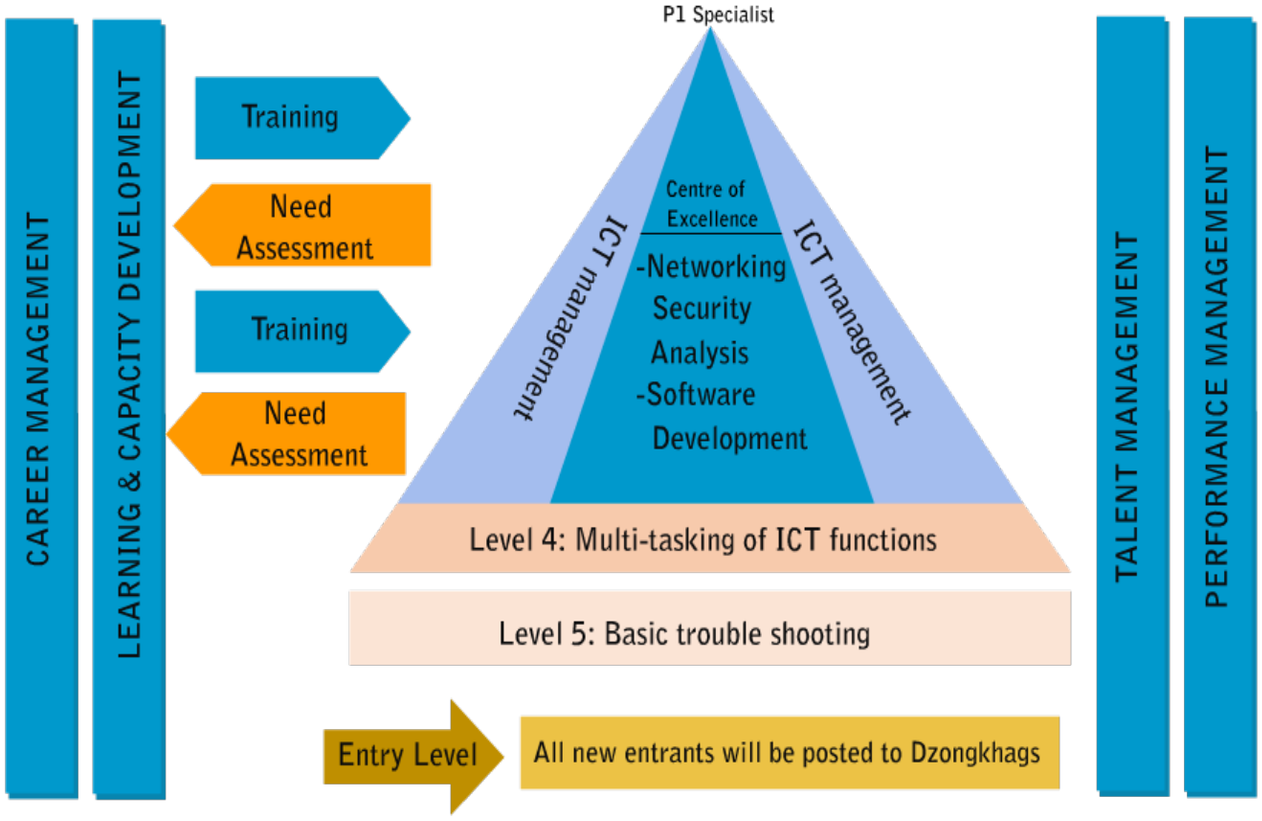
CHAPTER 2
PARENTING FRAMEWORK

To effectively align career tracks of ICT officials, career tracks will be integrated with overall talent management strategy. For this, DITT will create a career roadmap by identifying different job roles based on their competencies and build position profiles accordingly. The department will also identify core competencies in line with functions of agencies, which will be mapped with their acquired skills. To develop specialization, competency development and talent management will be incorporated.The competency development will be done by conducting training needs assessment and aligning ICT officials' career path, position profile and identifying key experience acquired as they move along the career path. For talent management, recognition of talent exhibited by the ICT personnel will be rewarded with development opportunities to enhance their skills and through fast track/meritorious promotions and certifications.

2.1. Career Progression

The conceptual framework for career progression system (Figure 1) covers both technical and management aspects of career progression. ICT officer's entry level is at P5 while the entry level for ICT associate is S2. The Assistant ICT officers shall gradually progress to specialist at P1 (ES) and ICT associates at S2 level will progress up to P3 level. At every level the official will be provided with competency development opportunities according to their planned career path. However, their competency will be evaluated before they rise to next level. Upon evaluation, if they have acquired the required skills set for the next level, they will be moved up or else they will be trained again. This loop will continue until the official is competent enough to progress to the next level. Along the path, the performance and talent of the ICT officials will also be recorded and rated to contribute towards their overall weightage. All Chief ICT officers will be specifically trained and groomed to be leaders.

Figure 1: Career Progression Framework



2.1.1. Career path of ICT Professionals (P-level):

i. All ICT professional will enter into civil service at level 5 (P5) as per the BCSR 2012.

ii. The 'ICT management' track shall be applied to all ICT professionals as soon as they enter level 4 (P4)

iii. The professionals at level 4 (P4) shall perform cross-sectoral work in the ICT field so that an ICT professional is able to function in any government agency, but the focus will be more on the Job roles (as defined below in section d) assigned in a particular agency.

iv. The ICT professionals at level 3 (P3) will remain in the same ICT Management track or will be selected into Specialist track through Talent Management framework and Performance management system.

v. Capacity development trainings and programs will be conducted at various levels to progress to the next level until P1 (Specialist track), with the objective of developing and improving their technical and soft skills.

The career ladder as per the BCSR 2012 is as depicted in Annexure I.

2.1.2. Establishment of Centre of Excellence:

The Department through concerted efforts will create a pool of experts in various ICT fields. They will be groomed for their career progression into the Specialist track.

These groups will be responsible for guiding the ICT Professionals in the field of:

i) ICT Security
ii) Networking
iii)Software Development
iv) System Analysis & Design
v) Innovation and Development
vi) Space Technology

The professionals will have specialized competency in a particular field and will serve agencies across the Government, though they may be placed in one agency.

At the least two to three experts will be trained in each area and they will be housed in the Department while the resources will be made available to all Government agencies, corporations and private sectors.

These experts will be identified through the Talent Management Process and their career growth will be accelerated as per BCSR 2012, along with skills development to make them on par with the international experts.

This center of excellence may hire people outside the civil service and even hire International experts based on the scarcity of experts in the country.

2.1.3. Job Roles

Though ICT Professionals will progress as Specialist or ICT Management in their career paths, all professionals will have job roles assigned in their respective agency, to aid accountability and proper work plan in the particular role. Job roles may be assigned in an agency depending on the size and functions of the agency. Some professionals will take up multiple roles, depending on the requirement and the man-power allocation.

The Job roles are as defined below:

i.Division Heads/Unit Head

Formulate ICT plans that translate organizational vision and strategic goals to impactful and effective ICT initiatives and projects. Lead and coordinate all ICT initiatives and align tasks with agency's vision and mission. Lead the overall ICT planning and budgeting for the Ministry/Agency/Dzongkhag, set policies and standards for the use of ICT, ensure effective ICT governance, identify and prioritize ICT initiatives that support the vision of its organization and facilitate the promotion of good governance through the use of ICT.

ii. System Analyst

Take a lead role in implementing requirement analysis of ICT systems/applications, evaluate and study processes and methods used in existing ICT systems, and propose modifications, additional system components or new systems to meet user needs.

iii. Software Developer

Develop systems/applications in the agency. Test, debug, maintain and update critical systems in the agency and manage/maintain database related to those systems.

iv. Webmaster

Design, code, modify, maintain and update websites according to the agency's specifications, with the aim to disseminate agency information through visually appealing websites that feature user-friendly design and clear navigation.

v. Network Analyst

Manage and maintain all network components of an agency and undertake the responsibilities of Network Design and Implementation, analysis of latest network technologies, management of network infrastructure and strengthening the security of the physical networks, and ensure that the network is up and running 24/7.

vi. Security Analyst

Plan and implement security measures to protect computer systems, networks and agency data by being able to recognize security threats, understand and implement security measures, develop SOPs aligned with security, and collaborate with other international security agencies to combat against security threats and attacks.

vii. Infra/Application support

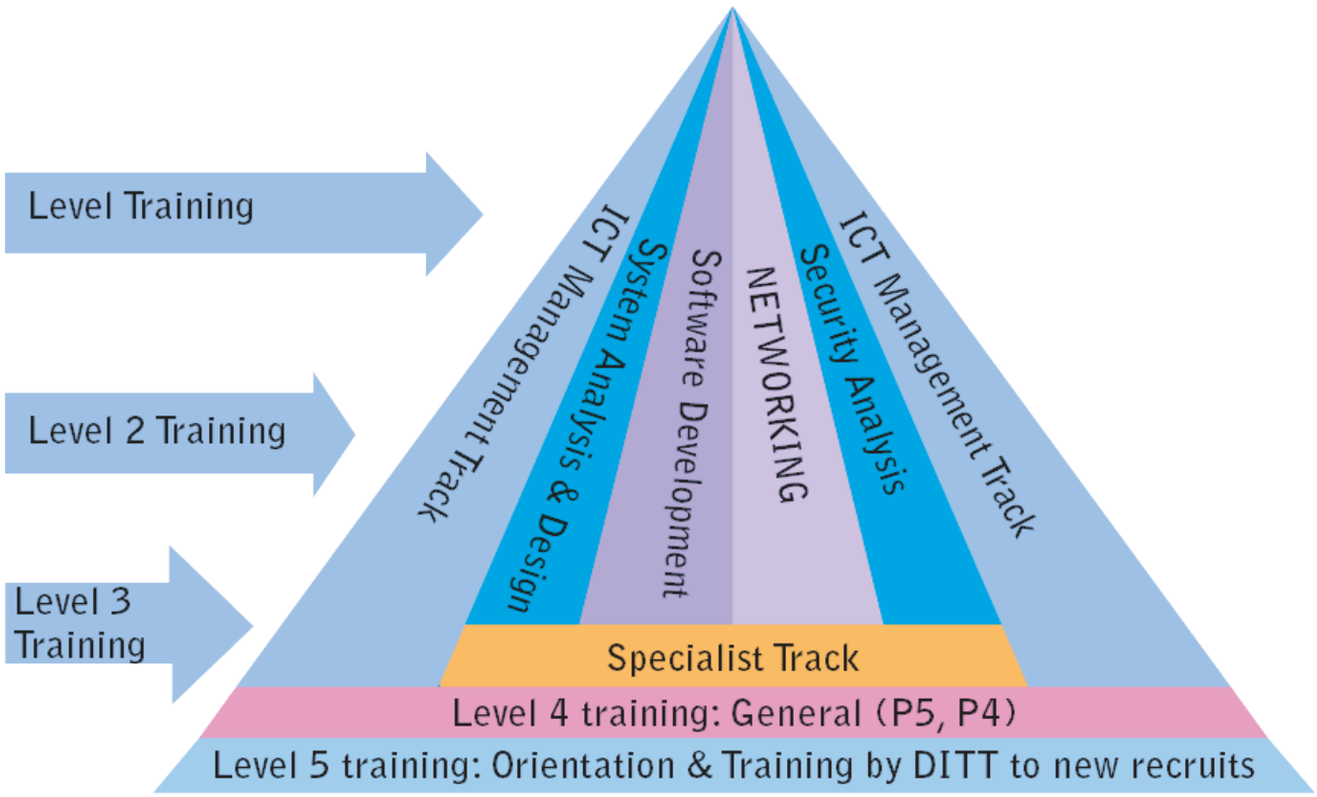
Provide daily infrastructure and application support, and troubleshooting services to users.

The details of expected job responsibilities for each job role is detailed in Annexure II.

2.2. Capacity Development

Capacity/Competency development is an important aspect of the whole parenting framework supporting the vision of "Professionalizing ICT Human Resources". A Capacity Building framework has been designed to support the skills development of all ICT professionals in the RGOB. There are 5 levels of training designed to support the expected career progression of every ICT professional as shown in Figure 2.

Figure 2: Competency Development Framework



2.2.1. Levels of Training

Level 5 training:

This level of training is for new recruits at P5 level and will consist of an orientation level program at DITT, to provide the participants with an overview of all Government initiatives undertaken by the department. Each division in the department will offer relevant trainings and orient the officers with everyday responsibilities and projects within the divisions. The new recruits will also be attached with organizations which host services that are commonly availed by both civil servants and the general public in Dzongkhags.

Level 4 training:

This technical competency training will be for the P4, P5 level ICT professionals who have completed the Level 5 straining. Here the participants will acquire basic ICT skills and knowledge required for fulfilling their daily responsibilities as ICT officers.

The training will have six target modules. Each module will be at least 40-100 hours of training, and may be provided phase wise within 5 years of an officer's tenure at his/her position level to ensure completion of all modules.

Level 3, 2 and 1 trainings:

The last three levels of trainings (Level 3-Basic, Level 2-Intermediate, Level 1-Advanced) are aimed for officers who have reached P3, P2 and P1 levels, respectively, in their career progression. Different trainings have been identified targeting Specialists and ICT Management categories separately. The training modules will include a combination of technical and soft skills development. As ICT Professionals progress in their career, they will need skills such as project management and change management to achieve success in implementing ICT projects. These skills are grouped under the soft skills set.

Specialist training:

The four specialist groups, namely, System Analysis & Design (SAD), Software Development (SD), Network Analysis (NA), and Security Analysis (SA), will be provided specific trainings relevant to their field of expertise. Through the systematic level of trainings in the same expertise track the specialists will be able to build expert mastery over their chosen field of work.

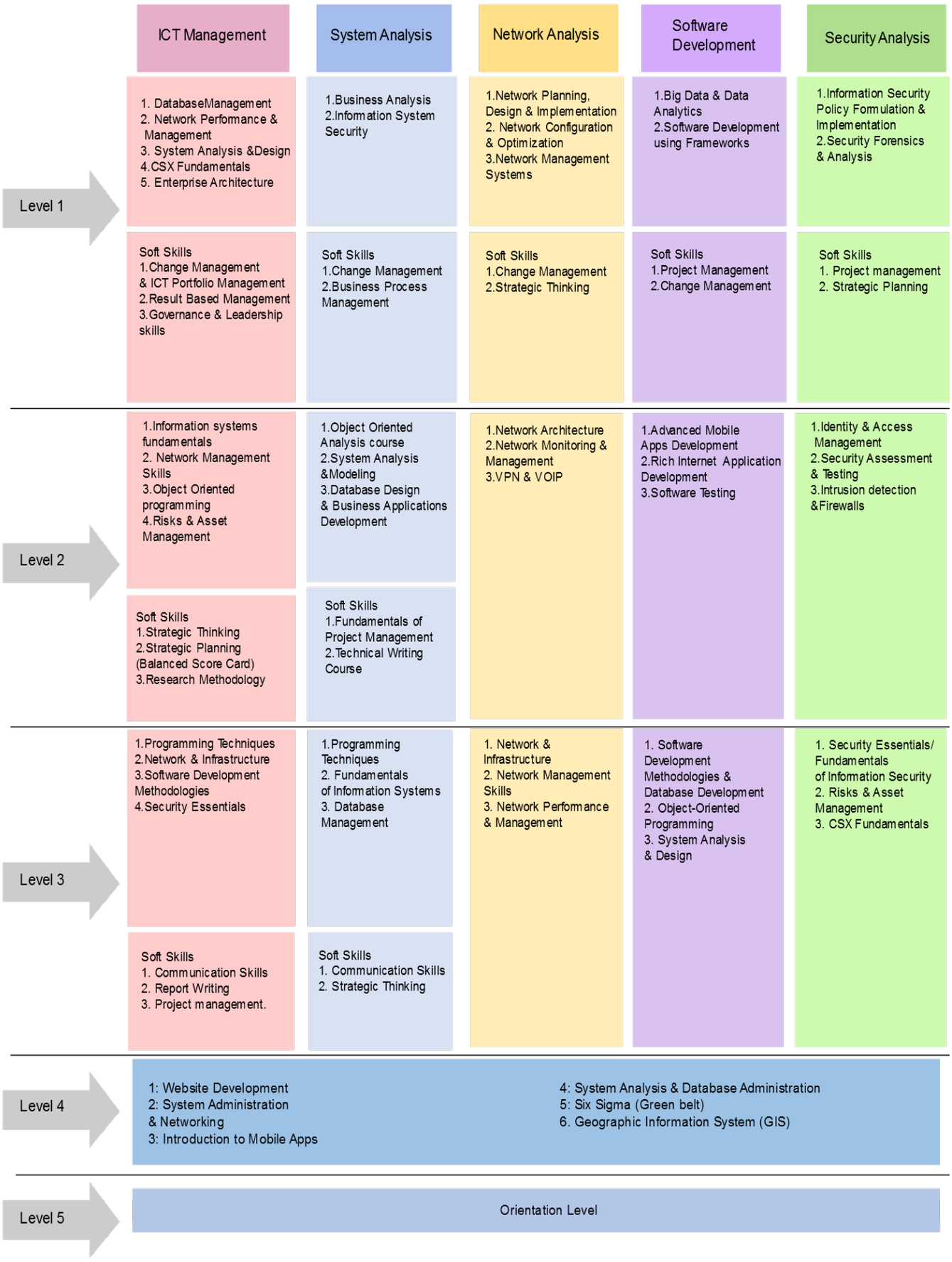
ICT Management training:

An ICT officer in the ICT Management category is expected to have the skills required to deliver various ICT services in an organization. The training modules will be designed to cater to specific knowledge areas that will benefit the professionals in this category. They will be trained to fulfill responsibilities typically related to website development and management, network set-up and management, software development and security of servers, systems, and network infrastructure.

A minimum of two technical skills and one soft skill will be provided at each level. The modules will consist of at modules from the Specialist's Level 1 training content. For instance, the Module 1 of the SAD specialist track will be included as Module 1 for ICT Management track of the same level. The training will also include one module each from the other three specialists' Level 1 modules of the same level. Similarly, Level 2 will consist of the 2nd module of the SAD, NA, SD and SA at Level 1, and so on.

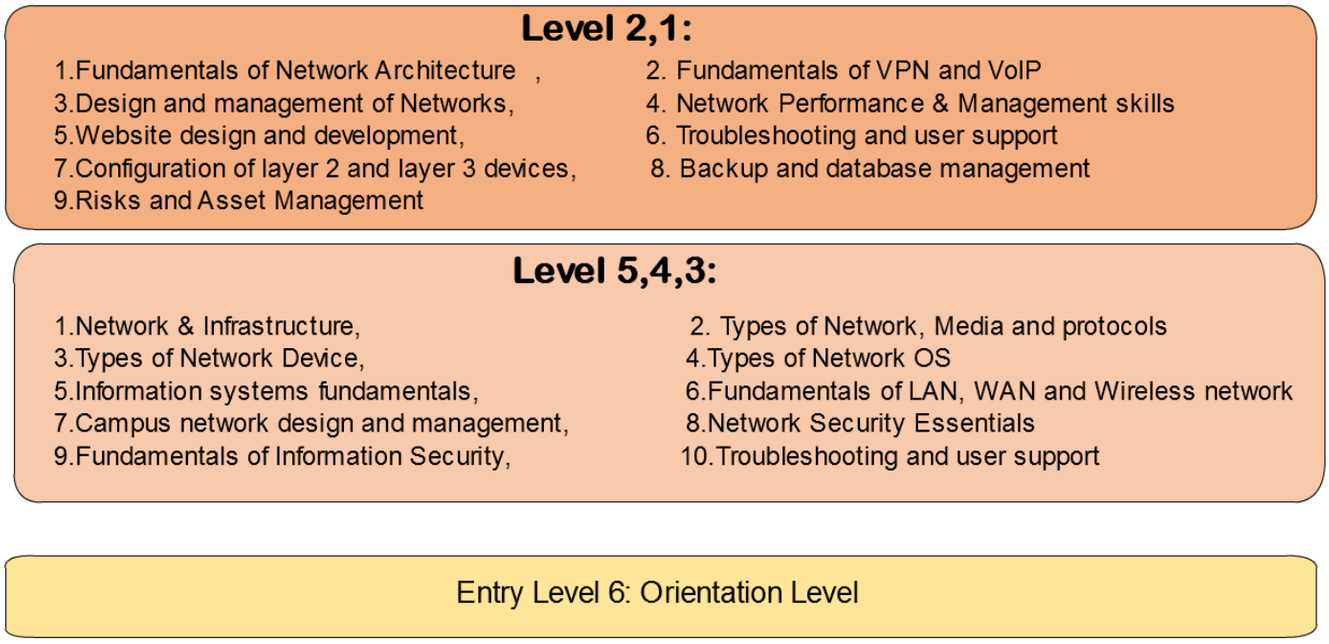
The various levels of training for ICT Officers is specified in the figure below:

Figure 3: Competency Trainings for ICT Officers



The levels of training for ICT Technical Associates is specified in the figure below:

Figure 4: Competency trainings for ICT Technical Associates



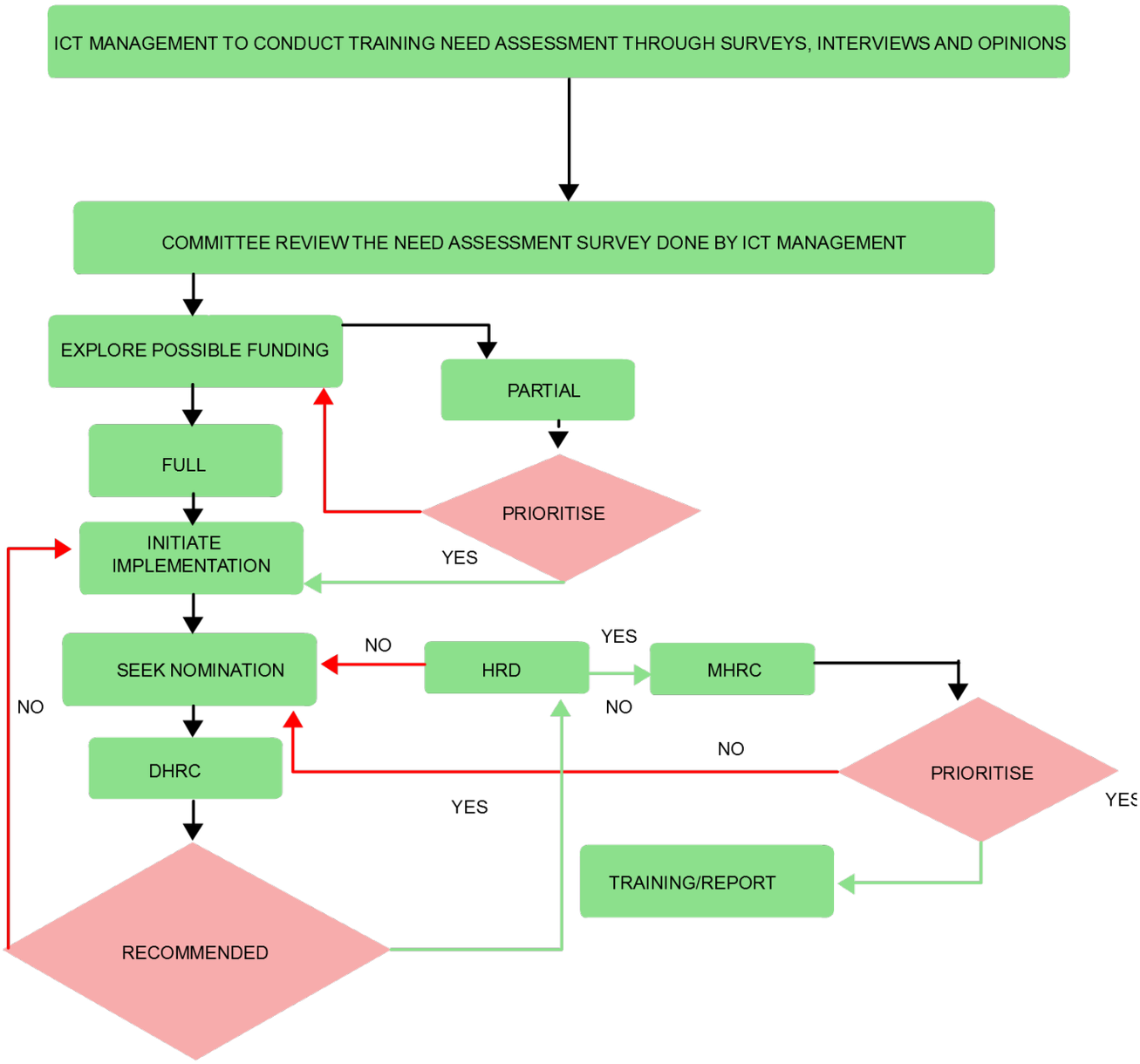
Note: The training needs assessment will determine new training needs and the training modules will be updated periodically as per the needs of the time.

The details of the training modules for each level are presented in detail in Annexure III.

2.2.2 Training needs assessment process model

The figure below is the process of assessing training needs of ICT professionals. The training need analysis will be carried out periodically by ICT Management Division through surveys and feedback (interviews and opinions). This will culminate into a survey report with training proposals which will be reviewed by the HR committee for funding possibilities. The trainings will either need full or partial funding. Those trainings that can be fully funded will be approved for implementation, while partially funded trainings will be prioritized: those that are considered high priority will be implemented while those with low priority will be re-looked to explore possible funding. All trainings that have been approved will go through the normal nomination process of recommendation through Departmental HRC and subsequently through Ministry HRC.

Figure 5: Training Approval Process



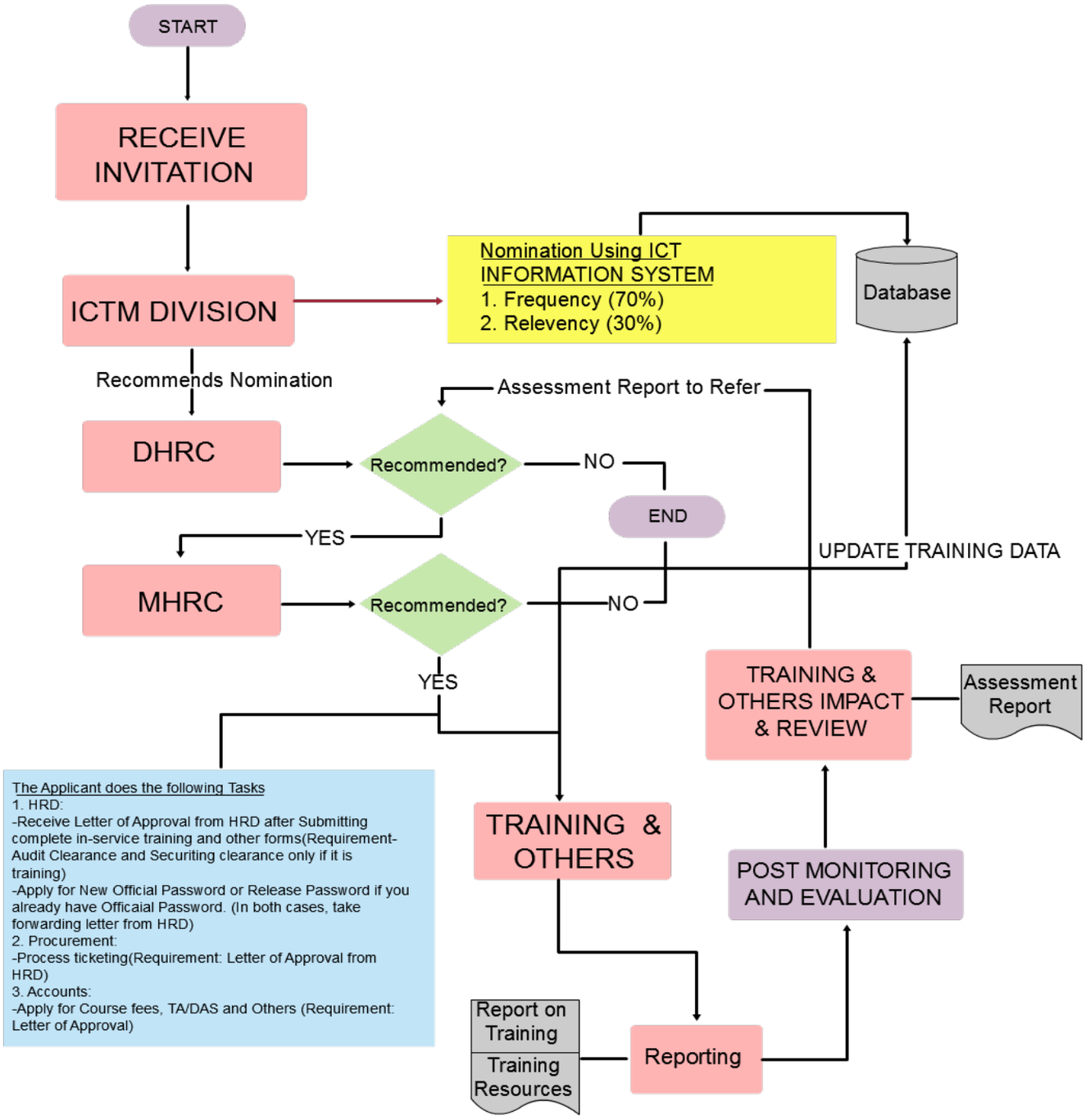
2.2.3. Training Nomination Process

The following processes depicts the whole training nomination process which includes HRC committee recommendation status.

a) Training Nomination process for meeting/workshop/seminar/study tour

The figure below depicts the training nomination and approval procedure for training offers received from international organizations and other agencies within the government.

Figure 6: Training & Others Invitation Nomination and Procedure



The detailed description of process flow is given in the following table.

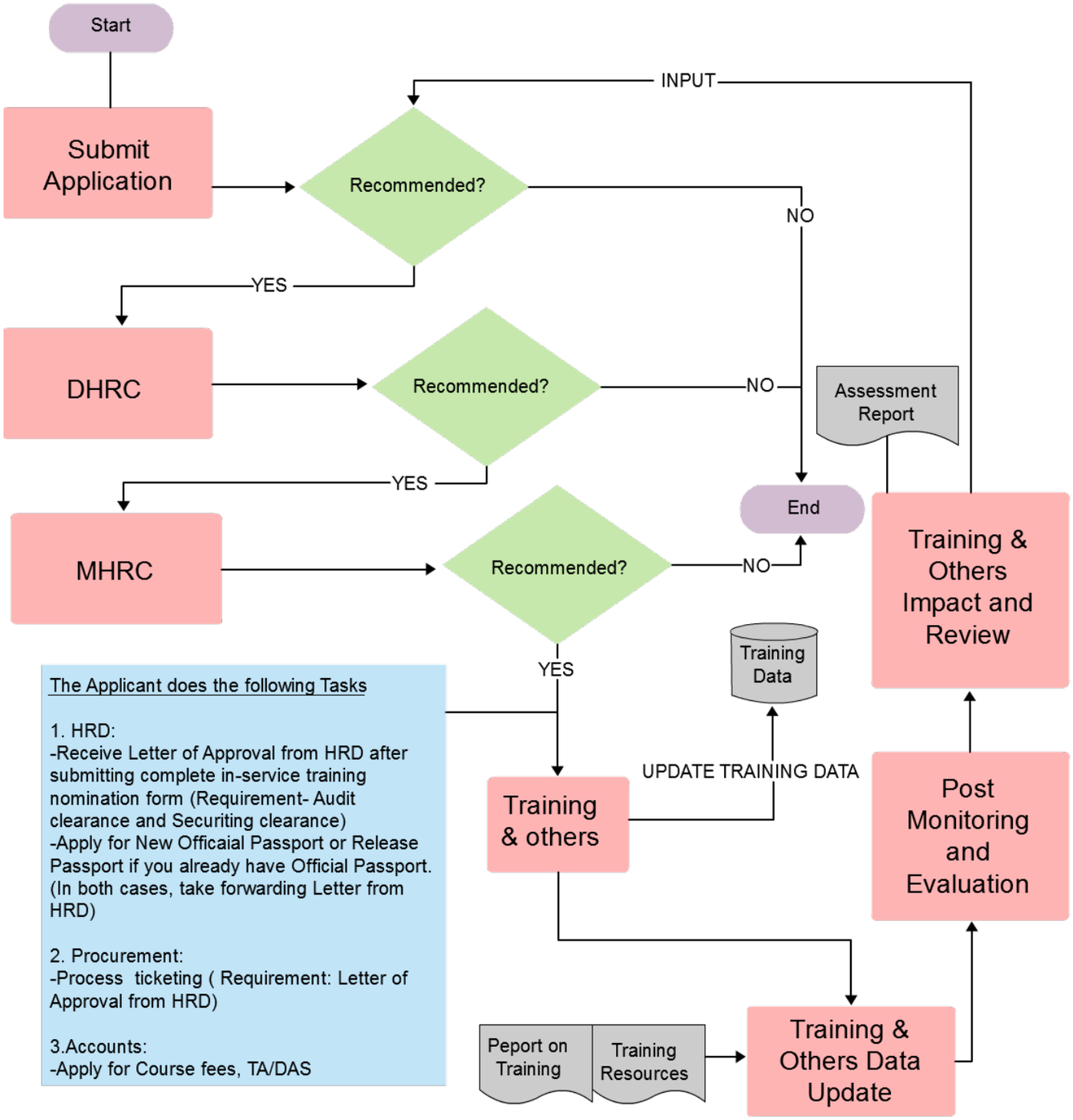
Table 1: Process description h

Process Name	Process Description	Inputs	Outputs	Actors
1. Receive Invitation	Training & Others invitation are received by HRD, ICT Management (ICTM), Divisions or the individuals	1. Training & others invitation letter and other supporting documents and forms	1. Department HRC (DHRC) agenda	- Division - Division Head - Individual - HRD
2. ICTM Division	ICT Management Division studies and analyzes the invitation received and recommends nomination based on the following rating criteria: 1. Frequency (70%) 2. Relevancy (30%)	1. Training & others invitation letter and other supporting documents and forms 2. ICT Information System	1. Nomination recommendation	- ICTM Division
3. DHRC	Training & others invitation received with nomination recommended by ICTM Division and put up at DHRC	1. Nomination recommendation by ICTM division 2. Training & others invitation letter and other supporting documents and forms.	1. DHRC minutes 2. Nomination recommendation	- ICTM Division - DHRC Chair - HRD - DHRC Members - Division
4. MHRC	Training & others proposal recommendation by DHRC and forwarded to Ministry level HRC (MHRC)	1. DHRC minutes. 2. Nomination recommended by DHRC 3. Training & others invitation letter and other supporting documents and forms	1. MHRC minutes 2. Letter of approval	-- MHRC chair - MHRC members - HRD - Department
5. Training & Others	The individual or group attends the training or others	1. Letter of approval 2. In service training form 3. Non training form 4. TA/DSA form 5. Course fee invoice 6. Passport release form 7. Passport application form 8. Audit application form 9. Security application form	1. Training resources	- Individual or group
6. Training & others Data Update	The training data maintained with ICT professional information system is updated	1. MHRC minutes	1. Updated database	- ICTM - HRD - RCSC
7. Reporting	The individual or the group will report back after training & others to HRD, ICT Management and respective head	1. Report form from BCSR	1. Training report 2. Training & Other resources	- HRD - ICTM
8. Post Monitoring and Evaluation	The respective division will conduct post monitoring and evaluation and report to ICT division	1. Post monitoring and evaluation metric based framework	1. Assessment result	- Individual - Division - Division head
9. Training & others Impact and review	The respective division will study the assessment result and produce report on training & others impact and review	1. Assessment result	1. Training & others impact and others review 2. Assessment report	- Division - ICTM Division

b) Training Nomination process: proposal from Individual ICT & ICT Division

The figure below depicts the training nomination and approval procedure for training proposal submitted by an individual official or by ICT Division(s).

Figure 7: TRAINING/OTHERS PROCESS MODEL



The detailed description of process flow is given in the following table.

Table 2: Process description

Process Name	Process Description	Inputs	Outputs	Actors
1. Submit Application	Training & Others proposal is submitted by individual to their respective head.	1. Training & others application/proposal 2. Detailed training course contents 3. Invitation letter and other required documents 4. Trainer's profile 5. Training Institutes	1. Training & others application/proposal approved by division head 2. Approved training course, trainer's profile and institute	-- Division - Division Head - Individual
2. DHRC	Training & Others proposal is submitted by the division head to DHRC	1. Training & others application/proposal approved by division head 2. Invitation letter and other required documents 3. Training Institute Approved training course, trainer's profile and institute 4. Notesheet with clear funding mentioned	1. Approved training & other application 2. Department HRC (DHRC) minutes. 3. Approved Notesheet	- ICTM Division - DHRC Chair - HRD - DHRC Members - Division
3. MHRC	Training & others proposal recommendation by DHRC and forwarded to Ministry level HRC (MHRC)	1. Department HRC (DHRC) minutes. 2. Approved Notesheet 3. Invitation letter and other required documents 4. Training Institute Approved training course, trainer's profile and institute	1. MHRC minutes 2. Letter of approval 3. Approved Notesheet	- MHRC chair - MHRC members - HRD - Department
4. Training & Others	The individual or group attends the training or others	1. Letter of approval 2. In service training form 3. Non training form 4. TA/DSA form 5. Course fee invoice 6. Passport release form 7. Passport application form 8. Audit application form 9. Security application form	1. Training resources	- Individual group - Training institute
5. Training & others Data Update	The training data maintained with ICT professional information system is updated	1. MHRC minutes	1. Updated database	- ICTM - HRD - RCSC
7. Reporting	The individual or the group will report back after training & others to HRD, ICT Management and respective head	1. Report form from BCSR	1. Training report 2. Training & Other resources	- HRD - ICTM

8. Post Monitoring and Evaluation	The respective division will conduct post monitoring and evaluation and report to ICT division	1. Post monitoring and evaluation metric based framework (use form)	1. Assessment result	- Individual - Division - Division head
9. Training & others Impact and review	The respective division will study the assessment result and produce report on training & others impact and review	1. Assessment result	1. Training & others impact and others review	- Division - ICTM Division

2.3. Talent Management System

Talent Management System (TMS) is one of the Parent Agency's important mandates to identify, develop and manage the talent of ICT professionals existing across the government agencies. TMS will be used as a tool to drive innovation, strategic change and effective capacity measurement of ICT professionals.

Talent Management System is designed to identify talents across government agencies, in order to drive innovation, deploy right talent at the right place and enhance existing talent. This is a living document, and will be reviewed and revised regularly to drive innovation and to ensure maximum development of ICT professionals' capacity.

Objective
The objective of TMS is to drive innovation and ensure ICT professionals are able to execute the organization's strategy and achieve its vision.

The talent management strategy is to create a higher performing workforce through:

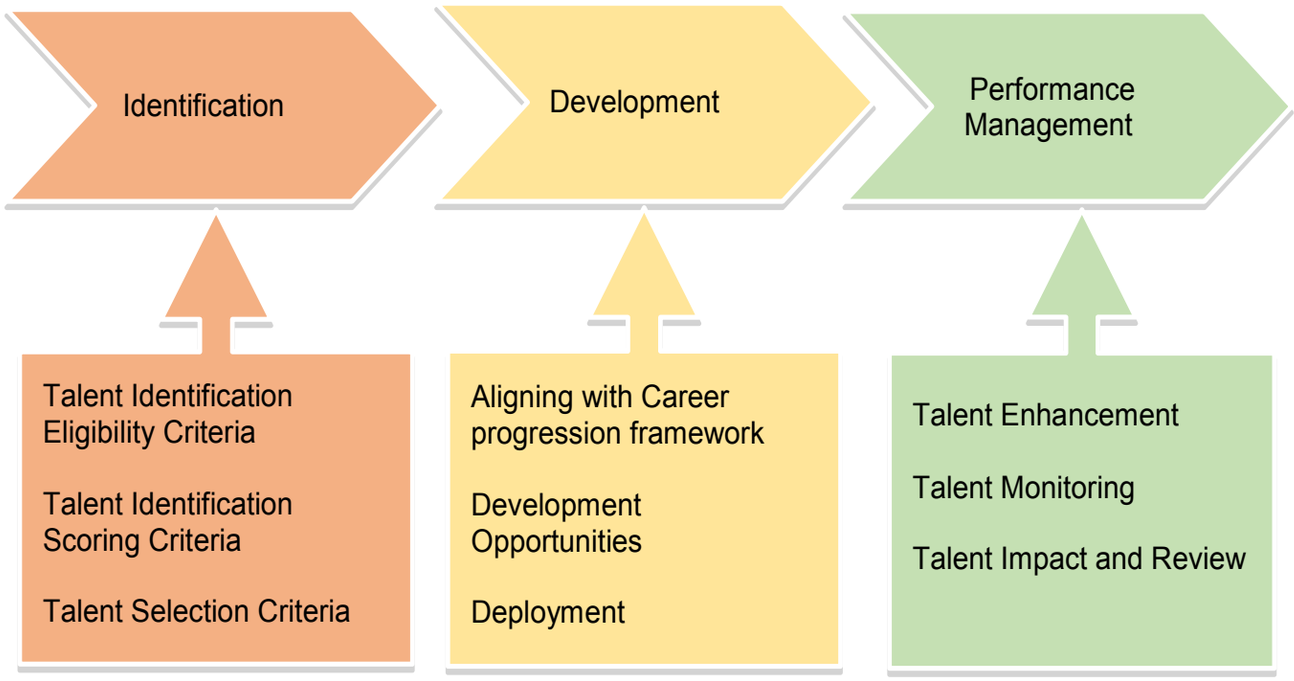
- Identifying talents using definitive criteria.
- Aligning talent with career progression (mapping).
- Developing talent by providing opportunities and recognition.
- Deploying right talent at the right place.
- Enhancing Talent.

Talent Management System Framework
The Talent management system framework consists of mainly three processes. Talent identification is the first process that uses defined set of criteria to meticulously identify existing talents across the government. The process is further divided into three sub processes; talent identification eligibility criteria; talent identification scoring criteria; and talent selection criteria.

The talent deployment process is the second process that aligns the organization's strategy requirements with identified talented individuals. The second process comprises of three sub processes that are aligning talent with career track, providing capacity development opportunities, and the reward and assigning responsibilities.

The final process of talent performance management also consists of three sub processes that are talent enhancement, talent monitoring, and talent impact and review.

Figure 8: Talent Management System Framework



2.3.1. Talent Identification

The systematic, criteria-based approach will be used to identify high-potential ICT professional talents. The purpose of the talent Identification process is to establish standards to screen the most talented ICT professionals.

1) Talent Identification Eligibility Criteria

To be eligible for talent identification process the ICT professional must meet the following eligibility criteria:

a) Number of years in service (NoYIS): The ICT professional must have completed minimum of 5 years' experience to be eligible for Talent Identification process.

b) His/her superior must nominate the ICT professional or the Department can nominate based on his/her contribution.

2) Talent identification scoring criteria

The ICT professional will be scored against the following five sets of criteria.

a) Innovation Initiated (15pts)

Innovation in context to talent management system is defined as the process of translating an idea or invention into goods or services that create value for users and improves the performance of the organization. This initiative transforms the way service is delivered, improves governance and saves resources both for public and government.

Criteria	Good (0.1 - 5.0)	Very Good (5.1 - 9.0)	Excellent (9.1 - 15.0)
Innovation initiated.			

Excellent:
Innovation which totally changes the way services are delivered, have maximum impact and has generated substantial improvement, and has the potential to improve in delivery of services would score excellent.

Very Good:
Innovation which totally changes the way services are delivered, have very good impact and has generated substantial improvement and has the potential to improve in delivery of services, would score very good.

Good:
Innovation, which totally changes the way services are delivered, have good impact and has generated improvement in delivery of services, would score good.

b) How did this innovation improve service delivery in terms of TAT (15pts)

Criteria	Good (0.1 - 5.0)	Very Good (5.1 - 9.0)	Excellent (9.1 - 15.0)
How did this innovation improve service delivery in terms of TAT			

Excellent:
The TAT for the public service is reduced by at least 80% of the initial TAT.

Very Good:
The TAT for the public service is reduced by at least 60% of the initial TAT.

Good:
The TAT for the public service is reduced by at least 40% of the initial TAT.

c) Percentage of target group users benefited through this innovation(15pts)

Criteria	Good (0.1 - 5.0)	Very Good (5.1 - 9.0)	Excellent (9.1 - 15.0)
Percentage of target group benefited through this innovation.			

Excellent:
At least 80% of the target group is benefitted through this innovation.

Very Good:
At least 60% of the target group is benefitted through this innovation.

Good:
At least 40% of the target group is benefitted through this innovation.

d) The innovation initiated has created value in public service delivery (15pts).

Criteria	Good (0.1 - 5.0)	Very Good (5.1 - 9.0)	Excellent (9.1 - 15.0)
The innovation initiated has created value in public service delivery.			

Excellent:
The innovation initiated has created value that impacted at least 80% of the population.

Very Good:
The innovation initiated has created value that impacted at least 60% of the population.

Good:
The innovation initiated has created value that impacted at least 40% of the population.

e) Supervisor's rating in Form A: Performance in Talent Quality (40pts).

Criteria	Good (0.1 - 5.0)	Very Good (5.1 - 9.0)	Excellent (9.1 - 15.0)
Supervisor Rating in Form A: Performance in Talent Quality.			

Excellent:
The ICT official has scored at least 80% in Form A: Performance in Talent Quality.

Very Good:
The ICT official has scored at least 60% in Form A: Performance in Talent Quality.

Good:
The ICT official has scored at least 40% in Form A: Performance in Talent Quality.

[The Form A is specified in Annexture 4]

3) Talent Selection Criteria

To be selected as a talent, the ICT professional must score minimum of 70% in the Scoreboard computed using talent identification criteria defined above. After the selection, the talent pool is formed and will undergo the talent development process.

2.3.2. Talent Development

The main objective of talent development program is to support growth of the talents identified, to produce talent task force to drive innovation and tailor development needs of the various agencies. The three sub processes under talent development are as follows:

1) Align talents with career progression framework

As per the career progression framework , there are two-progression path, ICT Management and ICT Specialist, after their entrance level 5 in General ICT Management. The talent pool will be mapped to four track of ICT specialist group. The talent pool will be mapped to four track of ICT specialist group depending mainly on criteria "innovation initiated" under 'Talent Identification Scoring Criteria'. Aligning with assigned track, customized development plan will be provided to develop their competencies.

2) Development Opportunities

The talent development program will be provided to the talent pool to develop core competencies and enhance job performance. The recognition and reward program will also be initiated to motivate and encourage personal growth.

Talent development program: Keeping in line with the Capacity Development framework , talent development prograhm will be developed by aligning talent pool and four defined tracks under ICT specialist group to develop the raw potential into skilled accomplished performers.

Recognition: is one of the methods to motivate the high performers and positively influence other professional to be creative.

- ICT conference and the ICT day are two platforms where the three talented ICT professionals with top scores from the talent scoreboard will showcase their innovative ideas/products.
- Certification of recognition will be awarded.
- The winners will be posted on the wall of fame maintained at the Department's website

Reward: Two types of rewards will be introduced:

- The three talented ICT professionals with top scores from the talent scoreboard will be awarded with gift certificates during ICT conference and will be directly nominated for annual ICT Champion competition.
- An award of a grant or an expert assistant will be provided to support and implement the selected innovative idea.

3) Deployment

The successful deployment of a talent is the Return on Investment (RoI) in a talent management system. DITT will exercise the following strategies to successfully deploy potential talents:

-The Department will actively rely on the identified talent pool to fill the existing talent gap .

This involves the placement of talented individuals in either short-term roles (critical projects/task forces) or in long-term positions in line with their career progression, and as per the requirement of the respective agencies.

-The Department will actively rely on succession planning: Succession planning involves understanding the critical roles within an agency, the current occupants of these roles and their likely career move, and the available talent in the pipeline who could fill these roles in the future.

2.3.3. Talent Performance Management

1) Talent Enhancement

Effective talent management ensures operational continuity and sustainability by ensuring that the right people, with the right skills, are in the right job at the right time to ensure successful results.

The department will use the following three strategies to enhance the recognized talents:

- Enhance Leadership skills through leadership program,
- Specialized Capacity Development,
- Re-deployment to best-fit position.

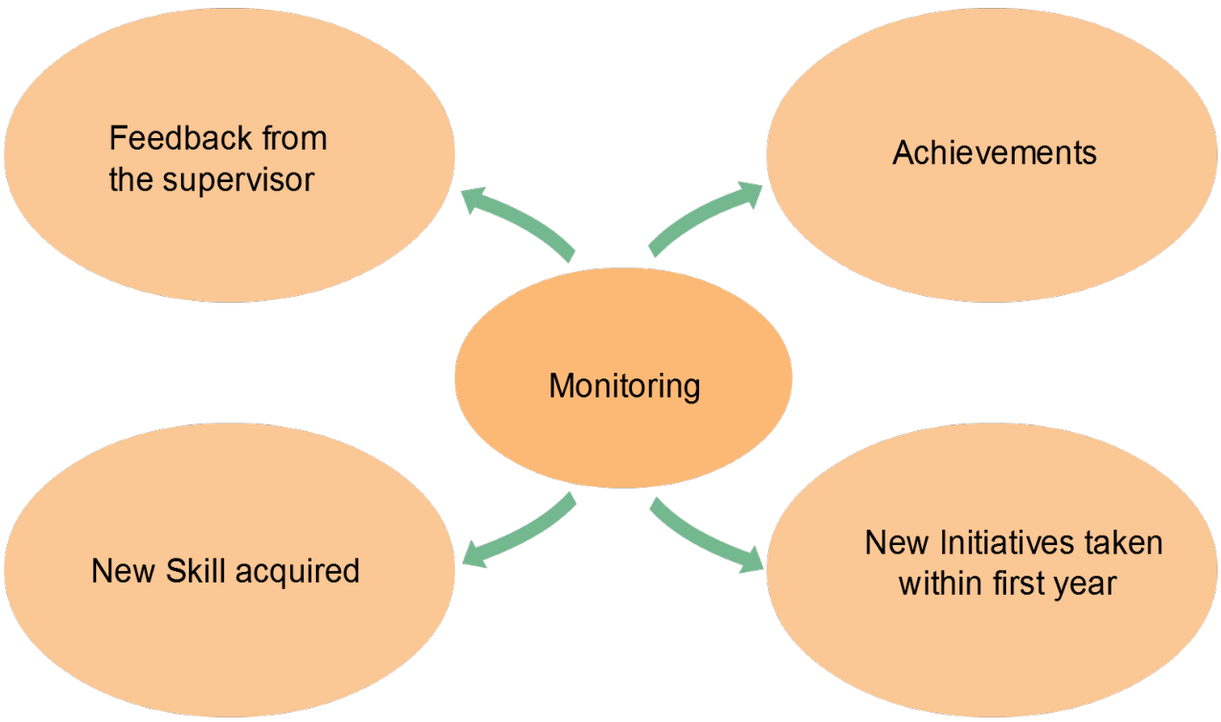
2) Talent Monitoring

Talent monitoring will be conducted annually to keep track of performance of the talent pool and to measure the effectiveness of activities carried out during the talent development and talent enhancement programs.

The following four metrics will be used:

- Feedback from the supervisor on quarterly (four times)
- Achievement within a first year (one time)
- New skilled acquired (supported with evidence)
- New initiative taken (one time)

Figure 9: Talent Monitoring Process



3) Talent Impact and Review

The talent impact will be assessed and studied as follows:

- Talent identification criteria's will be used as a metric to assess the talent impact.

The talent strategies will be revised to support organizational strategies mainly in the following aspects;

- Restructure the identification criteria,
- Talent development framework,
- Revise talent gap.

3) Talent Impact and Review

The talent impact will be assessed and studied as follows:

- Talent identification criteria's will be used as a metric to assess the talent impact.

The talent strategies will be revised to support organizational strategies mainly in the following aspects;

- Restructure the identification criteria,
- Talent development framework,
- Revise talent gap.

2.4. Performance Management

To institute a comprehensive monitoring and assessment mechanism to study the performance of ICT professionals within the RGoB, alignment of objectives and activities of ICT divisions and sections in ministries, agencies and Dzongkhags with the mandate of DITT will be required. This alignment is carried out using common Annual Performance Agreement (APA) drawn between the ICT divisions and the parent agency.

2.4.1. APA alignment

The department, after extensive discussions with the ICT representatives of the government agencies, has worked out common tasks that these representatives perform in their own agencies. These are some common tasks that are measurable, and will go a long way in improving service delivery to the public in general and their agencies in particular. It will also indirectly facilitate DITT in creating a system based on common protocols and standards approved by the Government. This is deemed necessary for many ICT officials in the Dzongkhags and other agencies where there have been situations when ICT professionals were seen as not having enough work and also assigned to work on non-ICT activities. APA targets will provide an opportunity for the ICT personnel to further improve the ICT services of their organization while encouraging them to innovate and improve service delivery.

The Government Performance Management Division (GPMD) was also consulted in listing the common APA targets.

The common targets covered under the APA are as follows:

a. Maintenance and updating of website.
b. Deployment of google apps.
c. Uptime of network (connectivity).
d. Uptime of application systems.
e. Training provided to office secretaries and support staff on basic troubleshooting.
f. Innovation and technology.
g. Compliance to standards and protocols.
h. Response time to complaints.

In accordance to APA format, the common APA targets and their success indicators are identified and measured. If the success indicators have dependencies on other activities outside their agency, the success or failure of those dependent activities will be documented and monitored by DITT. The success indicators shall be revised and updated annually. Upon agreement of the APA, each ICT division/sectors shall implement the activities by aligning to the agreed target, and incorporate it in the Individual Work Plans (IWP).

2.4.2. Performance Evaluation

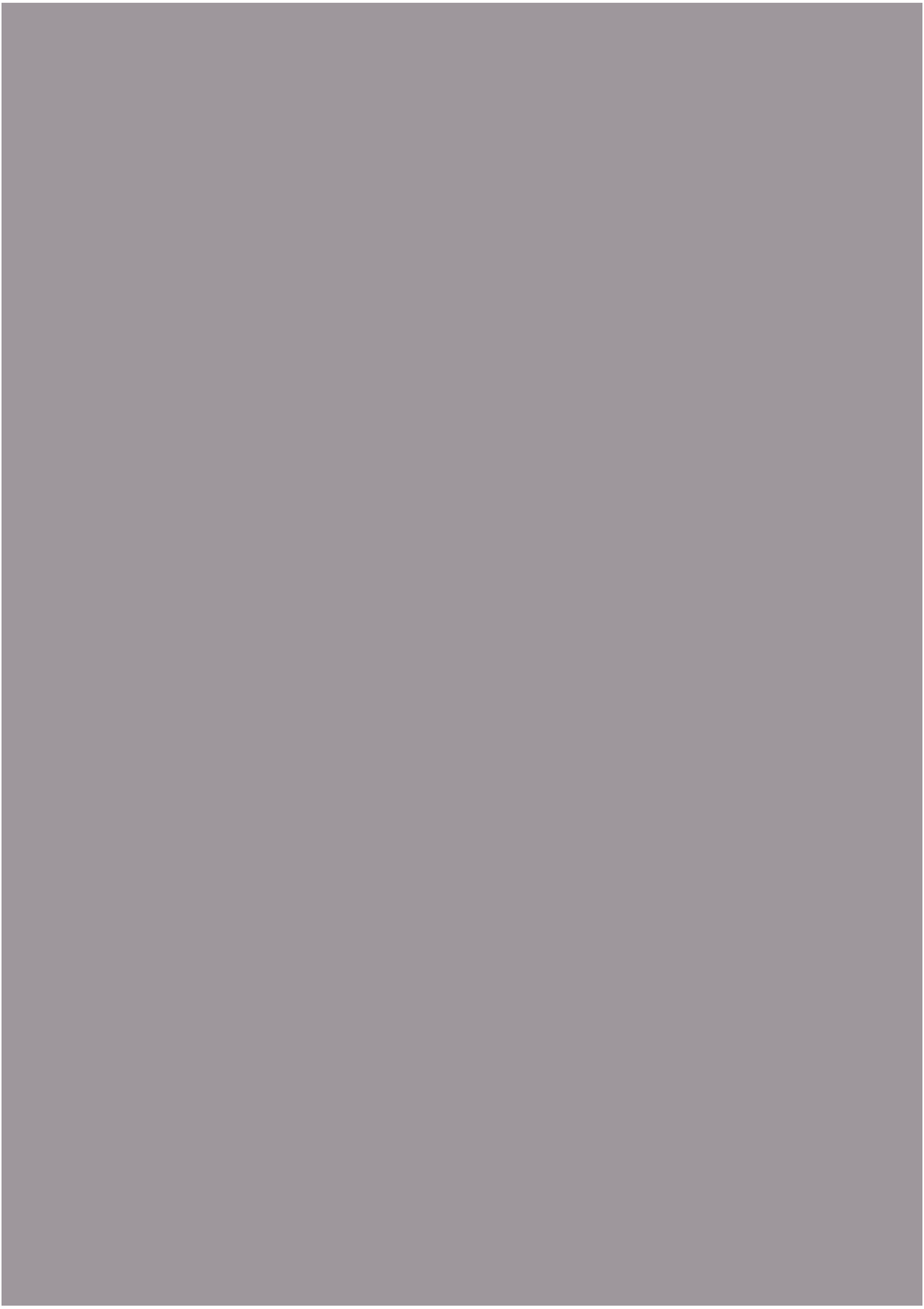
Once the common APA targets are agreed, a team from DITT will undertake periodic monitoring to ensure that all ICTs in the government are working towards achieving these common goals. At the end of the fiscal year, the APA targets will be evaluated as per norms. The team from DITT will also conduct APA auditing to ensure that achievements, which are being reported, were actually being carried out and implemented in the field. The APA evaluation and marking will be done for the ICT division/sector as a whole. This evaluation will then cascade down to performance evaluation of individual ICT professionals, which will be done by the ministry/agency/Dzongkhag.

The Ministry/Agency/Dzongkhag/Thromde, where the ICT Officers are placed, may not have the technical competency, resources and system to evaluate performance on the following areas. The department will evaluate the ICT division/section/unit on the following parameters and provide score of maximum of 20% of APA (or as approved by GPMD) allocated for the ICT sector.

Table 3: Common APA Indicator

Objective	Action	Success Indicator	Unit	Weight	Excellent [100%]	Very Good [90%]	Good [80%]	Fair [70%]	Poor [60%]
To enable effective and efficient ICT Service delivery	Deploy robust website	Score obtained in Website competition	Percent		> 90	70 - 90	60 - 70	55 - 60	< 55
	Less paper initiative	Deploy google apps and promote usage	Percent		99.9	90	80	70	50
		Acceptable downtime of LAN and internet connectivity per incidence in Ministry/Agency/ Thromde/ Dzongkhags and CCs	Days		1	1.5	2	2.5	>2.5
	Improve public service delivery through innovative ICT services	Enhance basic ICT skills by providing trainings to non ICT staffs	Percent		50	45	40	35	30
		Number of innovative idea implemented	Number		3	-	2	1	0
	Ensure compliance to e-GIF standards	Percentage compliance to e-GIF standards	Percent		100	-	-	-	0

The common APA indicators will be reviewed periodically for approval by GPMD office. The office will also approve the percentage of ICT weight assigned to the common APA for the whole ICT sector.



CHAPTER 3
ICT STRUCTURE

3.1. Ministry

Introduction

ICT is increasingly regarded as an important aspect of service delivery effort in the government. In order for ICT services to be delivered efficiently and effectively in the Ministries, ICT Division shall be set up consisting of ICT officials with varied capacities to provide ICT services to the Secretariat and various Departments within the Ministry.

Currently the ICT officials in Ministries are working in silos and in their own individual Secretariat and Departments, where they maybe under-utilized. There is scope to centralize the pool of ICT officials under one ICT division for better service delivery, which will result in efficient use of both human and budgetary resources. This will also reduce the deployment of ICT professionals, and make their services accessible within a reasonable time frame.

The ICT officials will provide various ICT services such as networking and security services, administration of websites, and be able to undertake system development whenever necessary.

Objective

- To enhance and improve delivery of ICT services to the Secretariat, Directorate and Departments under the ministry through restructuring of the ICT division.

Structure of ICT Division

1. A central ICT division will be established in the Secretariat under the Ministry. All ICT officials working in the Secretariat and Departments within the Ministry will be pooled together under this division.
2. The division will be headed by the ICT Head/Chief and will directly report to the Secretary, or in the case of Ministries with Directorate, the Head will report to the Director.
3. For the departments/agencies located further away from the Ministry locality, and with a staff strength of more than 20 people working on a system, will be manned with a dedicated ICT Associate to attend to the agencies' daily ICT needs.

TOR for ICT Division in Ministries

1. Responsible for design, development and content updation of websites.
2. Ensure LAN and Internet connectivity in ministry.
3. Ensure uptime of application systems in ministry.
4. Ensure that the security of the data and systems are not compromised.
5. Maintain periodic backup of databases and files.
6. Responsible for development of Management Information Systems (MIS) and digitization of the working procedures.
7. Responsible for optimization of the systems and ICT processes.
8. Responsible for initiating procedural changes to reduce the turnaround time for services delivery.
9. Promote the usage of ICT to the staffs through user trainings such as basic computer troubleshooting, google apps usage etc.
10. Maintain proper documentation and mapping of systems and networks.
11. Provide technical specifications and obtain clearances for procurement of hardware and software.
12. Comply with e-GIF standards.
13. Conduct periodic assessment of the progress in the field of ICT and validate whether the progression is aligned to the overall vision and mission of DITT.
14. Provide computer/networking related hardware and software troubleshooting services.

15.Responsible for configuration of Access points and creating user accounts on network and systems.
16.Responsible for updating operating systems and other software.
17.Improve public service delivery through innovation.
18.Responsible for ICT assets in the ministry (network devices, servers and PCs. issued to ICT officials).

Roles and responsibilities of ICT Head

1. Facilitate and monitor delivery of ICT services to the agency.
2. Spearhead office automation.
3. Drive service automation to improve service delivery.
4. Ensure development of at least 2-3 mobile applications as a part of innovation.
5. Ensure adoption of latest technology available wherever possible.
6. Ensure implementation of latest security measures.
7. Facilitate mentoring and providing technical advice to the ICTOs/ICTAs.
8. Conduct IT specific trainings.
9. Spearhead software development.
10. Function as system analyst.
11. Discharge the functions of the division like any other Division Chiefs/Heads in the Ministries.

Roles and responsibilities of ICT Officer (ICTO)

1. Ensure LAN and Internet connectivity in departments and agencies under the ministry.
2. Ensure that the security of the data and systems are not compromised.
3. Maintain periodic backup of databases and files.
4. Oversee design and development of websites.
5. Responsible for development of Management Information Systems (MIS) and digitization of the working procedures.
6. Responsible for optimization of the system and ICT processes.
7. Promote the usage of ICT to the staff through user trainings such as basic computer troubleshooting, google apps usage, etc.
8. Maintain proper documentation and mapping of systems and networks.
9. Provide computer/networking related hardware and software troubleshooting services.
10. Provide technical specifications for procurement of computer/networking hardware and software.
11. Responsible for initiating procedural changes to reduce the turnaround time for services delivery.
12. Comply with e-GIF standards.
13. Conduct periodic assessment of the progress in the field of ICT and validate whether the progression is aligned to the overall vision and mission of DITT.

Roles and responsibilities of ICT Technical Associate (ICTTA)

1 Provide computer/networking related hardware and software troubleshooting services.
2. Design, develop and update content on the website.
3. Responsible for system requirement gathering, user acceptance test and deployment of systems, etc.
4. Responsible for configuration of Access points and creating user accounts on network and systems, etc.
5. Responsible for updating operating systems and other software.
6. Setup network and configuration under the direction of the ICT Officer.
7. Assist ICT Officer in providing user training.
8. Responsible for ICT assets in the departments and agencies under the ministry (network devices, servers and PCs. issued to ICT officials).

List of ICT services

1. Application Services
- System and ICT Process Development.
- Development of Management Information Systems(MIS) and digitization of working procedures.
- Documentation and report writing.
- Google Apps implementation and support.

2. Network Services
- Installation and Configuration.
- Maintenance and Operation.
- Hardware and Software Troubleshooting Support.

3. Security Services
- Data and System Security.
- Server and User end security.
- User awareness training.

4. Website
- Development and Upgradation.
- Operation and maintenance.

5. Compliance
- ICT related policies guidance.
- Cyber security guidance.
- E-GIF standard guidance.
- Technical specification (hardware & software) guidance.

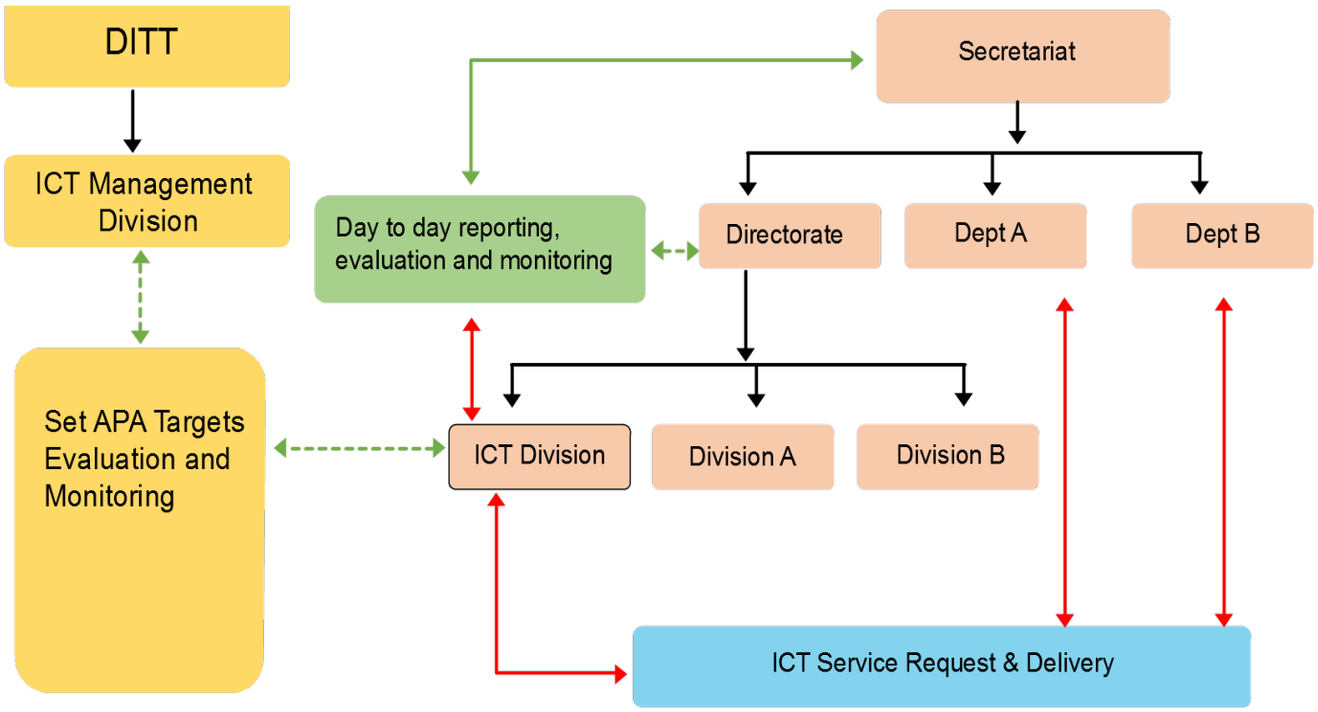
6. Innovation
- Research Support.
- Proposal platform.
- Cater expertise and specialist support.

7. Basic ICT Services
- Hardware and Software troubleshooting.
- User end trainings for basic troubleshooting.

Line of Reporting, Evaluation and Monitoring:

ICT Division in ministries shall provide effective and efficient ICT services to all departments and divisions under the ministry. Roles and responsibilities, accountability and line of reporting of ICT Division must be very clear. Institutions responsible for monitoring and evaluation should have a common line of reporting. The diagram below illustrates the line of reporting.

Figure 10: Line of reporting in Ministries

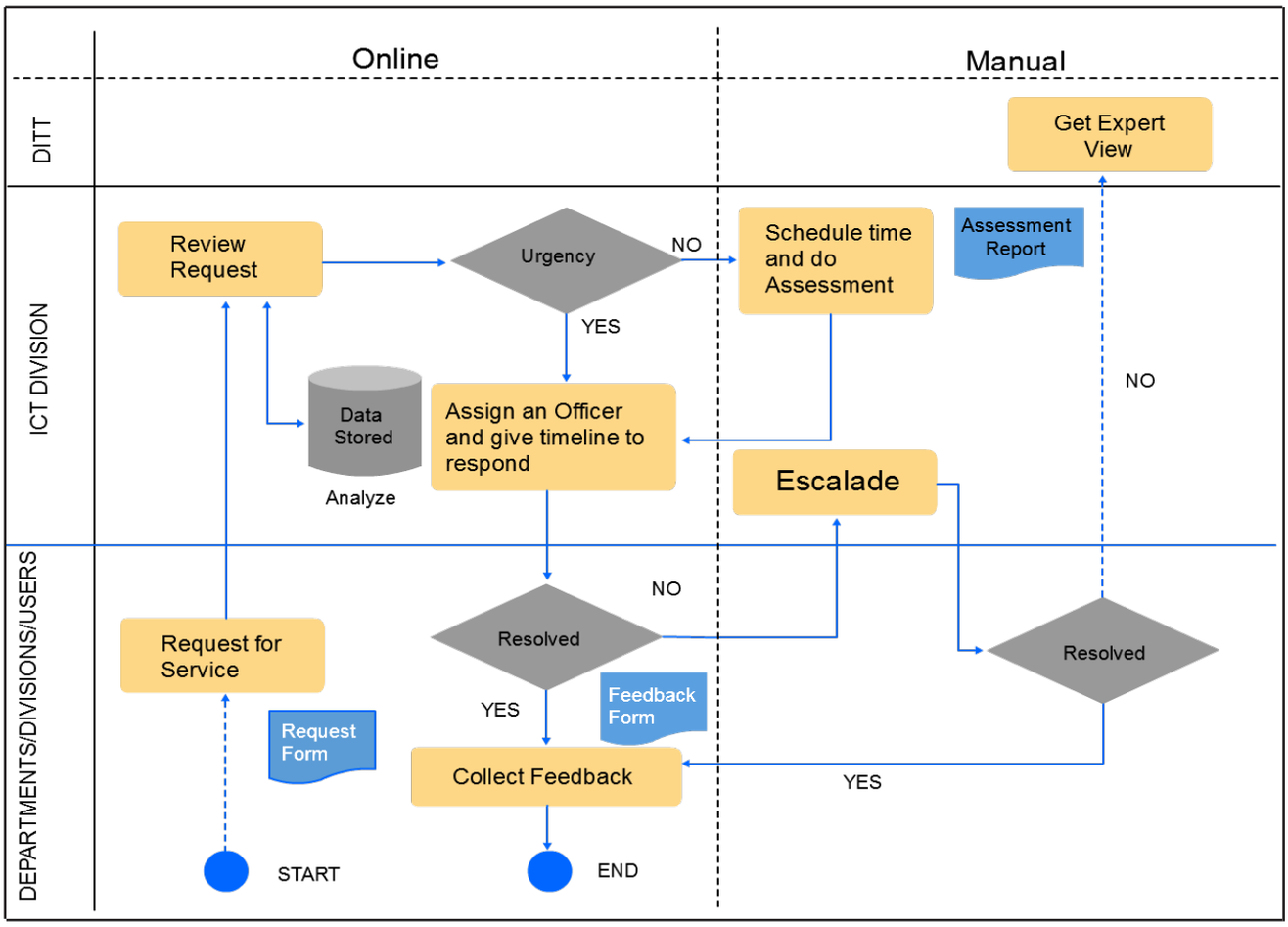


In the figure the green lines indicate line of reporting and evaluation while the red lines indicate ICT service request and delivery. In reporting and evaluation, solid green lines indicate direct reporting to and evaluation by the head of ministry (Secretary) and the Directorate (Director), while the dotted green lines indicate reporting to and evaluation (via the common APA) by parent agency.

- The ICT head will report directly to the Secretary or Director on a day to day basis.
- The ICT head will also conduct monthly coordination meeting with head of departments and divisions under the ministry.

All necessary and essential ICT service requirement of departments and divisions within the ministry will be administered and catered to by ICT division through the practice of service request process system for efficient evaluation and monitoring of services rendered. The ICT division will also maintain line of communication with parent agency for technical and advisory support.

Figure 11: Service request process in Ministries



This process describes how departments and divisions request for service and how the service can be availed. The reporting of ICT service request, ICT related problems and issues by all departments and divisions will be done online through use of online forms. In situation where online application request is not possible, other options such as requesting via phone call and direct request in person may be used. The forms will be collected and stored for analysis and assessment of ICT services availed. These different forms are as specified in the Annexure IV.

The detailed description of process flow is specified in the following table.

Sl. No	Process Flow Name	Responsible Agency	Detailed Process Description	Forms/Data/Report
1	Request ICT Services	All departments and divisions	The ICT service request is any problem and issues related to ICT and general ICT services	Online service request form)
2	Review the Request	ICT division	The ICT division will analyze and review the request.	Database
3	Urgency	ICT Division	ICT division will check to qualify the request as urgent.	Service Availed form
4	Schedule time and do assessment	ICT Division	If the service request is not urgent, ICT division will schedule time, do assessment and generate report.	Report

5	Assign an officer and give timeline to respond	ICT Division	If the service request is assessed to be urgent, officer with right skill is assigned with definite timeline to respond.	Service Availed form
6	Service Availed/ Issue Resolved	ICT Division	The assigned officer try to resolve the service requested	Service Availed form
7	Escalate	ICT Division	If the assigned officer is not able to resolve the requested service, then he/she will report to the ICT division for further action.	
8	Service Availed/ Issue Resolved	ICT Division	The ICT division try to resolve the requested service.	Service Request form
9	Expert View	DITT	If the team from ICT division is still not able to resolve, then the team seek expert view from parent agency, DITT	Service Availed form
10	Collect Feedback	ICT Division	If the process 6,8,9 is solved, then feedback is collected and stored in database for analysis purpose.	Service Availed form Feedback form

Evaluation and Monitoring System

There will be a proper Standard Operating Procedures to carry out effective monitoring and evaluation to ensure effective and efficient ICT service delivery. Any duplication of efforts and resources will be avoided through this mechanism while promoting accountability.

The performance evaluation of the ICT professionals will be divided between parent agency and the concerned ministry as follows:

- DITT will conduct some percentage of the APA ratings as per the defined APA work activities through
  evaluation and monitoring exercises.
- Maximum percentage of the rating will be conducted by the ministry through assessment of ICT services availed and implementation of ministry specific ICT activities and projects.

The Annual Performance Agreement for ICT Division in Autonomous Division is specified in Table 3: Common APA Indicators in Section 2.4.2.

Expected Outcome

The ICT division will be well established and institutionalized to provide effective and efficient ICT services to the departments and general public.

3.2. Autonomous Agencies

Introduction

ICT is increasingly regarded as an important aspect of service delivery effort in the government. In order for the ICT services to be delivered efficiently and effectively in the autonomous agencies, ICT divisions will be formed consisting of ICT officials with varied capacities.
The ICT officials will provide various ICT services such as basic networking and security services, administration of websites, and undertake system development whenever necessary.

Objective

- To enhance and improve delivery of ICT services in autonomous agencies through restructuring of the ICT division.

Structure of ICT Setup

- A central ICT division/services/unit will be established in the autonomous agencies depending on the size of the set-up and the agency concerned. All ICT professionals in the agency will be placed under the division. Among the autonomous agencies under the purview of RCSC, four agencies, namely JDWNRH, NLCS, RCSC and RAA have been approved to establish ICT Divisions.
- The division will be headed by the ICT Head/Chief, and will directly report to the head of agency.

TOR for ICT Division in Autonomous Agencies

1. Responsible for design, development and content updating of websites.
2. Ensure LAN and Internet connectivity.
3. Ensure uptime of application systems.
4. Ensure that the security of the data and systems are not compromised.
5. Maintain periodic backup of databases and files.
6. Responsible for development of Management Information Systems (MIS) and digitization of the working procedures.
7. Responsible for optimization of the systems and ICT processes.
8. Responsible for initiating procedural changes to reduce the turnaround time for services delivery.
9. Promote the usage of ICT to the staffs through user trainings such as basic computer troubleshooting, google apps usage, etc.
10. Maintain proper documentation and mapping of systems and networks.
11. Provide technical specifications and obtain clearances for procurement of hardware and software.
12. Comply with e-GIF standards.
13. Conduct periodic assessment of the progress in the field of ICT and validate whether the progression is aligned to the overall vision and mission of DITT.
14. Provide computer/networking related hardware and software troubleshooting services.
15. Responsible for configuration of Access points and creating user accounts on network and systems.
16. Responsible for updating operating systems and other software.
17. Improve public service delivery through innovation.
18. Responsible for ICT assets in the agency (network devices, servers and PCs. issued to ICT officials).

Roles and responsibilities of ICT Head

1. Facilitate and monitor delivery of ICT services to the agency.
2. Spearhead office automation.
3. Drive service automation to improve service delivery.
4. Ensure development of at least 2-3 mobile applications as a part of innovation.
5. Ensure adoption of latest technology available wherever possible.
6. Ensure implementation of latest security measures.

7. Facilitate mentoring and providing technical advice to the ICTOs/ICTAs.
8. Conduct IT specific trainings.
9. Spearhead software development.
10. Function as system analyst.
11. Discharge the functions of the division like any other Division Chiefs/Heads in the Agencies.

Roles and responsibilities of ICT Officer (ICTO)

1. Ensure LAN and Internet connectivity.
2. Ensure that the security of the data and systems are not compromised.
3. Maintain periodic backup of databases and files.
4. Oversee design and development of websites.
5. Responsible for development of Management Information Systems (MIS) and digitization of the working procedures.
6. Responsible for optimization of the system and ICT processes.
7. Promote the usage of ICT through user trainings such as basic computer troubleshooting, google apps usage, etc. to the staff.
8. Maintain proper documentation and mapping of systems and networks
9. Provide computer/networking related hardware and software troubleshooting services.
10. Provide technical specifications for procurement of computer/networking hardware and software.
11. Responsible for initiating procedural changes to reduce the turnaround time for services delivery.
12. Comply with e-GIF standards.
13. Conduct periodic assessment of the progress in the field of ICT and validate whether the progression is aligned to the overall vision and mission of DITT.

Roles and responsibilities of ICT Technical Associate (ICTTA)

1. Provide computer/networking related hardware and software troubleshooting services.
2. Design, develop and update content on the website.
3. Responsible for system requirement gathering, user acceptance test and deployment of systems.
4. Responsible for configuration of Access points and creating user accounts on network and systems.
5. Responsible for updating operating systems and other software.
6. Setup network and configuration under the direction of the ICT Officer.
7. Assist ICT Officer in providing user training.
8. Responsible for ICT assets in the agency (network devices, servers and PCs. issued to ICT officials).

List of ICT services

1. Application Services
   - System and ICT Process Development.
   - Development of Management Information Systems(MIS) and digitization of working procedures.
   - Documentation and report writing.
   - Google Apps implementation and support.

2. Network Services
   - Installation and Configuration.
   - Maintenance and Operation.
   - Hardware and Software Troubleshooting Support.

3. Security Services
   - Data and System Security.
   - Server and User end security.
   - User awareness training.

4. Website
   - Development and Upgradation.
   - Operation and maintenance.

5. Compliance
   - ICT related policies guidance.
   - Cyber security guidance.
   - E-GIF standard guidance.
   - Technical specification (hardware & software) guidance.

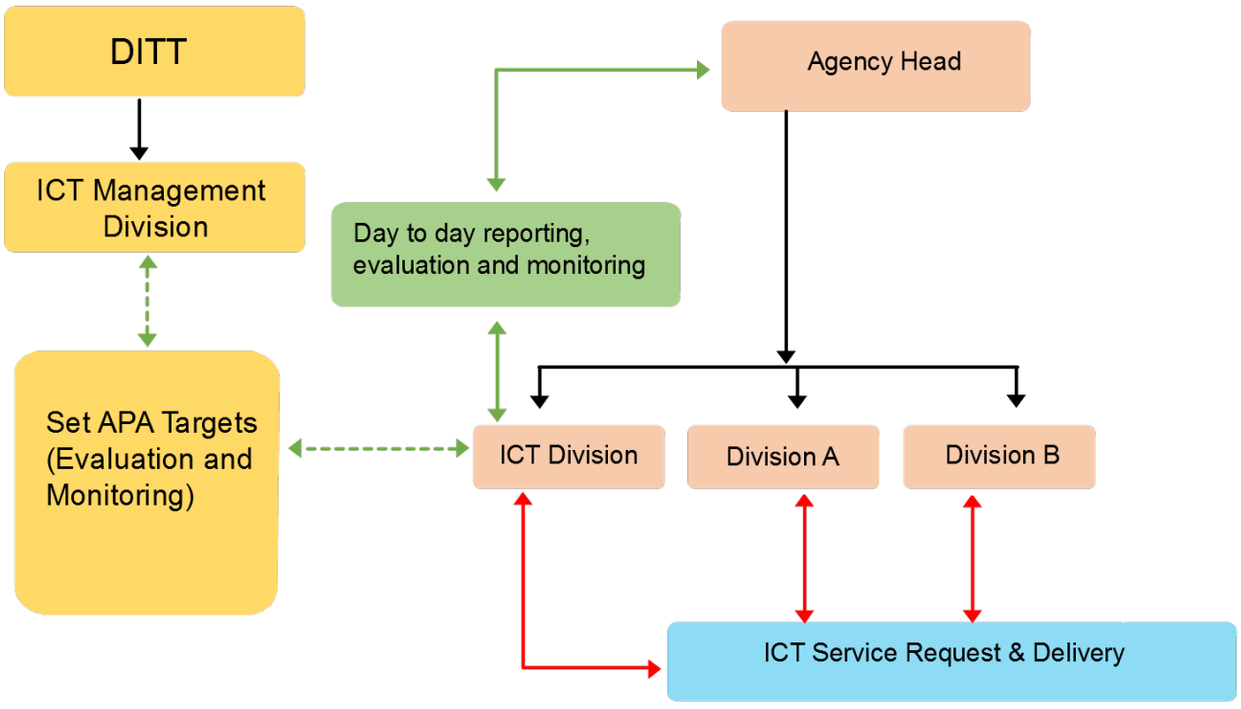
6. Innovation
   - Research Support.
   - Proposal platform.
   - Cater expertise and specialist support.

7. Basic ICT Services
   - Hardware and Software troubleshooting.
   - User end trainings for basic troubleshooting.

Line of Reporting, Evaluation and Monitoring

The ICT Division shall provide effective and efficient ICT services to all divisions under the autonomous agency. Roles and responsibilities, accountability and line of reporting of ICT Division must be very clear. Institutions responsible for monitoring and evaluation should have a common line of reporting for their performance. The diagram below illustrates the line of reporting.

Figure 12: Line of reporting in Autonomous Agencies



Note: ICT Division is used synonymous with ICT Services or ICT Unit

In the figure, the green lines indicate line of reporting and evaluation while the red lines indicate ICT service request and delivery. In reporting and evaluation, solid green lines indicate direct reporting to and evaluation by the head of agency, while the dotted green lines indicate reporting to and evaluation (via the common APA) by parent agency.

- The ICT head will report directly to head of agency on a day-to-day basis.
- The ICT head will conduct monthly coordination meeting with head of divisions under the autonomous agency.

All the necessary and essential ICT service requirement of divisions within the agency will be administered and catered to by ICT division through practice of service request process and evaluation and monitoring system. The ICT division will also maintain line of communication with the parent agency for technical support and advisory.

Evaluation and Monitoring System

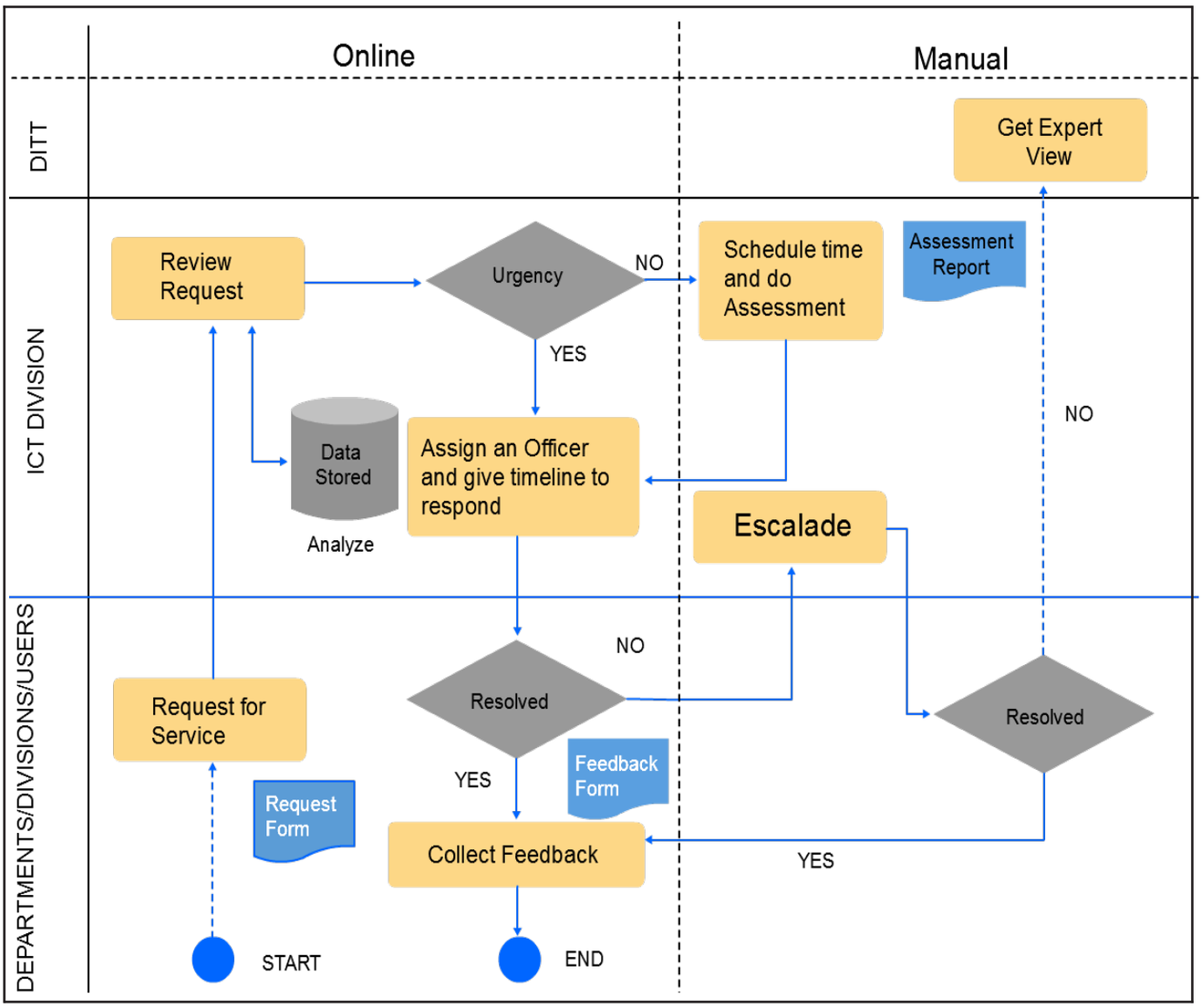
There will be a proper Standard Operating Procedures to carry out effective monitoring and evaluation to ensure effective and efficient ICT service delivery. Any duplication of efforts and resources can be avoided through this mechanism while promoting accountability.

The performance evaluation of the ICT professionals will be divided between parent agency and the concerned agency as follows:

- DITT will conduct some percentage of the APA ratings as per the defined APA work activities through evaluation and monitoring exercises.
- Maximum percentage of the rating will be conducted by the agency through assessment of ICT services availed and implementation of agency specific ICT activities and projects.

The Annual Performance Agreement for ICT Division in Autonomous Division is specified in Table 3: Common APA Indicators in Section 2.4.2.

Figure 13: Service request process (Autonomous Agencies)



This process describes how divisions under the autonomous agency request for service and how the service will be availed. The reporting of ICT service request and ICT related problems and issues by all divisions will be online through use of forms. In situation where online application is not possible, other options like phone call and fax can be used. The forms will be collected and stored for analysis and assessment of ICT services availed. These different forms are as specified in Annexure IV.

The detailed description of process flow is given in the following table.

Table 5: Process description

Sl. No	Process Flow Name	Responsible Agency	Detailed Process Description	Forms/Data/Report
1	Request ICT Services	All division	The ICT service request is any problem and issues related to ICT and general ICT services	service request form
2	Review the Request	ICT Division	The ICT division will analyse and review the request.	Database

3	Urgency	ICT Division	ICT division will check to qualify the request as urgent.	Service Availed form
4	Schedule time and do assessment	ICT Division	If the service request is not urgent, ICT division will schedule time, do assessment and generate report.	Report
5	Assign an officer and give timeline to respond	ICT Division	If the service request is assessed to be urgent, officer with right skill is assigned with definite timeline to respond.	Service Availed form
6	Service Availed/ Issue Resolved	ICT Division	The assigned officer try to resolve the service requested	Service Availed form
7	Escalate	ICT Division	If the assigned officer is not able to resolve the requested service, then he/she will report to the ICT division for further action.	
8	Service Availed/Issue Resolved Expert View	DITT	The ICT division try to resolve the requested service.	Service Request form
9	Service Availed/Issue Resolved	ICT Division	If the team from ICT division is still not able to resolve, then the team seek expert view from parent agency, DITT	Service Availed form
10	Collect Feedback	ICT Division	If the process 6,8,9 is solved, then feedback is collected and stored in database for analysis purpose	Service Availed form, Feedback form

Expected Outcome

The ICT division will be well established and institutionalized to to provide effective and efficient ICT services to the divisions and general public.

3.3. Dzongkhag Cluster

Similar to the Thromde Cluster, clustering of government offices under Dzongkhags is proposed for effective ICT service delivery and efficient HR utilization. All ICT professionals within a Dzongkhag premise will be pooled together and placed under one ICT Division. This will include ICT officials from the Dzongkhag Administration and those working in regional offices and other government offices. The ICT division will be placed under the Dzongkhag administration and will provide ICT services to all agencies located within the Dzongkhag jurisdiction. The cluster approach will lead to better utilization of ICT human resources.

There are a few Dzongkhags where many Regional Offices, General Hospital and other important government institutions are located. It would be inefficient use of resources to place ICT personnel for each office, where there wouldn't be enough engaging work. Many such personnel are either used for data entry or other work not related to their competencies. Many such regional offices do not host any kind of systems, nor do they have independent web portals providing services. In fact, they only have the right to update information as and when the clients avail their services. Most of the agencies use their services only for networking purposes.

Therefore, it would be appropriate that all ICT personnel providing various ICT related services be pooled together in one office and share their expertise. Through this arrangement they could have access to better services of ICT professionals, such as, network security analyst, software developers and system analyst who will provide more complicated troubleshooting services.

Further, the cluster would be in a better position to improve the service delivery to the general public if it has access to expert pools housed in the Dzongkhags. In the present scenario the ICT personnel placed in their offices are not optimally utilized: a contravention to the principles of small and compact civil service. This arrangement will make available better services from ICT professionals, such as, network security analyst, software developers and system analyst who will provide more complicated troubleshooting service from the Dzongkhag headquarters to the regional offices.

The ICT division in the Dzongkhag will function directly under the supervision of Dasho Dzongda as defined under the Terms of Reference. The ICT division will be headed by an ICT Officer who will be responsible in ensuring smooth operation of all ICT services under the Dzongkhag cluster. The ICT Division will provide services that will consist of networking, basic troubleshooting, website maintenance, security and system development as and when required.

For the few Dzongkhags without regional offices, the ICT setup will be as it is and manned by one to two ICT professionals.

As per the number of regional offices with ICT professionals within the Dzongkhags, the Clusters are categorized into the following categories.

Objectives

To enhance and improve delivery of ICT services to all Government agencies within the cluster through restructuring of ICT division.

TOR for Dzongkhag ICT Sector

1. Responsible for design, development and content updating of websites.
2. Ensure LAN and Internet connectivity in Dzongkhag, Dungkhag, Community centers and gewog offices.
3. Monitor the connectivity of mobile, internet and 3G and submit monthly report to DITT.

4. Carry out advocacy program to promote the usage of G2C systems and other services to the general public.
5. Ensure that the security of the data and systems are not compromised.
6. Maintain periodic backup of databases and files.
7. Responsible for development of Management Information Systems (MIS) and digitization of the working procedures.
8. Responsible for optimization of the systems and ICT processes.
9. Responsible for initiating procedural changes to reduce the turnaround time for service delivery through innovation.
10. Promote the usage of ICT through user trainings such as basic computer troubleshooting, google apps usage, etc. to the staff.
11. Maintain proper documentation and mapping of systems and networks.
12. Provide technical specifications and obtain clearances for procurement of hardware and software.
13. Comply with e-GIF standards.
14. Conduct periodic assessment of the progress in the field of ICT and validate whether the progression is aligned to the overall vision and mission of DITT.
15. Provide computer/networking related hardware and software troubleshooting services.
16. Responsible for configuration of Access points and creating user accounts on network and systems.
17. Responsible for updating operating systems and other software.
18. Responsible for ICT assets in the Dzongkhag (network devices, servers and PCs. issued to ICT officials).
19. Responsible for planning budget for ICT division and ICT services under its constituent in coordination with head of government agencies.

Roles and responsibilities of ICT Officer (ICTO)

1. Ensure LAN and Internet connectivity in Government agencies under Dzongkhag Cluster.
2. Monitor the connectivity of mobile, internet and 3/4G and submit monthly report to DITT.
3. Carry out advocacy program to promote the usage of G2C systems and other services to the general public.
4. Ensure that the security of the data and systems are not compromised.
5. Maintain periodic backup of databases and files.
6. Oversee design and development of websites.
7. Responsible for development of Management Information Systems (MIS) and digitization of the working procedures.
8. Responsible for optimization of the system and ICT processes.
9. Promote the usage of ICT to staffs through user trainings such as basic computer troubleshooting, google apps usage, etc.
10. Maintain proper documentation and mapping of systems and network.
11. Provide computer/networking related hardware and software troubleshooting services.
12. Provide technical specifications for procurement of computer/networking hardware and software.
13. Responsible for initiating procedural changes to reduce the turnaround time for services delivery.
14. Comply with e-GIF standards.
15. Responsible for planning and budgeting for ICT activities.
16. Conduct periodic assessment of the progress in the field of ICT and validate whether the progression is aligned to the overall vision and mission of DITT.

Roles and responsibilities of ICT Technical Associate (ICT TA)

- Provide computer/networking related hardware and software troubleshooting services.
- Design, develop and update content on the website.
- Responsible for system requirement gathering, user acceptance test and deployment of systems.
- Responsible for configuration of Access points and creating user accounts on network and systems.

- Responsible for updating operating systems and other software.
- Setup network and configuration under the direction of the ICT Officer.
- Assist ICT Officer in providing user training.
- Responsible for ICT assets in the government agencies under Dzongkhag Cluster (network devices, servers and PCs. issued to ICT officials).

List of ICT services

1. Application Services
   - System and ICT Process Development.
   - Development of Management Information Systems(MIS) and digitization of working procedures.
   - Documentation and report writing.
   - Google Apps implementation and support.

2. Network Services
   - Installation and Configuration.
   - Maintenance and Operation.
   - Hardware and Software Troubleshooting Support.

3. Security Services
   - Data and System Security.
   - Server and User end security.
   - User awareness training.

4. Website
   - Development and Upgradation.
   - Operation and maintenance.

5. Compliance
   - ICT related policies guidance.
   - Cyber security guidance.
   - E-GIF standard guidance.
   - Technical specification (hardware & software) guidance.

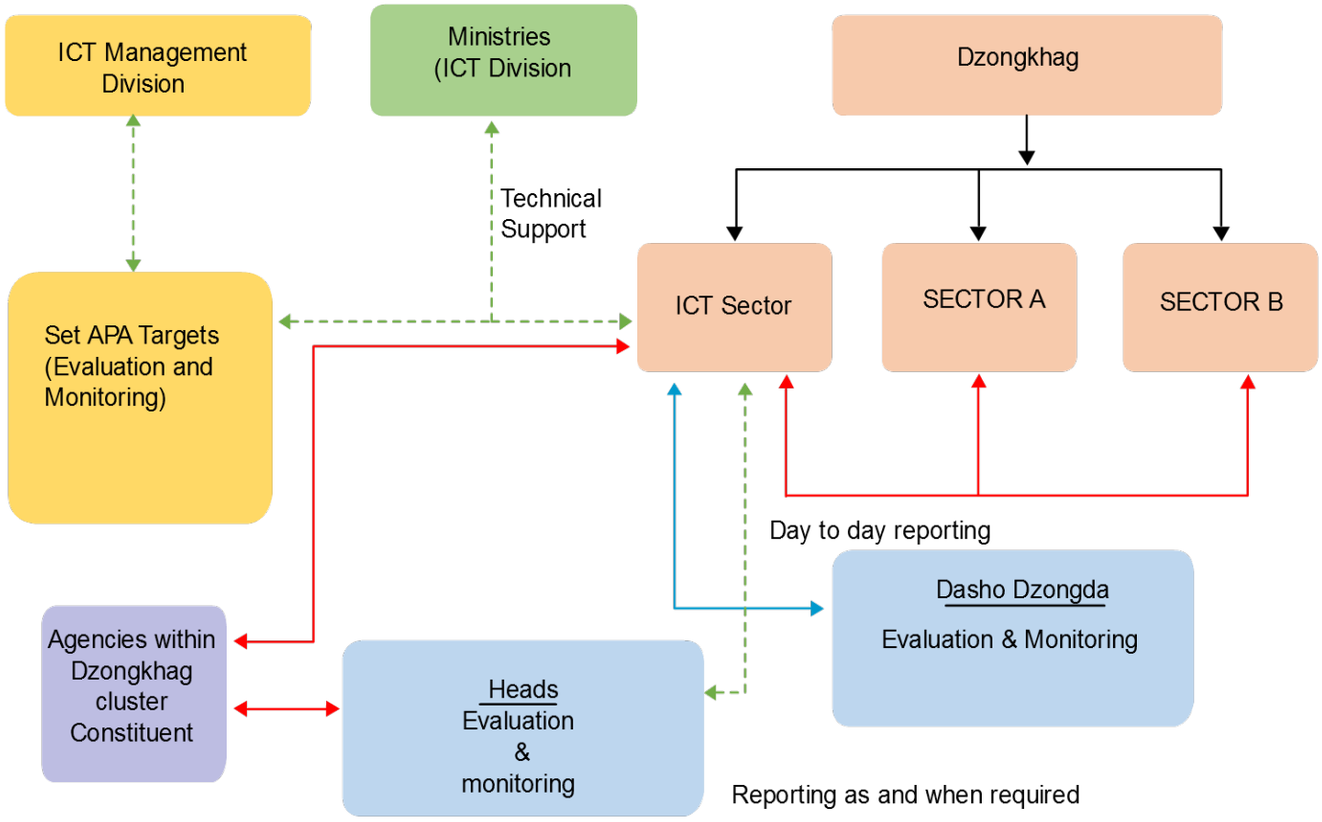
6. Innovation
   - Research Support.
   - Proposal platform.
   - Carter expertise and specialist support.

7. Basic ICT Services
   - Hardware and Software troubleshooting.
   - User end trainings for basic troubleshooting.

Line of Reporting, Evaluation and Monitoring

Dzongkhag ICT Division shall provide effective and efficient services to its constituent and the general public.All government agencies under the cluster must collaborate and work together towards transforming the work culture and embrace ICT for public service delivery.Roles and responsibilities, accountability and line of reporting for the ICT Division must be very clear.Institutions responsible for monitoring and evaluation should have a common line of reporting for their performance. The diagram below illustrates the line of reporting.

Figure 14: Line of Reporting in Dzongkhag with cluster



Line of Reporting

Since the ICT Division may be required to provide services to multiple agencies, it is important to have clear delineated roles and responsibilities, channel of communication and line of reporting. In the figure, the solid lines define direct strong reporting while the dotted line defines a weaker reporting relationship, but still indicating some formal level of reporting.

- All the ICT Officers and Associates within the Dzongkhag cluster will be stationed at the Dzongkhag Administration ICT division office headed by the ICT Head.
- The ICT head will report directly to the Dasho Dzongda on day to day basis.
- The ICT head will conduct monthly coordination meeting with heads of government agencies constituted under the Dzongkhag cluster.
- The ICT head will also report to all the government agency heads under the Dzongkhag cluster as and when required.

All the necessary and essential ICT service requirement of these agencies and sectors within the Dzongkhag will be administered and catered by ICT division through practice of standard service request process and evaluation and monitoring system. The ICT division will also maintain line of communication with all the Ministry's ICT division for technical support and advisory.

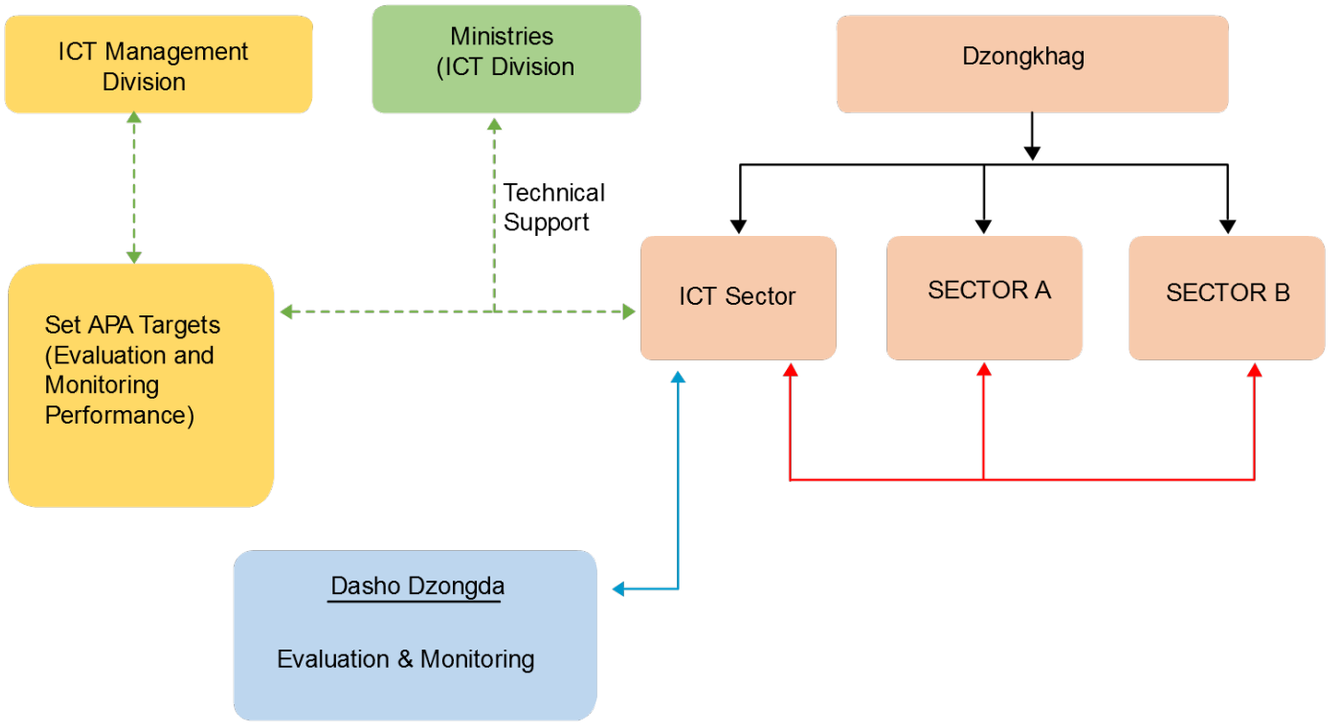


Figure 15: Line of Reporting in Dzongkhags without cluster

Evaluation and Monitoring System

There will be a proper Standard Operating Procedures to carry out effective monitoring and evaluation to ensure effective and efficient service delivery. Any duplication of efforts and resources can be avoided through this mechanism while promoting accountability.

APA will be used to assess and measure the performance of the cluster. Any agency requiring ICT services from the Dzongkhag will request for services through the protocols given below.

The evaluation and rating of the ICT professionals will be divided into following parameters:

1. DITT will conduct some percentage of the rating through defined APA work activities as approved by GPMD.
2. In Dzongkhags with cluster, the Dzongkhag will conduct some percentage of the rating through assessment of ICT services availed as per their request and needs.
3. Agencies within the cluster will also provide assessment of the ICT services availed and conduct some percentage of the ratings.
4. In Dzongkhags without cluster, the Dzongkhag will conduct some percentage of the rating through assessment of ICT services availed.

In Dzongkhags without cluster (i.e. without regional offices), the ICT division will report to Dasho Dzongda on a day-to-day basis.

The Annual Performance Agreement for ICT Division in Autonomous Division is specified in Table 3: Common APA Indicators in Section 2.4.2.

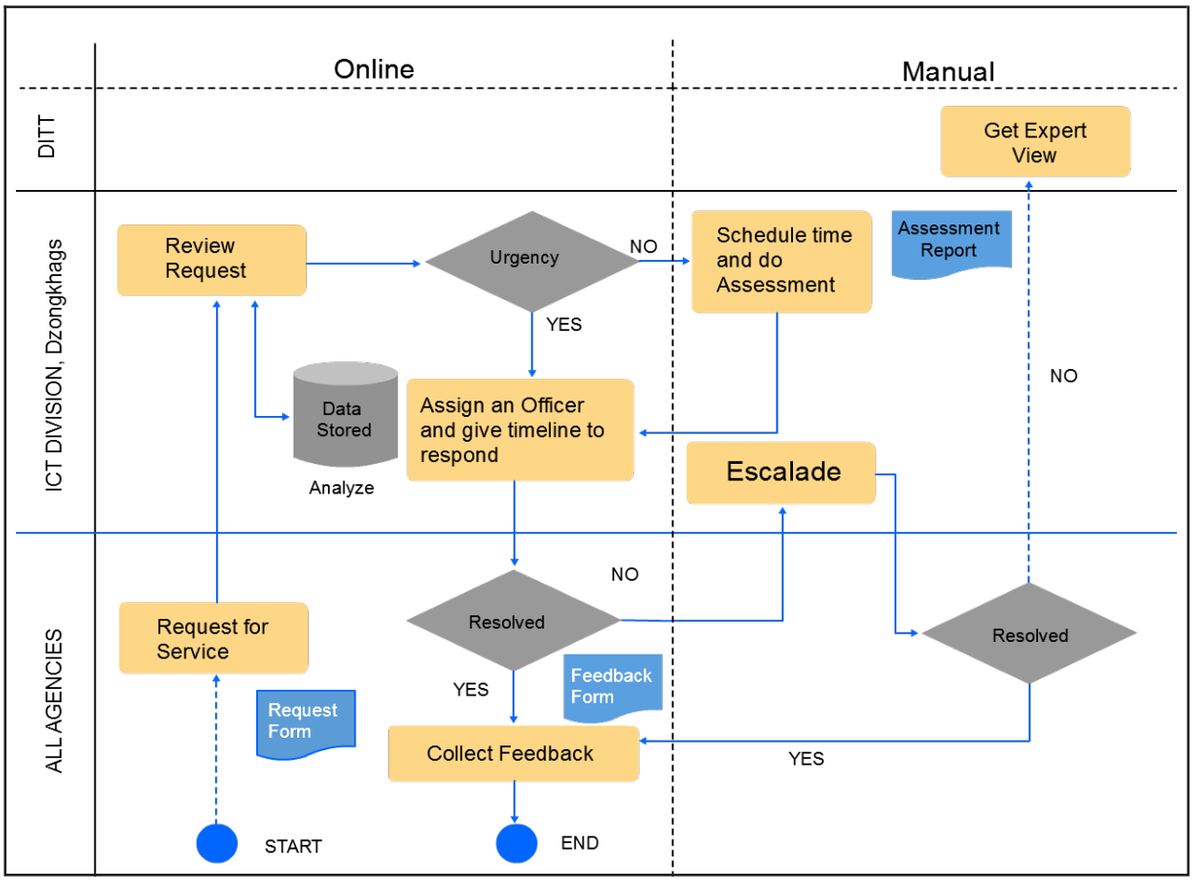


Figure 16: Service Request Process for Dzongkhag

This process describes how divisions under the autonomous agency request for service and how the service will be availed. The reporting of ICT service request and ICT related problems and issues by all divisions will be online through use of forms. In situation where online application is not possible, other options like phone call and fax can be used. The forms will be collected and stored for analysis and assessment of ICT services availed. These different forms are as specified in Annexure IV.

The detailed description of process flow is given in the following table.

Table 6: Process description

Sl. No	Process Flow Name	Responsible Agency	Detailed Process Description	Forms/Data/Report
1	Request ICT Services	All government agencies within Dzongkhag Constituent	The ICT service request is any problem and issues related to ICT and general ICT services	service request form
2	Review the Request	ICT division	The ICT division will analyze and review the request.	Database
3	Urgency	ICT Division	ICT division will check to qualify the request as urgent.	Service Availed form
4	Schedule time and do assessment	ICT Division	If the service request is not urgent, ICT division will schedule time, do assessment and generate report.	Report

6	Service Availed/Issue Resolved	ICT Division	The assigned officer try to resolve the service requested	Service Availed form
7	Escalate	ICT Division	If the assigned officer is not able to resolve the requested service, then he/she will report to the ICT division for further action.	
8	Service Availed/Issue Resolved	ICT Division	The ICT division try to resolve the requested service.	Service Request form
9	Expert View	DITT	If the team from ICT division is still not able to resolve, then the team seek expert view from parent agency, DITT	Service Availed form
10	Collect Feedback	ICT Division	If the process 6,8,9 is solved, then feedback is collected and stored in database for analysis purpose.	Service Availed form Feedback form

Type of Dzongkhag Clusters

As per the number of regional offices with ICT professionals within the Dzongkhags, the Clusters have been categorized into the following categories.

i) Dzongkhag Cluster A:

Cluster A category is for Dzongkhags with higher number of regional offices, that is all the regional offices from various Ministries and agencies are constituted within the Dzongkhag.

Mongar Dzongkhag is the only Dzongkhag with the highest number of regional offices.

ii) Dzongkhag Cluster B:

This cluster has been created as there are few Dzongkhags which has lesser number of regional offices and other government institutions than the Dzongkhags in cluster A.

Wangduephodrang, Bumthang, Paro, Samtse, Trashigang, Trongsa Dzongkhags fall under cluster B.

iii) Dzongkhag Cluster C:

This cluster has been created as there are few Dzongkhags which has one-two regional offices and other government institutions. The cluster would be in a better position to improve the s ervice delivery to the general public if it has access to expert pools housed in the Dzongkhags.

Tsirang, Sarpang, Trashi Yangtse, Pema Gatshel fall under cluster C.

iv) Dzongkhag Cluster D:

This cluster does not have any representations of regional offices, though there may be smaller offices in the Dzongkhag. A maximum of two ICT Personnel is proposed in these Dzongkhags as they will be required to provide networking and ICT services to the community centres, gewog headquarters and other offices. All the Dzongkhags have their own web portals, G2C services and other silo systems which are very important and has to be kept online 24/7. Due to the frequent troubleshooting services that they are required to provide in the gewogs and CCs, at least two personnel may be required for the smaller Dzongkhag clusters.

Gasa, Lhuentse, Haa, Chukha, Dagana, Thimphu, Punakha, Zhemgang, Samdrup Jongkhar fall under cluster D.

Expected Outcome

The Dzongkhag ICT division will be well established and institutionalized to be able to provide effective and efficient ICT services to its constituent and general public.

3.4. Thromde Cluster

Currently, ICT professionals are recruited for Thromdes and regional offices work in silos even when their offices are in the same location, resulting in the underutilization of ICT professionals leading to in-effective ICT service delivery.

To overcome this, Thromde clusters are proposed where all the ICT professionals working in Thromdes and regional offices in the same locality will be pooled together in one ICT division placed under the Thromde office. This ICT division will provide all the required ICT services to the Thromde and all other agencies located within the municipality boundary.

With only the Thromde hosting its systems, the centralized approach will lead to efficient HR management and use of ICT resources. The regional offices do not engage in hosting any system, which is done by their parent ministry. The services that the ICT division will provide will consist of networking, basic troubleshooting, website maintenance, security and system development, as and when required.

For instance, the agencies under Phuentsholing Thromde that the Thromde ICT division will support are Phuntsholing Thromde, Lhamo Zingkha Dungkhag office, DoI, RRCO, RTIO, RSTA, BAFRA, OAAG, DoR, BAFRA, Regional employment service center, Hospital, etc.

The ICT division in the Thromde will function directly under the supervision of the Executive Secretary of the Thromde as defined under the Terms of Reference.

The ICT division in the Thromde headed by an ICT Officer will be responsible to ensure smooth functioning of all ICT services under the Thromde cluster, and will report to the Executive Secretary.

Objectives

To enhance and improve delivery of ICT services to all Government agencies within each cluster through restructuring of ICT division.

TOR for Thromde ICT Division

1. Responsible for design, development and content updating of websites.
2. Ensure LAN and Internet connectivity.
3. Ensure uptime of application systems.
4. Ensure that the security of the data and systems are not compromised.
5. Maintain periodic backup of databases and files.
6. Responsible for development of Management Information Systems (MIS) and digitization of the working procedures.
7. Responsible for optimization of the systems and ICT processes.
8. Responsible for initiating procedural changes to reduce the turnaround time for service delivery through innovation.
9. Promote the usage of ICT to the staffs through user trainings such as basic computer troubleshooting, google apps usage, etc.
10. Maintain proper documentation and mapping of systems and networks.
11. Provide technical specifications and obtain clearances for procurement of hardware and software.
12. Comply with e-GIF standards.
13. Conduct periodic assessment of the progress in the field of ICT and validate whether the progression is aligned to the overall vision and mission of DITT.
14. Provide computer/networking related hardware and software troubleshooting services.

15.Responsible for configuration of Access points and creating user accounts on network and systems.
16.Responsible for updating operating systems and other software.
17.Responsible for ICT assets (network devices, servers and PCs. issued to ICT officials).
18.Responsible for planning budget for ICT division and ICT services under its constituent in coordination with head of government agencies.

Roles and responsibilities of ICT Officer (ICTO)

1. Ensure LAN and Internet connectivity in Government agencies under Thromde cluster.
2. Monitor the connectivity of mobile, internet and 3/4G and submit monthly report to DITT.
3. Carry out advocacy program to promote the usage of G2C systems and other services to the general public.
4. Ensure that the security of the data and systems are not compromised.
5. Maintain periodic backup of databases and files.
6. Oversee design and development of websites.
7. Responsible for development of Management Information Systems (MIS) and digitization of the working procedures.
8. Responsible for optimization of the system and ICT processes.
9. Promote the usage of ICT through user trainings such as basic computer troubleshooting, google apps usage, etc. to the staff.
10.Maintain proper documentation and mapping of systems and networks.
11.Provide computer/networking related hardware and software troubleshooting services.
12.Provide technical specifications for procurement of computer/networking hardware and software.
13.Responsible for initiating procedural changes to reduce the turnaround time for services delivery.
14.Comply with e-GIF standards.
15.Conduct periodic assessment of the progress in the field of ICT and validate whether the progression is aligned to the overall vision and mission of DITT.

Roles and responsibilities of ICT Technical Associate (ICT TA)

- Provide computer/networking related hardware and software troubleshooting services.
- Design, develop and update content on the website.
- Responsible for system requirement gathering, user acceptance test and deployment of systems.
- Responsible for configuration of Access points and creating user accounts on network and systems.
- Responsible for updating operating systems and other software.
- Setup network and configuration under the direction of the ICT Officer.
- Assist ICT Officer in providing user training.
- Responsible for ICT assets in the government agencies under Thromde cluster (network devices, servers and PCs. issued to ICT officials).

List of ICT services

1. Application Services

- System and ICT Process Development.
- Development of Management Information Systems(MIS) and digitization of working procedures.
- Documentation and report writing.
- Google Apps implementation and support.

2. Network Services

- Installation and Configuration.
- Maintenance and Operation.
- Hardware and Software Troubleshooting Support.

3. Security Services

- Data and System Security.

- User awareness training.

4. Website
- Development and Upgradation.
- Operation and maintenance.

5. Compliance
- ICT related policies guidance.
- Cyber security guidance.
- E-GIF standard guidance.
- Technical specification (hardware & software) guidance.

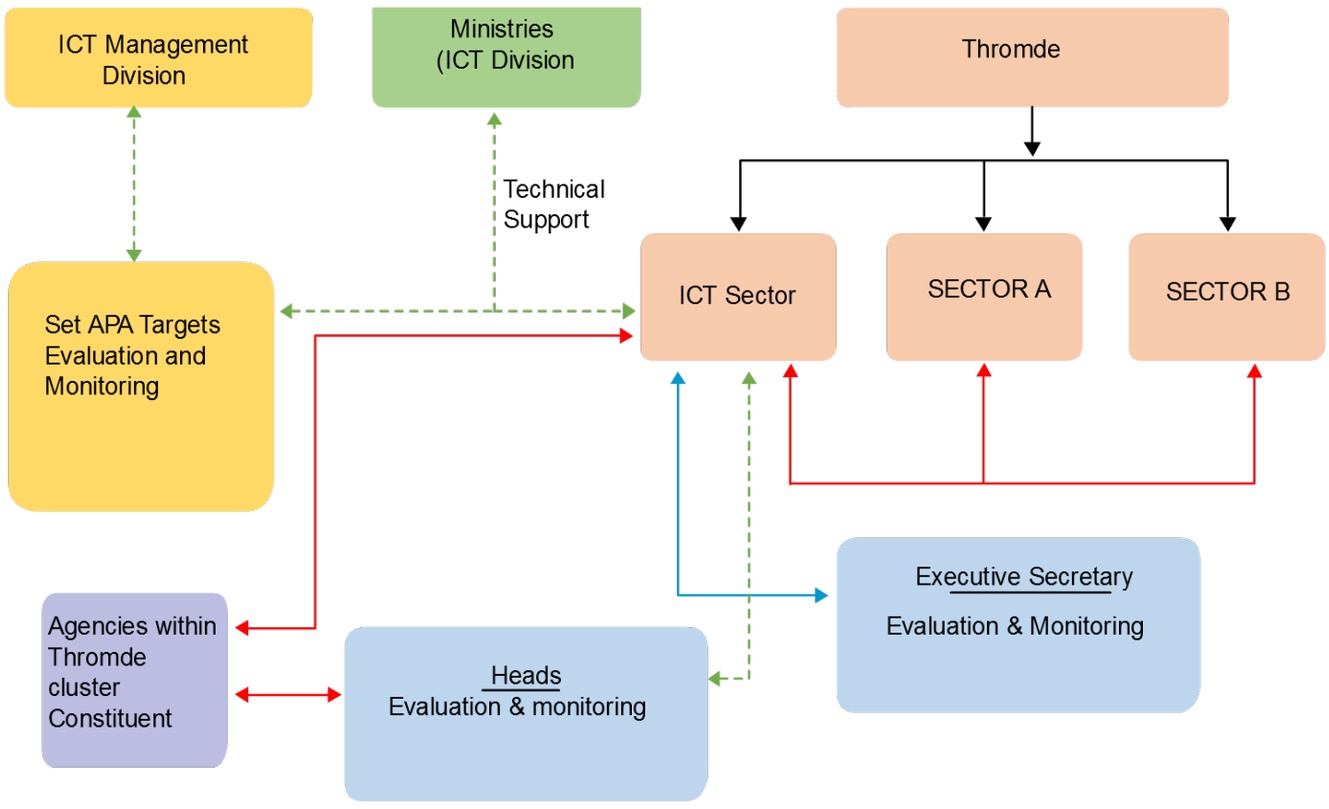
6. Innovation
- Research Support.
- Proposal platform.
- Cater expertise and specialist support.

7. Basic ICT Services
- Hardware and Software troubleshooting.
- User end trainings for basic troubleshooting.

Line of Reporting, Evaluation and Monitoring

Thromde ICT Division shall provide effective and efficient services to its constituent and the general public. All government agencies under the cluster must collaborate and work together towards transforming the work culture and embrace ICT for public service delivery. Roles and responsibilities, accountability and line of reporting for the ICT division under the Thromde cluster must be very clear. Institutions responsible for monitoring and evaluation should have a common line of reporting for their performance. The diagram below illustrates the line of reporting.

Figure 17: Line of reporting in Thromde



Line of Reporting

Since the ICT division is required to provide services to multiple agencies, it is important to have clear delineated roles and responsibilities, channels of communication and line of reporting. In the figure, the solid lines define direct and strong reporting while the dotted line defines a weaker reporting relationship, but still indicating some formal level of reporting.

- All the ICT Officers and Associates within the Thromde cluster will be stationed at the Thromde ICT division office headed by the ICT Head.
- The ICT head will report directly to the Executive Secretary on a day-to-day basis.
- The ICT head will conduct monthly coordination meeting with heads of government agencies constituted under the Thromde cluster.
- The ICT head will also report to all the government agency heads constituted under Thromde cluster, as and when required.

All the necessary and essential ICT service requirement of these agencies and sectors within the Thromde will be administered and catered to by ICT division through practice of service request process and evaluation and monitoring system. The ICT division will also maintain line of communication with all the Ministry's ICT division for technical support and advisory.

Evaluation and Monitoring System

There will be a proper Standard Operating Procedures to carry out effective monitoring and evaluation to ensure effective and efficient service delivery. Any duplication of efforts and resources can be avoided through this mechanism while promoting accountability.

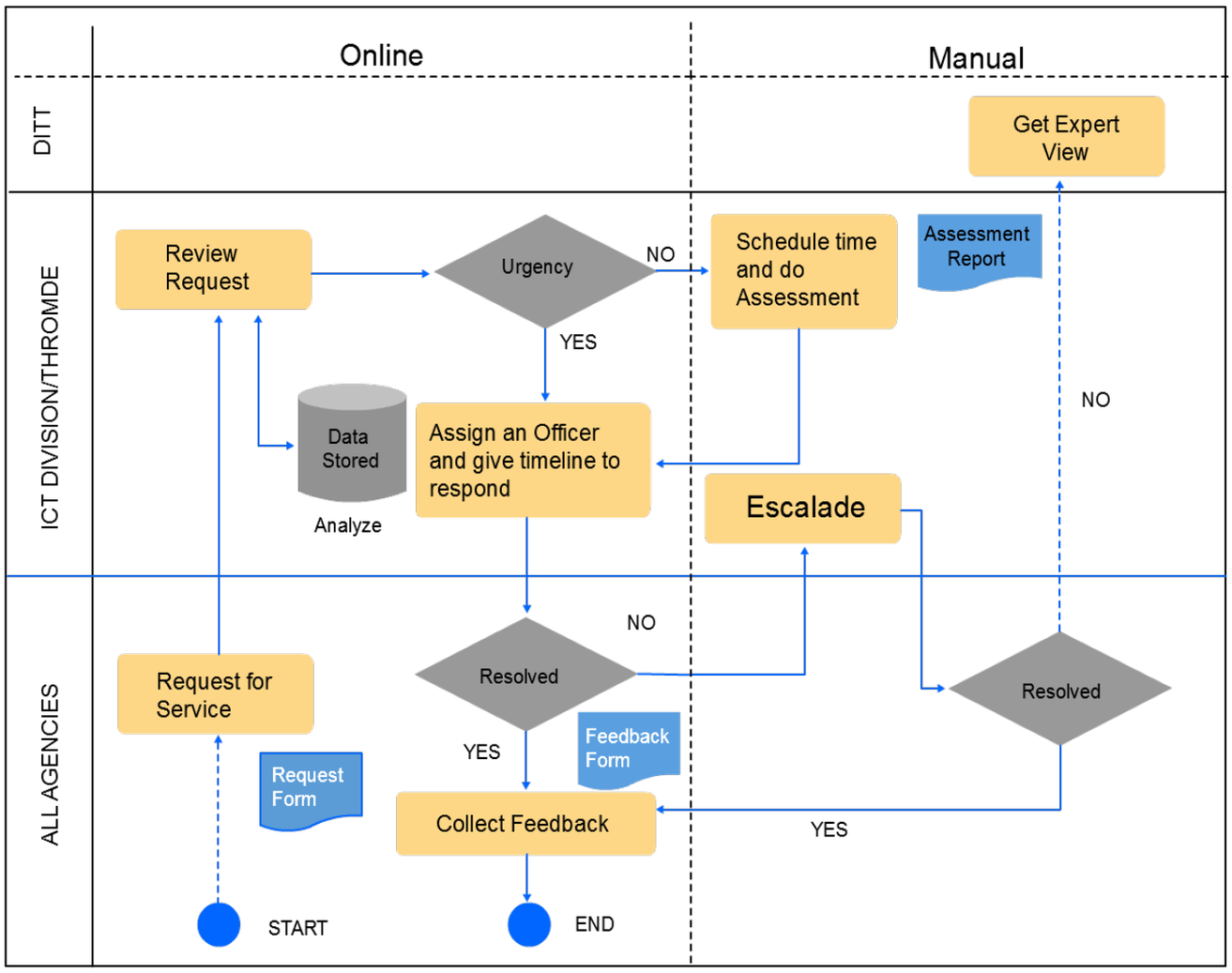
APA will be used to assess and measure the performance of the cluster. Any agency requiring ICT services from the Thromde will request for services through the protocols given below.

The evaluation and rating of the ICT professionals will be divided into following parameters:

- DITT will conduct some percentage of the APA ratings as per the defined APA work activities through evaluation and monitoring exercises.
- . Maximum percentage of the rating will be conducted by the thromde through assessment of ICT services availed and implementation of thromde specific ICT activities and projects.
- The recpective agencies within the thromde will also contribute towards the assessment of ICT services availed as per their request and needs.

The Annual Performance Agreement for ICT Division in Autonomous Division is specified in Table 3: Common APA Indicators in Section 2.4.2.

Figure 18: Service Request Process for Thromde Cluster



This procedure describes how agencies request for service and how the service is availed. The reporting of ICT service request and ICT related problems and issues by all government agencies will be online through use of forms. In situation where online application is not possible, other options like phone call and fax can be used. The forms will be collected and stored for analysis and assessment of ICT services availed by ICT division. These different forms are as specified in Annexure IV.

The detailed description of process flow is specified in the following table.

Table 7: Process description

Sl.No	Process Flow Name	Responsible Agency	Detailed Process Description	Forms/Data/Report
1	Request ICT Services	All government agencies within Thromde Constituent	The ICT service request is any problem and issues related to ICT and general ICT services	Service request form
2	Review the Request	ICT division Thromde	The ICT division Thromde will analyze and review the request	Database
3	Urgency	ICT division Thromde	ICT division will check to qualify the request as urgent	Service Availed form
4	Schedule time and do assessment	ICT division Thromde	If the service request is not urgent, ICT division will schedule time, do assessment and generate report.	Report
5	Assign an officer and give timeline to respond	ICT division Thromde	If the service request is assessed to be urgent, officer with right skill is assigned with definite timeline to respond.	Service Availed form
6	Service Availed/ Issue Resolved	ICT division Thromde	The assigned officer try to resolve the service requested	Service Availed form
7	Escalate	ICT division Thromde	If the assigned officer is not able to resolve the requested service, then he/she will report to the ICT division for further action.	
8	Service Availed/ Issue Resolved	ICT division Thromde	The ICT division try to resolve the requested service.	Service Request form
9	Expert View	DITT	If the team from ICT division is still not able to resolve, then the team ask the expert view from parent agency, DITT	Service Availed form
10	Collect Feedback	ICT division Thromde	If the process 6,8,9 is solved, then feedback is collected and stored in database for analysis purpose.	Service Availed form, Feedback form

CHAPTER 4

HR PROJECTION
&
HR MANAGEMENT

4.1. Basis for ICT Manpower Projection

The new ICT structure and HR requirement has been drawn after reviewing the existing HR and other parameters of Ministries, Autonomous Agencies, Thromde and Dzongkhags. Composite scores were used to determine the allocation of ICT HR in all the agencies across the government.

A composite scoring system was developed taking into consideration some definitive attributes such as complexity, criticality and security requirement of the systems. Each component of the system was scored as high, low or medium. Since security of the system is very important , it was weighed twice as compared to other parameters. For instance, high rating security would score 40, whereas high rating of complexity and criticality combined would fetch 40. Any system which scores less than 30 is considered a normal system.

Location of office, webhosting and number of employees in the office were used as a basis for ICTTA HR projection.

Using the following basis and definitions, HR projection has been done for all Ministries/Agencies/ Dzongkhags.

4.1.1. Definitions of systems

a. Critical system

Critical systems are those systems that support government's mission, critical functions and services. These include ICT systems supporting the priority areas of the government (Small & Midsized Enterprises, Mining, Tourism, Hydropower, Employment, etc.) and national security areas (Civil Registration, Policing, Law & Order, Immigration, Disaster Management, etc.). The functioning and the processes involved in delivering other government services is dependent on these systems. These services facilitate the deliverables and contribute to costs saving for both the government and the citizens at large.

Depending on the above assessment the systems can be critical at 3 levels:

High: Systems having multiple users from outside the system. Users depend on these systems to provide, and use these services for delivery of services. Users are other agencies and citizens.
Medium: Systems having limited influence on other systems. The downtime of these systems will not directly affect service delivery from other systems.
Low: System is able to operate independently without depending on other systems.

b. Security System

Security system is a system that would directly impinge on the national security and subsequently have impact on other systems. Besides having all critical components of a system it has an additional layer of security system. Special trainings and capacity building may be required to be able to work on these systems. These systems are the basis for unique identity number on which multiple systems are based. The system could also have huge implications on national security and financial resources.

The security level of the system will be determined on 3 levels as follows:

High: System having national security implication.
Medium: System has the capacity to affect the security of other systems.
Low: System has no national implication and no implication on other systems.

c. Complex System

A complex system would mean that the system is a basis for government decision-making, as it will be integrated to many systems through the system users. Number of end users will be operating the system simultaneously, updating the system, accessing the system for service delivery. Systems like PEMS, MyRB, CSIS, RAMIS would qualify as a complex system. These systems are related to many other systems and acts as a common data hub for other systems.

Depending on the above assessment the systems can be complex at 3 levels:

High: There are multiple users with updating rights and direct access to the database.
Medium: Users have access to database but through multiple security checks.
Low: Users have the right only to apply and do not have access to database on any form.

d. Normal System

Normal systems are systems which are managed by agencies either to disseminate information on service delivery, tender notifications, and other information through the web. Besides, these are many small systems developed by the agency for better management of records, improvement in record keeping or recording the data that is used for normal day-to-day functioning of the agency.

4.1.2. Composite Scoring system for each system:

Table 7: Scoring System

Level	Security (A)	Criticality (B)	Complexity (C)
High (20)			
Medium (10)			
Low (5)			

(A*0.5)*5+(B*0.25)*5+(C*0.25)*5 = Score for one system

Table 8: Total score for an agency is the sum of scores for all its systems

systems	Scores
a	x
b	y
c	z
Total	x+y+z

Formula for determining number of ICT Officers is as follows:

Number of ICT Officers = Total Score of Agency * 0.0157

The composite index of 0.0157 has been projected by studying the current staffing patterns in agencies like MoF and MoHCA. Their systems were scored and divided by projected number of ICT officers (the earlier ICT HR projection).

Using the basis and definitions, HR projection has been done for all Ministries/Agencies/ Dzongkhags as

Basis for ICT Associate projection:

i. Webmaster

The core function of the webmaster is to improve the aesthetic aspect of the web and to update information on a regular basis. This function can be discharged by the ICT associate. In smaller agencies, ICT associate will multitask this responsibility with other functions.

ii. Support

The position of an ICT associate will depend on the location of the office. Any office located in a different place and with more than 20 persons working on a system will be entitled to one ICT associate. However, for an office which host complex systems and have more than 50 persons working in a common workplace will also be entitled to more than one additional ICT associate.

Dzongkhags may have more than 50 people working on computers but they are provided with only one ICTTA since they do not host any complex system. The ICT of the dzongkhag will multitask web administration, network and security related support activities.

Manpower

Details of manpower projection of Ministries, autonomous agencies, Dzongkhags and Thromdes (as per the RCSC's approval in July 2016) are specified in the table below:

Table 8: HR projection details

Ministries	HR Projection		
	No. of ICTOs	No. of Associates	Total
MoF	10	7	17
MoHCA	9	5	14
MoAF	7	6	13
MoE	5	4	9
MoIC	3	4	7
MoH	5	5	10
MoEA	5	3	8
MFA	3	2	5
MoWHS	3	3	6
MoLHR	3	3	6
Total	53	42	105

Autonomous agencies	HR Projection		
	No. of ICTOs	No. of Associates	Total
NLCS	4	2	6
RCSC	6	2	8
JDWNRH	3	3	6
RAA	4	2	6
ACC	3	1	4
ECB	2	1	3
NSB	2	1	3
HM Secretariat	2	1	3
OAG	2	1	3
Supreme Court	2	1	3
CDB	2	1	3
GNHC	2	1	3

BSB	1	1	2
BcSEA	1	1	2
BICMA	1	0	1
DDC	2	1	3
NCWC	1	0	1
TCB	1	1	2
BNCA	0	1	1
NAS	1	2	3
BNLI	1	0	1
Dratshang Lhentshog	0	1	1
DRA	0	1	1
CBS	0	1	1
High Courtt	0	1	1
NCB	1	0	1
Cabinet	0	1	1
NEC	1	1	2
DHMS	1	1	2
Total	46	31	77

Dzongkhags	HR Projection		
	No. of ICTOs	No. of Associates	Total
Mongar	2	3	5
Paro	1	3	4
Samtse	1	3	4
Bumthang	1	4	5
Trashigang	1	4	5
Trongsa	1	2	3
Wangdue	1	2	3
Tsirang	1	2	3
Sarpang	1	0	1
Trashiyangtse	1	1	2
Pema Gatshel	1	1	2
Gasa	1	0	1
Lhuntse	1	0	1
Haa	1	0	1
Chukha	1	0	1
Dagana	1	1	2
Thimphu	1	1	2
Punakha	1	1	2
Zhemgang	1	0	1
Samdrupjongkhar	1	1	2
Total	21	29	50

Thromdes	HR Projection		
	No. of ICTOs	No. of Associates	Total
Phuentsholing	2	5	7
Gelephu	2	3	5
S/jongkhar	2	4	6
Thimphu	2	1	3
Trongsa	1	2	3
Total	8	13	21

4.2. HR Management

Transfer Policy

a. DITT in consultation with HRD, MoIC, will facilitate the transfer of ICT officials to enhance their performance and productivity.
b. The DITT will try its best to facilitate the transfer of employees and their spouses in same place.
c. DITT may transfer its official at any time of the year in keeping with the national interest.
d. Till P2 level, the transfers of the ICT officials will be within the competency that they are aligned to.
e. DITT will ensure that the expertise of the officials is not lost through the transfers.
f. All transfer proposals shall be reviewed and recommended by the Departmental Human Resource Committee (DHRC) for fairness and in transparent manner considering the best interest of the government and the officials concerned.
g. To the extent possible, the transfers of the officials shall be made once in every five years.
h. Transfers will be made only in December- January every year.
i. All the transfer request made will be compiled by DITT in consultation with the HRD, MoIC.
j. MoIC HRD has the right to question the DHRC's transfer proposal if it is in contravention to BCSR rules and regulations.
k. The MoIC HRC shall review and approve/reject the transfer proposal.
l. Upon issuance of transfer order, the officials shall move within a month of the order date. Unless otherwise written approval for non-movement is obtained, salary of the officials will be withdrawn after one month.

Transfer Process

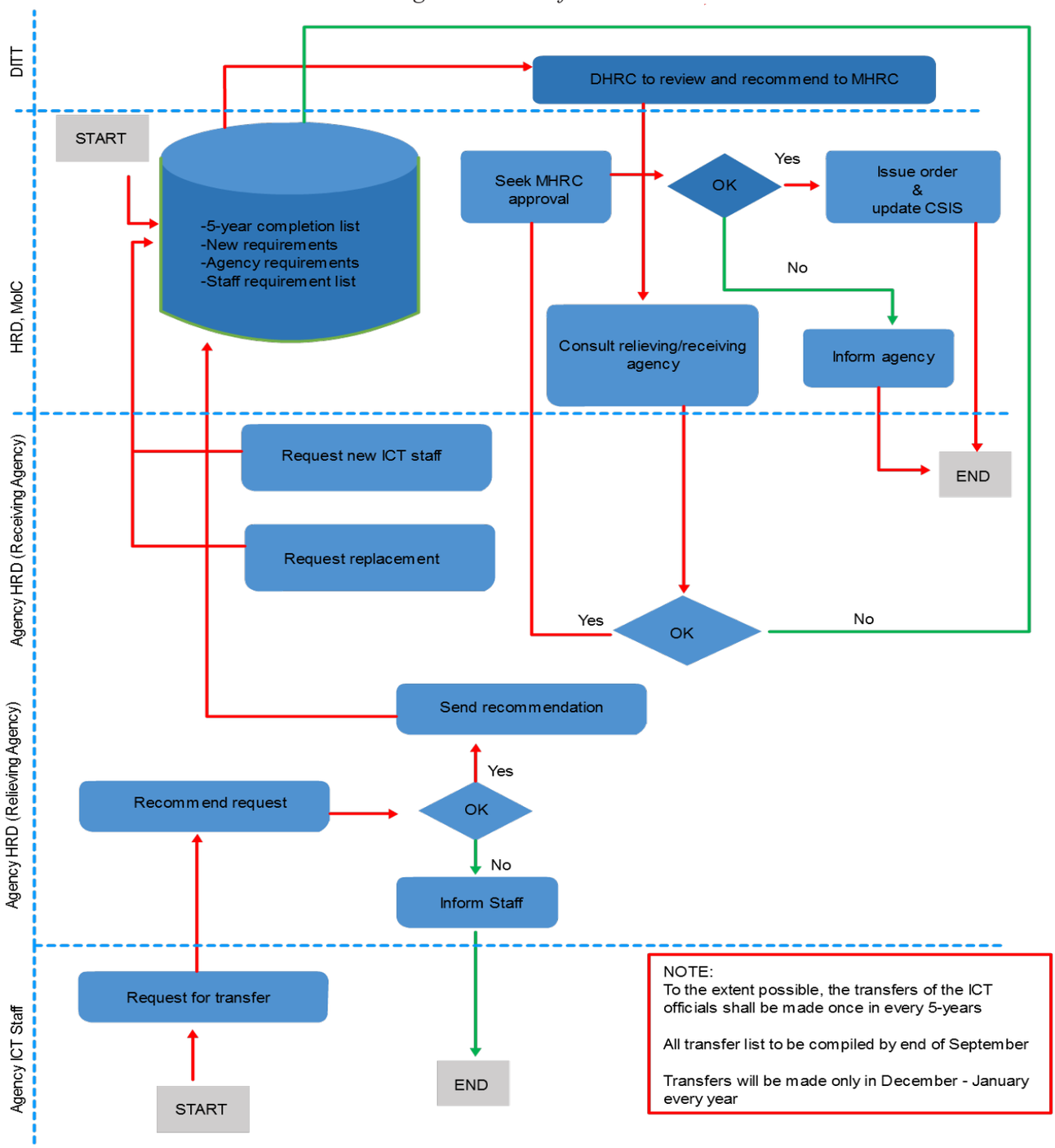
The Transfer Process as depicted in Figure 19, describes the process of transfer of ICT professionals across ministries, autonomous agencies and Dzongkhags within the government to enhance their performance and productivity through fair and transparent process. The HRD, MoIC, being the parent agency for all ICT professionals for the whole-of-government, possesses detail profiles of ICT professionals including manpower requirements and the list of eligible people whose transfer is due as per BCSR 2012.

The transfer will be initiated in three different modes namely HRD of MoIC, Agency HRD (Relieving agency) and Agency HRD (Receiving agency) pertaining to different reasons f or transfer. Any grievances put forward by any individuals pertaining to marital, medical and other backgrounds shall be initiated by the relieving agency. If the agency proposes new ICT staff as per manpower projection and/or replacement, the agency shall i nitiate the proc ess of request by routing through DITT. MoIC shall i nitiate transfer by refering the eligibility list from the database, and through compilation of staff requisition and relieving proposals made by the agency

The DHRC will compile a list of ICT officials due for transfer on the basis of the number of years completed or depending on the transfer request, and forward it to the HRD, MoIC. The transfer process will be initiated by the HRD, MoIC on the basis of information from the ICT HR database. Based on the information, the ministry HRD will explore the possibility of the proposed ICT staff's movement from one agency to other in keeping with the transfer policy.

Once the decision has been taken by MHRC, the transfer will be affected or otherwise the transfer proposal may be cancelled depending on the HR decision.

Figure 19: Transfer Process



Types of Transfer:

i) Lateral Transfer:
To provide opportunities to all ICT Officials; the transfer to the Department Headquarters will be conducted on the basis of Open Competition through Lateral Transfers.

ii) Open Competition:
This type of transfer will be as per the prescribed BCSR rules.

iii) Transfer:
All new ICT officials will be transferred to Dzongkhags in place of senior ICT officials who have served at least 5 years in the Dzongkhags as part of their first transfer assignment.

CHAPTER 5
ICT MANAGEMENT DIVISION

5.1. Mandate and structure of ICT Management Division

Mandates:

a. Ensure that all ICT divisions/services align their functions to achieve the Government ICT vision.
b. Responsible for setting ICT APA targets for all Government agencies.
c. Conduct and validate the APA performance submitted by the agencies through internal auditing mechanisms.
d. Facilitate the implementation of service delivery processes by the Department to reduce the turn around time.
e. Evaluate the ICT HR requirement of government agencies based on new systems and other requirements generated through revisions of rules, regulations and acts.
f. Conduct training needs assessment for all ICT division/services in the agencies, based on the functions of the agencies through interviews, survey and opinion polls.
g. Identify talent through performance assessment, competencies and skills, and place them into the specialized fields.
h. Promote innovation and creativity in the field of ICT.
i. To align career tracks for all ICT officials based on their competencies, talent and aptitude.
j. Communication facilitation and sharing of information and resources across government agencies.
k. Coordinate and conduct both in-country and ex-country trainings and workshops, periodic review ` meetings, ICT Head's meeting and ICT conferences.
l. Coordinate and conduct department's APA mid-term review meeting.

The ICT Management Division is divided into two sections: performance management and resource management sections as shown in the figure below.

The Figure 21 depicts the linkages between divisions in the Department

Figure 20: Structure of ICT Management Division

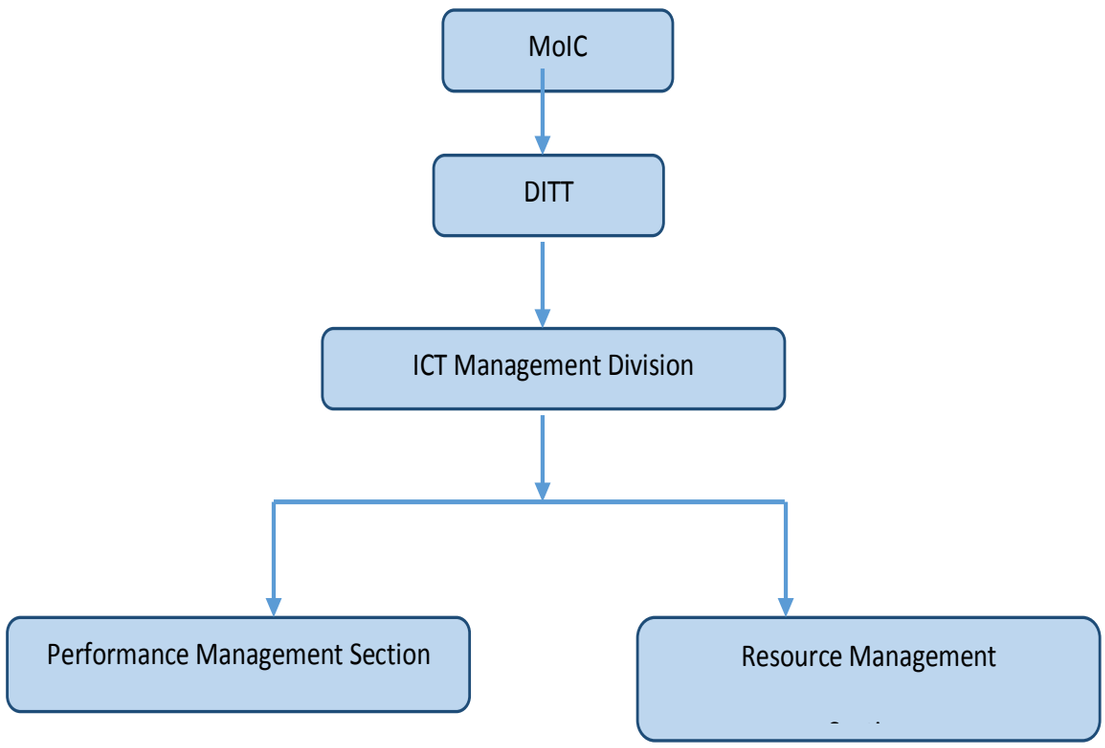
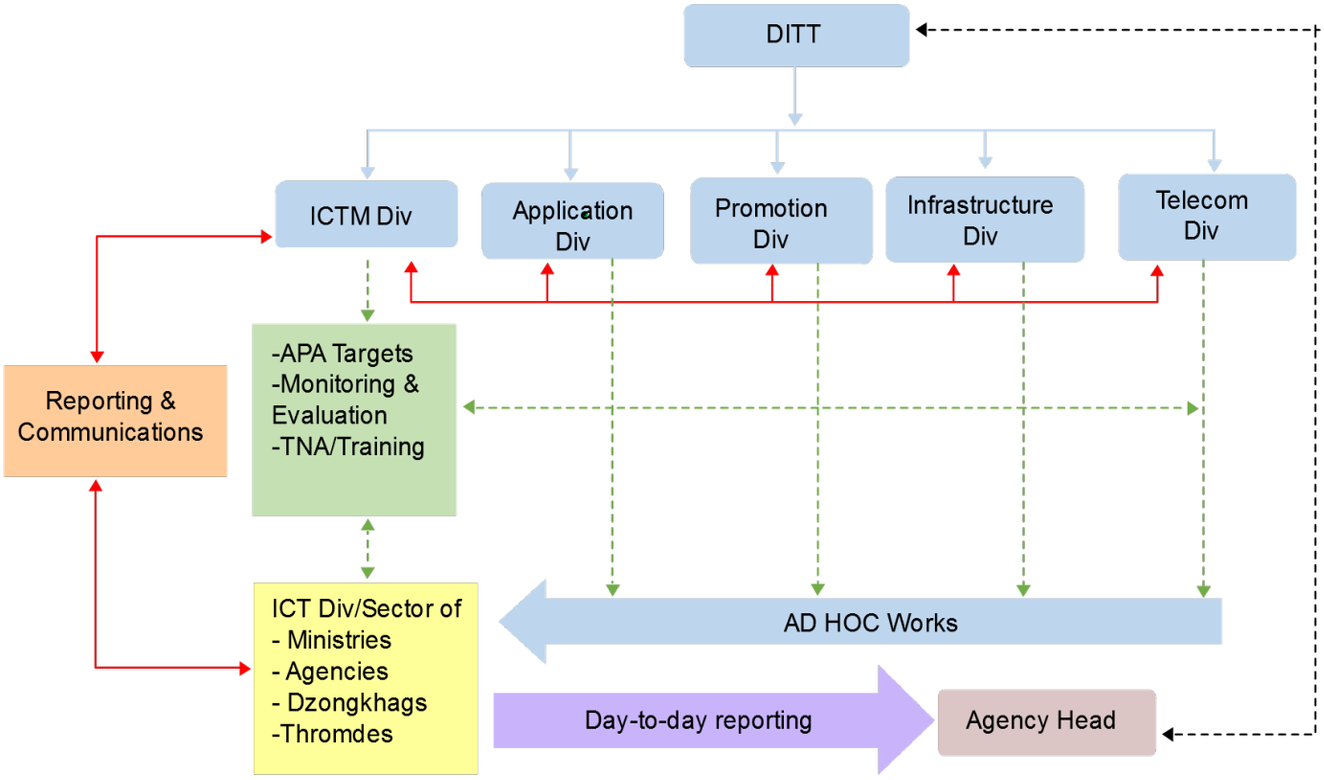


Figure 21: Linkages



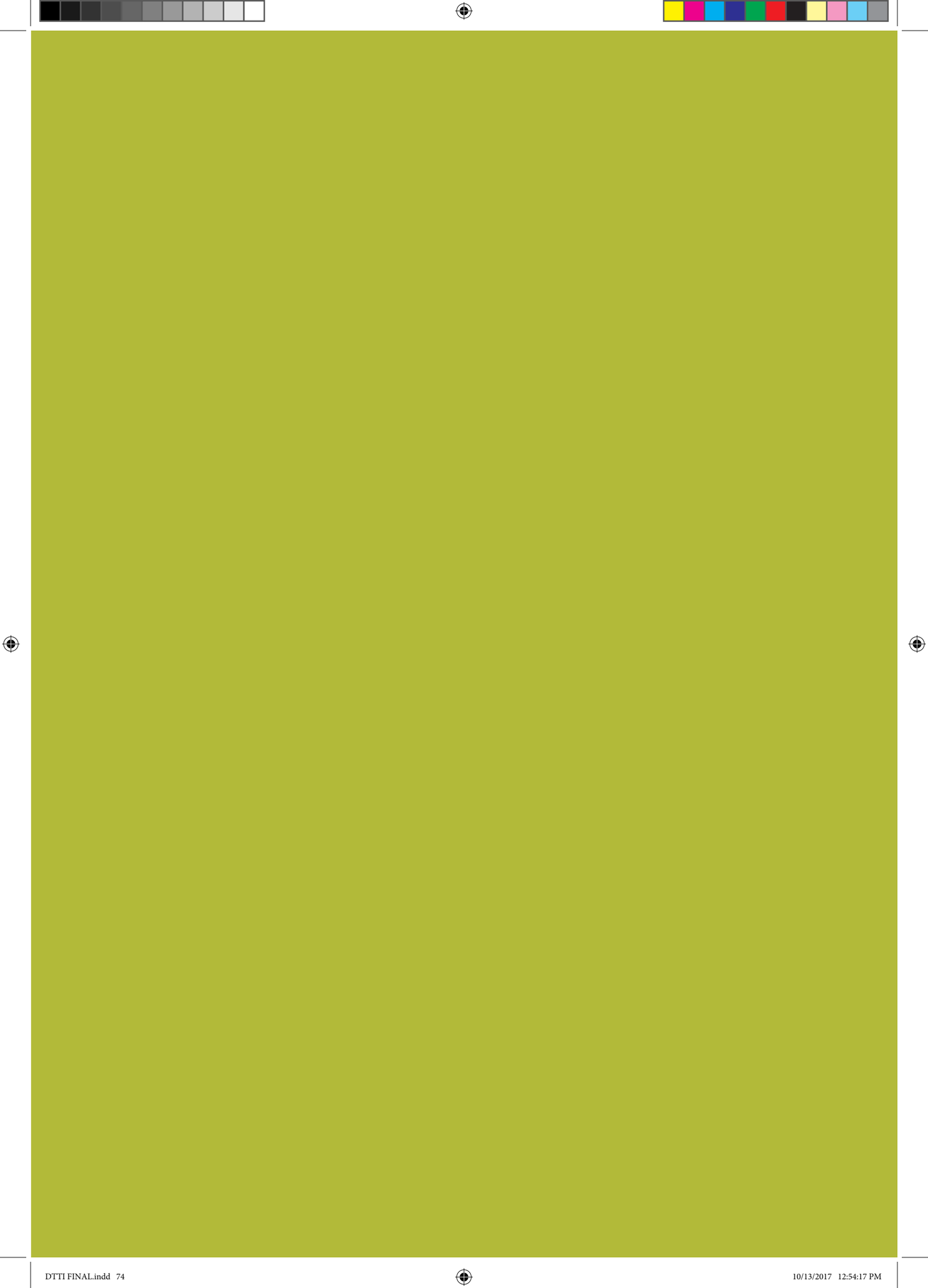
5.2. Core functions of the ICT Management Division

Table 9: Core functions of Performance Management Section

Sl. No	Performance Management Section
1	Setting KPI for APA targets for all ICT divisions/sections.
2	Periodic Monitoring of APA.
3	Conduct workshops on APA.
4	Evaluate ICT Division's (Sector/Unit) performance against APA.
5	Review and improve SLAs to reduce service delivery turnaround time.
6	Talent Acquisition: Find the right people with right skills.
7	Talent Identification: Evaluate and understand existing talent.
8	Talent Development: Invest in people and nurture growth.
9	Talent Deployment: Get people ready for key roles in the agencies.
10	Promote innovation and creativity in the field of ICT.

Table 10: Core functions of Resource Management Section

Sl. No	Resource Management Section
1	Identify and analyze core competencies
2	Develop training module for different Specialist and ICT Management levels.
3	Conduct Training Need Assessment
4	Conduct training
5	Conduct HR assessment
6	Map ICT professionals to ICT Management or Specialist
7	Build necessary competencies
8	Monitoring and evaluating the benefit of capacity development trainings
9	Talent recognition through performance appraisal and reward system
10	Align Career track with talent and performance
11	Conduct trainings, workshop, review meetings and conferences relevant to the ICT Sector



CHAPTER 6
COMMUNICATION AND COORDINATION

For the Parenting concept to materialize, it is very important that all agencies understand the common goals and aspirations that all ICT Officials must share to achieve the synergies of re-using the resources, sharing expertise, providing solutions, and capacity building.

It is important that a forum for communication and coordination is established as it plays a vital role in ensuring that work carried out by various parts of the organization can be better coordinated and aligned. Communication and coordination forums mentioned below have been instituted to provide a platform in facilitating information sharing, resolving issues and to discuss various pertinent and relevant issues for the growth, adoption and application of ICT in the Government. Communication will bring together the ICT heads of all ministries, agencies, thromdes and Dzongkhags with the goal of improving ICT service delivery in Ministries/Agencies/Dzongkhags.

Objective
To facilitate ICT professionals from Ministries, Agencies, Dzongkhags and Thromdes to work together in close collaboration, ensure standard practices, and reduce redundancy and optimize resource utilization.

Communications forums:

i) ICT Conference:
The ICT Conference is an important event organized every two years to address issues and innovations in ICT. The objective of this conference is to inform, engage and acknowledge ICT professionals and their achievements.

ii) ICT Heads' Meeting:
ICT Heads' Meeting is to be conducted on a quarterly basis in the first week of August, November, February and May. This meeting is organized every three months and facilitated by a group of ICT heads.

The aims and objectives of the ICT Heads' Meeting are as follows:

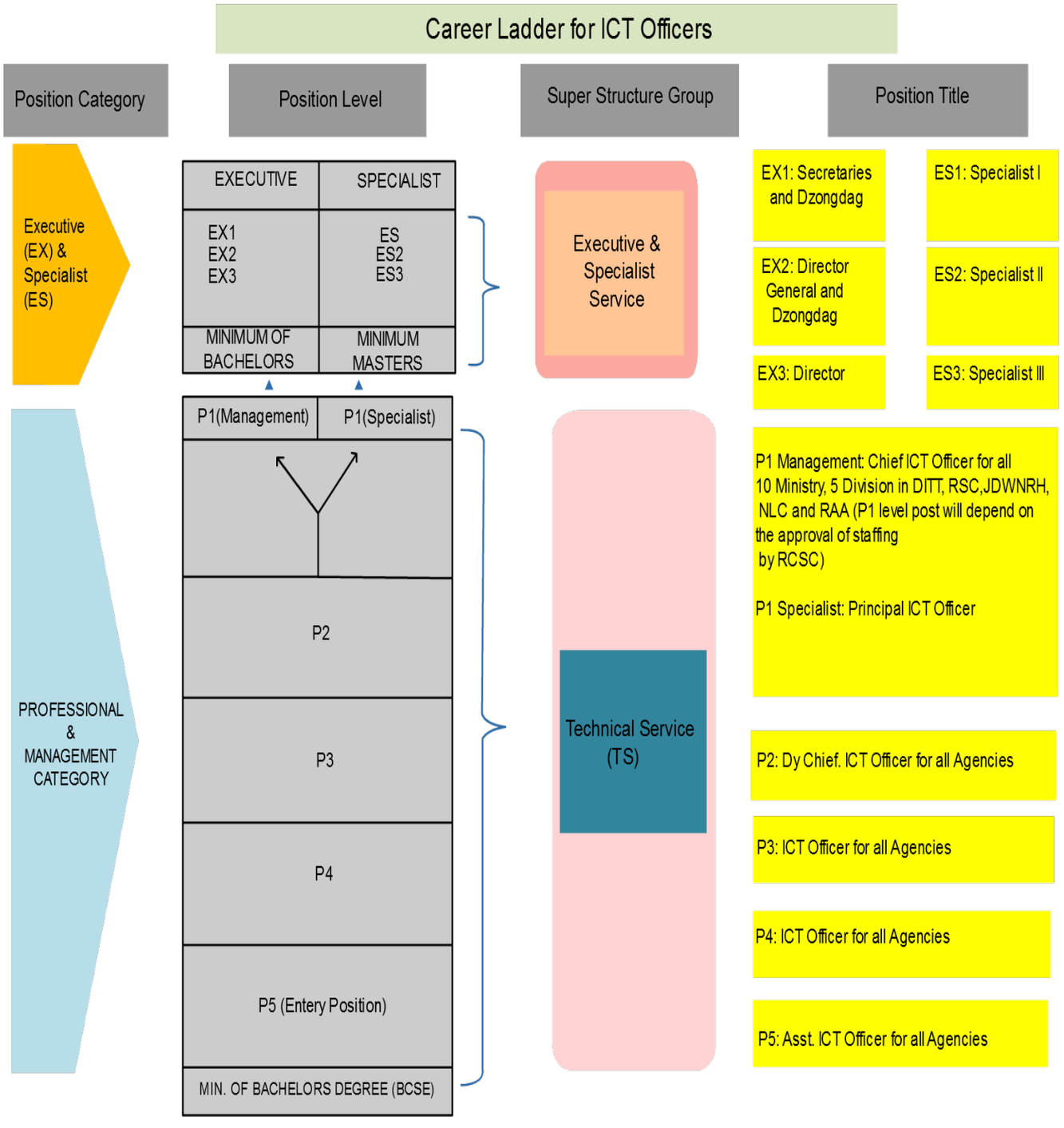
- Ensure government-wide achievement of ICT Alignment
- Ensure uniform ICT development and implementation, in all government agencies.
- Ensure standard practices are followed
- Resolve challenges and identify opportunities.

Support group:
Besides taking turns to organize the ICT heads meeting, the groups will also function as a support group. The agencies within the group will s upport each other in various tasks such as tender evaluation, setting up Network LAN, solving network issues, and other technical/ICT related issues.

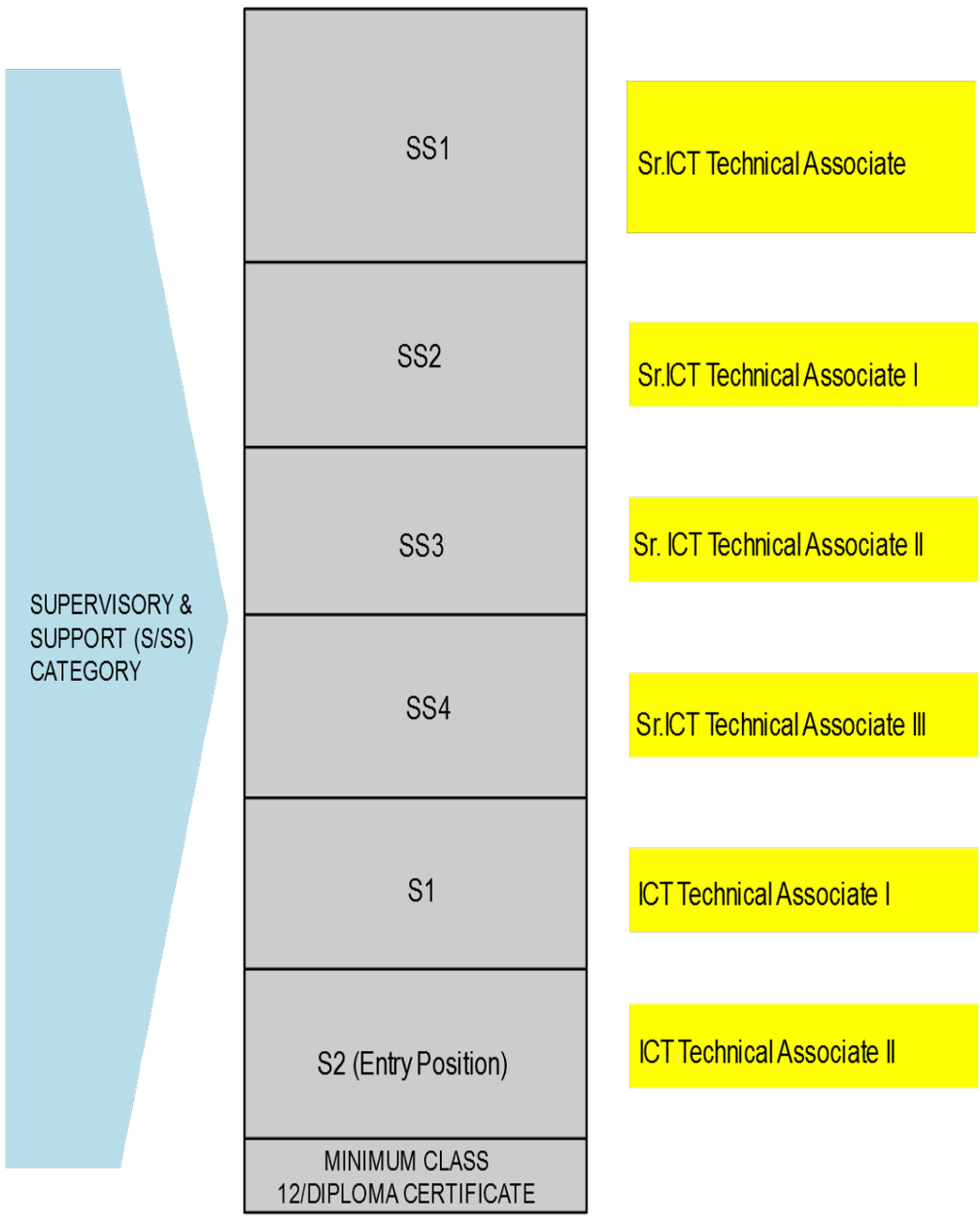
iii) Orientation Program:
Orientation program is important for recruits to understand the strategic ICT planning, policies and programs, as well as projects and activities being implemented across the agencies. The orientation program also facilitates recruits to clearly understand their roles and responsibilities and prepares them for the job.

iv) eGovernment meetings
For ensuring efficient utilization of resources, it is imperative to organize coordination meetings to discuss alignment of ICT projects to the overall goals/strategies of the ICT sector and to avoid duplication of efforts. These meetings will be organized as per the eGovernment meeting format adopted by the Department in accordance with the e-Government Governance document. Such meetings will improve coordination amongst the organization driving innovation through development of systems, applications and mobile apps. Besides assuring compliance to the overall eGIF standards, it will facilitate reuse of applications and systems.Many bilateral meetings amongst relevant sectors and divisions may have to be conducted based on the needs.

Annexure I: Career Ladder for ICT Officers and ICT Technical Associates



Career Ladder for ICT Technical Associate



Annexure II: Job Roles details

Role	Responsibilities
ICT Management	• Multi-task all ICT functions in an agency and should be able to function in any agency.
	• Job roles will be assigned accordingly to the HR projection (Table 12 in Chapter 4) for accountability. • Technical training modules are from Level 1 of the four specialist ICT.
System Analyst	• Design Computer information systems, modifying systems to improve production or workflow, or expanding systems to serve new purpose; • Prepare charts and diagrams that constitute a representation of the new system in terms which managers or non-data processing personnel can understand; • Prepare specifications for programmers to follow; • Coordinate the development of test problems to debug the systems and participates in trial run of the systems. • Provide technical expertise and recommendations in assessing new IT software projects and initiatives to support or enhance existing systems. • Define the analysis to be performed and make suggestions as to the most efficient means of performing that analysis. • Provide time/cost estimates for scheduling/budgeting purposes when required. • Verify databases and data integrity. • Developing a testing schedule for the complete system; • Provides reference by writing documentation. • Updates job knowledge by participating in educational opportunities; reading professional publications; maintaining personal networks; participating in professional organizations, etc.
Network Analyst	• Plan, design, analyse network workload, monitor performance, and provide technical support for data communications network or group of networks • Research and evaluation of network technology and recommending purchases of network enhancement equipment • Responsible for preventing data loss and service interruptions by researching new technologies that will effectively protect and enhance a network • Creating, testing and implementing network disaster recovery plans • Performing risk assessments and testing of data processing systems • Configure and optimize network servers and systems; • Ensure implementation of information and network system and policies and ensure net work documentation is done based on standards set.
Software Developer	• Design, develop and implement computer application programs; • Application coding and testing • Translate system specifications and requirements into program code and database structures; • Code, install, debug and document routine application programs. • Ensure accuracy and efficiency of program outputs and debug source code to isolate and correct errors in program logic, syntax and data entry. • Prepare test data and written instruction for computer operations • Facilitate user training. • Database design and development. • Design and develop the User Interfaces (UI) for websites, smartphones and mobile applications. • Verify that system meets performance criteria • Assist in ensuring the security of the websites and applications. • Assist system analyst in developing RFP and outsourcing the system development work.

	• Installing firewalls, data encryption and other security measures and training staff on network and information security procedures • Ensure implementation of information and network security system and policies and ensure documentation is done based on standards set • Backup and Disaster recovery site • Implementation of Information Management Security Policy

	Level 4
Technical Skills	Module 1: Website Development • HTML syntax, elements, DOCTYPES, validation tools • HTML best practices • Basic Web Design Concepts • CSS: The Cascade, Selectors and Properties, Structure • Forms • Flash
	Module 2: System Administration & Networking • Introduction Linux Foundation Linux Foundation • Linux Networking Concepts and Review • Understanding Ethernet and LAN, different Ethernet speeds, spanning tree algorithm, virtual LAN (VLAN), virtual private networks (VPN) and commonly used Wi-Fi which prepares you for technical details of network architecture. • OSI Model Introduction and Upper Layers OSI Model Transport Layer OSI Model Network Layer • Network Configuration Runtime Network Configuration Boot Time Network Configuration • Intro to OpenVPN Network Troubleshooting and Monitoring Network Troubleshooting • Client-Side Troubleshooting Server-Side Troubleshooting • Network Monitoring Remote Access Remote Access • HTTP Servers Apache Apache Configuration • Email Servers • Network File Systems • Introduction to Network Security Security Concepts Security Practices Security Tools Firewalls
	•Module 3: Introduction to Mobile Apps • Common and relevant mobile architecture frameworks and how to use them in diagnosing and assessing mobile architectures • Infrastructure design, security, performance, and technology build activities • How to refine and enhance mobile architecture and frameworks • How to develop mobile web applications for iPhone and other mobile platforms • Troubleshooting, diagnosing, and support for mobile application development
	•Module 4: System Analysis & Database Administration • Understanding data, information, databases, dbms • Understanding the life cycle of the relational database • Understanding data modelling w.r.t. ER modelling and Relational Modelling • Phases of the software development life cycle • Techniques used to conduct system requirement analysis • Practical application of the analyst role in identifying operational problems • Defining information system requirements, working with technical and non-technical staff, and making recommendations for system improvement
	Module 5: Six Sigma (Green belt) • History of Six Sigma • Problem solving • Basic statistics and displays of data

	• Process mapping and measurement techniques • Six sigma tools • DMAIC process improvement roadmap • How to establish customer requirements? • How to measure and quantify process performance • Statistical and other analytical methods for identifying and understanding sources of variation.
	Module 6: Geographical Information System (GIS) • Basic of GIS and Remote Sensing • Data preparation, processing and visualization • Spatial Analysis • Python for GIS • ArcGIS or Open GIS software • Spatial Data Infrastructure • Geo Web Services / Web GIS
Soft Skills	Module 1: Communication Skills Module 2: Strategic Thinking

	System Analysis
Level 3: Basic	Module 1: Programming Techniques • Fundamental programming techniques, • concepts, and data structures, including modularization and maintainability. • Emphasis on facilitating communication and understanding between systems analysts and programmers to support decision-making.
	Module 2: Fundamentals of Information Systems • Examine the ways information systems are important to an Organization. • Communication, data transfers and information storage. • Processes and procedures involved with constructing, using and maintaining information systems. • Transaction processing systems, decision support systems, database and systems development.
	Module 3: Database Management • Understanding data, information, databases, dbms • Understanding the life cycle of the relational database • Understanding data modelling w.r.t. ER modelling and Relational Modelling
Soft Skills	Module 1: Communication Skills Module 2: Strategic Thinking
Level 2: Intermediate	Module 1: Object-Oriented Analysis Course • Introduction: What is OOAD? • Software Development Life Cycle (SDLC) & Rational Unified Process (RUP) • Requirements Elicitation & Analysis • Quality Attributes & Assignment of Project Teams • Requirement analysis • System Behavior & Sequence Diagrams Contracts & State Diagrams • Class Design Principles & Issues • GoF Design Patterns • System Design/Architecture
	Module 2: System Analysis & Modeling • Phases of the software development life cycle. • Techniques used to conduct system requirement analysis, • Practical application of the analyst role in identifying operational problems, • Defining information system requirements, working with technical and non-technical staff, and making recommendations for system improvement.
	Module 3: Database Design & Business Applications Development • Design and implement applications that make use of different database management systems. • Simple and complex Structured Query Language (SQL) used in manipulation of information, data

	design, querying, and programming. • Connectivity to different databases through programming languages to implement web applications
Soft Skills	Module 1: Fundamentals of Project Management Module 2: Technical writing course
System Analysis: Advanced	Module 1: Business Analysis • Introduction to Business Analysis • Business Analysis Techniques • System Development Life Cycle (SDLC) • Understanding and Capturing business needs • Software Engineering Methods • Requirement Analysis Process • Use Cases • Business Requirement Gathering Tools • Business Analysis & Modeling Tools • Modeling Data and Processes • Software Testing • Introduction to QA Methodology • Role of BA in Testing • Creating Test Plans and Cases • Different Testing Methods • Business Analysis Governance • International Institute of Business Analysis (IIBA)® • Business Analysis Body of Knowledge (BABOK)® • Certified Business Analysis Professional (CBAP)®
	Module 2: Information System Security • Fundamental concepts relating to the design of secure information systems. • Identification and assessment of security risks at the application, network, and physical levels. • Use of cryptography and other techniques to provide necessary level of security.
Soft Skills	Module 1: Change Management Module 2: Business Process Management

	Network Analysis
Level 3: Basic	Module 1: Network & Infrastructure • Networking Standards and OSI model • Types of Networks and Network Architectures / Topologies • Networking media and protocols • Networking Devices (Routers, Switches etc) and their basic configuration • Basics of network planning and design (plan LAN/WAN) • Network administration • Network monitoring • Network performance management
	Module 2: Network Management • Configure a server to share resources and provide common Web service • Manage backup and Network resources • Network management and troubleshooting • Provide basic user's training and help desk support • Setup Windows and Linux server and do basic configuration and upgradation • Implement Wireless Network and VPN • Performance Assurance • Network traffic measurement • Overview of Network Management Function: FCAPS • Fault management

	• Configuration management
	Module 3: Network Performance & Management • Network monitoring and analysis tools • Managing and monitoring Network performance • Understand Network security • Administer remote systems and virtual desktop • Automated system maintenance tasks using shell scripts (backup, auto scanning, etc.) • Accounting management • Performance management • Security management
Level 2: Intermediate	Module 1: Network Architecture • Understand the structure of the Internet and how communication occurs between hosts • Understand routing and switching concepts • Configure and manage integrated wireless access point and wireless client • Specify the motivation for network management and operation • Sketch network management architecture, protocols and components • Examine OAM&P functions and procedures • List all the FCAPS functions (Fault, Configuration, Accounting, Performance and Security) • List key concepts and operations of SNMP and WBEM • Virtualization • SAN Storage configuration • Datacenter & cloud computing related capabilities
	Module 2: Network Monitoring & Management • Manage network security • Manage network documentations and logs • Manage and monitoring Network performance • Knowledge on Database management • Network Management Fundamentals • Service Level Management • Systems Management • Overview of Network Management Layers • Why Use Network Management? • Networking Components
	Module 3: VPN and VoIP • Implement Virtual Private Networks (VPN) • Implement VoIP solutions • Implement VLAN based solutions (Determine network resources required, create implementation plan, configure switch-switch connectivity for VLAN based solution etc) • Devise a strategy for deploying network management • Examine different network management protocols and standards • Examine the key differences between TL-1, SNMPv1, 2 and 3 technologies, WBEM, XML, CORBA, JMX etc. • Discuss key features of network management security as Authentication, Privacy Services and Access Control • Improve, optimize, and maintain network performances • Explain network potential issues that might happen on the radio and BSS and the core network side • Identify problems and offer solutions

Level 1: Advanced	Module 1: Network Planning, Design and Implementation • Advanced Network planning, Design and implementation • Advanced Router and Switches configuration (ex: Install, configure, and troubleshoot Layer 2 and layer 3 devices, configure routing protocols on Layer 3 devices, Obtain and upgrade IOS software in layer 3 devices) • Advanced installation and configuration of servers and services (http, https, ftp, dns, dhcp, smb, smtp, ssh, ip tables, etc) • Enhancing business communications and collaboration with data, voice, and video • Overview of Operations Support Systems (OSS) • Overview of Network Management Architecture and Protocols • Configuration Client/Server Components. • Configuration: Infrastructure Components • Elements of NMS Development • NMS Development.
	Module 2: Network Configuration & Optimization • Advanced planning, implementation, configuration and deployment of network monitoring and performance tools • Virtualization (ex: Oracle, Vmware, Redhat, Zen) • Plan & design Data Center • Plan, implement and manage proper disaster-recovery procedures • Monitoring your entire network infrastructure • Visualize, monitor and pro-actively manage your network • Network Management and Operations • Overview of Network Management Systems (NMS) • Managing Enterprise Networks • Operating and Managing Large Networks • Layers 2, 3, and 2.5 Ports and Interfaces • Network Management Strategies • Overview of Network Management Architecture and Protocols • SNMP: The De Facto Network Management Standard
	Module 3: Network Management Systems • Plan and implement network security solutions (Implement access lists to permit or deny specific traffic, configure port security, configure switch security, SELinux, ip tables, authentication protocols, recognize and mitigate security threats etc.) • Create IPV6 implementation plan, configure IPV6 routing and interoperation with IPV4 • Design VoIP solutions • Network Management Systems (NMS) • Solving the Network Management Problem • NMS Structure. Smarter MIBs. Policy-based Network Management (PBNM) • What Is a Policy? • Pushing Intelligence into the Network • Network Management Policies • The Common Open Policy Service Protocol (COPS) • Network Processors • Directory-Enabled Networking (DEN) • The Information Model
Soft Skills	Module 1: Change Management Module 2: Strategic Thinking

	Software Development
Level 3: Basic	Module 1: Software Development Methodologies & Database Development • Process flowcharting

	• Software development methodologies (Agile/SCRUM) • Object Oriented Data structure & Algorithms design • Database Development (MySQL, PostgreSQL, MSSQL and Oracle) o ER development (database, entity, attributes, relationships) o SQL commands o Proper use of indexes o Triggers o Stored procedures
	Module 2: Object Oriented Programming • Creating Classes • Working with Classes • Generics and Annotations • Reference Types and Threading • Exception Handling and Assertions • Java/PHP/C# Utilities • Java/PHP/C# I/O • GUI Development • Interfacing with Database • Integrated Development Environment
	Module 3: System Analysis & Design • System analysis fundamentals • Information requirement analysis • Analysis process • Essential of design • Software engineering and implementation
Level 2: Intermediate	Module 1: Advanced Mobile Apps Development • Google Android programming • Apple Swift/Objective C programming • Hybrid based App development (CSS3, HTML5, Javascript) • Localization of mobile apps
	Module 2: Rich Internet Application Development • Responsive web development (twitter bootstrap) • HTML5 • CSS3 and templating • Advanced javascript and javascript based framework (jquery, Node JS)
	Module 3: Software Testing • Introduction & Basic Terms • Software Life Cycle and Testing Role • Specialized Testing (Performance testing; memory, connection leak and security testing; data m ,jbase and accessibility testing; globalization and localization testing) • Test Design (Specific based or black box; structure based or white box; static test design) • Test Management (Test plan; test control; test measurement and metrics) • Test Automation & Tools (Performance testing; functional testing) • Quality approaches (CMMi, TMMi, TPI, ISO15504, SixSigma, TQM & Kaizen)
Level 1: Advanced	Module 1: Big Data & Data Analytics • Big Data Platform (Apache Hadoop) • R Programming language • Data warehousing, cubes, etc. • Data mining • Data analytics • ETL (Extract Transform Load), merging data, replication • Enterprise architecture from a database perspective

	Module 2: Software Development using Frameworks • C# Based (MS .NET) • Java based (Structs/Swings) • PHP Based (Zend, laravel, cakePHP)
Soft Skills	Module 1: Project Management Module 2: Change Management

	Security Analysis
Level 3: Basic	Module 1: Security Essentials/Fundamentals of Information Security • Basic information security principles • Spoofing, spamming, phishing, malware, viruses, etc. • Security for users • Wireless network security • Email security • Software Development security
	Module 2: Risks & Asset Management • Basic introduction to threats, vulnerabilities, attacks and risk management • Assessing security requirements • Information Risk Management and Compliance • Deploying and monitoring firewalls (H/W and S/W) and Unified Threat Management (UTM) • Understanding best practices for business continuity planning in the event of a major disaster or major change in the business
	Module 3: CSX Fundamentals • Cybersecurity concepts • Cybersecurity architecture principles • Cybersecurity of networks, systems, applications and data • Incident responses • The security implications of the adoption of the emerging technologies
Level 2: Intermediate	Module 1: Identity & Access Management • Data protection • Public Key Infrastructure • Cryptography: Securing sensitive data
	Module 2: Security Assessment & Testing • Analyzing and assessing security breaches • Assessing security requirements • Information Security Governance • Information Security Program Development and Management • Information Security Incident Management • Advanced study on policies and best practices • Understanding new threats, technologies, regulations, standards, and practices • Ethical Hacking
	Module 3: Intrusion Detection Systems & Firewalls • Designing, diagnosing, implementing, managing, and resolving complex computer security threats • Using proxies to protect the network, packet filtering, etc. • Server/Network devices hardening • Network discovery and vulnerability scanners • Penetration testing

Level 1: Advanced	Module 1: Information Security Policy Formulation & Implementation • Concepts of Policy • Policy Process/Cycle • Actors in the policy making process • Policy analysis • fundamentals on policy evaluation • Implementation of Policy
	Module 2: Security Forensics & Analysis • Digital and Network Forensics and analysis • Cyber Threat Intelligence and Incident Response
Soft Skills	Module 1: Project Management Module 2: Strategic Planning

	ICT Management
Level 3: Basic	Module 1: Programming Techniques Module 2: Network & Infrastructure Module 3: Software Development Methodologies & Database Development Module 4: Security Essentials/Fundamentals of Information Security
Soft Skills	Module 1: Communication skills Module 2: Report Writing Module 3: Project Management
Level 2: Intermediate	Module 1: Fundamentals of Information Systems Module 2: Network Management Skills Module 3: Object Oriented Programming Modeling Module 4: Risks & Asset Management
Soft Skills	Module 1: Strategic Thinking Module 2: Strategic Planning (Balanced Score Card) Module 3: Research Methodology
Level 1: Advanced	Module 1: Database Management Module 2: Network Performance & Management Module 3: System Analysis & Design Module 4: CSX Fundamentals Module 5: Enterprise Architecture
Soft Skills	Module 1: Change Management & ICT Portfolio Management Module 2: Result Based Management Module 3: Governance & Leadership skills

Soft Skills Details	Soft skill training modules are spread throughout the ICT Management and Specialist ICT modules with some repetition in different categories. Therefore, the training details for the soft skill modules are consolidated and presented in this section.
Module 1: Communication Skills	• Communication in Management • Business Presentation • Persuasion • Effective communication • Information seeking, listening and building rapport • Questioning techniques • Business Etiquette • Ways to improve communication
Module 2: Strategic Thinking	• Understanding of the nature of complex situations and how they can be tackled • Develop new ways of thinking about and approaching situations that cross multiple discipline and skill boundaries • Managing systemic change: inquiry, action, and interaction • Thinking strategically: system tools for managing change

Module 3: Fundamentals of Project Management	• Fundamental principles and best practices of project management essential to the successful development of projects or other complex undertakings within an organization; includes methods for defining, planning, and scheduling activities and resources.
Module 4: Technical Writing Course	• How to gather information and present it in technical reports • Communicate specialized computer-related information in a clear and concise manner to others • How to present oral and written technical reports
Module 5: Change Management	• Fundamentals of change management • Change Process • Obstacles to Change • Managing change • Adapting to change • Uncertainty • Moving forward
Module 6: Business Process Management	• Business Process Improvement: Define, Metrics, Analysis, Business Process Design and Transformation Processe • Business Process Modeling: Framing process, Process Mapping, Refining Process Maps, UML and BPMN notation, Automation and Enterprise Process Modeling
Module 7: Report Writing	• Systematic preparation/planning • Logical structure • Guiding the reader • Language choice • Finishing techniques • Professional presentation • Using a consistent format, style, layout • Writing an executive summary • Report Writing Exercises
Module 10: Result Based Management	• Theory of Change and strategic results framework • A risk register • Integrated monitoring and evaluation • The use of evidence from monitoring and evaluation in decision-making • Meaningful reporting to key stakeholders.
Module 11: Governance & Leadership Skills	• Leadership Essentials: define leadership that is central to an organization, identify key leadership competencies and skills, explore The Leadership Framework, Differentiate the roles required in leadership and management, etc. • Leadership Excellence: Discover leadership style, Analyze the styles of people who report, effectiveness in managing and influencing them all, etc. • Skills, Tools, and Techniques: Learn tools to increase strategy, people management and execution throughout an organization, practical concepts and skills that apply to the job. • Obtain techniques to improve ability to lead when interacting with various communication styles and at all levels throughout the organization.

Annexure IV: Forms
Form A: Performance in Talent Quality

Name:_____
Job Title:_____
Agency:_____
Supervisor Name and Title:_____
Review Date and Period:_____
Purpose of Evaluation: Talent Identification Process.

Total Score:100 (5*20each)

1. Does the official apply his knowledge in coming up innovative idea for service delivery (20pts).

Description	Sometimes (0.1 - 6.5)	Most of the time (6.6 - 13.5)	Always (13.6 - 20.0)
Does the official apply his knowledge in coming up with innovative idea for service delivery.	h		

2. Is the official able to effectively communicate and influence others with his innovative idea to make positive impact (20pts).

Description	Sometimes (0.1 - 6.5)	Most of the time (6.6 - 13.5)	Always (13.6 - 20.0)
Is the official able to effectively communicate and influence others with his innovative idea to make positive impact.			

3. Does the official go beyond his job roles and responsibilities to improve service delivery (20pts)

Description	Sometimes (0.1 - 6.5)	Most of the time (6.6 - 13.5)	Always (13.6 - 20.0)
Does the official go beyond his job roles and responsibilities to improve service delivery.			

4. Does the official identifies and analyse the problem that he faces and follows up to ensure problem are solved. And also able to formulate alternative solutions and recommend appropriate actions (20pts).

Description	Sometimes (0.1 - 6.5)	Most of the time (6.6 - 13.5)	Always (13.6 - 20.0)
Does the official identifies and analyse the problem that he faces and follows up to ensure problem are solved.And also able to formulate alternative solutions and recommend appropriate actions			

Signature

Name:

5. Is the official dedicated to meet the expectation and requirements of internal and external service users; establishes and maintains effective relationship with the service user and gains their trust and respect; goes above and beyond to anticipate service users needs and respond accordingly (20pts).

Description	Sometimes (0.1 - 6.5)	Most of the time (6.6 - 13.5)	Always (13.6 - 20.0)
Is the official dedicated to meet the expectation and requirements of internal and external service users; establishes and maintains effective relationship with the service user and gains their trust and respect; goes above and beyond to anticipate service users needs and respond accordingly			

Signature

Name:

Form B: ICT Service Request form:

ICT Service Request Form

Please contact us for any ICT support and for reporting ICT issues through this form. Please check your email to track your issue status.

* Required

Email address *

.....

Name: *

Your answer

2. Department/Division/Sector *

Choose

3. Type of Issue *

- ○ Network and Hardware Issue (issues on internet connection, printers ,computers, etc)
- ○ Software Issue (issues on MS Word,excel, emails, system, etc)

4. Grade the urgency of the service requested *

- ☐ LOW
- ☐ HIGH
- ☐ MEDIUM

5. Please give a brief description of the issue, then we will get started on it.

Your answer

SUBMIT

Never submit passwords through Google Forms.

Form C: Service Availed Form:

Service Availed Form

Service Request:_____
Date of Request:_____
Requested By:_____
Time taken to complete the service requested (TAT): _____
Officer availed for the Service: _____

Verified By

Approved By

Form D: Feedback Form

Feedback Form

Please use this form to give us your suggestions, compliments or complaints. It is important to us.

---

1. This feedback is a: 1. Suggestion 2, Compliant 3. Compliment (tick the appropriate)

---

2. About which service? Date and time of the service

---

3. How did we provide the service?
1. Phone 2. Email 3. Manual 4. Remote access 5. Online

---

4. Was the service requested completed or the problem solved?
1. YES 2. NO

---

5. Rate the service that we provided to you.
1. Extremely Satisfied. 2. Very Satisfied 3. Satisfied 4. Not Satisfied 5. Extremely Not Satisfied

---

6. Kindly rate the person who responded to your service request.
1. Very good 2. Good 3. Variable 4. Below Standard 5. Unacceptable

---

7. How do you rate our staff ‘s understanding of the impact or the urgency of your request?
1. Very good 2. Good 3. Variable 4. Below Standard 5. Unacceptable

---

8. Other Comments