



Information and Communication Technologies in Parliament

TOOLS FOR DEMOCRACY

OFFICE FOR
PROMOTION OF
PARLIAMENTARY
DEMOCRACY



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An OPPD publication
on topical parliamentary affairs

Information and Communication Technologies in Parliament

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Preface

This paper is part of a new series of publications on issues in parliamentary practice from the Office for Promotion of Parliamentary Democracy (OPPD).

The European Union (EU) is founded on the principles of liberty, democracy, respect for human rights, fundamental freedoms and the rule of law. The European Parliament (EP) has always been a staunch defender of these principles. Through its standing committees, inter-parliamentary delegations, plenary resolutions, debates on human rights and involvement in monitoring elections, the Parliament has actively sought to give high priority to democratisation in all its external actions.

In 2008 the European Parliament set up the Office for Promotion of Parliamentary Democracy to directly support new and emerging democracies (NED) beyond the borders of the European Union. The OPPD assists in the establishment and reform of parliaments and aims at strengthening their capacity to implement the chief functions of law-making, oversight and representation.

Members and civil servants of NED parliaments can benefit from tailored training and counselling provided by the OPPD as well as networking with members and relevant services of the European Parliament.

The OPPD seeks to establish a continuing dialogue and partnership with NED parliaments worldwide and to support their participation as fully fledged members in the democratic community. It facilitates sharing of experiences and best practices of parliamentary methods, and fosters research and study of these practices.

For parliaments to assume their role in legislation, oversight and representation, they must develop parliamentary processes that are effective, and more open and accountable to the citizens. Information and communication technologies (ICT) provide critical tools for instituting strong, independent parliamentary assemblies that are able successfully to fulfil their role as guardians of democratic principles, promoters of the rule of law and protectors of human rights. ICT also enables them to be active participants in reaching common solutions to pressing global problems and to learn from the experience of other legislative bodies.

This brochure's objective is to provide an overview of some of the core questions relating to information and communication technologies in parliament (ICT) and offers a roadmap for planning and developing ICT systems.

Introduction

The European Parliament (EP) has made a major commitment to promoting democracy and human rights around the world. Through a variety of reports, communications and assistance programmes, the EP has increased its attention to institutional capacity building in parliaments¹ in new and emerging democracies (NEDs), recognising their importance for encouraging freedom and good governance around the world. The establishment in 2008 of the European Parliament's Office for the Promotion of Parliamentary Democracy (OPPD) provides an important mechanism for realising these objectives through concrete programmes of information exchange, inter-parliamentary cooperation and on-the-ground support for creating effective parliamentary operations.

On 22 October 2009 the EP adopted its resolution on 'Democracy Building in the EU's External Relations' which welcomed the ongoing initiatives and called for concrete and practical suggestions on reforms.² The Ministerial Council of the EU responded to the latter by adopting in November 2009 "Conclusions on Democracy Support in the EU's External Relations - Towards increased coherence and effectiveness." These two statements hopefully signify the beginning of a new era of EU involvement in democracy support.³

The core values promoted through these efforts reflect the importance of establishing good governance that involves effective legislative bodies, which are based upon the will of the people and serve as a vital foundation for reducing poverty and ensuring sustainable development. They also contribute to more successful multilateral approaches to many of today's global challenges. The globalisation of politics has reduced the isolation of individual countries and demands a more coherent and integrated resolution to issues that have an impact around the world. Individual parliaments need to be connected to the global network of legislative bodies that are striving to address critical policy issues facing the world.

Programmes for assisting the political institutions in new and emerging democracies have tended to focus on such areas as monitoring elections, encouraging freedom of the press and emphasising the importance of the rule of law. At the same time, efforts to make government operations more efficient and accountable often have been aimed at the executive branch. While strengthening parliaments has received less attention, doing so is equally critical to ensuring that democratic governance is instituted and sustained in NEDs. Indeed, it is arguable that parliaments are not merely one

1. The terms "parliament", "national assembly" and "legislature" are used interchangeably throughout the report.

2. Resolution P7_TA(2009)0056 - www.europarl.europa.eu

3. www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/gena/111250.pdf

component of democratic systems, but actually the most “democratic” element because of their direct representation of the citizenry and their responsibility to reflect the will of the people.

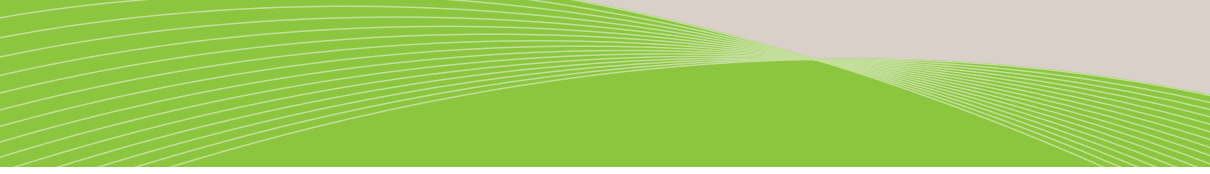
One of the reasons that parliaments may have received less attention in the development process is that there are special challenges inherent in working with these bodies. Rather than having a clearly defined structure as might be found in a government ministry, parliaments are by nature a collection of parties and individuals elected by disparate constituencies. The role of party leadership in the management of parliamentary operations varies considerably, as does the strength of committee chairs, appointed officers and individual members. These characteristics reflect the complex nature of a democratically established institution and the fact that a truly representative body must be inclusive of all interests in society. While these characteristics may present difficulties in designing effective assistance programmes, they are indicative of the need for parliaments to be high on the agenda of those who seek to foster democracy.

Popularly elected national assemblies play several key roles in ensuring that the values of democracy are firmly rooted in a country and preserved over time. In their legislative function they contribute to developing fair and equitable laws that govern the country. Specific responsibilities in this area may vary

from nation to nation, but a parliament that lacks the ability to amend or assert control over the passage of legislation is extremely limited in its capacity to protect the public from unwise proposals or safeguard the rights of its citizens. Strengthening the capacity of parliaments to exercise independent authority in the legislative process can contribute significantly to reducing abuses of power and to ensuring that the rights of citizens are upheld.

Another vital role of parliaments is their responsibility for reviewing and approving the national budget. Although the executive may propose an annual budget, the legislative body should have the capacity to evaluate and amend budget proposals to ensure that funding reflects the highest priorities of the country and its citizens. Designating funding for specific areas is one effective way to set major policies in motion. It gives the parliament the ability to exert control over the allocation of resources so that the most important needs of the people are met. In countries in which the role of the legislative body may be limited, the power to approve – or disapprove – the budget and to monitor its implementation can be an important means for asserting the authority of the parliament.

Performing effective oversight of the executive in other areas is another key responsibility of legislative assemblies. This is done through a variety of mechanisms, ranging from question periods during



the plenary session to hearings held by parliamentary committees. Here again, the ability to exert the authority of the parliament can be an important way to realign government programmes to make them more responsive to national priorities and to ensure that they are efficiently implemented.

Finally, as the primary representatives of the citizenry, legislative bodies must have continuous communication with the public, promote dialogue on critical national issues, and provide an understanding of parliamentary actions. Effective communication with citizens builds confidence in parliaments and can aid in countering the public distrust toward government in general, and legislatures in particular, that has been growing in recent years. Creating an environment where citizens have trust in their elected officials and their governing institutions promotes a shared commitment to democratic values.

To achieve an independent parliament that can exercise its responsibilities for legislation, oversight and representation requires access to information, effective management of parliamentary documents and processes and robust communication capabilities. **Parliaments in a democracy must be efficient in their operations, transparent in their actions and have strong ties to their citizens.**

This document offers a roadmap for ICT managers and other parliamentary officials responsible for

overseeing ICT to assist them in the planning and development of computer and communication systems to support their respective legislative assemblies. It explains why the effective use of ICT is central to efforts by national parliaments in new and emerging democracies to establish strong capabilities in the core areas of legislation, oversight and representation. Only by doing so can they be key players in developing democratic institutions and shaping the future of their nations. In addition, it offers examples from the experiences of parliaments around the world and identifies strategies for developing the technical capacity needed to streamline operations and implement technology-supported approaches that improve communication with the public and enhance transparency. Beginning with the contribution of ICT to achieving institutional goals, this report addresses the major areas of policy formulation, strategic planning, management roles, technical expertise, infrastructure development, standards and collaboration that are essential to the effective implementation of ICT in parliaments. It also identifies the core building blocks for ICT in parliaments, lays out steps to be taken to create an essential foundation for moving forward and provides guidance on how to proceed from basic to more technologically advanced capabilities.

The report draws on a variety of publicly available resources, particularly the findings and analysis pre-

sented in the World e-Parliament Reports for 2008 and 2010, as well as the background and summary documents prepared for the World e-Parliament Conferences 2007, 2008, and 2009.⁴

New and emerging parliaments can realise a quantum jump in their capacity development by initiating a proper ICT programme, learning from the mistakes and analysing the best practices of other parliaments. Joining parliamentary networks can be of great assistance.

We all know that every parliament is unique. Therefore the implementation of ICT must reflect the specific circumstances and legal responsibilities

within each country. Furthermore, parliaments must determine their own priorities based upon their particular political and social agenda. Hence, the report does not prescribe a specific course of action that all should follow, but rather lays out the process to be undertaken, the principles that underlie effective implementation of ICT in the legislative setting, and offers options based upon the successful experiences of other parliaments.

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4. United Nations, Inter-Parliamentary Union, Global Centre for ICT in Parliament, *Report of the World e-Parliament Conference 2007*. United Nations. 2008. [<http://www.ictparliament.org/worldparliamentconference2007/>]; United Nations, European Parliament, Global Centre for ICT in Parliament, *Report of the World e-Parliament Conference 2008*, United Nations. 2009. [<http://www.ictparliament.org/worldparliamentconference2008/>]; United Nations, Inter-Parliamentary Union, U.S. House of Representatives, Global Centre for ICT in Parliament, *Report of the World e-Parliament Conference 2009*, United Nations. 2010. [<http://www.ictparliament.org/wepec2009/>]

ICT contributions to parliamentary effectiveness

The full potential of ICT for making modern parliaments more politically effective, as well as operationally efficient, has only been recognised in recent years. While computers and communications technologies have been used in some parliaments for decades, it was often for administrative tasks like personnel and payroll or for isolated activities like tracking legislation or managing correspondence. These systems were generally based on proprietary software that made it difficult to link them with other applications. ICT was viewed as the domain of a few “technicians” who provided good support to the legislature, but were not well connected to senior administrators or members. As the world around them became transformed by the digital revolution, many parliaments were slow to grasp the need to apply ICT within their tradition-bound institutions.

With the advent of the PC, the internet and the web, the importance of ICT began to increase throughout society and parliaments started to recognise its value within the legislative environment. More members arrived in parliament with experience using technology in their professions and businesses, as well as in their personal lives. Legislative staff likewise brought a new understanding of the benefits of technology based upon their use of it in academia and as consumers. Parliamentarians began to see the impact of ICT in elections and the growth of e-government at local, regional and national levels. At the same time, legislative assemblies were grappling with how best to counter the

growing apathy of citizens toward parliaments and were seeking ways to exert their influence on the evolving global information society.

As a result, ICT has become a high priority in many parliaments with greater attention being paid to planning and implementation, and with increased investment in the ICT tools available to assist them. More members, party leaders and senior administrators have begun to understand the potential of new technologies to enable legislators to fulfil their legislative, oversight and representative roles in much more effective ways than in the past. Recognising that ICT is only a tool, albeit a very important one if well implemented, parliaments have begun to make the critical connections between their legislative goals and responsibilities and the technologies that may be applied to help realise them.

Legislative functions

A core responsibility for legislative bodies is the consideration of proposals that may ultimately become national law. In some instances, legislation originates outside the parliament, while in others it is drafted internally. Therefore, the particular ICT needs of a parliament for supporting the drafting process may vary. For example, if there is a designated drafting office within the legislature, developing a system to capture the original text electronically using open document standards can greatly facilitate the entire process of managing bills in digital format. It also makes it possible to feed this information directly into other systems

for purposes of printing, electronically disseminating, publishing on the web and archiving legislative proposals.

However, even if legislation comes from several different sources, including some outside the parliament, it is important to have the ability to amend and track the consideration of bills electronically. The workflow of the parliament is improved because legislative information can be automatically transmitted among members, staff and administrative offices that participate in preparing and distributing bills. An ICT-based document management system increases the speed, accuracy and flexibility with which members and committees handle pending legislation. It allows them more time for consideration of these proposals because they have more timely access to the documents. It can incorporate all versions of bills and provide security so that only authorised changes are possible, while also enabling integration of related information such as reports and votes to provide a comprehensive history of the actions taken regarding a specific piece of legislation. By enabling members to have rapid access to the most current and authoritative versions of proposed legislation, together with corollary material, they can recommend additional improvements and make more informed voting choices.

Another important outcome from a well-designed document management system is that bills become available to all members equally and at the same time, thereby broadening the opportunity for debate and amendment by all parties. Whether legislation is amended in committees, in

plenary sessions, or both, having a system that aids the production of accurate and timely versions of a bill, keeps track of its status and allows for it to be quickly distributed both internally and to the public is essential to a modern parliament.

Providing the authoritative history of actions taken on bills is one of the keys to fulfilling a parliament's obligations for documenting the legislative process and creating a permanent publicly accessible archive that enables citizens to judge the actions of parliament. Combining the full range of legislative information into a coherent system that serves as the authoritative knowledge base for the parliament enables members and the public to retrieve the information they seek in an accurate and timely way. **By using IT to manage legislative documents and other internal information resources, parliaments are able to build a knowledge resource that makes them operate more efficiently, legislate more effectively and provide the public with information they need to hold their elected officials accountable.** Using open standards for legislative documents greatly facilitates these capabilities by easing the exchange and re-use of documents, linking various related resources, ensuring long-term preservation and improving citizen access. For this reason, it is critical to adopt open standards in the design of legislative information systems to ensure that they can achieve the goals parliaments have articulated for transparency and knowledge management. Legislatures in NEDs may have an advantage in implementing such systems for managing the knowledge generated by the parliament because they do not have to address how to transition the information from

existing paper-based and proprietary systems into an open standard approach.

In many legislative bodies committees are instrumental in the policy debate surrounding proposed bills. They may review, deliberate, revise and approve or disapprove legislation and also prepare related reports. The work conducted in committee hearings and meetings on pending legislation therefore needs to be captured and incorporated in a parliamentary document management system so that it can be distributed to members of the committee and to the public, and reported to the full legislature. For example, committees may conduct hearings where they take both written and oral testimony from a variety of witnesses. ICT can offer an effective way to gather that material, prepare verbatim accounts and summaries and integrate it with other legislative information to provide a complete picture of legislative actions. Similarly, ICT support for plenary session activity on legislation needs to be another component within an overall system for managing and tracking legislation. In addition to the record of floor debate, amendments to bills and votes are part of the official legislative record. In parliaments where the plenary serves as the primary venue for legislative debate, an increasing number of houses are investing in technologies that support members while in session. Electronic voting systems make it more efficient to record the official vote, often displaying it on large screens, and facilitating its long term retention. Some houses are now equipped with individual workstations so that members can access copies of pending legislation, along with other

relevant information. Intranets linking the internal operations of the parliament can provide immediate availability to reports prepared by staff or other electronic resources.

Oversight functions

Parliamentary oversight or scrutiny of the executive is essential in a democratic system to ensure that programmes are being effectively implemented in accordance with the laws passed by the legislature. Some of the same systems employed in the legislative process are equally helpful when conducting scrutiny. For example, legislative document management systems can provide the historical record needed to serve as the basis for evaluating how well government programmes are being implemented based upon the originating legislation. Systems that support committees conducting oversight hearings or plenary sessions during question periods for government ministers serve the scrutiny function in addition to the legislative function. Developing an effective knowledge management capacity therefore is important to the oversight function, as well as the legislative role of a parliament. As parliaments design these systems, therefore, they must be aware of all the aspects of their work that will benefit from ICT and how different needs can be integrated within the framework of a common, interconnected approach that uses shared open standards.

Another major component of oversight involves scrutinizing the use of government funds. Budget systems that enable legislators to review and analyse financial aspects of programmes, overall spending priorities and outlays can vastly enhance

the capabilities of the legislature to oversee government spending. For example, having online access to standardized data that show amounts allocated to specific programmes and expenditure levels can empower legislators to influence government spending in ways not possible previously.

In many parliaments, members exercise their oversight responsibilities by sending specific questions through the parliament to the relevant ministry or agency. These questions – and the responses of the government – are an important means of scrutiny and form a part of the record for assessing policies of the government and its execution of the laws. ICT can facilitate the drafting and tracking of these questions and responses, can locate them on demand and preserve them permanently.

The growth of online documents and databases, combined with the spread of the internet, has vastly expanded access to a growing array of information resources that provide timely and expert information of value to parliaments as they grapple with complex policy issues facing their countries and the world. Networking technology that supports easy access to the internet and the information available on the web is an essential tool for lawmakers in both their legislative and oversight capacities. The ability to tap into this vast store of knowledge wherever it resides contributes to members being better informed about the issues they are addressing. These resources can be further leveraged by knowledgeable library and research staff skilled in using ICT to locate, organise and distill these resources in ways particularly valuable to parliamentarians.

Representative functions

The area in which ICT often has the most visible impact on the role of parliaments is in their capacity as representatives of the citizens who elected them. Almost all parliaments maintain websites providing a range of information about the operations of the institution, lists of members and committees, access to parliamentary documents, information on committee and plenary action and a variety of other resources for the public. However, building a website that fails to offer current, comprehensive and reliable data because the parliament lacks a document management system can actually be counterproductive to the goal of keeping citizens well informed and engaged with their parliament. If they do not find the information they are seeking or believe that the parliament is not being transparent, there is the potential that public scepticism toward government will increase. An initial negative experience with access to legislative information could result in an unwillingness to interact with parliament in the future, even if improvements have been made to the website.

In some legislatures, committees also have created websites that supply information about their members, areas of jurisdiction, agendas, measures under consideration and actions. Some of these websites now use webcasting to make their deliberations available in real time. These websites are an important means for making the parliament more transparent and more accessible to larger segments of the population. One of the remaining challenges facing parliaments in this area is how to use the technology to make legislative actions and processes shown on the website more understandable to the general public.

A growing number of parliaments now employ a variety of technologies for capturing and recording plenary sessions.⁵ In some cases, the public can view house debates in real time online through webcasting or audio/video systems. Other houses provide the text of proceedings online. Having the official record of plenary sessions available for distribution and archiving is essential for verifying what members have said, as well as what actions were taken. This allows citizens to hold their representatives more accountable both at the time of the session and subsequently through access to an archive of the proceedings. By making the information available via several approaches like audio, video, webcasting, and textual databases, users have a choice in how they would like to be able to follow the actions of parliament and its members. Having this multiplicity of communication channels between the parliament and its citizens can greatly enhance the engagement of the public and ensure that there is not a dependency on a single technological approach.

There is also increased use of ICT by individual legislators who want to communicate more effectively and strengthen engagement with their constituents. As more citizens routinely use the web to locate information about government, they expect to find informative and helpful websites operated by their members that include both substantive policy statements and general information. Citizens also want opportunities to express their views and to engage their members on national issues. Many parliamen-

tary, committee and member websites provide email addresses for submitting enquiries and comments. However, responding to large volumes of emails and determining how representative they are of the views of the general public present particular difficulties for parliaments. Several technological approaches for organising, sorting, and responding to emails have been developed, but this remains an area where more work is required.

The growth of interactive technologies and social networking are increasing the desire for more two-way communication with citizens. Some parliaments, committees and members have undertaken such new approaches as online discussion forums, online polls and providing opportunities for citizens to submit questions and comments when legislation is being deliberated. Individual members are experimenting with maintaining blogs, submitting videos to YouTube and using other online capabilities for reaching their constituencies and trying to engage them in the political process. The growth of these technologies provides opportunities for expanding the lines of communication between members and the people they represent, thereby enabling a better informed citizenry, increasing transparency and developing new channels for the public to express their views to parliaments. Yet, because the use of these approaches is still in its early stages, it is difficult to comprehend fully how the use of social networking and interactive technologies may alter the relationship between citizens and their elected representatives.

5. Workshop on Technological Options for Capturing and Reporting Parliamentary Proceedings, held at the European Parliament, July 2010. [<http://www.ictparliament.org/index.php/component/content/article/325-events-conferences-and-workshops-2010/484-technological-options-for-capturing-and-reporting-parliamentary-proceedings-european-parliament-july-2010>]

Current trends, needs and issues in the use of ICT

A more detailed look at how ICT is being used by both governments and parliaments reveals a number of important trends as well as challenges. While these trends illustrate in concrete ways some of the most significant contributions that ICT can make, they also raise a number of issues about how technology can be applied most effectively to promote good governance and the furtherance of democratic values. These trends provide indications of how ICT is affecting government operations, both in the executive and legislative branches. While the principles of a representative system of government remain constant, the mechanisms by which those principles are exercised are changing as technologies develop. ICT offers new ways to gather, analyse, disseminate and archive information, in addition to increasing capabilities for communicating among people. In what ways will this fundamentally alter the work of parliaments, individual legislators, and their interaction with constituents? The descriptions below provide some insight into this evolving world of ICT and parliaments and offer indications of how technology trends may have an impact on legislatures.

The Growth of e-Government

The growth of e-government reflects how much has occurred in a relatively short time. What began on a tentative and somewhat exploratory basis just

a few years ago has become an essential component of modern governance and a major vehicle for interaction between citizens and government agencies. In its surveys of the state of e-government, for example, the United Nations has found a continuing increase in the number of countries with websites that provide the text of laws, information about government policies and a variety of online services developed to respond to the needs of citizens.⁶ Many of these websites have been well designed and compare favourably with those offered successfully by the private sector for commercial purposes.

Moving beyond their early experimental efforts, a number of countries have taken steps to make these advances in e-government permanent by adopting explicit policies and regulations that require the development of a broad range of technology supported services. They have also established standards for their implementation. These initiatives often include directives for ensuring that all citizens, even those who lack access to, or the means for using communication technology, are able to benefit from these new forms of service, thereby helping to reduce the digital divide. Such programmes have taken a variety of forms, including requiring that agencies make information that was previously unavailable accessible through the web, establishing public service centres where citizens can have access to the technology and mandating a

6. United Nations, Department of Economic and Social Affairs, Division for Public Administration and Development Management, *UN e-Government Survey 2008: From e-Government to Connected Governance*, p. 19, 2008. [<http://www.unpan.org>]

range of services that must be available online. The digital divide exists even in developed countries where there is growing recognition of the need to provide all citizens with access through high speed and high quality communications links so that they can be in touch with their government.

Progress in e-parliament⁷

These developments in e-government mirror what has been occurring in parliaments. For example, the vast majority of parliaments in the world now have websites with the activities and documents of the parliament available to the public. Some parliaments, in fact, have been among the early adopters of web technology and many of them have made progress toward the goals of openness and transparency through their websites, thereby leading to greater accountability.

Websites

Websites have become the primary means by which parliaments make their work and their documents known to civil society, to the media and, most importantly, directly to citizens. Parliamentary websites provide a variety of information sources and, while many of these are available independently, it is the ability of sites to integrate a broad array of legislative and policy data and documents that gives them such high value. Official parliamentary websites, however, are not the only source for citizens to obtain information about their legislature. Civil society, the press, academic centres, international organisations, lobbying groups, political parties and commer-

cial companies may also provide websites that address legislative and oversight issues, in addition to information about public policy debates. Especially among higher income countries, there is a growing range of web-based sources that offer information similar to what is on parliamentary sites, frequently with additional innovative features. They often have particular viewpoints and include commentary about the work of the parliament. These sites are likely to continue to expand on a world-wide basis as access to technology increases, economic and political issues become more globally intertwined and more parliaments make their core documents available in a format that allows for easy re-use and integration with other online resources. Because a multiplicity of voices is generally a positive attribute in a democracy, parliaments should facilitate this development by making legislative information available in standard formats which are easily downloadable.

At the same time, **this increase in the number of sources that provide information and opinions about public policy issues makes it imperative that the official site of the legislature be authoritative and non-partisan.** It must also be well managed and supported so that it can respond equally to the growing needs of citizens and members, keep pace with advances in technology and further the values of transparency and accessibility of the parliamentary institution.

As a result of these developments during the past decade, the goals of parliamentary websites have

7. This section draws extensively on the findings of the World e-Parliament Reports 2008 and 2010.

become more complex and more challenging. They began with the objective of providing basic information about the history, the functions, the leadership, and the membership of the legislature. They were soon tasked to provide copies of official texts of proposed legislation, then the verbatim accounts of debates and summaries of plenary actions and copies of committee documents. When webcasting technologies became available, they began to provide live coverage of plenary sessions and other official meetings. And as the interactive web has emerged, some parliaments have added new tools on their sites that encourage two-way communication between members and citizens, inviting them to share their views and engaging them in the policy process.

Websites also have had to improve methods of access to their content. In addition to obtaining copies of texts, many members and citizens now use search engines to find specific documents and speeches. Alerting services enable them to be notified of the introduction and changes in proposed legislation, the filing of committee documents and members' activities and speeches. Increasingly, they can learn about the parliament through a variety of media such as audio or video webcasting, live or through an on-demand archive.

Parliaments have been further challenged to improve the design and usability of their websites so that they are understandable and easy to operate. They have also had to enhance accessibility, ensuring that they can be used by all, including

persons with disabilities. Efforts to provide information for people with disabilities have included such facilities as allowing users to increase the size of the print on web pages for those with visual impairments. Parliaments also have had to address a variety of related issues, such as the need to have information on the website available in multiple languages so that all segments of the population can have equal access to government information. The existence of a digital divide can result in some citizens being excluded from the web entirely prompting some parliaments to promote legislative solutions for expanding broadband access and supporting free public internet points.

Moreover, websites have become critical resources for helping parliaments to achieve greater efficiency in their operations. Beyond this, however, their fundamental purpose remains as a core mechanism to support the goals of transparency and accessibility. Simply offering the major legislative documents or providing informative videos is not sufficient to achieve the goal of an open and transparent legislative body. These features must be designed to serve the larger objective of actively engaging citizens in the legislative process. This is one of the primary reasons that the Inter-Parliamentary Union (IPU) undertook a revision of its Guidelines for the Content and Structure of Parliamentary Websites, published in 2000. The revised Guidelines for Parliamentary Websites, published in March 2009, update the previous recommendations in the areas of content, tools, design and management.⁸ One of the most important strategic objectives the

8. Inter-Parliamentary Union, *Guidelines for Parliamentary Websites*, 2009. [www.ipu.org/PDF/publications/web-e.pdf]

Guidelines serve as a set of recommendations and standards for helping parliaments assess the state of their accessibility and transparency. These Guidelines provide benchmarks that parliaments can use to determine their level of accomplishment and identify additional capabilities to be added.

It is a challenge, however, to design and maintain a good website that complies with international standards, and many parliamentary websites do not yet provide some of the most critical elements proposed by IPU. A number of websites lack fundamental information about the activities of members, timely access to committee and plenary agendas and the full text and explanatory information about proposed legislation. Such shortcomings occur for a variety of reasons, including the absence of clear policy directives, poor coordination among administrative offices, lack of awareness of or attention to best practices, and even political conflicts.

Creating a truly dynamic and current website where the data is updated on a regular basis requires an underlying infrastructure to collect, format, organise and display the range of documents and information produced by parliament. Therefore, a prerequisite to an effective parliamentary website is having both the necessary underlying technical components, like a document management system, and the organisational practices and procedures that efficiently produce the information. Those administrative offices responsible for producing parliamentary documents need to recognise that websites increasingly are the primary means by which the public and the members obtain legislative informa-

tion. Whatever the causes, parliaments that do not meet guidelines such as those of the IPU severely limit their capacity to be transparent and accessible.

Interactive communication with citizens

While websites are the main tool connecting parliaments to the public, some have begun to explore new technological approaches for engaging their constituents. Because parliaments are the political body most directly representative of the people of a nation they have a special responsibility to communicate with their citizens. In contrast to governments, parliaments do not typically provide specific services to the public. Instead, their role is to see that the services offered meet the most important needs of citizens, and that they are equally accessible to all. Increasingly they are seeking the views of their citizens as an important part of this process. ICT is making it possible to accomplish this in new and innovative ways, including through two-way communication.

A variety of social networking approaches have emerged, some of which have become extremely popular, especially among young people. In response to these trends, an increasing number of politicians are using capabilities such as blogging, tweeting and sites such as Facebook, to keep constituents informed about their activities and to engage them in the legislative process. In some developed countries, in particular, the use of these techniques by members is growing. In addition, more members are exploring opportunities to distribute information via new media channels such as YouTube where they can reach a much broader audience than views parliamentary websites.

However, while individual politicians are making greater use of these approaches, parliaments have been understandably cautious in adopting them because these technical developments are relatively new.⁹ Legislatures face significant challenges to employing technology in a way that supports useful and informative communication between citizens and members. For example, the speed and convenience with which information can be communicated can also create problems because of the sheer number of messages and comments that can be generated by the public.

In addition to the difficulties that the volume of e-mail can present to members, the growth of ICT-supported communication raises other questions such as:

- Interaction – does the method support communication in one direction only or does it support interaction and exchange?
- Responsiveness – are members and institutions able to respond to citizens' comments and questions in a one-to-one or one-to-many mode?
- Representativeness – are there means to help members and institutions judge how representative the comments are of the constituents they serve?
- Value – how informed and useful is citizens' input for determining policy?

Parliamentary bodies also need to confront the issue of how best to understand and assess the significance of comments from the public and how it should inform the work of parliaments and the decisions of members. Implicit in this concern is the question of the role that communications from citizens should have on the actions and votes of a member. Representative bodies are grappling with how most effectively to take the views of citizens into account, while retaining their responsibility to provide leadership and make decisions that are in the best interests of the society at large. In addition, technologies that solicit citizens' views can be subject to their own particular limitations. Open discussion forums, for example, can be dominated by a few articulate and adamant participants; online polls can be susceptible to electronic "ballot stuffing"; and large numbers of e-mails can be generated by outside groups en masse that may overwhelm the input of individuals.

Despite the many challenges, some parliaments have made important advances in becoming more accessible, transparent and accountable using ICT tools. Yet progress in many instances has been limited, even among developed countries that have achieved high marks for many of their e-government initiatives. Achieving these goals requires not just the application of technology, but addressing issues associated with institutional rules and procedures, limited financial support, disagreements among parties, and the political and cultural norms that influence the working environment of the legislature.

9. World e-Parliament Report 2010–Chapter 2 documents the slow adoption rate of interactive technologies by parliaments, but also reflects a strong interest to pursue these approaches in the future.

Other technology trends likely to impact parliaments

Technological advances will continue to have a profound influence on society in general and therefore affect the way that government institutions operate and communicate with the public. Many of these changes are likely to have a greater initial impact in the social and economic realms than in the legislative setting where resources are more limited, traditions more embedded and procedures long established. As new technologies penetrate more broadly and become integrated with all aspects of society, however, the influence on parliaments will become more visible. The continuing growth in telecommunications capacity, the development of multi-purpose “smart” devices in smaller sizes, the increase in user-generated content and the expansion of mobile technologies will ultimately influence the opportunities that parliaments have for employing ICT to improve their ability to perform their basic responsibilities.

Parliaments also have a major role to play in advancing these technologies and ensuring that they are available to all sectors of the population and not only those in urban areas or with greater income. For example, by enacting legislation that sets policies for equitable and extended broadband capacity, parliaments can promote technological developments that improve their ability to exercise their fundamental responsibilities, as well as advance society in general.

Broadband penetration

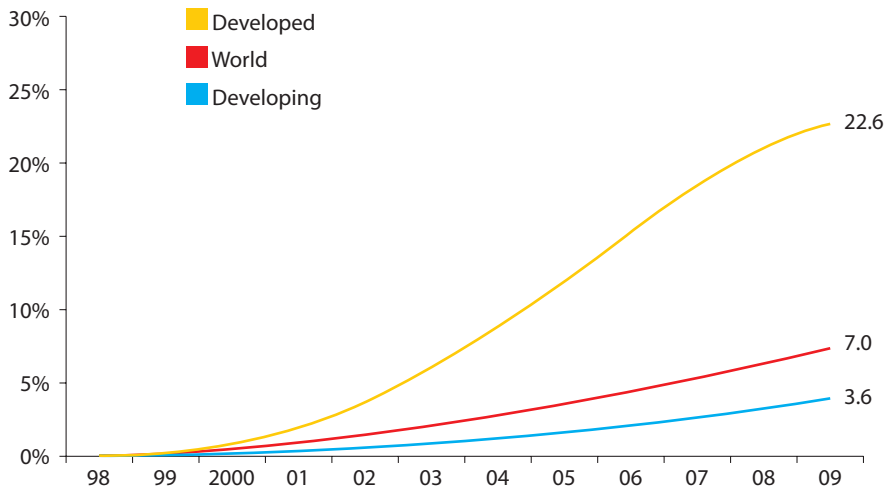
Because a growing number of online, audio and video applications are data intensive and require more telecommunications capacity, the availability of broadband telecommunications is increasingly important. Broadband is an essential component of the national and international telecommunications infrastructure required for such things as e-commerce, e-learning and e-government. Similarly parliaments will rely on broadband capacity to expand access to legislative information and communicate with citizens. For example, as more parliaments move to webcasting their proceedings, broadband access will be needed to accommodate the stream of data involved.

Of special concern is the fact that the digital divide for broadband access is even greater than exists for basic internet access.

According to the statistics gathered by the International Telecommunications Union, people in the developing world are far behind in the number of broadband subscriptions per population.¹⁰ This holds true for mobile and fixed broadband access. Therefore, while mobile penetration is increasing dramatically in developing countries, as indicated in the section below, the lack of mobile broadband capacity will limit significantly the types of uses that can be made of mobile devices.

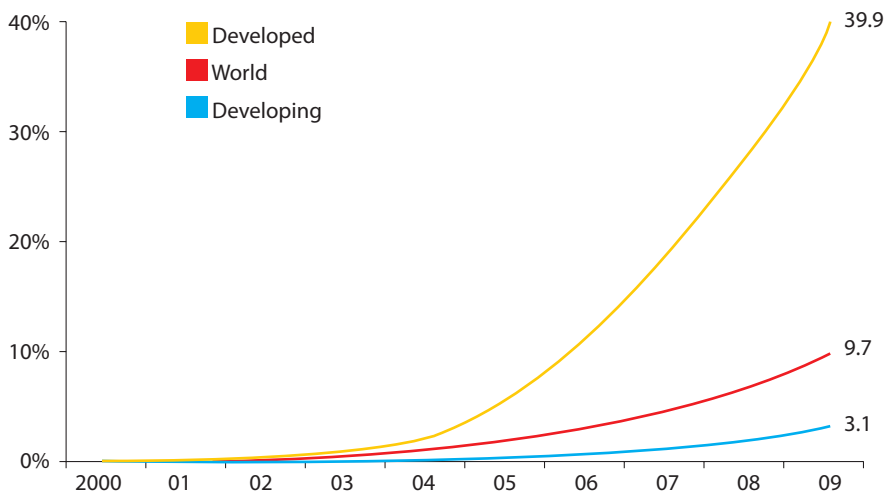
10. ITU statistics on internet, broadband and mobile penetration are available at: <http://www.itu.int/ITU-D/ict/statistics/index.html>

Fixed broadband subscriptions per 100 inhabitants



Source: ITU World Telecommunication/ICT Indicators database.

Mobile broadband subscriptions per 100 inhabitants



Source: ITU World Telecommunication/ICT Indicators database.

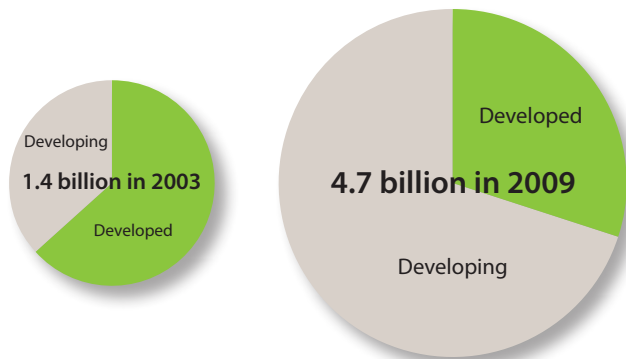
Growth of mobile technologies

Similarly, the expanding universe of mobile technology will have a major impact on parliaments. The rapid growth of mobile phone use in the developing world is substantially altering the ability of citizens in those countries to communicate with each other and to gain access to a broader array of information resources and services. According to the Secretary General of the International Telecommunications Union (ITU): "It looks highly likely that global mobile cellular teledensity will surpass 100% within the next decade, and probably earlier."¹¹

The chart below, developed by the ITU, shows a dramatic increase between 2003 and 2009 in the percentage of people in developing countries

covered by a mobile cellular signal. Although most cellular systems in developing countries lack the broadband capabilities needed to support many important web services, the widespread penetration of mobile technology offers new possibilities to increase channels of communication between parliaments and the public. It also will enable legislators to access information remotely when they are away from the capital or their offices and allow them to be better informed about the status of legislative activities. **Legislatures in NEDs need to explore what opportunities exist to capitalise on the rapid increase in mobile phone use to advance the goals of democratic governance and more effectively engage citizens with the work of their parliaments.**

Global mobile cellular subscriptions by development status, 2003 compared to 2009



Source: ITU World Telecommunication/ICT Indicators database.

11. *Mobile marvels. A special report on telecoms in emerging markets, The Economist*, 1 -19, 26 September, 2009.

Establishing ICT capacity in parliaments

Building blocks

The effective implementation of ICT in parliaments is a difficult task that takes time and commitment. Even for legislatures in developed countries, the endeavour is substantial and requires sustained effort and a strong focus. Too often the focus in applying ICT within a parliament is on the visible end product, rather than the “back office” infrastructure that is essential for developing and maintaining these systems and services. Without adequate technical support, administrative oversight and involvement by offices responsible for generating and managing legislative information, parliamentary systems cannot operate effectively. And if those systems begin to fail there will be a major impact on the ability of the parliament to conduct its business and fulfil its primary responsibilities.

Specific capacities, such as a comprehensive document management system, cannot be brought into operation at short notice. They must be built upon a solid foundation of central components that includes a broad vision, sound management and a technical infrastructure that can support the full range of parliamentary activities. Building this foundation begins with engaging the legislative leadership and putting in place mechanisms for strategic planning, management and oversight. Other critical elements include developing a sound and flexible

technical infrastructure that provides the backbone for a full range of services and assembling a skilled staff capable of implementing and maintaining it. To build a highly effective ICT capacity also requires a willingness to learn from other parliaments and to adopt best practices whenever practical. The key efforts to be undertaken for the successful introduction of ICT in parliament include:¹²

- **Policy formulation.** Parliaments need to enunciate clearly the fundamental goals that provide the foundation for ICT implementation. Principles such as openness, transparency and accountability must be articulated and appropriate laws and rules enacted to support them. These political choices should have broad support among the leadership and members and should be made before technology options are considered.
- **Strategic planning.** Senior political leadership must play the key role in initiating the planning process and reviewing and approving the results, particularly the goals, objectives and priorities for technology. The political leadership must also ensure that the resources provided are adequate for the tasks to be undertaken and adjustments are made based upon regular assessments. Strategic planning must be viewed as an ongoing process that engages all major stakeholders within the parliament.

12. Drawn primarily from: World e-Parliament Conference 2009, 3-5 November 2009, U.S. House of Representatives, Washington, D.C. Background Document, pp. 18-25.

- **Oversight and management.** Once the goals are established and the resources committed, the need for effective management becomes paramount. This can be a special challenge for parliaments because of the political nature of legislative bodies, their organisational structure and sometimes complex decision-making processes. In each house the ICT department, or its equivalent, must facilitate the strategic planning process, based on a clear vision for ICT approved by the parliamentary leadership. The strategic planning process also requires the ongoing assessment of progress, employing procedures such as project management and tools such as enterprise architecture to achieve its ends.
- **Ongoing engagement of senior political leaders, members and the secretariat.** Political leadership of parliament must continue to exercise oversight throughout the process of implementing ICT. Even if much of this responsibility is delegated, it is important that there be a clear indication from the leaders that they retain a level of involvement sufficient to ensure that the critical goals of the legislature are met.

Members also need to be engaged and provide feedback as new systems and technology are introduced. They must be willing to assess how well these services are meeting their needs as individual legislators, members of committees and participants in plenary sessions, and provide regular feedback.

The secretary-general (or the senior administrative officer of the parliament), the director of ICT and their respective staff are also essential to the intro-

duction and management of ICT. Together, these two officers embody a thorough knowledge of how the parliament works and how ICT can best serve its needs.

- **Staff training and development.** Parliaments have a special nature that requires a sufficient number highly competent staff who possess both technical expertise and an understanding of the legislative environment. Hiring capable and committed staff and providing for their ongoing education and development is as important as choosing the correct hardware and software, and is an essential building block for ICT in legislatures. Determining the appropriate mix of in-house and contract staff poses another challenge.
- **Robust, secure and reliable technical infrastructure.** Another essential building block is a robust, secure and reliable technical infrastructure. Because of the costs and the time necessary to install, it normally takes several years to build an infrastructure that will meet all a parliament's requirements. It also takes a comparable commitment to maintain and upgrade the infrastructure as needed. To accommodate evolving needs, changing technology and limited resources, the infrastructure should be built in an open-ended way using standardised components that allow for modules to be added and modifications to be made. Technology must also be readily accessible to members and key operating units of the parliament necessitating a sufficient number of PCs, servers and network connections, together with adequate communication bandwidth and a responsive system for user support.

- **Development of strategic systems and services.** The ultimate purpose of technology is to provide the tools that support the primary work of the legislature. This requires systems for managing parliamentary documents throughout their entire life cycle, from creation to preservation and permanent access in order to build a parliamentary knowledge base. It also includes systems for recording committee and plenary sessions and for supporting the work that takes place there; systems for conducting timely research and analysis of proposed legislation and policy issues; and systems for designing and maintaining a website accessible to members and the public that supplies complete information and documentation of the parliament's work.
- **Learning from others.** Because there are relatively few parliaments in the world, developing an adequate ICT capacity also requires a willingness to learn from the experiences of others, to adopt best practices where appropriate and to share knowledge. There are a growing number of global and regional networks that can support and enhance parliamentary ICT through the exchange of information and experiences. New and emerging democracies can benefit substantially from the results of ICT efforts in other countries and by adopting common approaches.

The remainder of this report offers a more detailed discussion of these requirements, including options for meeting them, and identifies how parliaments that are in the early stages of ICT adoption can establish a strong foundation that allows them to move forward in a productive and cost-effective way.

First Steps: Formulating a vision and initiating strategic planning

The initial stage of building an ICT capacity in parliament involves formulating an institutional vision that can be translated into a strategic plan. If parliaments attempt to introduce ICT without going through these first steps, they run the risk of expending scarce resources to build a system that may fail to meet the needs of legislators, the parliament and the public.

Establishing an enabling policy framework

Parliaments are key players in shaping the legal framework for the global information society and have been actively involved in debates on such issues as expanding access to the internet, protecting privacy, confronting ICT security threats, promoting net neutrality and investing in broadband deployment. Parliaments have therefore helped to establish the "rules of the road" that provide a foundation for operating in today's networked environment. As legislatures around the world attempt to address these challenges they have an obligation to demonstrate leadership on these issues within the context of their own operations. **Parliaments need to serve as champions of policies that foster openness, transparency, equality of access, and reduction of the digital divide not only for society at large, but also within their own institutions. Demonstrating a highly visible commitment to open up the workings of parliament to the public and foster better channels of communication with citizens is an important statement about a parliament's fundamental goals. By showing**

the value of these policies for advancing democratic practices, parliaments can encourage their adoption throughout their country. They also send a significant message to the international community about the role the parliament is taking to promote the growth of democracy.

Therefore, one of the first tasks confronting members and officials in parliaments is the development of a vision that sets the stage for how ICT will be implemented. **Political choices must be made before technical decisions are undertaken since ICT should not be the driving force, but rather serve the goals of the parliament.** The priorities for ICT development, as well as the design of the systems deployed, need to reflect the values articulated by the parliament. They should be determined at the highest levels within the legislature and must be supported by the membership to be most effective. This articulation of key goals must encompass the combined efforts of all major players within the parliament, including its leaders, members, senior officials and staff. In this way the policy statement can most successfully reflect the particular role of the parliament in a country, its historical influences and the nature of the institution.

Having a clearly articulated vision that is broadly endorsed and publicly announced will be especially helpful in new and emerging democracies where they often are developing ICT capacity in the absence of an existing infrastructure. Because these legislative assemblies generally have limited resources, they must clearly articulate their priorities for ICT investment if they hope successfully to create viable and responsive systems and services.

One of the most fundamental questions that must be answered is how open and transparent a parliament wishes to be, both at the institutional level and in terms of individual members. In addition, parliaments need to determine how best to engage the public in the legislative policy process. The lack of confidence in public institutions has been growing in recent years and parliaments have a major challenge in trying to reverse this trend. There is mounting pressure from citizens to hold their representatives to account, not only at election time, but throughout their tenure. The electorate is demanding more information about the operations of government institutions that will enable them to assess independently the actions taken by parliament. Being able to judge the performance and integrity of office holders further contributes to building public confidence and bolstering democratic values. Once a parliament has articulated the broad goal of becoming more transparent it must then address more specifically the objectives they hope to achieve. The list below identifies some of the decisions that must be made by parliaments to determine what their policies will be toward opening up their operations to public scrutiny.

- Is the goal to make all authoritative legislative documents publicly available or will some be limited to internal distribution?
- What are the boundaries between what should be made publicly available versus restricted to parliamentary use?
- Will the public have access to verbatim accounts of all plenary sessions? Of all committee meetings?
- Are all agendas for both plenary sessions and committee meetings publicly posted?

- Will recorded votes be readily available to the public?
- Is there a time delay between information being made available internally compared to its release to the public?
- Do members want to provide information on their own activities, in addition to the actions of the parliament, directly to citizens?
- Is the internal budget of the parliament and its distribution a matter of public record?
- Are there rules for constraining outside influences and is the implementation of them made publicly available?
- Do members have to disclose their financial interests and is this information easily accessible?

In addition to efforts to make parliaments more transparent and accountable, legislative bodies can lead the way in making their information more universally accessible. Here again, while ICT tools can be instrumental in realising this goal, leaders in parliaments need to make the commitment to ensuring that all segments of their society are able to access their information. **Not only must the digital divide be reduced between countries, but it must also be bridged within countries. That means taking steps so that people with disabilities, minorities who may speak another language, people who live in rural areas without adequate technical infrastructure, and those with limited resources are given opportunities both to access information about the actions of their parliament and representatives, and to participate actively in political debates.**

In some cases, achieving this goal requires legislative action that promotes widespread accessibility.

This may include funding to expand internet connections throughout the country, support for community sites that provide public internet access, or promotion of competition that would result in lower prices for consumers of ICT hardware and services. Internally, parliaments need to determine how to prioritize such investments as providing information via multiple channels (e.g. website, audio and video broadcasting); making information on the website available in multiple languages if needed to reach all communities; and making websites usable by people with disabilities (e.g. visually impaired).

Adoption of common open standards is another area where parliaments can take action that will have an impact internally, across the government, and ultimately in the broader national and international communities. For example, by mandating the use of common standards by all government agencies, parliaments can lay the foundation for the creation of public databases that are more widely accessible. This will benefit the legislative branch in its oversight of government programmes and spending, in addition to making the information available to civil society and others who wish to monitor government activities. Furthermore, once a critical mass of government agencies adheres to common data standards, it is increasingly likely that others in the private sector will begin to adopt them as well.

An additional step that parliaments can take to make their information more broadly accessible is to offer explanatory materials that help the average citizen understand what legislative actions have

been taken. The legal jargon that is generally used in drafting legislation often makes it difficult to decipher the actual meaning of the proposal and to comprehend the implications for affected parties. Providing context and clear descriptions contributes significantly to broadening the understanding of what parliaments are doing and the issues being debated. Parliaments need to determine what resources they have internally for developing this type of material (press offices, libraries, research services) and also make decisions about their willingness to link to other external resources that can provide explanatory information.

Before parliaments make substantial investments in new web-based technologies that support interactive communication, they need to establish their policy goals for encouraging more citizens and civil societies to express directly their views on policy issues under consideration. Can the public petition the parliament? Are there central offices established to handle public comments? What responsibilities do individual members have for responding to their constituents compared to what obligations reside with the parliament as a whole? Is one-way communication that provides information via websites adequate or is there a desire to engage the public more actively in the policymaking process using two-way technologies? How high on the list of priorities established by the parliament is the development of interactive communications with the public?

Furthermore, parliaments need to identify realistic mechanisms for receiving input from the public given their particular political, economic, social and technological setting. They must anticipate

possible difficulties such as handling a huge influx of emails from the public when a controversial measure is being debated. There is the potential to raise expectations on the part of the public that, because an email address is provided on the parliamentary website, they will receive a prompt reply and their input will have an impact on the outcome of the debate. When this does not occur, citizens may become further frustrated and alienated from parliament, rather than feeling that they have been engaged in the process.

Other objectives related to parliamentary practices also need to be addressed as the vision is developed. For example, improving the efficiency of legislative operations is an essential part of achieving goals for accountability and transparency. Parliaments need to show that their operations are competently managed and cost-effective. As noted above, adherence to best practices and widely accepted standards thus need to be part of the overall picture for ICT implementation. Doing so can yield benefits not only internally, but also for promoting the use of ICT standards more generally and for enabling the parliament to participate more effectively in the exchange of information internationally. In a similar vein, policies that promote the security of ICT systems and provide fundamental rights of privacy for communication between citizens and parliament can have important spill-over effects within society and on a global level.

Strategic planning

Once a parliament has established its overall vision and developed a policy framework that specifies the parameters for its operations, the next phase

to be undertaken is strategic planning. This is the key process for identifying the specific steps to be accomplished to implement ICT in a parliament. Strategic planning moves ideas from the conceptual to the concrete, ultimately resulting in projects with designated timelines for completion and a commitment of sufficient staff and financial resources. In order for this process to be successful it must comprehensively cover all aspects of ICT development in a parliament. **Attempting to implement individual ICT projects independently rather than in the context of an overall strategic plan leads to a piecemeal approach that risks redundancy, lack of interoperability and wasted resources, particularly given the interdependency of many systems.**

As a result, having an effective strategic planning process is especially critical for NEDs. These legislative bodies often need to rely on outside donor assistance to fund hardware and software acquisitions, as well as supply support for training. In many instances, the source of such assistance may be multiple entities, including regional or international organisations, in addition to parliaments in developed countries. There is a need to ensure that individual donations can be incorporated into the overall strategic plan in a way that contributes to the development of an integrated ICT infrastructure that serves the stated goals of the parliament. The existence of an effective strategic planning process also can prove highly beneficial to parliaments in their efforts to secure donor funding. Donors are likely to be more responsive to proposals that reflect a well-conceived strategy for ICT implementation. Besides, they are better able

to identify how their particular priorities for assistance fit within the framework of a given parliament's goals and initiatives. Finally, since donors expect recipients to be able to transition start-up efforts to self-supporting operations, parliaments that have a solid understanding of priorities, costs and available resources are more likely to be successful in ultimately doing so.

Strategic planning is an ongoing process because it has multiple components and needs to be adjusted regularly to reflect new developments, alterations to goals and emerging opportunities. As such it must be viewed not as a single activity or document, but as a sustained commitment over time to match ICT efforts to the continually changing environment within an institution. It is a dynamic endeavour that includes regular review, revision and updating of plans based on changes in goals, objectives, policies and current initiatives, as well as available resources and technology. The process generally follows a series of steps that start with identifying specific goals and objectives. Once this is accomplished, strategies and action plans for reaching these goals can be designed, the appropriate level of resources can be allocated and responsibility for managing projects assigned. A critical component of strategic planning involves assessing and evaluating the progress and success of specific projects. Depending on the outcome of the assessment, necessary adjustments can be made to update plans, modify directions and shift resources appropriately.

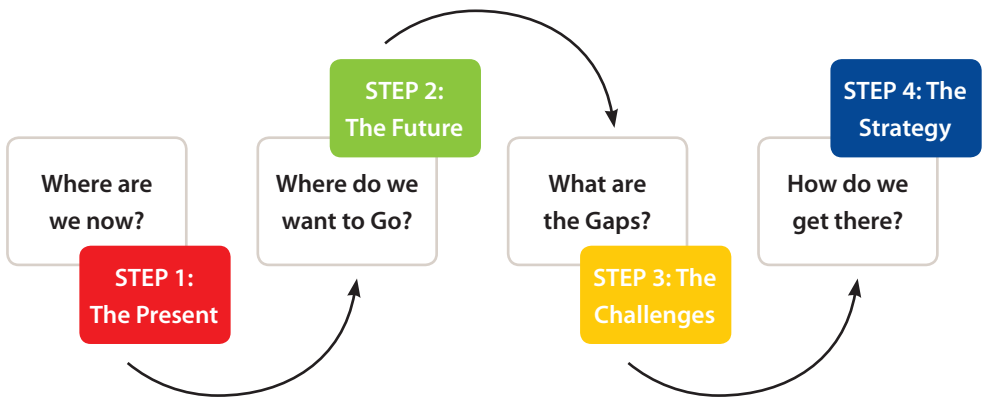
To be able to perform these assessments competently, measurable outcomes need to be established at the beginning of the process. It is

important to be able to judge objectively whether an ICT project has been successfully implemented and achieved its desired results. For example, is new information now available to the public? Can historical information on plenary sessions be retrieved online? Have the costs for distributing copies of proposed bills or amendments been reduced? Do citizens now have a means for expressing their opinions on legislative proposals? Can members get faster access to budgetary data? It is essential to undertake assessments, both at appropriate times during the implementation process and at its completion, to comprehend fully how a new system is affecting legislative operations.

Other useful benchmarks can be drawn from international efforts to evaluate ICT in parliaments. For example, the Guidelines for Parliamentary Websites developed by the IPU offer specific criteria for website contents that can serve as goals for par-

liaments throughout the process of building and enhancing their websites.¹³ The World e-Parliament Reports prepared by the Global Centre for ICT in Parliament are another valuable source of benchmarking data. The report issued in 2010 identifies the key systems and services needed to become an e-parliament and provides examples from parliaments that are leaders in achieving these goals.¹⁴

A recent workshop entitled, "ICT Strategic Planning in the SADC Parliaments", held from 26 to 28 July 2010 in Windhoek, Namibia convened by the United Nations through the Global Centre for ICT in Parliament and the SADC Parliamentary Forum provided a venue for further development of draft guidelines for strategic planning in parliaments.¹⁵ These draft guidelines and work done in the framework of the African i-Parliament Plan identify the series of steps involved in the strategic planning process as shown below.



13. Inter-Parliamentary Union, *Guidelines for Parliamentary Websites*, 2009. [www.ipu.org/PDF/publications/web-e.pdf]

14. World e-Parliament Report 2010. [http://www.ictparliament.org/index.php/world-e-parliament-report-2010]

15. http://www.ictparliament.org/SADCictiplanning/

The strategic planning process helps to ensure that ICT projects consistently align with the goals of the parliament. The process also contributes importantly to keeping initiatives on schedule and within their allocated budgets. Strategic planning imposes a discipline on the entire ICT development effort by focusing on establishing priorities and evaluating results. It also ensures that the users of ICT will be actively engaged in the development and testing process. By doing so, the resulting applications are far more likely to meet user needs and to support successfully the people and processes for which they are designed.

Another key benefit of strategic planning is that it compels a systematic analysis of available resources against desired ICT investments. While all parliaments must grapple with limited resources, legislatures in NEDs are especially constrained financially. Strategic planning can prove instrumental in determining investment priorities among competing objectives and projects. As the process includes an assessment component, it provides decision makers with the information needed to compare resources invested against project results.

Establishing ICT priorities in the legislative setting faces several challenges due to competing goals, the way that parliaments operate, and the multiplicity of demands from different stakeholders. Some of these conflicts revolve around varying technology requirements, while others are rooted in the processes and major players in parliaments. For example, demands for the immediate posting of information online may compete with the need to take time to perform quality control or the desire

of members to have an opportunity to review the documents in advance of the public. The needs of those responsible for drafting legislation may conflict with the requirements identified by offices in charge of public distribution of legislative information. Therefore, the conflicts that emerge as a result of the legislative process need to be resolved within the context of the strategic planning effort in addition to the conflicts that are driven strictly by competition for common resources. The analyses performed through strategic planning help to identify where different types of resources (e.g. software, hardware, expert staff) need to be coordinated in order to achieve the desired objectives. Because strategic planning clearly identifies the full range of ICT demands and the resources available, it gives parliamentary decision makers a comprehensive view of the investments they are making.

The information that emerges from the planning process provides a sound basis for making decisions on priorities for ICT development. It helps parliaments understand the implications of moving forward with certain projects, while deferring others. By providing an appropriate venue for debate over competing requirements from a variety of stakeholders, the strategic planning process informs the decisions on trade-offs that need to be made and helps parliaments make the difficult choices on ICT investment that are required. It provides a firm rationale for where to commit funds and staff resources. Most importantly it reinforces the importance of making these decisions based on the fundamental goals and objectives enunciated by the parliament, rather than on the technology itself. As a result it ensures ICT priorities are aligned with the parliament's priorities.

Role of parliamentary leaders, members and senior officials

As ICT has moved from being an adjunct activity to a core function supporting the high level vision of a parliament, it has required greater engagement by parliamentary leaders, members and senior officials. Without the support of those in key political positions, it is difficult to develop a successful ICT plan, establish priorities, have access to adequate resources and design systems that meet the true needs of parliament.

These individuals play an important role in several respects. First, effectively implementing ICT in parliaments involves making decisions about the most important goals of the institution as described in the previous sections. Only with active engagement of the president/speaker or other designated leaders can such an effort result in a plan that both accurately reflects the most important parliamentary goals and also is capable of being implemented. Without high-level support it would be extremely difficult to get the kind of sustained commitment of resources needed to develop and maintain ICT systems.

Furthermore, in the process of designing ICT support capabilities it sometimes becomes evident that operational changes may be needed in the institution. Without the support of those in positions of authority, making the necessary modifications to current practices may face significant opposition. This is especially true for legislative bodies that have a long history and where traditional modes of operation have become entrenched in the parliamentary process. New and emerging democracies may have an advantage in this instance since

they will be developing their procedures without being encumbered with long-standing institutional arrangements. **ICT can contribute significantly to designing processes that are more efficient. However, while attention needs to be paid to making the institution function as effectively as possible, efficiency is not always the highest priority. Rather, the ultimate goal is democratically achieved lawmaking. Certain checks and balances may be critical to the process even if they result in certain inefficiencies. Therefore ICT systems may need to accommodate certain procedures even if they add greater complexity to the process.**

Political leaders have enormous demands on their time and so it is unrealistic to expect them to be extensively involved in all aspects of ICT development in parliaments. What is important is not the amount of time they commit, but instead that they contribute at key times when important decisions are made, priorities established and oversight is conducted. Their ability effectively and forcefully to communicate their goals for technology is central to the success of the enterprise. Similarly, by retaining a certain amount of involvement throughout the process leaders can ensure that the primary legislative objectives are met. Leaders who serve as champions of ICT in parliaments can have a major impact on resource allocation and acceptance of new technology by the membership.

It is extremely beneficial to be able to engage individual members and the leadership in the planning and use of ICT. They bring a different perspective to the process based upon their particular needs for

ICT. Members' needs vary among legislative bodies depending on such matters as the availability of staff, the role of committee versus plenary activities, the length of sessions and the amount of time spent in the capital compared to a constituency. For example, if members have few staff, as is generally true in most NEDs, they may need direct access to ICT capabilities that enable them to perform their legislative, oversight and representative functions. If they spend considerable time away from the parliament building, they may need remote access to information and mobile technologies.

Members likewise need to be actively involved in user testing so that they can determine if the systems that are being developed serve their requirements. They also should be willing to offer ongoing feedback about how well systems are working and what enhancements or modifications might be useful. In this way, legislative ICT support systems can be routinely adjusted to respond to the particular needs of members.

Much of the day-to-day operational management of the parliament, including ICT, is often delegated to a senior official, for instance a secretary general. In some legislative bodies, this person is a political appointee, while in others it is an independent civil servant. While these variations may have some impact on how much authority the individuals have or their direct relationship with the political leadership, the secretary general, or the senior administrative official, almost always plays a vital role in the ICT development and implementation process. This person often is the critical link between the technical staff and the leaders in parliament. They are in the

best position both to inform and advise members about ICT matters and to channel the interests of political leaders back to ICT managers. Maintaining an ongoing dialogue between the membership and ICT managers is a helpful way to convey members' views to those responsible for developing and implementing systems that support parliament.

Since most secretaries general usually supervise the director of ICT as part of their management responsibilities, they need to be well informed about the benefits and challenges of technology so that they can effectively oversee its planning and implementation. In most cases the ICT department is only one of several departments that report to the secretary general. Thus, he or she is in a unique position to ensure the effective cooperation among departments, recommend priorities for the allocation of resources and resolve differences or conflicting objectives. Having broad responsibility for the overall administrative operation of the parliament and a thorough knowledge of how the parliament works enables the secretary to take a "big picture" view of the needs of the institution and to ensure that ICT development is aligned with the legislature's goals and priorities.

The director of ICT must work closely with the secretary general to enable the effective introduction and management of ICT and make sure that ICT serves the articulated needs of the institution. Based upon direction received from the secretary general, the director of ICT must be able to develop overall ICT strategy documents in conformance with the strategic plan and prepare individual project plans. Not only must the director of ICT have a strong understanding of technology, but he or she must also be

well acquainted with the legislative process in general and the particular nature of that parliament. Only by combining these capabilities can the director of ICT determine which technologies and approaches are the best options for a parliament. It is the ability to appreciate the special characteristics of a legislative body that differentiates an effective ICT manager in parliament from those in the private sector. Conveying this knowledge to the ICT staff responsible for developing systems, selecting appropriate hardware and software and providing technical support are all important tasks for the ICT director.

Coordinated management of ICT likewise can be accomplished in different ways and is likely to reflect the particular political environment of a parliament. In some cases, parliaments have moved toward a more centralised approach with control located in a single officer, leader or committee. Some bicameral legislative bodies have even moved to a single management entity that oversees ICT functions in both houses. In other instances, there is a more decentralised approach with authority being shared among several of the key players and each house having its own ICT operation.

Whatever approach is pursued, the most critical elements are effective coordination between houses and strong communication lines among all the stakeholders. This ensures that whatever systems are developed are interoperable and follow common and open standards that enable effective sharing of data and resources. In addition, having designated roles and responsibilities clearly articulated from the top contributes importantly to the smooth operation of ICT initiatives.

Next Steps: Translating vision and strategy into reality

Developing priorities and creating an action plan

The strategic planning process will result in a comprehensive view of how the parliament, as represented by the political leadership and the majority of members, wants to use ICT. That shared understanding will lead in turn to a set of goals and objectives that serve as the basis for specific projects designed to improve the state of technology in the legislature. The scope of these projects can then be derived from a comparison of the current state of ICT with what is needed to enable the parliament to achieve its vision. The difference between the current state and the future state is referred to as the gap analysis, in other words an assessment of where the parliament is today and where it wants to be in the future.

The gap analysis leads logically to an identification of specific actions, including *inter alia* infrastructure to be built, systems to be developed and operations to be changed. The net result is an action plan that will typically take several years to complete. It is important to reiterate, however, that strategic planning of this type is an ongoing process that requires continuous evaluation of progress, re-assessment of goals and objectives and, normally, adjustments in the allocation of resources, both financial and human. For example, if priorities shift or changes in technology occur that might have an impact on the current plan, modifications would need to be made.

While the action plan should be comprehensive, all of the projects it contains cannot be worked

on at the same time. Some projects require that certain tasks be completed before others can be undertaken. In other cases particular technical components or changes in rules and procedures may need to be in place before other tasks can begin. For example, there may need to be a local area network in place before a project that requires exchange of data among different entities within the parliament can be developed. These contingencies will become clear as the strategic plan evolves from goals to specific implementation plans.

Even more important than the technical and procedural requirements that establish the order in which projects will be undertaken, however, are the priorities of the political leadership and a majority of the members. The leaders and members will have identified specific problems that need to be solved or new capacities to be developed that are high on their list of ICT objectives. These may involve any of the core responsibilities of the parliament, such as making the distribution of plenary or committee agendas more efficient, ensuring that members receive copies of draft bills or proposed amendments as soon as they are prepared, or making the record of verbatim proceedings available sooner. Other priorities may relate to the ability to communicate with citizens more effectively and provide ways for them to express their views on policy issues. Or, they may deal with important administrative matters like maintaining accurate expense records of members. Within each parliament there will be a set of priority tasks requiring ICT support that are especially important to the leadership and members. It is these tasks that will receive most attention and commitment of resources from

those at the top and that need to be completed as early as possible.

The development and implementation of technology to meet strategic goals require considerable time and effort. Therefore, successfully delivering results on these high priority applications will be instrumental in sustaining critical political and funding support from the political leadership. Decision makers want to see specific benefits and improvements that are important to them to demonstrate that the long term investment is warranted. This is an inherent management challenge. Leaders and members of parliament need to see some early positive results from their commitment of resources to ICT even as longer term efforts are undertaken. To retain their support for projects that require long periods of effort, it is important to have regular reports fully disclosing progress and problems, with solutions identified to deal with unexpected delays. If ICT managers want to build trust with leaders of parliament they need to be transparent about their operations in the same way that the parliament itself is transparent about its activities.

It is sometimes attractive to ICT managers to pursue large-scale projects that make use of cutting-edge technologies. However, **accomplishing small projects with demonstrated value and focusing on building core capabilities is often the best path to ensure long-term success and leadership commitment.** Senior managers responsible for ICT therefore need to determine how to balance competing priorities while meeting the expectations of the decision makers.

Addressing challenges

One of the complicating factors in developing ICT capacity in parliaments is that most systems require a number of different components to be developed, tested and integrated before the optimum solution can be implemented. A parliamentary website is a good example of this principle. A website that provides relatively static (i.e., unchanging) information, such as the history of the parliament or the responsibilities of members and committees, can be built quickly. However, it takes much longer to build all the systems required to provide the most current version of documents, such as the text of proposed legislation, or the most recent action taken on them. This is because providing timely information about documents involves many interrelated components, including: a system that can be used to create, track edit and publish multiple records; servers and an internal network that can store and transmit data rapidly and reliably; desktop and mobile computers with the necessary software to manage documents and information; procedures that facilitate the efficient preparation and movement of reports; and staff who have been trained in, and who support, the new procedures and tools. In addition, there must be a means to host the website and an external communications network in place that provides citizens with access. There must also be security measures in operation to ensure the accuracy and integrity of the parliament's documents and to prevent disruption of service. Each of these components requires its own development project and can, in many instances, take considerable time to complete.

One of the other requirements frequently overlooked in the development process is the need

to involve the staff who will be tasked to carry out the new procedures and use the new ICT tools. These individuals are usually highly experienced in the legislative or administrative procedures involved, but they vary in their familiarity with technology. It is a mistake not to engage them in all major phases of the project, including the definition of its scope, the delineation of requirements, the establishment of priorities, the design of the interface, the specification of workflow, and the testing of individual components as well as the entire integrated system. These staff can provide important insights into how the system needs to work and how to make it most efficient. Changes in procedure may be necessary in order for the new systems to work most effectively.

To overcome potential resistance to change and greatly increase the likelihood of success, the views and active engagement of key staff throughout the life of the project are critical.

Equally important is the need to ensure effective cooperation and teamwork between different organisational groups within the legislature. Using the parliament's website as the example again, several different work units will be involved in its successful deployment and maintenance. These include the various teams responsible for content, for instance plenary and committee documents and legislative actions; interface design and user support; and technical management. These groups need to function well together, maintaining a collaborative approach, seeing their efforts as interrelated and directed to the overall goals of the parliament and not just their own area of responsibility.

For all of these reasons, the oversight and implementation of ICT in a parliament is one of the most difficult management responsibilities in a public institution. Success involves meeting the requirements and addressing the concerns of many different stakeholders, from the decision makers to the clerks who will operate the systems. It also entails thorough planning, effective oversight and the coordination of multiple, interdependent projects.

Basic infrastructure components

Before many projects can be planned and scheduled, basic technical components need to be installed. There is a need to build certain underlying elements of the infrastructure first, such as a local area network or document or content management software, before more visible results can be delivered. While these central elements are common across most legislatures, each parliament will need to customise them to their particular environment. To illustrate, assume that the political leadership has stated that one of its chief priorities is to distribute the plenary agenda in digital format to all members at least three days before the session. If the level of ICT within the parliament is at a very early stage, this first may require the building of a wired or wireless local area network with a sufficient number of connections to accommodate all members. Additionally, software to prepare the agenda, store it and distribute agenda information will need to be acquired and installed. Procedures may need to be reviewed and potentially revised to make the collection and distribution of this information more efficient. And finally, both members and staff will need to be trained in the use of the new hardware and software in order to access it.

Looking again at the example of the website, it is fairly straightforward to make a static version of proposed legislation available online. However, as soon as that legislation changes through amendment or other action, the new version must replace the previous one. If a system is not in place to do this automatically, the new version can only be posted through a labour intensive process that will not result in timely access to the bill. Therefore, a document management system needs to be built in order to have an efficient, cost-effective and reliable mechanism for providing current legislative information on the parliament's website. As noted previously, providing poor quality and out of date legislative information poses the risk of "turning off" users and diminishing trust in the parliament.

Therefore, **parliaments that are just beginning to develop their ICT capacity need to focus on the technical "building blocks" that must be in place before broad-based applications that directly support the legislative, oversight and representational work of the parliament can be delivered.**

These building blocks include, amongst other things:

- A local area network
- Servers and storage devices
- Software to carry out the work required
- PCs for members and staff who will use the software
- Security hardware, software and procedures
- Help desk and user support capacity
- Trained ICT staff

The last item – trained ICT staff – is often overlooked or undervalued, and yet is perhaps the single most

important point. The successful installation of all the other items on the list depends on trained and motivated staff. Without good staff very little is possible; with good staff, a great deal is possible, even with limited resources. Parliaments need to have a basic ICT staff capacity to carry out the ICT programme. This can be a substantial challenge for NEDs that are just beginning to adopt ICT. They may have relatively few trained technical staff, and it may be necessary to use external contract staff or companies to build some of the components of the system. If the funds are available, outside assistance can be especially helpful to implement common technical elements, such as a local area network, that are the same regardless of the organisation. Using external technical support for installing some of the basic technical infrastructure allows the internal ICT staff to concentrate on the technical components that need to be tailored to the particular needs of a legislative body.

In some countries it is difficult for public institutions to compete with the private sector in hiring both internal and contract technical staff that may be in limited supply and high demand. This is another reason why priorities need to be clearly defined and delineation of tasks between internal and contract staff well articulated. **The lack of available technical staff strongly argues for parliaments to make use of shared software or applications developed by other legislatures or legislative networks to advance the state of their own ICT more quickly.** There is an unfortunate tendency for many parliaments to regard their methods of operating as unique and to believe that they must develop highly tailored software to meet their requirements.

The reality is that most parliaments share the same basic needs that can be adequately addressed (with some relatively minor adjustments) with shared software. The first question that senior ICT managers should ask is whether technical solutions have been developed in other parliaments that they can use.

Strong parliamentary networks can be invaluable in this effort and particularly beneficial to a legislature seeking to enhance its use of technology. Even if technical solutions are not available or have not yet been developed, the experiences of others who have had to address the same problems can be very helpful. Sharing knowledge can be as important as sharing software. One helpful example is that of the European Centre for Parliamentary Research and Documentation (ECPRD) where designated staff from member countries can make enquiries of others about what work has been done in a particular area. The responses are helpful in identifying where solutions may already have been developed and what models might be useful to others.

A second consideration in putting the necessary building blocks in place is that it is not necessary to build more than is required at a particular stage of the process. One example might be the creation of a system that allows for the timely updating of the text of draft legislation. If the text initially is to be distributed to members on paper alone, then PCs will be needed by the clerks who will perform the updating, but not yet for all members. Once the primary method of distribution becomes electronic, then it will be a requirement for all members to have PCs on their desks. The principle of “nothing before it is needed” can save time and resources.

However, a third consideration may, at times, pose a related challenge. The principle of “anticipating future needs” is important to consider, especially when building physical infrastructure components that are labour intensive. An example is the wiring needed for networks. This task may require the opening of walls, ceilings or floors to access the conduits for placing the wires. This time-consuming activity is often costly and disruptive. Therefore, if there is an opportunity to take advantage of having access to these conduits because of work being done for other purposes, it may be cost-effective to install the new cables in anticipation of a future need, even if the current systems do not require them yet.

A fourth consideration is to select software for individual requirements that will not limit the ability to address the future needs of the overall system. For example, if the first priority is to publish information that is prepared only by one office, but a future requirement will be to publish documents that involve contributions from several offices, it is important to have document management software that supports the capability for multiple sources of input.

Finally, it is often useful to build small modules of an application if they can be immediately helpful to some users, even if the full application will eventually be used by a much broader group of people. For example, a module of the system initially might be created that allows one office to prepare and send documents to the speaker/president or secretary-general. Subsequently that effort can be expanded to other offices as they have the need and capacity to use it. A modular approach has many advantages, including the ability to test the application on a limited scale before deploying more widely and delivering a usable portion of the application in a faster timeframe than the development of the whole system.

These basic principles come into play throughout the development process, but are particularly relevant after the initial steps of strategic planning. They affect the scope, structure and content of the ICT action plan. The next section focuses on the specific characteristics of effective management and well-trained staff, and provides guidance on building a technical infrastructure with the necessary capacity to support the current and future ICT goals of the parliament.

Creating an effective management and staff infrastructure

An effective management infrastructure is essential for ensuring that the implementation of technology is successful and that it meets a parliament's highest priorities. Because the organisational and political cultures of legislative bodies can vary greatly, and because there are significant differences in the state of ICT readiness among countries, parliaments would need to adapt this description of options to their own circumstances. It is hoped that this material will prove particularly useful for parliaments that are in the early stages of ICT planning and development.

The ICT department

ICT needs to be managed on a day-to-day basis by an organisational unit headed by a person who reports directly to the highest administrative officer of the parliament or to the president/speaker or his/her delegate. Because the customary names of bureaucratic entities (department, office, etc.) and officials (director-general, director, secretary-general, etc.) vary among parliaments, the titles used in this discussion are illustrative. More important than the names are the descriptions of the authority, responsibilities and duties of the organisations and individuals involved.

The ICT department should be non-partisan and inclusive; it should serve the leadership as well as all members, committees and the secretariat.

The head of the ICT department has a number of critical responsibilities. He or she must be a capable

high level manager who can advise senior leaders and administrators of the parliament while overseeing the implementation of the strategic plan for ICT. At the same time, he or she must be extremely knowledgeable about current technology and must also fully understand the nature and purpose of parliaments. It is this latter quality that often distinguishes capable ICT managers in parliaments from those who are truly outstanding. As with most enterprises, the person most likely to be successful in directing ICT is the person who, in addition to possessing the necessary managerial and technical skills, has a clear understanding and appreciation of the role of the parliament and how it must operate in a democratic society.

The basic organisation of the ICT department in a parliament is similar to that in other institutions and comprises a number of standard components. The essential elements include a directorate responsible for planning, budgeting, security and the overall ICT architecture. This directorate is supported by at least two other subordinate operations, one for the development of systems and services and one for the management and support of systems and services. This latter entity includes a help desk and workstation support, networking and communication, and data centre operations. Depending on the qualifications and experience of the ICT staff, and the preferences of the parliament, the organisational entities responsible for these functions will vary. Annex 1 contains a description of a generic ICT department as an example of this model.

Advisory group for ICT planning and coordination

The implementation of ICT is an enterprise-wide effort. To be successful, as discussed above, the senior leadership of the parliament needs to be sufficiently engaged to understand and approve the goals for ICT. With this approval must come both political and financial support. The secretary-general or senior administrative officer must be empowered to oversee the strategic plan for ICT, must regularly review the progress – or the lack of it - in achieving its objectives, and must have equal capacity and responsibility for addressing serious issues and problems that may arise. The director of ICT must be a source of ideas as well as the primary implementer and manager of the ICT plan.

Because technology can affect the entire institution, even when applied to just one part of its overall activities, it also requires ideas from those who will use it and from those who will be affected by it. In addition, it requires cooperation from various stakeholders whose work is interdependent and who will need to work together to ensure a successful outcome. For these reasons, parliaments also need advisory groups that can be a source of ideas for the innovative use of technology and which, collectively, will have a more complete picture of its likely impact, both positive and negative, than any one person can have. On the basis of this broader understanding, the group and the parliament can anticipate and address problems that may arise as well as ensure the cooperation needed to achieve the greatest benefit.

Thus, it can be a good management practice to establish an advisory group for the planning and

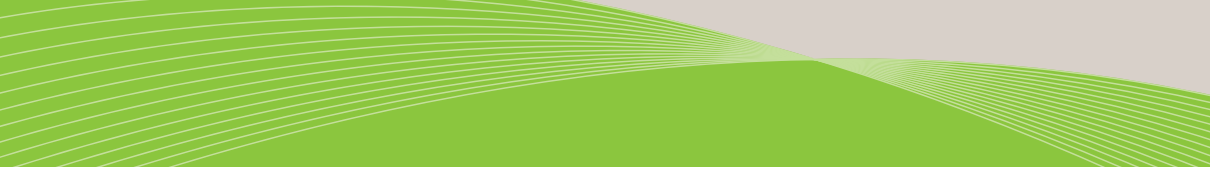
coordination to ensure a high level of communication, coordination and consultative decision making in the management of ICT. The group should be formally established by the president /speaker and chaired by the secretary-general. It should be composed of the heads of all departments of the secretariat, or their representatives and other major stakeholders as determined by the secretary-general. Members of parliament who have an interest in ICT should be invited by the president to participate in the advisory group or to present ideas to it. All members of parliament, together with staff, should be encouraged to submit agenda items to the advisory group. It should be supported by the director of ICT who should draft the goals and the accompanying action plans for ICT for review by the group. The director must also be able to translate technical concepts into proposals that are understandable to members. Annex 2 contains a description of a generic advisory group and its suggested activities.

Staff

In addition to leadership, the most important resource in the implementation of ICT is the staff.

While choosing the right technology and having the resources to acquire it are essential, it is the staff that is the most critical component of the equation for success.

In today's environment, parliaments can choose from a variety of hardware and software options that will enable them to accomplish their objectives. Because that environment is competitive, it also means that costs continue to drop, even as functionality – the applications the hardware and software perform – continues to improve. For parliaments in developing countries this can represent a special advantage because the



cost of the technology components themselves for building, for example a system to manage documents, can be less – and in some cases, much less – than it was for a parliament with the resources to be an early adopter. When this is combined with the possibilities that can come from cooperative networking and learning from the experiences of others, the results can be very cost effective and systems can be implemented more quickly. The critical factor in being able to take advantage of these advances in hardware and software and to learn from the experiences of other parliaments is a well trained staff.

Because of the improvements that have occurred in information and communication software, good staff have become the essential ingredient for making any creditable piece of hardware or software accomplish whatever is needed. This places the emphasis for resources in the proper place – on people. Good technologists enjoy the challenge of problem solving and take pleasure in delivering a good product, especially one that exceeds expectations. Developing good technologists comes from fair (i.e., competitive) hiring practices and a supportive environment that provides the necessary tools and encourages learning from others. Ongoing training is particularly vital – technology changes at a rapid pace and staff must remain up-to-date. Even the most creative amongst them need to acquire knowledge of the latest versions of hardware and software and new technologies.

Effective ICT staff must be grounded in the political culture in which they are operating. Their ability to present ICT proposals in ways that are readily under-

stood by members and other users who may lack a technical background is essential to building an ICT infrastructure that is broadly supported. Various parliaments are employing different methods to connect ICT staff with members and other users. For example, some countries have made it a practice to include ICT staff in wider institutional planning activities. Others have organised sessions attended by members and technical staff alike that focus on trends in ICT. Whatever the approach, strengthening the linkages between the ICT department and the people it serves is a valuable way to share information and promote common understanding of ICT goals.

While ICT staff must possess a depth of technical knowledge and be able to track new technology developments, they need to avoid the tendency to focus on the technology itself instead of the parliamentary objectives they are supporting. It is important to recognise the risks of pursuing the latest trends in technology merely because they are heralded as the most technologically advanced solutions. At the same time, ICT staff must remain cognisant of opportunities to improve legislative operations through the introduction of new technological approaches. Identifying which technologies work best in a particular parliamentary environment can be a challenge, but the success of ICT staff in selecting and developing applications that make a concrete difference for their users can pay important dividends in terms of establishing trust and ensuring long term support.

Ideally, key ICT staff in a parliament, especially those who advise and support parliamentary decision

makers, should come from within the country. This is not to suggest that they should not learn from their colleagues in other parliaments or employ outside contractors who have the necessary skills and experience from other countries. In fact, they should actively reach out to others who have confronted the same challenges and benefit from their successes and their mistakes. Whenever possible, they should also participate in collaborative efforts both to reduce costs and to expand their own knowledge base. But a parliament is the most representative governing institution and the value of its work is based in part on its understanding of the needs of the people. Understanding the nature of the parliament and the people it represents is important to the ability of technologists to build systems that will serve the legislature and its members well. The development of a new system involves many choices – some that are obvious, others that are less so – that will affect its ultimate acceptance and value to its users, whether they are the president /speaker, the chair of a committee, a member of the parliament or a citizen. These choices and the knowledge on which they are based are often as vital to the ability of an ICT staff member to build or oversee a good system as his or her technical expertise.

In order for a parliament to be able to hire its own ICT staff, there needs to be a well developed ICT community available to them. Many parliaments rely successfully on outside contractors, particularly when there are significant gaps in the skills of their own internal staff and they do not have the time to provide their people with all the required training

and experience. The use of contractors can also be an effective way to advance the knowledge of internal staff in a very timely and hands-on manner. Contractors who understand the nature of parliaments can be valuable assets.

However, there are important advantages to having internal staff who oversee the work of contractors and who can confirm that it meets the needs of the parliament and the citizens it represents. It can be difficult to hire ICT staff for a parliament if there is not at least a burgeoning ICT business in the country. As important as it is to have technologists who understand the parliament, it can also be helpful for them to have experience in other organisations and institutions. Working in other environments provides them with a broader perspective on the use of technology and can help greatly in innovation and problem solving. In the global economy, staff with ICT skills are in great demand. For this reason, it is important for parliaments who want to make effective use of technology to be willing to provide their technical staff with a productive working environment, challenging assignments and competitive salaries.

The ICT budget

The budget for most public institutions is almost always lower than officials lead them to believe and thus there are always more demands for ICT than there are funds available. The percentage of the total institutional budget committed to ICT varies considerably among parliaments, but tends to be about 3-4%.¹⁶ As highlighted previously, strategic

16. World e-Parliament Report, 2010, Chapter 4.

planning is one tool that ICT managers can use to establish priorities, allocate the available resources, and make adjustments to project schedules so that they operate within the parameters of available funding. ICT managers also need to demonstrate strong control over the allocation of ICT funds as evidence that funds are being spent wisely in response to designated priorities.

For NEDs, the challenge of finding the needed financial resources to support ICT efforts is especially acute. Outside assistance from bilateral and multilateral aid programmes can be instrumental in providing initial funding for ICT initiatives. However, all parliaments need to be prepared to accept the responsibility for sustaining an effective ICT infrastructure over time. Projects should not be undertaken without a plan for transitioning from outside support to internal funding. If projects are abandoned once outside funding expires, it will cause a loss of confidence in not only the managers of ICT but in the value of ICT for the institution. Parliamentary leaders need to be convinced of the value of ICT so that they make it an important component of the overall legislative budget and provide sustained funding.

Collaboration and coordination within parliament
ICT does not merely support collaboration; it requires collaboration to be used most effectively. Parliamentary information services affect virtually all offices and operations within the institution. The processes and systems that support individual activities are often interconnected with several others. This interdependence necessitates the active engagement and interaction of all key

players within a legislative body. Various stakeholders need to be motivated to work together to ensure that the needs of their particular group fit into the overarching effort to serve the parliament as a whole. If ICT is to have a transformative impact, it must be broadly based and widely supported. Therefore, parliaments need to find ways to encourage input from the multiplicity of users and decision makers throughout the body.

Achieving the best technical solutions that match the goals of a parliament requires the solicitation and sharing of ideas from among those in leadership positions, from old and new members and from staff at all levels. Such efforts can be highly effective in building consensus among major players, laying the groundwork for strong partnerships among parliamentary offices, and establishing the basis for successful completion of ICT projects. For example, library and research staff are often extremely knowledgeable about ICT due to their early adoption of online catalogues and extensive use of online information resources. They have become highly skilled in searching, locating, organising and vetting material on the web and presenting it in formats that are helpful to end users. As a result, engaging library and research staff in such efforts as designing and maintaining public websites can be beneficial in equal measure for improving library services and serving the larger goal of enhanced public access.

Collaboration can be fostered through a variety of mechanisms ranging from informal consultation, through to occasional working groups and formal advisory committees. The objective is to ensure

that all voices are heard, the full range of good ideas is solicited, all players become invested in the process and the best outcomes for the whole parliament are achieved. As previously described, one approach that some parliaments have found to be successful is the establishment of an advisory group for ICT planning and coordination.

Coordinated management of ICT likewise can be accomplished in different ways and is likely to reflect the particular political environment of a parliament. In some cases, parliaments have moved toward a more centralised approach with control located in a single officer, leader or committee. Some bicameral legislative bodies have even moved to a single management entity that oversees ICT functions in both houses. In other instances, there is a more decentralised approach with authority being shared among several of the key players and each house having its own ICT operation.

Whatever approach is pursued, the most critical elements are effective coordination between houses and strong communication lines among all stakeholders. This ensures that whichever systems are developed they are interoperable and follow common and open standards that enable effective sharing of data and resources. In addition, having designated roles and responsibilities clearly articulated from the top contributes importantly to the smooth operation of ICT initiatives.

There also needs to be a recognised way to resolve competing demands for resources or projects and clear lines of authority for determining priorities. Resolving these conflicts informally may be preferable in some political settings in order to promote greater consensus and support. However, ultimately decisions need to be made that ensure that projects can be successfully concluded which are not redundant or waste resources and fit into the overall strategy for ICT in parliament.

Building a sound and flexible technical infrastructure

A parliament in today's world must have a strong technical foundation built on sophisticated and flexible hardware, software, networks, applications and services. Generally, the basic technologies essential for a parliament are the same as those needed by other public and private institutions. As a result, the direct cost of much of the required technology continues to decline even as it becomes more powerful.

In addition, technology is becoming more varied and able to meet a wider range of requirements within a narrow range of resources. For example, not only are desktop and laptop PCs becoming less expensive, they are also becoming available in a variety of forms that make them easier to use in more locations. Netbooks, smart phones, e-book readers and tablets are rapidly changing the ability of everyone to have access to some level of computing and communication capacity.

The growing availability of open source software that can address the needs of parliaments is also beneficial. While there are issues of training and support for these programmes, they have significant potential for ICT in legislatures and they continue to grow. There are also a number of initiatives that have been undertaken to develop entire suites of applications that can be shared among parliaments and other governmental bodies. The

i-Africa project¹⁷ and the LexML Brazil¹⁸ are two good examples.

In addition, local area networks (LANs) have become essential to the work of parliaments since it relies on connecting multiple actors, such as members, staff, committees, the plenary and the office of the political leadership. A wired network is onerous to build and maintain, yet it is one of the most important technologies for a public institution. Wireless capabilities provide additional advantages for mobility and access, but there remains a fundamental need for a wired system to provide adequate bandwidth and security. A critical requirement to ensure the effectiveness of a LAN and to be able to garner its full benefits is that all members and all organisations within the parliament be connected to it.

The internet also has become a fundamental technology for parliaments, both for the legislature itself and for the citizens it represents. Fortunately there is growing connectivity world-wide and many developing countries are gaining increasing access to the internet. The challenge is now shifting to providing sufficient bandwidth to support the many types of information and capabilities that are becoming accessible online. This can present barriers even for developed countries and a number of governments are initiating policies and programmes to address this issue. As noted previously, mobile communi-

17. <http://www.parliaments.info/>; <http://www.bungeni.org>

18. <http://projeto.lexml.gov.br/documentacao/resumo-em-ingles>

cation systems and devices also are improving dramatically and wireless systems have seen major expansions in developing countries in particular. Thus parliaments need to find ways to capitalise on the significant growth in mobile technologies to accomplish their goals.

Increasing opportunities for external communication – whether wired or wireless – expand the need for better security, the assurance of member confidentiality, and adequate defences against hacking and cybercrime. While some parliaments have long recognised the critical nature of this requirement, others have been slower to take appropriate measures. This is a challenge that parliaments acting on their own can only solve in part. It calls for coordinated and collaborative efforts with other public institutions within the country and with other organisations on a world-wide basis to establish sound policies and best practices.

Parliaments also must develop the services that support the acquisition, maintenance and use of basic technical components such as PCs and networks, including a help desk, data network operations centres and application development teams. These services, in turn, enable parliaments to implement and manage systems that support their most important legislative, oversight and representational work.

A number of parliaments have begun to implement technologies in their houses that add considerably to the efficiency of parliamentary sessions.

These include workstations for every member, electronic voting, availability of internal documents and agendas in digital format, large display screens and access to e-mail and the internet from the floor. These workstations often have a very small footprint, which is important for the historic buildings in which many parliaments work. The introduction of these technologies on the floor of the house is possible due to the investment made by parliaments in basic infrastructure, including physical devices, communications capacity and trained staff.

Despite the decreasing cost/performance ratio of technology, there is a minimum level of investment that must be made by every parliament, including those in developing countries, in order to build a solid ICT infrastructure. Furthermore, all parliaments need to make a sustained commitment to supporting ICT. Contributions from the international community may be helpful for initiating new systems and services, but ongoing support, upgrades and maintenance remain the responsibility of the parliament itself. Finally, it is worth emphasising again that technology is not an end in itself. A robust and responsive infrastructure is the means by which parliaments become more efficient and, more importantly, more transparent and accessible to the public. It is one of the essential ingredients for achieving these goals in the modern political world.

Fundamental components¹⁹

The basic components of technical infrastructure can be broadly grouped into the following categories:

19. This section is drawn from the discussions of infrastructure in the World e-Parliament Report 2008, chapter 8 and the World e-Parliament Report 2010, chapter 7.

- General ICT services
- Services for members and staff
- Applications to support parliament functions
- Administrative services

General ICT services. This component encompasses basic tasks and services and includes the following:

- Data network operations
- Help desk
- PC support
- Software support
- Systems administration
- Systems programming
- Voice communications
- Web publishing
- Internet access

These services are among the minimum required to provide a parliament with basic ICT support. Without them it is difficult to offer the most essential technology-based services to parliament. Because these services do not usually entail unique requirements, some parliaments contract them. This is a reasonable option and allows parliaments to focus the efforts of their internal staff on specialised needs. Most parliaments do not contract services that involve direct contact with members, such as the help desk, preferring instead to have internal staff handle this responsibility. However, even for services such as the help desk, contracting can be an effective option because experience dealing with customers is an important asset.

Some parliaments may need to rely on the government for several of these services, such as internet

access. This may be a satisfactory solution in the short term, especially if the parliament does not have sufficient resources of its own, but it will limit the autonomy of the parliament and its ability to set its own priorities in the long term. Especially when contractors are employed, it is advisable to have service level agreements with vendors. This is an industry best practice and helps to ensure a consistent quality of service. Reliability of service is important for sustaining the support of members for ICT.

Services for members and staff. This component includes ICT services that are provided to individual members and staff. It includes:

- Desktop computer
- Laptop computer
- Printer
- Fax
- Intranet access
- Access to the internet
- Remote data access
- Mobile phone
- Personal e-mail
- Personal website

Members must have convenient access to information and communication technology. For most parliamentarians this means having at least a personal computer of some type – either a desktop or portable computer, and in some cases, both – plus network connectivity. They must also have access to email, be able to retrieve parliamentary documents and connect to the web. Even for parliaments that cannot provide members with individual offices, the growing ubiquity of wireless network access and

the decreasing size of personal computers offer an increasing range of options for providing members with the benefits of ICT for their work. Today's "smart phones" can support many important ICT functions, expanding the possibilities for equipping all members with the technology required to perform their jobs.

Training members to make the most effective use of ICT, however, remains an ongoing challenge. A significant number lacks the knowledge necessary not only to understand the value of technology for the parliament but to use it adequately themselves. In parliaments that have the resources, this problem often has been dealt with by relying on staff to assist members. With the use of ICT becoming commonplace, members, even in more economically advanced countries, have to acquire at least a working knowledge of such applications as email and the web. As technology becomes more "user-friendly", this task should become easier. However, parliaments still need to provide members with appropriate orientation and training sessions to ensure their ability to utilize the full range of ICT systems and services available to them.

In many parliaments the staff are among the heaviest users of technology. It is their work that is most likely to benefit from the gains in efficiency that ICT can provide, and they too must have access to the basic tools, including PCs and a network connection. Likewise, they must be provided with adequate training to capitalise on the investments the parliament has made in ICT.

Finally, it is important to point out that basic infrastructure elements such as PCs, servers and network

connectivity are not one-time investments. They must be regularly upgraded to take advantage of the increasing capabilities of technology and to replace ageing hardware and software that has become difficult to maintain. For these reasons, there needs to be a permanent line in the ICT budget that provides for stable funding for necessary maintenance and upgrades.

Parliamentary applications. In addition to general application software programmes that support such functions as drafting documents, analysing data and preparing graphics, parliaments require complex applications to support their legislative, oversight and representational work. These are among the most important uses of technology for legislatures and they encompass the following activities:

Legislation

- Bill drafting
- Amendment drafting
- Bill status
- Amendment status
- Database of laws passed by parliament

Oversight

- Analysis of budget proposed by the government
- Questions to the government
- Other scrutiny documents

Plenary activities

- Plenary calendars and schedules
- Minutes of plenary sessions
- Plenary speeches and debates
- Plenary voting

Committee activities

- Committee reports
- Committee calendars and schedule
- Minutes of committee meetings
- Committee websites

Communication

- Management and support of website for parliament
- Management and support of member websites
- Systems for communicating with constituents (e-mail, blogs, etc.)

Library and research service

- Management of library resources
- Online library catalogue
- Digital archive of parliamentary documents

Administrative activities

- Financial disclosure
- Human resource management
- Financial management

This list can seem daunting in its scope, especially for parliaments that are at the early stages of adopting ICT. However, systems can be developed that often support more than one function. For example, a document management system for handling bills and amendments may also be able to support committee reports and hearings. A system for preparing and publishing the plenary agenda may also be able to support the preparation and dissemination of committee agendas. Moreover, software that supports the parliament's website may also be suitable for members' websites.

Such synergies, however, can only occur if the strategic planning process is well managed and development projects from the beginning address a wide range of requirements. This is another advantage for those who are just beginning to adopt technology. Because application software has become more capable and more flexible, it can be applied to more needs. Those who began much earlier had tools that were not as easy to use. They often had to make major adjustments to systems so they could be used in a variety of other settings to meet similar but nevertheless different requirements. With adequate planning, it can be easier in today's technical environment to adapt software for multiple purposes and to integrate systems that serve different user needs. It is important, however, to balance two sometimes competing goals in the planning process: to plan for systems that can achieve multiple objectives and support a wide range of users versus the need to produce useable services in relatively short periods of time. Projects that take a long time to reach fruition are often inefficient, wasteful of resources and risk being out of date even before they are used.

Choosing hardware and software

The most appropriate technology choices depend on the requirements, circumstances and practices of each individual parliament. Although it is not feasible to suggest specific hardware and software purchases in the context of this report, it is possible to identify a number of factors parliaments should consider in making such decisions.

First, it is helpful to find out what has been done by other parliaments which have comparable requirements and which face similar conditions and con-

straints. For example, the best options for recording and publishing verbatim accounts of plenary sessions will depend on several factors, such as how often sessions are held, how many members typically speak, how votes are recorded, and how soon the record must be made available to members and to the public (and whether the deadlines are the same or different). The choice of a system can also depend on what is the best format for those outside the parliament, including the public, to receive such information. Finally, the availability of funds to develop a system will have a major impact on the options under consideration. In this typical situation, it can be useful to know if another parliament or parliaments with similar requirements and circumstances (e.g., language, parliamentary system, number of members, resources) are working on,

or have already developed a system that meets these needs successfully. If so, knowing what hardware and software were used, how much it cost to develop, the training required and how long it took to implement, would be extremely valuable. Parliaments could also explore whether colleagues in the two parliaments could share information either in person or via telecommunications. In addition, it would be important to know whether the software itself could be shared and adapted. The *Bungeni* system developed as part of the i-Africa project is an excellent example of a collaborative development project intended to support the sharing of applications. See Box. As noted elsewhere in this report, collaborative networks for the exchange of information can be an invaluable resource for answering these questions.

Bungeni: Parliamentary and Legislative Information System

Bungeni is an open source Parliamentary and Legislative Information System that aims to make Parliaments more open and accessible to citizens, virtually allowing them “inside parliament”, or “bungeni” in Swahili.

The Bungeni system covers the entire document life-cycle of parliamentary documents from drafting to publication and supports the whole range of parliamentary documents: questions, motion, bill, tabled documents, etc. It meets typical legislative document archival requirements by recording multiple versions of a document at various points of time through various stages of the parliamentary process.

Bungeni is made up of three components:

Bungeni Portal: the web site that the public see with all the information about the parliament and the parliamentary activities. BungeniPortal navigation has been designed with usability in mind and has been sampled from a variety of parliamentary websites. It covers topics and issues that are typically present in parliamentary websites. It also allows citizens to post comments, suggest amendments and track items that may be of interest to them.

Bungeni MembersSpace: a website where members of parliament have the opportunity to directly communicate with citizens and highlight their own activities. Members

can create their own content which can be in the form of blogs, events, documents to download, links, and news. Citizens may be allowed by members to access their space and to comment, post a document for comment or take part in polls or surveys to gauge the mood of citizens on specific issues.

Bungeni Workspace: is for registered parliament users, such as members of parliament, staff of the Secretary General's and Speaker's offices and committees' clerks. This is the space where all the content of Bungeni Portal and Bungeni MembersSpace is generated. Accessing Bungeni Workspace requires a user to authenticate and only authorised users have access to it. Different users have different workspaces that suit their roles, responsibilities and requirements.

Bungeni is available in several languages (English, French, Portuguese, and Swahili) and, being fully internationalised, can be translated in others.

The Bungeni pre-deployment phase began in February 2010 with testing by 14 parliaments. Features tuning and localisation following feedback from these parliaments will take place in the second quarter of 2010. The deployment is foreseen in the third quarter of 2010.

The deployment in parliaments will coincide with the progressive involvement of developers from those institutions, as well as from the wider open source community, in supporting the localisation and development of additional features, under the coordination of the Bungeni Development Team.

Second, parliaments need to be aware of developments in the marketplace, including currently available technology, what is emerging, and what is being planned or discussed. While there is a risk of delaying a decision because something better is expected to be released, there is also the risk of adopting technology that is likely to be surpassed by better capabilities in the near future. In deciding the optimal time to move forward with a technology acquisition, learning the views of others about new developments through information exchange networks can be extremely useful in reaching a final decision.

It is also important for a parliament to consider what technical support is available for particular hardware and software and how accessible it is to the parlia-

ment. ICT is a globalised market and much support is geographically independent. On the other hand, it is also true that being able to call on local experts who can come to the parliament for in-person support can be highly valuable. Language and local customs also can play an important role here. For these reasons, efforts by parliament to foster the development of the information society in general and a national ICT industry in particular can be especially important.

If parliamentary ICT staff have already been trained in the use of specific software or hardware, this needs to be taken into account. Assuming the technology adequately fulfils the identified requirements, it can be cost effective to use knowledge that already exists in-house. However, this situation should not limit the

choice, particularly if other software appears more appropriate. An effective director of ICT should be able to weigh up these variables to make the appropriate decision that is both cost-effective and best serves the parliament's needs.

Open standards

A final consideration is the importance of using open standards for documents. **It is vital that parliaments adopt open standards, especially for tagging the elements of records so that they can be interpreted properly by computers for purposes of editing, rendering, searching, exchanging and preservation.** Documents prepared in proprietary formats, that is, formats that can only be used with particular software or specific hardware constrain the options available for managing them, limit the capacity for meeting future requirements and ultimately cost more money to maintain. However, it must be recognised that implementing open standards such as the eXtensible Markup Language (XML) can be difficult for parliaments, especially because these standards tend to be complex to develop and require knowledgeable staff trained in their use. Collaborative efforts among parliaments can offer a number of benefits in addressing these challenges.

Despite such issues, the advantages of XML are substantial. As summarised in the World e-Parliament Reports of 2008 and 2010, they include:²⁰

- **Exchange of documents.** Open standards make it easier to exchange documents between

individuals and organisations even if they use different software for editing and managing documents. This can facilitate the exchange of documents between departments within the parliament, with another house, between parliament and the government, with citizens and civil society and with legislative bodies and organisations in other countries.

- **Search.** Search engines can provide more accurate results and users can formulate more precise queries if data is tagged for its specific content. Open standards permit documents to be used with a variety of search engines, thereby giving legislatures choices in the selection of a search engine.
- **Linking among documents.** Legislative documents are highly interrelated. Open standards allow links among documents to be created automatically and even have the potential, depending on the depth of tagging, to support linking between elements within documents. For example, a section of a proposed bill could be automatically linked to the portion of an existing law that it would amend.
- **Multiple forms of output.** A source document tagged with an open standard could be used to produce different appearances of a bill such as for an online website, a paper copy, or a version modified to be incorporated into another document. XML can also be used to produce versions which could be easier for people with disabilities to access by supporting, for example, large type fonts or audio output.

²⁰. World e-Parliament Report, 2010, Chapter 5.

- **Consistency in formatting.** Tagging standards can be used to encourage or even enforce proper formatting so that members and others who prepare texts do not have to know the exact conventions used when they draft bills or amendments.
- **Ease of preparation.** Open standards can be demanding to use but once understood they can ease the effort required to prepare a bill or amendment by guiding the drafter through the required formatting steps.
- **Preservation.** One of the most important uses of open standards is to ensure the long-term preser-

vation of documents. Proprietary systems change constantly in response to market pressures for new capabilities. As these systems are enhanced, they often reach a point where they cannot be used to access documents prepared using older versions of the same software because the documents use tags that are not understood by the newer software. Over time this has the potential to make it difficult, if not impossible, to read the digital version of documents prepared earlier. It becomes a more complex version of the kind of problem faced by programmers at the beginning of the year 2000 when many systems could not properly read dates because they used only two digits to represent the year.

The importance of partnerships and cooperative endeavours

Throughout this report there has been a strong emphasis on cooperative approaches to addressing ICT development in parliaments. The value of establishing partnerships and participating in collaborative approaches to enhance ICT in parliaments is now well established. Parliaments have come to recognise the benefits of engaging in a variety of cooperative efforts, including formally established regional and international organisations. These associations have been shown to be highly useful for sharing experiences among parliamentarians and promoting common approaches to the issues they face. In addition, many bilateral cooperative efforts have been undertaken in recent years and there has been a growth in the development of informal networks, including at staff level. Parliaments in NEDs can derive considerable assistance through their active engagement in these efforts that can be instrumental in helping them bridge the digital divide and establishing strong legislative bodies with effective ICT capacity.

Technical and political benefits

In the arena of ICT development, a coherent and sustained effort at cooperation and mutual assistance is especially valuable and can contribute greatly to promoting democratic parliamentary bodies around the world. Because the legislative environment is unique, adopting ICT within this setting poses special challenges.

In addition, implementing ICT requires a substantial investment of funds and staff resources that need to be effectively deployed given the limited budgets of most legislative assemblies. With the fast pace of technological change, keeping up with what new developments might be most useful for parliaments can be daunting. Knowing what has worked well in other parliaments can be extremely helpful in making technology choices that have a greater likelihood of success.

Thus, participation in regional and international activities that focus on ICT in parliaments, engagement in bilateral assistance programmes aimed at strengthening ICT in NEDs, and ensuring the full integration of an ICT component in broader parliamentary assistance efforts can significantly improve the potential to enhance the role of legislatures in democratic societies. Capacity building programmes for parliaments in NEDs can benefit significantly from incorporating assistance efforts to establish a viable and effective ICT strategy.

Collaborative efforts on specific ICT applications respond to an important need as well. Highly productive examples that have been previously described include the preparation of parliamentary website guidelines under the auspices of the Inter-Parliamentary Union²¹ and the development of Bungeni to support the application of XML and

21. Website Guidelines, IPU

the use of open standards for parliamentary documents.²² These examples also demonstrate the value to parliaments in developed countries of actively engaging legislative bodies in NEDs in these efforts. Parliaments that have more advanced systems will gain insights into challenges faced by parliaments in NEDs and can learn from efforts they have made. For instance, the work on developing XML open document standards by a coalition of African parliaments is now being applied to efforts in South America and Europe to adopt XML tagging for parliamentary documents.²³

Aside from the technical benefits to be derived from multilateral cooperation, there are important political benefits as well. The growth of parliamentary democracies with effective ICT infrastructures will contribute to global approaches to information society issues and the creation of an interoperable knowledge base of parliamentary information. Strong parliamentary institutions empowered through the use of ICT can contribute to expanding democratic principles around the globe, developing broader based support for advancing common solutions to societal problems and helping those in the developing world achieve success.

Bilateral, regional and global initiatives

Initiatives that serve the goal of promoting international cooperation in parliamentary ICT development are underway on numerous fronts, ranging

from bilateral assistance programmes, through to regional networks to global initiatives. A growing number of parliaments in developed countries have begun programmes to work with parliaments in NEDs to support their efforts to adopt ICT. The World e-Parliament Report 2010 provides extensive data on the number of parliaments that participate in formal networks for exchanging ICT information and experiences²⁴, as well as the number of parliaments currently engaged in or planning cooperative endeavours, in addition to the kind of efforts underway.²⁵

At the level of regional parliaments, the European Parliament has been active in supporting both bilateral and multinational efforts to strengthen ICT in NEDs. Its Office for Promotion of Parliamentary Democracy has identified ICT as a key component of its long-term cooperation programmes, including its partnership with the Pan-African Parliament or support to the Global Centre for ICT in Parliament. Through a variety of study missions and technical assistance activities it provides assistance to NEDs in building ICT capacity.²⁶

The European Parliament, in collaboration with UNDESA organised in April 2010 a technical workshop on XML and parliaments and, in July 2010, together with the Global Centre for ICT in Parliament, an international workshop on technological options for capturing and reporting parliamentary proceedings.

22. <http://www.bungeni.org>

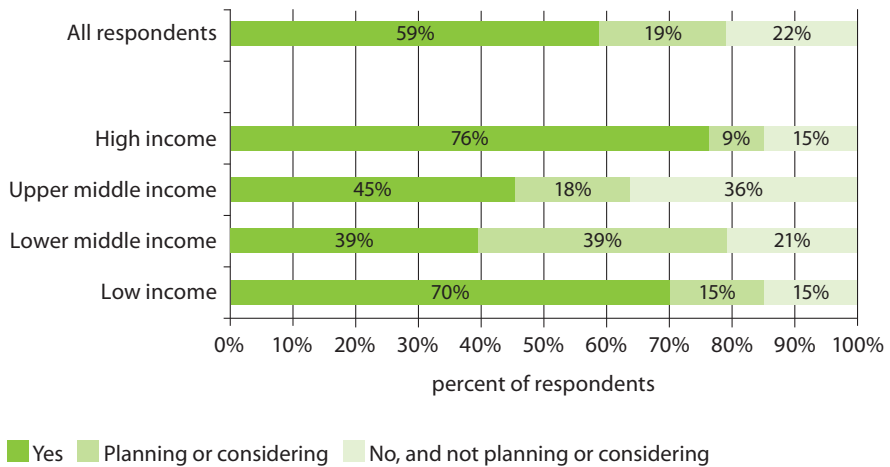
23. International Workshop at the European Parliament (OPPD), Brussels, April 2010

24. Chapter 9, World e-Parliament Report 2010, Figure 9.1, Source: Survey 2009, Section 1, Question 18: 134 respondents

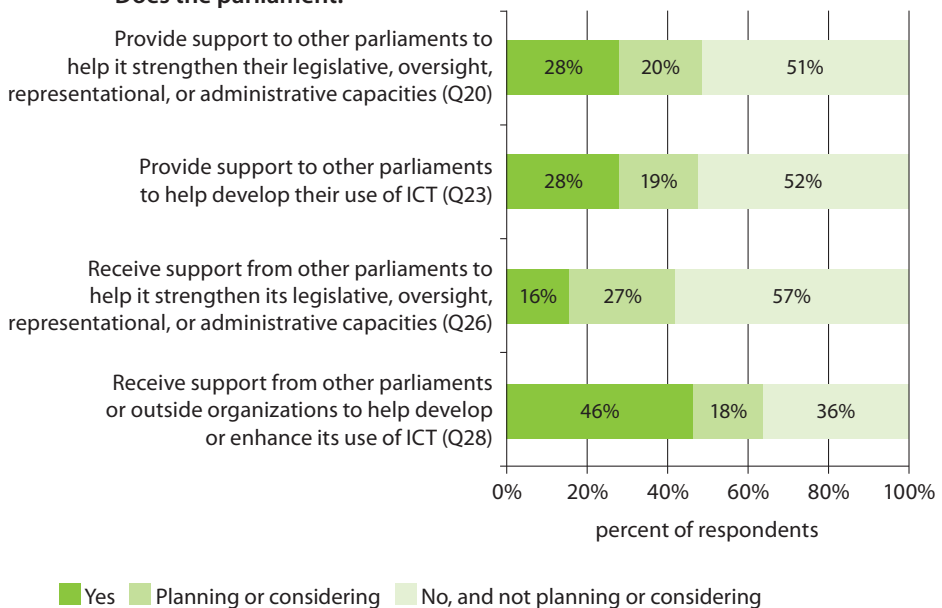
25. Chapter 9, World e-Parliament Report 2010, Figure 9.2, Source: 2009 Survey, Section 1, Questions 20, 26, 23, 28; 134 respondents.

26. Strengthening Parliaments Worldwide: The European Parliament and the Promotion of Democracy. Office for Promotion of Parliamentary Democracy, European Parliament, 2009.

Does the parliament participate in any formal networks of parliaments for the exchange of information and experiences regarding ICT?



Does the parliament:



Regional networks that enable ICT specialists to exchange information have proven to be highly successful in both Europe (through the European Centre for Parliamentary Research and Documentation) and the United States (through the National Conference of State Legislatures). Emerging regional networks in other parts of the world hold great promise for providing similar opportunities for sharing knowledge and resources with neighbouring parliaments. For example, in 2008 the African Parliamentary Knowledge Network (APKN) was formally established and by 2009, the Charter was officially endorsed by 14 parliamentary assemblies in the region.²⁷ ICT is among the key areas where the APKN plans to support cooperation. Additional regional activity is being initiated in Asia, where the first Secretaries-General Forum of Asia-Pacific Parliaments (SGFAPP) was convened in Korea in 2009. At this Forum, representatives committed to the ongoing sharing of ICT experiences and supporting the exchange of expertise among parliaments. Representatives of Latin American and Caribbean national assemblies participated in a November 2009 workshop sponsored by the Inter-American Development Bank in collaboration with the Global Centre for ICT in Parliament that has similarly set the stage for increasing regional dialogue in that part of the world.

In the last several years the Global Centre for ICT in Parliament has become highly regarded as a respected convening body that brings together

parliaments from around the world to promote the development of e-parliament. It is also widely recognised for the major reports on the status of ICT in parliaments that it has issued. The initial publication of the World e-Parliament Report 2008 and the subsequent World e-Parliament Report 2010 provide a substantive assessment of the state of ICT around the world and highlight examples of successful ICT projects in key application areas.²⁸ The reports document the extent of the digital divide in ICT in parliaments and offer recommendations for improving the state of ICT nationally and globally. Many of the findings from these reports have been described in earlier sections of this report.

Beginning in 2007, the World e-Parliament Conferences have become major events for assembling parliamentarians and staff from all regions of the world to consider the range of technical and policy issues relating to legislative ICT. The European Parliament partnered the United Nations, the Inter-Parliamentary Union and the Global Centre for ICT in Parliament, in hosting the 2008 conference in Brussels. In 2009 the Conference was hosted at the U.S. House of Representatives in Washington, D.C. while in 2010 it will be held at the Pan-African Parliament in Midrand, Johannesburg, South Africa.²⁹ These conferences have created opportunities to assemble parliaments from across the globe to share their experiences in deploying ICT and to participate in a substantive dialogue on how effectively to harness ICT to promote their common

27. National Assembly of Cameroon, National Assembly of Congo, People's Assembly of Egypt, Parliament of Ghana, National Assembly of Kenya, National Assembly of Nigeria, National Assembly of the Seychelles, National Assembly of South Africa, House of Assembly of Swaziland, National Assembly of Togo, Parliament of Uganda, National Assembly of Zambia, East African Legislative Assembly (EALA) and Southern African Development Community Parliamentary Forum (SADCPF).

28. World e-Parliament Report 2008, World e-Parliament Report 2010

29. www.ictparliament.org

goals. These gatherings also serve as a platform for the assembled parliamentary representatives, including members, officers and staff to communicate good practices and exchange ideas among peers. In addition, the Global Centre has joined forces with other organisations and various parliaments to convene workshops and assist with ICT assessments in developing countries.

All these activities demonstrate the value of international collaboration and focus attention on the benefits for members, officers and staff in NEDs to participate. Inter-parliamentary cooperation

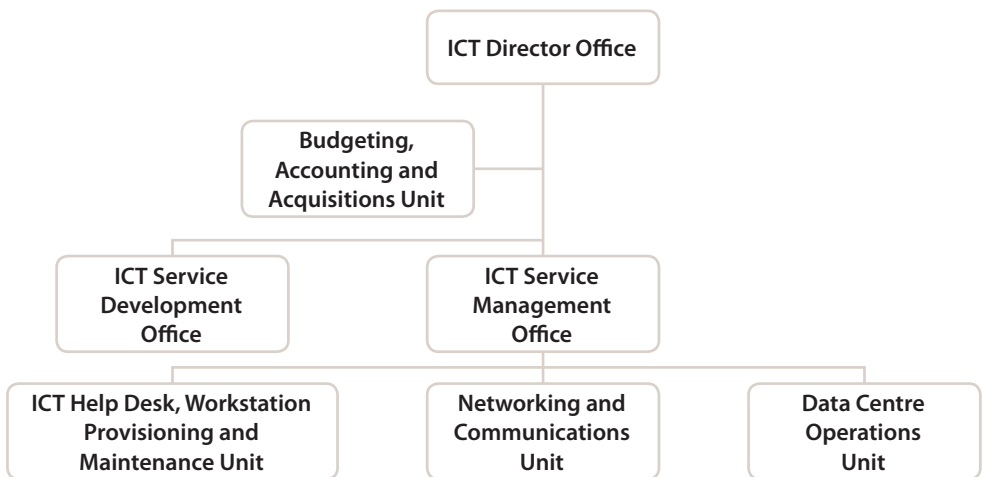
through established associations, networking at regional and international levels, and collaboration on the development of common approaches to solving ICT problems are all extremely cost-effective and highly valuable. For parliaments in NEDs, participation in these efforts provides an important way to leverage limited resources and to capitalise on the experience and expertise in other parliaments. Learning from others who face similar challenges contributes to the ability of parliaments in the early stages of ICT development to create sound and sustainable strategies for harnessing ICT in the service of democratic goals.

ANNEX 1: Organisation of a basic ICT department ³⁰

Introduction: This is a description of a basic ICT department. The term “ICT” (Information and Communication Technologies) is used here instead of “IT” because it encompasses both information technologies and also communication technologies, such as networks, and is considered to be broader in scope than IT alone. The department is described as consisting of the office of the Director supported by two subordinate offices. The terms “department” and “office” are intended to be generic; parliaments would decide on the appropriate names based on their own organisational practices and procedures. In addition, “office” is used as a convenient way to group related functions. Again, parliaments would decide on their preferred way to structure an organisation to carry out these related activities.

This description assumes that the Secretary General (or the senior administrative officer) would be responsible for establishing priorities, resolving conflicts, and allocating resources. These decisions would be based on the goals of the parliament embodied in its vision for ICT and confirmed by the President/ Speaker. It further assumes that in exercising his or her authority, the Secretary General would seek the advice of an Advisory Group for ICT Planning and Coordination (see Annex 2).

Below is a typical organisational scheme of an ICT Department.



30. Developed by the Global Centre for ICT in Parliament, 2009.

ICT Director Office: the Director of the Office reports to the Secretary General (or the senior administrative officer of the parliament) and is a member of the Advisory Group for ICT Planning and Coordination.

The Directorate is responsible for all the activities of the department, such as:

- Planning, budgeting and accounting for the financial expenses of the department, according to the decisions made by the Secretary General in consultation with the Advisory Group. For these purposes, the Director is assisted by a unit responsible for maintaining information about expenses, contracts, licences, professional services, etc.
- Requests for ICT equipment (e.g. PC, printers, scanners, etc.) and services (email, internet browsing, etc.). The Directorate evaluates these requests according to policies established by the Secretary General. If warranted, it initiates the procedures for fulfilling the request, collaborating with the heads of the two Offices of the Department.
- The timely development and delivery of new ICT services. For this purpose, the Director is assisted by the head of the ICT Service Development Office.
- Ensuring the continuity and availability of all ICT Services, equipment and information. For these purposes, the Director is assisted by the head of the Service Management Office.
- The implementation of security policies concerning the confidentiality, integrity and avail-

ability of information managed throughout the ICT services provided by the Department. Security policies are approved by the Secretary General with the advice of the Advisory Group.

- Determining and developing the composition and the architecture of the ICT infrastructure in terms of technologies, architecture, internal organisation, processes and necessary skills. For this purpose, the Director is assisted by the Offices for ICT Service Development and ICT Service Management that work together to guarantee a coordinated approach to the development of the infrastructure and to avoid the implementation of services that cannot be deployed in the ICT production environment.

ICT Service Development Office: This Office is responsible for the timely planning and implementation of new ICT Services approved by the Secretary General in consultation with the Advisory Group. The Office has the necessary skills and competencies to create project management plans and to implement them. It also supervises implementation when development is outsourced. For these reasons, the staff of this office have project management and analysis capabilities, together with the necessary technological skills to develop ICT solutions.

Upon the approval of a new project initiative by the Secretary General in consultation with the Advisory Group, the Office drafts a project implementation plan including all the required activities, responsibilities, deliverables, necessary acquisitions and dependencies. The project plan is subject to the

approval of the Director of the Department. Major project plans in terms of expenses, time, involved offices, security of managed information and so on should be reviewed by the Advisory Group and approved by the Secretary General.

During planning, the head of this Office coordinates with the head of the ICT Service Management Office to guarantee a feasible, well-timed and effective deployment of the necessary service components in the ICT production environment. For this purpose, project activities and deliverables are planned together with the ICT Service Management Office. As a result, during the project implementation phases, the ICT Service Management Office provides assistance to ensure timely service delivery and support. The two offices together also guarantee that project design and specifications are consistent with the security policies of the ICT Department.

This Office also manages education and training of users on new and existing services and manages the service portfolio, especially in terms of service-related documentation. To fulfil these duties, this Office is provided with documentalists who participate in service analysis and rollout, and support the help desk activities performed within the ICT Service Management Office.

ICT Service Management Office: This Office is responsible for guaranteeing the continuity (availability) and robustness of all the services provided by the ICT Department in addition to managing all maintained ICT assets. To achieve this objective, the Office is organised into three units:

- *ICT Help desk and Workstation Provisioning and Maintenance Unit.* This unit provides users with ICT equipment, including workstations such as PCs, printers and scanners in accordance with the policies and decisions approved by the Director. The unit manages the logistics of ICT assets, maintains updated registries and provides the Director with updated reports about the state of the equipment.

Moreover, this unit is responsible for communications with users in case of problems with ICT equipment and ICT services. Thus it receives all communications about problems with ICT. For this purpose, the unit establishes and staffs a help desk telephone number, an email address and any other channel available for receiving notifications about problems that have been approved by the Director.

The unit is responsible for responding to assistance requests in a short time, for solving problems (workstation configuration/proper functioning), or for forwarding the matter to one of the two other units (either network or data centre problems). For these purposes, unit staff are trained in workstation maintenance and service troubleshooting. It is advisable that for each new service, piece of equipment and software that comes into the house, a brief note on troubleshooting be provided to help desk workers to help them determine the source of a problem and a contact list should they be unable to resolve it .

- *Networking and Communications Unit.* This unit is responsible for the provisioning and proper

functioning of the local area network and for internet connectivity so that every authorised user can access intranet services and browse the internet according to well defined authentication and authorisation policies. This unit is responsible for configuring and maintaining network appliances (switches, routers, firewall, etc.), for implementing correct routing and security policies and for verifying their proper functioning using the most appropriate tools. It also maintains and develops the internet Proxy Server and its content filtering rules, guaranteeing access to authorised content according to the policies approved by the Director.

In case of problems involving the network, the unit is responsible with the Help Desk and Maintenance Unit for solving them. The unit manages the logistics of network and communication assets, maintains updated registries and provides the Director with updated reports about the state of this equipment. For these purposes, the unit is provided with skills on the configuration, administration and management of network appliances, together with network-level troubleshooting competencies and knowledge about network security threats and countermeasures.

- *Data Centre Operations Unit.* This unit is responsible for the deployment and proper functioning of all servers and storage devices which are necessary for ensuring an agreed level of availability of services provided by the ICT Department. This unit defines, designs, implements and maintains the infrastructure necessary for deploying services in the production environment, in cooper-

ation with the ICT Service Development Office during service design, development and implementation activities.

The unit is also responsible for the recoverability of the information managed through services, such as email or application-specific information. For this purpose, the unit performs regular and planned server and storage maintenance activities, in addition to regular checks and backups, whose frequency depends on the service and which has to be agreed among service stakeholders during service design.

The unit is thus also responsible for the correct and coordinated patching and upgrading of operating systems, on both workstations – by cooperating with the Workstation Maintenance Unit – and on servers. Upon receiving service requests consistent with ICT Department policies, it authorises services by updating user registries and directories and guarantees that only authorised users access workstations and services. The unit manages the logistics of ICT assets and maintains updated registries as well as service authorisations and provides the Director with updated reports about the condition of equipment and authorisations. In the event of problems possibly involving servers, storage appliances and service authorisations, the unit works with the Help Desk and Maintenance Unit to solve them.

ANNEX 2: Advisory Group for ICT Planning and Coordination³¹

Purpose

The purpose of the **Advisory Group for ICT Planning and Coordination** (the Advisory Group) is to ensure a high level of communication, coordination and consultative decision making in the management of ICT. The implementation of ICT in parliaments is often subject to conflicting mandates and poorly understood priorities, which can lead to fragmentation of effort, inefficient practices, poor allocation of resources and ultimately to user dissatisfaction. The role of the Advisory Group is to address these problems through its organisation and activities.

The Secretary General (or the senior administrative officer of the parliament) has final responsibility for decisions regarding ICT, with the concurrence of the political leadership of the parliament, but those decisions should be based on a consultative process. The values of openness and transparency, as well as the principles of good management, require procedures that encourage stakeholders and users to be engaged in this process. The Advisory Group can support these goals by enabling users and stakeholders to propose ideas for the use of ICT and to be informed as decisions are made and as plans and schedules are established.

Organisation

The Advisory Group for ICT carries out its mandate partly as a result of being effectively organised. It should be formally established by the President /

Speaker and chaired by the Secretary General. It should be composed of the heads of all departments of the Secretariat, or their representatives, and other major stakeholders as determined by the Secretary General.

Because of the responsibility of the Secretary General for the efficient operations of the whole parliament's administration, it is vital for this official to play a major role in the management of ICT. The various departments under the supervision of the Secretary General may have diverging objectives, and the Secretary General must ensure coherence, cooperation and the resolution of competing goals. The Secretary General also bears special responsibility for communicating ICT plans and activities to the leaders and members of parliament and for ensuring that their most important requirements for technology are met.

The Advisory Group is supported by the Director of ICT, who recommends the agenda and records its decisions. The Director of ICT must ensure that the technical work that is undertaken is fully responsive to the needs of the parliament and that it complies with the objectives of the strategic framework of the National Assembly. The Director drafts the goals and the accompanying action plans for ICT for review by the Advisory Group. The Director must also be able to translate technical concepts into proposals that can be understood by members.

31. Developed by the Global Centre for ICT in Parliament, 2009.

The work of the Advisory Group should be overseen by the President of the house or by an official designated by the President. Members of Parliament who have an interest in ICT should be invited by the President to participate in the Advisory Group and should be encouraged to submit agenda items.

Activities

The Advisory Group should accomplish its objectives through the following activities:

- Meet once a quarter or as necessary when convened by the Secretary General.
- Meet more often at the beginning of its establishment so that all members can become familiar with the current state and future plans for ICT. This should be completed within the first three months of the creation of the Advisory Group.
- Review the goals and action plans for ICT.
- Review and approve, if merited, proposed projects.
- Discuss and advise the Secretary General on ICT issues and priorities, with each member representing both the perspective and interests of his or her own department as well as the perspective and interests of the house as a whole.
- Share information about ICT plans with staff in each department; solicit the views of staff and present them as appropriate at Advisory Group meetings.
- Establish a means for staff to submit ideas and suggestions anonymously directly to the Advisory Group.
- Give the Secretary General its best advice on ICT matters.
- Publish a summary of its decisions and recommendations so that all members and staff can be informed.

- Carry out other activities deemed appropriate by the Secretary General.

Topics/Issues

The following topics and issues are appropriate for the Advisory Group to consider:

- ICT goals and action plans
- ICT priorities and resources
- ICT policies
- Status of projects
- Evaluation and recommendation of solutions when problems arise
- Services and content to be available on the intranet
- Services, content and design of internal websites
- Services, content and design of the public website
- Cooperation and coordination required among departments for the successful completion and operation of ICT supported projects and activities
- Sharing of plans and experiences with the other house
- Other topics and issues deemed appropriate by the Secretary General.

Reports

The Advisory Group should publish the following reports:

- Goals and action plans for ICT, reviewed and updated every year
- Progress report on the action plans for ICT, every six months
- Other reports deemed appropriate by the Secretary General.

