

E-Governance and Developing Countries

Introduction and examples

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Introduction and examples

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BACKGROUND

E-governance is more than just a government website on the Internet. But what is it exactly? What are the benefits of e-governance? What can governments do to make it work?

Solutions to development issues often require changes to government processes, e.g. by decentralisation. Objectives are generally to improve efficiency and effectiveness and to save costs. The driving force can also be public demand for online services and information that increase democratic participation, accountability, transparency, and the quality and speed of services. The implementation and use of ICT solutions can support governance reforms.

E-governance will become more and more present around the world in the next few years. Internationally most countries are in the early stages of e-governance. A good start has been made in Europe, USA and in other Westernised countries such as Australia and Singapore. Over the coming years also developing countries and their citizens can also benefit from e-governance.

This report explains what is meant by e-governance. It starts with a definition of e-governance, then presents a general e-governance model and several case studies and examples. Technology aspects are discussed, followed by a SWOT analysis on e-governance in developing countries. Finally, a description is given of what steps have to be taken to set up a policy on e-governance and how implementation projects can be selected.

WHAT IS E-GOVERNANCE?

Imagine a situation in which all interaction with the government can be done through one counter 24 hours a day, 7 days a week, without waiting in lines at government offices.

In the near future this is possible if governments are willing to decentralise responsibilities and processes and they start to use electronic means such as the Internet. Each citizen can then make contact with the government through a website where all forms, legislation, news and other information will be available 24/7.

Of course, at first the front office will retain several communication channels, such as physical counters, telephone, (e-)mail and Internet to serve everyone properly, but this will change dramatically in the next few years.

In Europe and the USA, commercial banks already work according to this concept. Only in a few very special situations one has to go to a physical counter. Most transactions can be done at either an ATM, by mail or by the Internet, which has saved banks an enormous amount of costs. In other words, they do more work, with less people, in less time and with less and smaller offices: They use the Internet.

Government, as a collector and source of information, may also follow this trend, in order to serve its customers (citizens, businesses, and other interest groups) better and to save costs by making internal operations more efficient.

Defining E-governance

Many definitions exist for e-governance. Before presenting an overall definition of e-governance, the relation between governance, e-democracy and e-government is explained.

E-democracy refers to the processes and structures that encompass all forms of electronic interaction between the Government (elected) and the citizen (electorate).

E-government is a form of e-business in governance and refers to the processes and structures needed to deliver electronic services to the public (citizens and businesses), collaborate with business partners and to conduct electronic transactions within an organisational entity.

E-Governance:

In this report egovernance is defined as the application of *electronic means* in (1) the *interaction* between *government* and citizens and government and businesses, as well as (2) in *internal government operations* to simplify and improve democratic, government and business aspects of Governance.

The term *interaction* stands for the delivery of government products and services, exchange of information, communication, transactions and system integration.

Government consists of levels and branches. Government levels include central, national, regional, provincial, departmental and local government institutions. Examples of government branches are Administration, Civil Service, Parliament and Judiciary functions.

Government operations are all back-office processes and inter-governmental interactions within the total government body.

Examples of *electronic means* are Internet and other ICT applications.

Objectives

The *strategic objective* of e-governance is to support and simplify governance for all parties - government, citizens and businesses. The use of ICTs can connect all three parties and support processes and activities. In other words, in e-governance uses electronic means to support and stimulate good governance. Therefore the objectives of e-governance are similar to the objectives of good governance. Good governance can be seen as an exercise of economic, political, and administrative authority to better manage affairs of a country at all levels, national and local.

It is useful here to present objectives for e-democracy and e-government. The two main objectives of *e-democracy* are

1. To provide citizens access to information and knowledge about the political process, about services and about choices available
2. To make possible the transition from passive information access to active citizen participation by:
 - Informing the citizen
 - Representing the citizen
 - Encouraging the citizen to vote
 - Consulting the citizen
 - Involving the citizen

Regarding *e-government*, the distinction is made between the objectives for internally focused processes (operations) and objectives for externally focused services.

External strategic objectives. The external objective of e-government is to satisfactorily fulfil the public's needs and expectations on the front-office side, by simplifying their interaction with various online services. The use of ICTs in government operations facilitates speedy, transparent, accountable, efficient and effective interaction with the public, citizens, business and other agencies.

Internal strategic objectives. In the back-office, the objective of e-government in government operations is to facilitate a speedy, transparent, accountable, efficient and effective process for performing government administration activities. Significant cost savings (per transaction) in government operations can be the result.

It can be concluded that e-governance is more than just a Government website on the Internet. Political, social, economic and technological aspects determine e-governance.

E-GOVERNANCE MODEL

The three main target groups that can be distinguished in e-governance concepts are government, citizens and businesses/interest groups. The external strategic objectives focus on citizens and businesses and interest groups, the internal objectives focus on government itself.

Abbreviations such as B2B (business to business) and B2C (business to consumer) are used, like in e-commerce, to shortly describe which of the main groups are interacting. The most common group interactions in e-governance are presented schematically in Figure 3. The three abbreviations in the figure, G2C, G2B and G2G are explained in Figure 2.

| | e-democracy | e-government |
|-------------------------------|-------------|--------------|
| External | | |
| G2C: Government to Citizen | X | X |
| G2B: Government to Business | | X |
| Internal | | |
| G2G: Government to Government | | X |

Figure 2: Main group interactions in e-governance

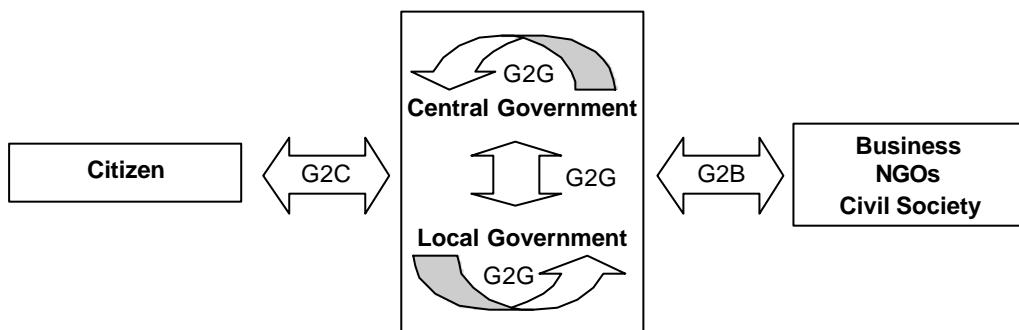


Figure 3: Interactions between main groups in e-governance

As mentioned before, egovernance is more than a government website on the Internet. What are the opportunities and possibilities of egovernance in the future, and what services are delivered at this moment?

Gartner, an international ebusiness research consultancy firm, has formulated a four-phase e-governance model. This egovernance model can serve as a reference for governments to position where a project fits in the overall evolution of an e-governance strategy.

In most cases, governments start with the delivery of online information, but soon public demand and internal efficiency ask for more complex services. Of course this change will take effect gradually, some services will be online earlier than other services. In some cases the public demand is the driving force, in other cases cost saving aspects for the government are leading.

According to Gartner, e-governance will mature according the four-phase e-governance maturity model. These phases have been defined based on experiences with e-commerce and e-governance in Europe and other Western regions.

E-Governance Maturity Model (Gartner)

| | | |
|------------|----------------|--|
| Early 90's | Information | → Presence |
| Mid 90's | Interaction | → Intake process |
| Present | Transaction | → Complete transaction |
| Future | Transformation | → Integration and organisational changes |

In each of the four phases, the delivery of online services and use of ICTs in government operations serve one or more of the aspects of e-governance: democracy, government, business.

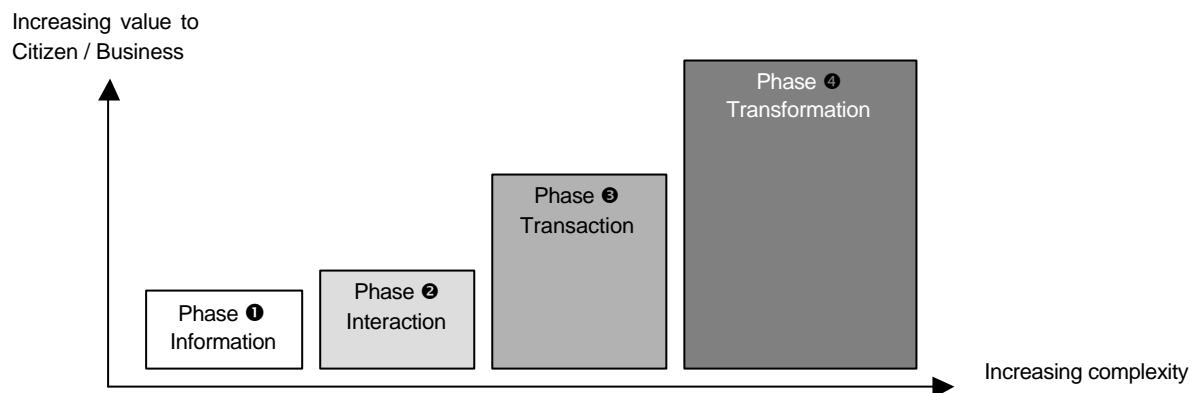


Figure 4: E-Governance Maturity Model (Gartner, 2000)

The model does not mean that all institutions have to go through all phases and all at the same time. On the contrary, in the Western world government institutions are in phase 1, 2 or 3. The differences can be huge: the tax department can be in phase 3, while the department of public works is just in an early stage of phase one. It all depends on where the advantages are highest.

Another remark must be made. This model shows four phases for different e-governance (e-democracy and egovernment) solutions. The assumption is made that the government has already defined an overall vision and e-policy. In the chapter "Implementation of e-governance", this remark will be further explained.

Phase ①: Information

In the *first phase* e-governance means being present on the web, providing the external public (G2C and G2B) with relevant information. The format of the first government websites is similar to that of a brochure or leaflet. The value to the public is that government information is publicly accessible; processes are described and thus become more transparent, which improves democracy and service.

Internally (G2G) the government can also disseminate information with static electronic means, such as the Internet. This phase it is all about information. From a 1-page presence website to a site with all relevant government information available to the public, in order to improve transparency in democracy.

| Examples of information that Government ... | | |
|---|---|--|
| <i>... wishes to disseminate</i> | <i>... may make available</i> | <i>... is required to supply</i> |
| press notices consultation papers policies white papers news health and safety advice benefits and entitlements applicable regulations | geographical data demographic data economic data information collected information generated routinely value added services business yellow pages | performance indicators environmental indicators audited accounts personal data internal policy documents correspondence management reports |

Figure 5: Examples of government information

Phase ❷: Interaction

In the second phase the interaction between government and the public (G2C and G2B) is stimulated with various applications. People can ask questions via email, use search engines for information and are able to download all sorts of forms and documents. These functionalities save time. In fact the complete intake of (simple) applications can be done online 24/7. Normally this would have only been possible at a counter during opening hours.

Internally (G2G) government organisations use Local Area Networks (LAN), intranets and e-mail to communicate and exchange data.

The bottom line is that more efficiency and effectiveness is achieved because a large part of the intake process is done online. However, you still have to go to the office to finalise the transaction, by paying a fee, handing over evidence or signing papers. The use of electronic communications tools speed up the internal government processes.

Phase ❸: Transaction

With phase three the complexity of the technology is increasing, but customer (G2C and G2B) value will also be higher. Complete transactions can be done without going to an office.

Examples of online services are filing income tax, filing property tax, extending/renewal of licenses, visa and passports and online voting. Phase three is mainly complex because of security and personalization issues – e.g., digital (electronic) signatures are necessary to enable legal transfer of services. On the business side the government is starting with e-procurement applications.

In this phase, internal (G2G) processes have to be redesigned to provide good service. Government needs to create new laws and legislation that will enable paperless transactions with legal certification. The bottom line is that now the complete process is online, including payments, digital signatures etc. This saves time, paper and money.

Phase ❹: Transformation

The fourth phase is the transformation phase in which all information systems are integrated and the public can get G2C and G2B services at one (virtual) counter. One single point of contact for all services is the ultimate goal.

The complex aspect in reaching this goal is mainly on the internal side, e.g. the necessity to drastically change culture, processes and responsibilities within the government institution (G2G). Government employees in different departments have to work together in a smooth and seamless way. In this phase cost savings, efficiency and customer satisfaction are reaching highest possible levels.

| Overview e-governance solutions | | | |
|---------------------------------|---|---|---|
| | External: G2C | External: G2B | Internal: G2G |
| Phase Information ①: | Local / Departmental / National information (mission statements and organisational structure Addresses, opening hours, employees, telephone numbers Laws, rules and regulations Petitions Government glossary News | Business information Addresses, opening hours, employees, telephone numbers Laws, rules and regulations | Knowledge base (static intranet) Knowledge management (LAN) |
| Phase Interaction ②: | Downloading forms on websites Submitting forms Online help with filling in forms (permits, birth / death certificates) Intake processes for permits etc. E-mail Newsletters Discussion groups (e-democracy) Polls and questionnaires Personalised web pages Notification | Downloading forms on websites Submitting forms Online help with filling in forms (permits) Intake processes for permits etc. E-mail Notification | E-mail Interactive knowledge databases Complaint handling tools |
| Phase Transaction ③: | License applications / renewals Renewing car tags, vehicle registration Personal accounts (mytax, myfines, mylicenses etc.) Payment of (property) taxes Payment of tickets and fines Paying utility bills Registering and voting online | License applications and renewals via website Payment of taxes Procurement | Inter-governmental transactions |
| Phase Transformation ④: | Personalised website with integrated personal account for all services | Personalised website with integrated business account for all services | Database integration |

Figure 6: Overview e-governance solutions for each phase

IMPACT OF TECHNOLOGY

The use of ICT means in Governance has impact on the following aspects:

24/7 Service Model

Systems and processes have to be adapted to a completely new service model. Intake processes are made self-service and even in the middle of the night a citizen should get an immediate (automated) response about the status of the application. Citizen's expectations towards government's response times will change because of the new communication medium. E-mail should be seen a new but serious channel besides the traditional channels such as telephone, physical counter, post and fax.

Need for Content

Websites consist of content (information). Governments will have to collect (buy), produce and update content daily. In phase 1 content will be static, but in phase 2 content will be changing every day. Content managers in each (large) department are responsible for the information on the website.

Human Resources

Effective use of ICTs in an organisation requires training of people. People should feel comfortable with the tools they can use otherwise they will return to their old working patterns and habits. Maintaining technological infrastructure requires IT skilled resources. Governments will have to compete with the private (commercial) sector to recruit the necessary IT skilled people.

Security

Just about any computer system is vulnerable to external attacks. As the government moves its core processes (information, communication and transactions) to the Internet it is becoming far more vulnerable. Internet increases the number of entry points exponentially. Protection is possible with anti-virus software, firewall at gateways, encryption technology, and authentic identification tools.

Privacy

In phases 3 and 4 governments possess detailed information about citizens and businesses, which is often held in multiple offices on many different computer systems (or still in paper files). The integration of data can result in situations where the privacy of individual citizens is in danger. It is the responsibility of the government to restrict the utilisation of private information, and secure such information from access by unintended parties. Due to public concern regarding privacy several countries have already passed data protection laws.

IT Department

With the implementation of e-governance IT is becoming more and more important in government operations. The need for a professional IT department will inevitable increase, not only during implementation, but also for maintenance of software, hardware and infrastructure.

E-GOVERNANCE IN DEVELOPMENT

Case 1: Ghana - National Clearinghouse Ghana

Access to accurate and timely information is a critical pre-requisite for national development. Policy-makers, planners, researchers, investors, etc. depend on reliable information for planning and decision-making. The mission of the Ministry of Communications (MOC) is to develop policies that will help integrate communication technologies and public information systems and also harness the full potential of resources within the sector for effective communications.

| | |
|----------------|----------------------------|
| Type | ② ③ / e-Government / G2G |
| Project owner | Ministry of Communications |
| Budget | US \$ 244.000 |
| Period | 6 years |
| Advisor | IICD |
| Contact person | Stijn van der Krog |

Problem

Currently, in Ghana, there are a number of institutions and companies developing electronic information systems, catering to varied information needs of different categories of users. There is, however, very limited exchange of information among the institutions and between the information providers and the potential consumers. Consequently, the awareness of the existence of electronic information is very limited. There are no cross-linkages between the information systems either, since most of them are not available in electronic form.

Lacking access and co-ordination of the nation's information flows is presenting an important bottleneck to good governance in terms of an effective and transparent policy formulation and implementation. Furthermore, it hampers access to information required by the government, private business, NGOs and the general public. Therefore the need exists to co-ordinate, integrate and improve access to these valuable sources of information.

Development objectives

The project is to contribute to national development in a number of ways. The primary development objectives are:

- To provide better co-ordination of the information facilities developed in government and private institutions.
- To improve and increase the exchange of information between the institutions.
- To provide better means of access to the information.

Secondary objectives are:

- Sensitisation of institutions on collating and continually updating information on their activities.
- The development of information and communication skill of workers and users.

Project objectives

To improve the information facilities and access to public institutions, the project aims at developing a test project for a national information clearing house at the Ministry of Communications. The clearinghouse will act as a broker of information between information providers and users in the public and private sector.

Within the scope of the project, a clearinghouse facility will be set up at the Ministry of Communications and 4 government institutions will be linked up to the clearinghouse. The institutions are:

- Ghana Export Promotion Council (GEPC)
- Ghana Free Trade Zones Board (GFTZB).
- Ghana Investment Promotion Centre (GIPC)
- Ministry of Roads and Transport (MRT)

These institutions are selected because they both have already well-developed advanced information facilities. The target groups of the services developed by the project include government institutions, NGOs and the private sector.

The project objectives are two fold:

- Finding best practice for the development of a national information-clearing house, linking up public and private institutions.
- Finding best practice for the public access to electronic information services at the selected institutions.

Case 2: Tanzania – ICT for Improved District Governance

In a follow-up to the recommendation of a National ICT roundtable, a feasibility study was initiated in August 1998. The feasibility study was conducted to investigate and recommend possible areas in the government, at level of the district that could immediately be computerised on a sustainable basis.

The objectives of this study were:

- To identify areas in the government sector, that are amenable for immediate computerisation,
- Identify data flow patterns and their reporting mechanisms within and across sectors, and
- Conduct an inventory to establish the ICT's strength at Kinondoni district headquarters.

| | |
|-----------------------|--|
| <i>Phase</i> | ● ● / e-Government / G2G |
| <i>Project owner</i> | Tanzania Commission for Science and Technology |
| <i>Budget</i> | US \$ 38.000 |
| <i>Period</i> | 1999-2002 |
| <i>Advisor</i> | IICD |
| <i>Contact person</i> | Nic Moens |

Problem

The study revealed that most of the functions that are carried out by the district commissioner's office involve manual processes and are in greater extent ineffective and inefficient. As a result the following weaknesses emerged:

- *Limited transparency*: Limited free flow of information which leads to processes, sections /institutions and information not to be directly accessible to those concerned with them, and less information is provided to understand and monitor them.
- *Handicapped strategic vision*: Impaired broad and long-term perspective on the good society, good governance and human development, as well as sense of what is needed for such development.
- *Limited resource utilisation*: Due to absence of computerised Management Information System resources are not managed or used properly with a view to optimise the well-being of people in a long term perspective.

Development objectives

The overall aim of this project is to bring about good governance in Kinondoni District, by harnessing information for decision-making through the use of Information and Communication Technologies. The project further aims at establishing a pilot Management Information System for good governance at the Kinondoni District Commissioners office.

Specific objectives:

- Establishing a simple Management Information System at district level that will capture information generated from three selected areas namely: education, health and birth, marriage and death registration for decision making.
- Improve efficiency and effectiveness in capturing and processing information obtained from the selected areas.
- Facilitate utilisation of the information system outputs for good governance.
- Examine sustainability of the entire process in view of the fees charged on service rendered to beneficiaries.
- Provide training for district staff in computerised information collection, processing, and dissemination.
- Provide a computerised district governance model to be adopted by the district for all sectors and later on by other districts and central government departments.
- Sensitise the government machinery on the application of ICTs for good governance, thereby increase ICT application in good for more informed.

Project objectives

- Databases on health, education, birth/death and marriage will be created at district level to facilitate good governance.
- Timely and customised computer generated reports on education, health and registration of birth/death and marriage for decision making to be derived from established databases.
- Computerised District Management Information System and infrastructure for good governance comprising of an electronic network and subsequent linkage to upper levels of government and international networks.
- A skilled human resource base with ICT competencies in collection, processing, management and dissemination of sector information.
- Enhanced awareness within government and among the general public on the use of information for decision-making and the application of ICTs to good governance.
- A manual describing a model District Management Information System to be used in other sections of Kinondoni district as well as other district councils in the country.
- A pilot project report on the application of ICT in the selected areas. The report will be the basis for other advanced phases of the project.

Case 3: Kenya – Busting Corruption Using the Internet

In many countries, one of the biggest impediments to delivery of government services is entrenched graft. Corruption reduces the efficiency of service delivery, slows down the economy and discourages foreign investments. In Kenya, the Kenya Anti-Corruption Authority (KACA) has been established to fight corruption.

| | |
|----------------------|---------------------------------|
| <i>Phase</i> | 2 / e-Government / G2C |
| <i>Project owner</i> | Kenya Anti-Corruption Authority |
| <i>Budget</i> | US \$ |
| <i>Period</i> | 1999-2002 |

Problem

KACA has to date done a commendable job; however, they have mainly been dealing with historical, large-scale corruption cases. This has not been by choice, but because KACA has not been getting all the information it needs. Especially on the everyday petty corrupt practices countrywide, due to limited channels of access by the public. KACA is currently using telephone, paper mail and one electronic mail - in reality, the major channel available to the public is the telephone. Many citizens have shied away from volunteering information to KACA because of lack of privacy.

Project description

The Information Technology Standards Association (ITSA) of Kenya has launched an Electronic Graft Management pilot project, which aims to increase public awareness and encourage public participation in fighting corrupt practices. The pilot project intends to use the Internet and e-mail as the channel for communication by the public for reporting. The idea is to introduce the use of an Internet hotline, popularly known as online reporting mechanism. For the pilot project the existing Internet infrastructure that currently covers six major towns will be used. At no cost the public will use the existing Internet Cafés and e-Touch centres in these towns for reporting. In addition to this, two remote locations, which do not have the required infrastructure, will also be set up to test the feasibility of connecting the larger rural areas.

ITSA's pilot Electronic Graft Management project will offer a corruption reporting facility in six towns, two remote locations and the media will form the source points of information which will be routed to the Electronic Graft Management (EGM) Centre. The EGM Centre will filter this information electronically and forward/channel it to the relevant authorities for action. Partnerships are currently being formulated between ITSA and the relevant authorities.

Challenge

The greatest challenge facing the implementation of this project is "How the public will be made to report genuine corruption voluntarily". ITSA proposes to use highly motivated youth volunteers to inform the public in the selected areas about the availability of the online channel.

The youth's campaign will be backed up by the news media. The awareness campaign will target groups such as teachers and traders associations, NGOs, community-based organisations, churches and religious organisations, as well as private and public institutions. There will also be door-to-door campaign (offices, shops, etc.). To be included in the awareness campaign will be the experiences of the public, ease of access to the available cafés and ability to use them.

The EGM Centre will monitor the volume of corruption reporting on a monthly basis. An increase in the volume over time will indicate that the number of people using this channel is increasing, which in turn implies increased public awareness, and trust in this channel. The EGM Centre will also solicit statistical feedback from the implementing bodies on the actions taken, and make it available to the public, to motivate them to continue using the channel.

Other E-governance Initiatives

E-Democracy Initiatives

South Africa - Government Portal - <http://www.gov.za/>

Type ① ② / G2C: informing, representing, encouraging, consulting and involving the citizen
Information: Democratic information such as names of Ministers and Members of Parliament, democratic structure, online constitution.

Interaction: Possibilities to give feedback to the government

Uganda - Parliament Portal - <http://www.parliament.go.ug/>

Type ① / G2C: informing the citizen
Information: Members of Parliament, Constitution, country facts

Uganda – Elections Uganda 2001 - <http://www.uganda.co.ug/election2001/>

Type ① / G2C: informing the citizen, encouraging voting
This website informs citizens about the latest elections in Uganda.

Burkina Faso – National Portal - <http://www.primature.gov.bf/>

Type ① / G2C: informing the citizen
Description:
Information: Constitution online, Laws, Governmental structure

E-Government Initiatives

South Africa - Government online services - <http://www.gov.za/>

Type ① ② / G2C, G2B
Information: Tender documents online (G2B)
Interaction: Feedback possibilities, downloading of various forms (ID applications, birth certificates, registration as a voter) (G2C)

South Africa – Formulating IT Policy to transform Government into e-Government

Type ② / e-Government / G2C
The South African government is formulating an IT policy with government-to-citizen communications as the main objective. The goal is to provide communications to citizens in remote villages as well as to those in larger towns and cities. This is a technology opportunity, despite the low levels of Internet access in rural areas of Africa.

South Africa has challenges as they build up their technology infrastructure in an area with very few IT professionals. However, the lack of legacy issues and integration problems creates a refreshing opportunity for South Africa to truly obtain a world leadership position in IT among emerging nations.

Gartner, an Internet Research Consultancy, conducted workshops for representatives from all South African cabinet level departments to share knowledge and best practices. The government, according to Gartner, should become a model citizen on the Internet by demonstrating strong citizen focus within government systems.

India – New Internet law to enable digital signatures

Type ③ / e-Democracy, e-Government / G2G, G2B, G2C

The Indian government has framed detailed rules and appointed an official structure under its e-Commerce law to enable digital signatures and transactions. The act will enable paperless transactions with legal certification. So far, such deals have been done on trust or with back-up paperwork. With this law the legal transfer and use of electronic documents in Indian governance has been enabled.

Mali – Policy to stimulate decentralised Internet access

Type ① ② / G2C, G2B

Mali's considerable advances towards Internet connectivity are evident in user growth from 800 in 1997 to 4,500 today, although 98 per cent are in the capital city Bamako. To compensate for infrastructure shortcomings, major emphasis has been given to encouraging the growth of public access points such as cyber cafés. Today Mali benefits from ICT in applications such as telemedicine, distance learning and e-Commerce. The impact of ICT on economic and social development has been so positive that current plans call for connecting all 701 communes throughout Mali. The success of a national ICT programme was predicated, in a major part, on the full support and personal engagement of the President of the Republic. Among the most important policy steps was the creation of a competitive environment for the telecommunications sector. The country has taken steps to share its positive ICT experience through 'Bamako 2000' in March 2000, which brought together 2,000 participants from 48 countries.

Cuba – InfoMed health system

Type ① ② / G2G

Cuba's economic difficulties placed a severe strain on the country's health system. As one of the steps undertaken to maintain the standards of health care in conditions of lack of all kinds of resources, a national network of the public health system called 'InfoMed' was launched. Since the country lacked an information infrastructure at the time, InfoMed began as a simple sharing of knowledge and facilitating access to health-related information via e-mail, with minimal commitment of resources. Since that time, the network has expanded to reach nation-wide coverage with regional and provincial nodes and led to broader applications, especially in the area of education. The successful experience of building and using InfoMed demonstrated the value of ICT for national development.

Peru - Information System for Rural Development

Type ① ② / G2G, G2B

The goal of this Peruvian project is to reduce poverty and isolation, enhance productive activities, and make local government more efficient in two provinces of Cajamarca-San Marcos and the Jequetepeque Basin. To this end, an information system is being designed and implemented with the support of the local producers' association and two local governments. Testing of the information system includes the users (local producers and authorities), public institutions (municipalities) and private institutions (producers' association) and examines the appropriate processes for the collection, processing and delivery of information; the use of information technology; and the corresponding infrastructure necessary to develop and use the system

India – Transformation to e-Government: approvals are now just a click away

Type ① ② ③ / G2G, G2C

The Indian Ministry of Information Technology (MIT) will soon set the pace for hi-tech governance by embracing e-governance in a big way. The ministry is developing a software tool to process a wide variety of proposals, including research and development (R&D) proposals, online. Decisions on these proposals will also be online. Such software will not only get rid of red tape, but will also increase transparency. Files and dossiers will no longer have to move from table to table. Officials at various levels will have to give the necessary clearances done online. Such a move will only quicken the decision-making process. Also, these decisions will be open to scrutiny, thus injecting much-needed transparency into the system. No longer will Indian people need to pay endless visits to government offices to get their proposals cleared. Employees of the MIT have already had a taste of e-governance. They receive their salaries online, air their grievances either on non-payment or delay in salaries electronically. They also have access to their bank account details and can see their balance on the screen.

The entire budgeting in the Ministry of Information Technology is also done on-line. "We plan to set the pace for e-governance for other departments of the government. We are hopeful that by

the end of the year, it would be possible to take all decisions electronically. This would herald a revolution for others to follow," MIT sources said.

Gabon - Website of the Gabonese Ministry for Water, Forests, Fisheries, Environment and Protection of Nature (<http://www.gabon-forests.org/>)

Type ① / G2C, G2G

In pursuit of the policy of the Gabonese government to communicate to a wider audience about its initiatives in the area of forestry and the environment, the website of the Gabonese Ministry for Water, Forests, Fisheries, Environment and Protection of Nature (responsible for reforestation) was officially launched. The Forest Environment Project of the Ministry for Water and Forests implemented this Internet site. It consists of six information panels:

- The Ministry, with a presentation of missions, action programmes and new projects.
- The forest described from the viewpoint of climate, terrain, geology, biodiversity and forest species.
- Policies and regulations: a section listing the main clauses of the current forest code and the development of the new forest code.
- Forest resources based on forest economy, areas of development and a new concept of eco-tourism.
- Research and training.
- Partnership, granting access to a database soliciting partnerships between stakeholders in forestry.

India - Use of Information Technology for Delivering Quality Health Care to the Rural Population.

Type ② / G2G

In India an egovernance project has been started that will help to reduce or eliminate the redundant entry of data prevalent in paper registers, automatically generate Auxiliary Nurse Midwives' (ANM) monthly reports, and make data electronically available for further analysis and compilation at higher levels of the health care system. It will train the health workers in the use of Personal Digital Assistance (PDA) to process data with ease. The PDAs are designed to cater to the semi-literate levels of the health workers. The 40-60% reduction in time for the health workers to process the data can be used to deliver quality health care. On successful completion, the project will be extended to different sites in other districts of these states and eventually to the national level.

Brazil – Standardisation of public web pages in the state of Bahia

Type ① ② / e-Government / G2G, G2C, G2B

The State Government of Bahia in Brazil has approved a regulatory document that serves as reference for the creation of web pages for all, directly and indirectly managed, entities and agencies subscribed to the executive power in the state of Bahia. The objective is to discipline state agencies and entities on the structure, standards, use and update of public administrative related web pages (travel guides and regional advertisement pages are excluded). The regulation focuses on:

- *General Services* - Providing relevant information on the main services a state entity/agency offers to the community (i.e. locations, schedules, requirements and process description).
- *Online Services* – Making some of the previous services available over the Internet (i.e. file complaints and request the suspension/reconnection of public services – water, electricity, etc).

CHALLENGES FOR DEVELOPMENT

In this chapter the challenges of e-governance for developing countries are investigated. Four SWOT analyses are presented, with a focus on the following aspects of e-governance:

- Political
- Social
- Economic
- Technological

SWOT-Analyses e-governance

The SWOTs are kept at a high level. Going into detail would be a problem because situations vary for each country, for each moment and for each e-governance solution.

Political Aspects

Political aspects related to e-governance are e.g. the formulated strategy and policy, laws and legislation, leadership, decision making processes, funding issues, international affairs, political stability.

| Political aspects – Implementation and maintaining of e-governance solutions | | | |
|---|---|---|---|
| Strengths | Weaknesses | Opportunities | Threats |
| Combination with democratisation reforms Internet as pull factor Modern image | Budget Cyber laws not available No problem owner within government No expertise about technology Slow decision making process Hierarchy in organisations Short term approach due to elections Integration and reform | Raise external funding Show competitive edge Transparency causes natural change of processes Reinvent government | Bureaucracy Piracy, misuse Corruption Maintaining disorder, no transparency Political instability Resistance |

Social Aspects

Examples of some of the social aspects related to e-governance are people, (level of) education, employment, income, digital divide, rural areas vs. cities, rich vs. poor, literacy, IT skills.

| Social aspects – Implementation and maintaining e-governance solutions | | | |
|---|---|--|---|
| Strengths | Weaknesses | Opportunities | Threats |
| People eager to learn IT skills Skilled people possible export product | Basic education poor: trainers needed No IT literacy Low literacy Different languages Public acceptance of self-service models Skill shortage: competition with private sector | Employment increases Education system improve People learn structural job Cheap manpower widely available Promotion of internet Better healthcare | Brain drain IT skilled people after training Resistance of people Digital divide Privacy |

Economic Aspects

Economical aspects related to e-governance are funding, cost-savings, business models, e-Commerce, spin-offs of e-governance.

| Economic – Implementation and maintaining e-governance solutions | | | |
|--|-----------------------------|--|------------|
| Strengths | Weaknesses | Opportunities | Threats |
| E-Governance good argument for external funding Transparency for businesses (procurement) | Investors Budget control | Cost efficiency through e-governance New business More efficiency tax revenues | Corruption |

Technological Aspects

As discussed in the previous chapter, technology will be a bottleneck for e-governance in developing countries. Technological aspects involve software, hardware, infrastructure, telecom, IT skilled people, maintenance, safety and security issues.

| Technological aspects – Implementation and maintaining e-governance solutions | | | |
|--|--|---|--------------------------|
| Strengths | Weaknesses | Opportunities | Threats |
| Everything is new: no negative legacy Leapfrogging possible Internet as driving (pull) factor Lack of IT standards? | Shortage IT skilled people High cost of internet Heterogeneous data Lack of IT standards? Costs of software licenses | 2 nd hand hardware available Use one standard | Dependency of technology |

Success Factors

In developing countries a lot of inhibitors exist. It is difficult to tell what is the main bottleneck because a lot of basic aspects of Good Governance are not in place yet.

When successful, e-Government initiatives optimise government operations and service delivery. If not successful, these initiatives can cost governments millions of dollars and enormous amounts of wasted time. Figure 7 shows what the risk of implementing e-governance solutions can be in a certain phase and in the context of possible success (and fail) factors that are mentioned below.

The following aspects have to be taken into account when examining the risk of implementing e-governance solutions.

- Political stability (elections, democracy or dictatorial regime)
- Level of trust in Government (perception of service levels)
- The importance of Government identity (fragmentation or integration)
- Economic structure (education, agriculture, industry or service)
- Government structure (centralised or decentralised)
- Different levels of maturity (weakest part of the chain determines speed)
- Constituent demand (push or pull)

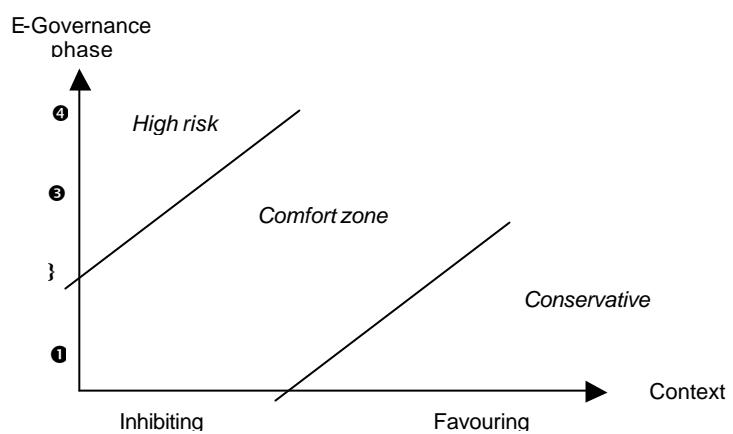


Figure 7: Assessing risks e-governance

IMPLEMENTING E-GOVERNANCE

Approach

The first steps towards e-governance solutions and the delivery of services as mentioned in the e-governance model combine short-term results and long-term goals.

This chapter investigates how a long-term e-policy, or vision, can be formulated and what short-term steps, or projects, have to be taken. The relation between long-term and short-term is crucial. Only if projects are in alignment with a long-term vision success will be secured.

The e-governance model presented can serve as a reference for governments to position where a project fits in the overall evolution of an e-governance strategy. An e-governance strategy is necessary to achieve the desired goal. In other words, the goal is the ambition level of the government regarding democracy, government and business aspects of e-governance.

The model assumes that governments have defined an ICT and e-governance vision (policy), which describes the ambition level for each aspect. Only some Western countries have a clear vision of e-governance. In most developing countries the first step will be to investigate what the ambition level is. The model also assumes that all necessary infrastructures, telecommunications and Internet access is available. In most Western countries this is the case, in developing countries this will be quite different. The strategy should also deal with these boundary conditions and constraints.

Going from global objectives to concrete targets is a complex process that can be taken with all stakeholders in IICD's Roundtable Workshops.

Think big, start small, and scale fast

Projects will only have a structural value for development when embedded in a vision and supported by a strategy. Andersen Consulting has defined an approach to implement e-governance projects: Think big, start small and scale fast (Figure 8).

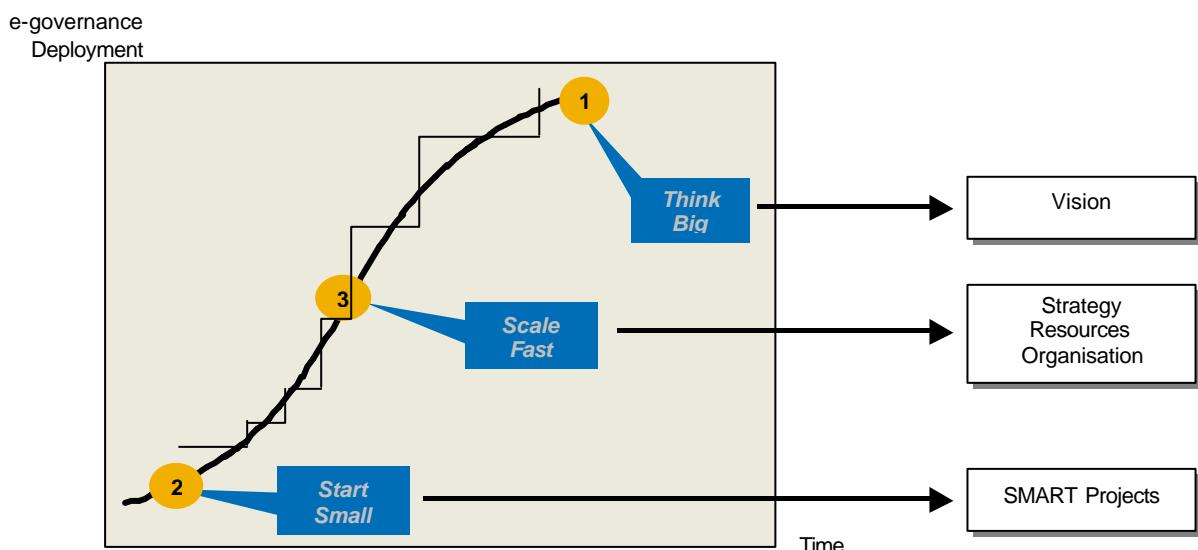


Figure 8: Approach to implement e-governance (Andersen Consulting, 2000)

Thinking big is required to set the overall vision and objectives of e-governance. Starting small is essential to create instant success and keep a positive driving force, both internally as externally.

Scaling fast is only possible with a profound strategy that secures that all necessary resources are available in time, that bottlenecks are known and taken care of, and that project planning and phasing is aligned with the overall vision and objectives.

Metaphor for e-governance deployment: Building a house

The process of visioning, strategy and implementation (projects) is crucial for successful implementation. Figure 9 shows the metaphor of building a house.

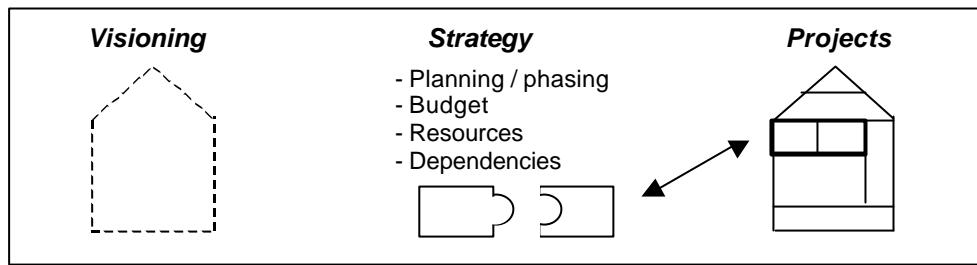


Figure 9: Metaphor of e-governance deployment: Building a house

First, the stakeholders must set a commonly accepted goal for the overall project. This goal needs to fulfil the expectations and needs of the end-users. In the situation of constructing a house, the needs of the future house owner determine aspects such as the size, cost, number of windows and location of the house. Defining projects can be the next step; each project should contribute to the final goal. Finally the strategy determines aspects such as the planning of the construction, constraints and boundary conditions. A good strategy enables that project goals contribute to achieving the overall objective.

Vision: E-governance Policy

Before starting with projects a commonly accepted vision is required. What is the goal that should be achieved with e-governance implementations? What focus point is taken: customer satisfaction, internal efficiency, increased democracy?

In the metaphor of the construction of a house the following questions are applicable:

- What do we want to build? Why?
- Whom are we building a house for?
- What are their needs?
- What benefits have our target groups?

| Vision | | |
|--|---|--|
| What | Who | Process |
| Mission statement to position government in e-governance concept | e-Minister (politically responsible, sponsor) | Workshops Vision documents |
| Ambition level e-governance | Steering committee (responsible) | Questionnaire (investigating public needs) |
| Long term goals (internal and external focus) | Project team (execution, co-ordination) | |
| Global budgets | Advisors (coaching, experts) | |

Strategy: Framework for Action

The strategy consists of plans that translate the vision into practical projects. A good strategy is crucial to keep the speed in the reform and implementation process. E.g. budgets must be available, time consuming legal transformations should be initiated and quick results must be achieved and communicated to government's customers.

In the construction metaphor the chosen strategy is the 'cement between the building blocks' and deals with the following questions:

- How are we going to construct?
- What are we going to do first?
- Who's responsible for what activity?
- What legal aspects have to be covered to build a house?

Because the vision can be complex it may not be easy to realise in a short period. A strategy often consists of several phases, each with their specific goals and related projects.

| Strategy | | |
|--|--|---|
| What | Who | Process |
| Set objectives Political (legal) Social Economic Technology Planning and phasing Project organisation Cross government co-ordination Project teams Responsibilities and tasks Expertise Boundary conditions Legal Political Financial Technological Segmented budget plans Marketing-communication plan Partnerships | e-Minister (politically responsible sponsor) Cross-government steering committee (responsible) Project team (execution, co-ordination) Advisors (coaching, experts) | Assessment Analysis Selection (prioritise) Degree of urgency (basic needs – structural development - efficiency - customer focus - luxury and fun) Focus on long-term strategic goals Directives from higher levels of government Impact on enhancing democratisation Costs and benefits Project plans (implementation) Monitoring |

Projects: Action

Projects in the field of e-governance should each have a goal that supports the overall objective of e-governance. In the metaphor of the house construction, projects are the building blocks that altogether form the vision, or house. Each project contributes to the realisation of a phase in the strategy, the phases.

In complex situations it is normal to test a project (partly) in a pilot. If the pilot is successful, by meeting the set objectives, the implementation will be expanded. If not successful, adjustments have to be made, or the implementation must be cancelled. To be able to measure the success

of a pilot project it is important to define projects that are SMART: simple, measurable, accountable, realistic and time-related.

| Projects | | |
|---|---|--|
| What | Who | Process |
| Define SMART objectives | Cross-government steering committee (responsible) | Symptoms → Root Causes → Problem |
| Type of project: e-Democracy e-Government Internal External | Project manager (co-ordination) Project teams, managers and employees (implementation) | Solutions (combinations of technologies and policies) Implementation plan Goal |
| Complexity: Phase 1 Phase 2 Phase 3 Phase 4 | End users (testing) Advisors (coaching and expertise) | Measurements Time Quality |

IICD ICT Roundtable Workshops

One of the core activities of the International Institute for Communication and Development (IICD) is organising Roundtable Workshops to explore the opportunities of ICTs in developing countries. A National ICT Roundtable, organised by IICD, is a joint endeavour undertaken by all stakeholders such as the national government, key specialists, industries, media, NGOs and users. It generates a situation in which the stakeholders can effectively develop ICT applications.

The Roundtable process can be very valuable for e-governance projects. The consequent steps that have to be taken to develop an e-governance vision, strategy and define the right projects will be performed in a Roundtable process. A Roundtable starts with the formulation of national ICT priorities. Subsequent steps involve the identification of 'agents of change', and the formulation of 'bankable' projects. It also involves fund-raising, investment and partnering.

As rationale behind this elaborate Roundtable process is the desire to escape the current technology and vendor-driven introduction of ICTs and the donor-driven programmes to support such introductions. IICD will not seek to be the 'owner' of the National ICT Roundtable process, nor to become responsible for the local ICT application projects. IICD will act as catalyst and facilitator and will assist local initiatives in conceiving policy priorities, in formulating bankable and technically feasible project proposals and in soliciting funding for these projects.

E-GOVERNANCE DIRECTORY

E-Governance Links

News

- The Balancing Act www.balancingact-africa.com

Technology Glossary

- What is.com www.whatis.com

E-Government sites (Netherlands)

- OL2000 www.ol2000.nl
- Overheidsportal www.overheid.nl
- Vereniging Nederlandse Gemeenten www.vng.nl
- Webdam www.webdam.nl
- Parlement www.parlement.nl
- Politie www.politie.nl
- Startpagina overheid <http://overheid.pagina.nl/>

E-Government sites (international)

- Ministry of Information Tech. India www.mit.gov.in
- South African Government www.gov.za

Organisations

Institutions

- World Bank www.worldbank.org/publicsector/egov
- OECD www.iicd.org
- IICD www.iicd.org

Technology Companies

- EDS www.eds.com/govt
- IBM www.ieg.ibm.com (Institute for Electronic Government)
- Microsoft www.microsoft.com/business/government/
- Accenture www.accenture.com

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E-GOVERNANCE WEB RESOURCES

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| www.mdpesa.co.zw | Municipal Development Programme for Eastern and Southern Africa |
| www.decentralization.org | World Bank Institute |
| www.digitalgovernance.org | A virtual initiative of Vikas Nath |
| www.egov.mit.gov.in | Ministry of Information Technology Government of India |
| www.iicd.org | International Institute for Communication and Development |
| www.ol2000.nl | Overheidsloket 2000 |
| www.overheid.nl | Dutch Government: Access to all government websites |
| www.belastingdienst.nl | Dutch tax administration |
| www.inasp.org.uk | International Network for the Availability of Scientific Publications |
| www.bestpractices.org | UNCHS website |
| www.ecitizen.gov.sg | Singapore Government website |
| www.cafrad.org | Centre Africain de Recherche Administrative pour le Developpement |
| www.google.com | General search engine, terms used: e-governance, e-government, e-gov, egovernment, egovernance, and rural development. |
| www.worldbank.org/publicsector/egov | World Bank links |

E-Governance Links

Informing the Citizen

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| Practical opportunities for e-governance | www.london-research.gov.uk/LBISN99 |
| INFOCID - a single window for citizenship in Portugal | www.infocid.pt/ |
| Singapore One-Stop Government Web Service Center | www.gov.sg |
| UK Government Information Service | www.open.gov.uk |
| Australian Governments' Entry Point | www.nla.gov.au/oz/gov |
| Brent Council, London Borough, UK | www2.brent.gov.uk |
| Canadian Government Primary Internet Site | www.canada.gc.ca/main_e.html |
| Cape Town Metropolitan, South Africa | www.cmc.gov.za/council/default |
| Federal World Government (US Department of Commerce) | www.fedworld.gov |
| Helsinki InfoCities project | www.hel.fi/InfoCities/eng |
| Hong Kong Interactive Government Services Directory | www.info.gov.hk |
| South Africa Government On-line | www.gov.za |
| Texas Legislature On-line | www.capitol.state.tx.us/capitol/legis |
| USA Government Information Exchange | www.info.gov |
| Wellington City Council, New Zealand | www.wcc.govt.nz/wcc |
| IBM Public Affairs | www.ibm.com/ibm/publicaffairs |
| Ministry of Information Technology | http://egov.mit.gov.in |

Representing the Citizen

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| South Gloucestershire, UK - giving elected members access | www.soutglos.gov.uk |
| Althingi-Icelandic Parliament (the earliest democratic parliament in the world) | www.althingi.is/ekysag/nra-d/i0.shtml |
| Canterbury Regional Council, New Zealand | www.crc.govt.nz/crchrome/crchome.asp |
| Cape Town Metropolitan Council, South Africa | www.cmc.gov.za/council/default |
| Chesapeake City Council USA-council meeting agendas and e-mail the mayor | www.chesapeake.va.us/council/council.html |
| Christchurch, New Zealand - 'Contacts' | www.ccc.govt.nz/Council |
| Italian Chamber of Deputies - papers for the following week's parliamentary work, daily reports, live audio and video | www.english.camera.it |
| Rajasthan, India - feedback link and telephone directory of politicians | www.rajgovt.org |
| Suffolk County Council, UK - ICT for members | www.suffolk.gov.uk |
| Stafford County, Virginia - invites anyone to attend and speak at council meetings | www.stafford.va.us/bos/speakcrd.html |
| Wellington City Council, New Zealand - council meetings, diary | www.wcc.govt.nz/wcc/councilrs |
| South Africa Government On-line-general feedback and links to directory of ministers | www.gov.za |
| United States Senate-links to personal website of every senator | www.senate.gov/senators/index.cfm |

Encouraging the citizen to vote

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| Newham, London Borough, UK - Securing instant feedback in debate | www.newham.gov.uk |
| St Albans District Council, UK - referendum on locally elected mayor | www.stalbans.gov.uk |
| Walsall Metropolitan Borough Council, UK - telephone voting | www.walsall.gov.uk |

Consulting the citizen

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| Citizens' democracy - the city Information Highway of Tampere, Finland | www.tampere.fi/english.htm |
| Brent, London Borough, UK - annual budget consultation | www2.brent.gov.uk |
| Oxfordshire County Council, UK - 'News and Features' issues for debate/response | www.oxfordshire.gov.uk |
| Poole Borough Council, UK - OpenZone | www.poole.gov.uk |
| New Zealand Government On-line | www.govt.nz |

Engaging the citizen on specific issues to shape policy

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| Community Information Programme, Knowsley Metropolitan Borough Council, UK | www.knowsley.gov.uk |
| Australian Capital Territory - On-line consultation papers | www.act.gov.au/government/reports |
| Brisbane, Australia - 'Your City, Your Say' Community Reference Group | www.brisbane.qld.gov.au/council_informati on/at_work/ycts.shtml |
| Cape Town, South Africa - on-line discussion forum | www.cmc.gov.za/disc2_frm |
| Christchurch, New Zealand - publishes its City Plan and Community Plan on-line for feedback | www.ccc.govt.nz |
| City of Redmond, USA - invites citizens to sit on various boards | www.ci.redmond.wa.us/citizen |
| Dudley Metropolitan Borough Council - Community Choice Panel | www.dudley.gov.uk/dudco/ab%5Fco/comc hoice.htm |

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| Durban City Council, South Africa- general purpose bulletin board | www.durban.org.za/forum/index |
| Hammersmith and Fulham, London Borough, UK - Open to Discussion | www.lbhf.gov.uk |
| Lewisham, London Borough, UK - Dialogue Project (Citizens' Panel) and Young Citizens' Project | www.lewisham.gov.uk/dialogue |
| Minnesota, USA - list of web forums, chat rooms and e-mail servers | www.e-democracy.org |
| Naestved, Denmark - Information Society 2000 Project | www.naeskom.dk/danish/addresseliste/html/citynet.htm |
| New Zealand- community discussion forums | www.community.net.nz |
| St Albans DC - Youth Conference | www.stalbans.gov.uk |
| Suffolk County Council, UK - 'Have Your Say' area and 'Graffiti Wall' | www.suffolk.gov.uk |
| Swansea City and County, UK - Citizen's Panel | www.swansea.gov.uk |
| Wellington City Council, New Zealand - consultation papers, invites ideas for improvements to the city | www.wcc.govt.nz/wcc/aboutwcc |
| Community Information - informing the citizen | www.citu.gov.uk/channels/channelspolicy.htm www.ukoln.ac.uk/interop-focus www.seamless.org.uk www.gloscc.gov.uk/circe/index.htm www.gits.gov/htm/access.htm www.cdt.org www.nla.gov.au/lis/govnii.html#oz www.ncb.gov.sg/ncb/vision.asp www.info.gov.hk/tib/roles/index_main.htm www.digital21.gov.hk/eng/digital/index.html www.rajgovt.org/itwork/ITWORK.htm http://158.169.51.200/infosoc/backg/bangeman.html www.challenge.stockholm.se/Projects www.infocities.eu.int/html/body_info.htm |
| Governments' role in creating 'knowledge societies' | |

Information society and empowerment

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| UK Government's Information Society Initiative | www.isi.gov.uk/isi www.thegrid.org.uk |
| 'Smart Communities Programme' - Canada | smartcommunities.ic.gc.ca |
| Naestved Information Society Project- Denmark | www.naeskom.dk/danish/addresseliste/html/citynet.htm |
| DALI (Delivery and Access to Local Government and Services) project in Goteborg, Sweden | www.goteborg.se |
| Parthenay Digital Town Project | www.district-parthenay.fr |
| Community Access Program - Canada | www.cap.ic.gc.ca |
| DRIK, Bangladesh | www.drik.net/html/home1.html |
| SCRAN- searchable archive of Scotland's history and culture | www.scran.ac.uk |
| Moray Council, Scotland | www.moray.gov.uk/scotsculture |
| Consultation using the Internet - OpenZone - Poole Borough Council, UK | www.poole.gov.uk |
| Blacksburg Electronic Village, USA | www.bev.net/project/brochures/about.html |
| Digital City, Bristol, U.K. | www.bristolcity.gov.uk |
| Lewisham, London Borough, UK -Dialogue Project | www.lewisham.gov.uk/dialogue |
| Minnesota E-democracy , USA | www.e-democracy.org |

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| Nunavut- Canada | www.nunavut.com |
| Seattle, Washington, USA | www.scn.org |
| G-7 Government On-line Project | www.open.gov.uk/govoline/golintro.htm |
| MUSCUT search facility to government papers | www.open.gov.uk/search/search.htm |
| UK National Inventory Project | www.tagish.co.uk/nip/ |
| The British Government Central IT Unit | www.open.gov.uk/citu/cituhome.html |
| British Government open collaborative groups on the Internet | www.open.gov.uk/cogs/coglist.htm |
| No.10 Downing Street | www.number-10.gov.uk |
| UK Government departments | www.number-10.gov.uk/depts/index.html |
| Parliament: The House of Commons, the House of Lords and parliamentary publications | www.parliament.uk |
| The New United Kingdom Official Publications Online (NUKOP Online) main index (maintained by the University of Southampton) | www.soton.ac.uk/~nukop/ |
| Signposts to Government (maintained by Kable) | www.kable.co.uk/ |
| Directory of UK local authorities on the Web (maintained by Tagish) | http://tagish.co.uk/tagish/links/localgov.htm |
| OFTEL | www.oftel.gov.uk |
| UK National Inventory Project - Local Government | www.tagish.co.uk/nip/nip/localgov.htm |
| European Commission Information Society Project Office | www.ispo.cec.be/ |
| European Information Society Forum | www.ispo.cec.be/infoforum/isf.html |
| G-7 Information Society Conference | www.ispo.cec.be/g7/g7main.html |
| The European Telecities Project | www.edc.org.uk/telecities/ |
| American Centre for Civic Networking | www.civic.net:240/ |
| Alliance for Public Technology | http://apt.org/apt/ |
| Centre for Technology and Democracy | www.ctd.org |
| Democracy of Free-nets and community networks, worldwide | http://ofcn.org/networks/Bystate.txt.html |
| US Senate | www.senate.gov/ |
| The White House (USA), including federal government pages | www.whitehouse.gov |
| Papers relating to the American National Information Infrastructure | http://nii.nist.gov/nii/niinfo.html |
| Papers relating to the American federal government National Performance Review | www.npr.gov/ |
| Papers of the National Computer Board of Singapore (IT 2000 documents) | www.ncb.gov.sg/ncb/it2000.asp |
| Papers of the Japanese Ministry of Posts and Telecommunications on the Information Society | www.mpt.go.jp/ |
| Papers of the Japanese Ministry of International Trade and Industry Programme for Advanced Information Infrastructure | www.glocom.ac.jp/ |
| Papers of the Australian Government Policy and the Information Superhighway | www.nla.gov.au/lis/govnii.html |
| Papers of the Australian Ministry of Finance | www.finance.gov.au |
| Papers of the Canadian Information Highway Advisory Council | www.x.info.ic.gc.ca/infohighway/ |
| Papers of the Treasury Board of Canada on government reform | www.tbs-sct.gc.ca/infohighway/ |

Latin America

Argentina

http://www.gobiernoelectronico.ar/sitio/poderes/poder_ejecutivo/poder_ejecutivo.htm
<http://www.sfp.gov.ar/DNO/index.htm>
<http://www.oirte.gov.ar/sitios/consultas/index.html>
http://www.setcip.gov.ar/Catalogo/catalogo_formulario.htm
<http://www.presidencia.gov.ar>
<http://www.presidencia.gov.ar/enlaces/otraspre99.html>
<http://www.gba.gov.ar/index7.htm>
<http://www.buenosaires.gov.ar/contactenos.asp>
<http://www.gba.gov.ar/index1.htm>
http://www.buenosaires.gov.ar/images/tit_buscar.gif
http://www.buenosaires.gov.ar/carta_jefe.asp
http://www.buenosaires.gov.ar/gobierno_funcionarios.asp
<http://www.buenosaires.gov.ar/institucional.asp>

Brazil

<http://www.comprasnet.gov.br>
http://www.brazil.gov.br/form_main.htm
http://www.brazil.gov.br/html/govest_set.htm
<http://www.governo.rj.gov.br/default.asp>
<http://www.governo.rj.gov.br/fale/default.asp>
<http://www.governo.rj.gov.br/servicos.asp>
<http://www.governo.rj.gov.br/target.asp?page=http://sabia.proderj.rj.gov.br/ixpress/upo/protocolo/upofram.dml>
<http://www.proderj.rj.gov.br/Rat.asp>
<http://www.governo.rj.gov.br/repasser.htm>
<http://www.rio.rj.gov.br/>
<http://www.rio.rj.gov.br/>
<http://www.rio.rj.gov.br/>
<http://www.salvadoratende.com.br/>
<http://www.pms.ba.gov.br/indexE1024.html>

Colombia

<http://www.presidencia.gov.co/webpresi/buscar.htm>
<http://www.presidencia.gov.co/webpresi/escribal/escribo.htm>
<http://www.presidencia.gov.co/webpresi/entidade/entidade.htm>
<http://www1.gobercun.gov.co/gcun/servicios/banproy/index.stm?ref=proyectos>
<http://www1.gobercun.gov.co/gcun/servicios/correo/index.stm?ref=correo>
<http://www1.gobercun.gov.co/gcun/servicios/banproy/index.stm?ref=proyectos>
<http://www1.gobercun.gov.co/gcun/municipios/index.stm>
<http://www.alcaldiabogota.gov.co/contac.htm>
<http://www.alcaldiabogota.gov.co/alc2/htm/base.htm>

Mexico

http://www.presidencia.gob.mx/pages/f_busqueda.html
<http://www.senado.gob.mx/buzon.html>
<http://www.senado.gob.mx/buzon.html>
<http://www.compranet.gob.mx>
http://www.presidencia.gob.mx/pages/f_gob_internet.html
<http://www.sefiplan.gob.mx/menuframes/frameprin/buscarprincipal.htm>
<http://www.veracruz.gob.mx/>
<http://www.veracruz-llave.gob.mx/mail/>

<http://www.sefiplan.gob.mx/menuframes/frameprin/quejanet.htm>
<http://regiones.veracruz.gob.mx/>
<http://www.df.gob.mx/busca/index.html>
<http://www.df.gob.mx/espaciolibre/index.html>
<http://www.df.gob.mx/politica/preguntale/forma.html>
<http://www.df.gob.mx/servicios/estados.html>

Websites Sri Lanka Report

National Web Window of Sri Lanka
<http://www.lk>

USAID/Sri Lanka
<http://www.info.usaid.gov/countries/sl.html>

This is the USAID country site for Sri Lanka. It includes links to the 1999 Congressional Presentation, the CIA World Factbook and to country health statistics.

Model Computer Commerce Law Project
<http://www.mcclproject.org>

This website describes the USAID Model Computer Commerce Law Project, which includes a blueprint for drafting model computer commerce laws in developing countries.

Computer Society of Sri Lanka
<http://www.ccom.lk/cssl>

Year 2000 Readiness Task Force
<http://www.lk/2yk1.html>

Council for Information Technology (CINTEC)
<http://www.cintec.lk>

CINTEC was established by the GSL to function as the national coordinating body for IT in Sri Lanka.

The GeoCities Informational Site on Sri Lanka
<http://www.geocities.com/TheTropics/4896/srilanka.html>

This Website will give you an interesting perspective on the degree to which the Web is being used in Sri Lanka and provides general information about Sri Lanka, including a map.

The U.S. Government (CIA) Factbook on Sri Lanka
<http://www.cia.gov/cia/publications/factbook/sl.html>
This Website provides basic facts and figures about Sri Lanka.

Websites mentioned in Nepal Report

www.nasscom.org
www.nic.org
www.infonepal.com
www.caninfo.org/general.htm
www.bsa.org

IICD PROFILE

The International Institute for Communication and Development (IICD) assists developing countries to realise sustainable development by harnessing the potential of information and communication technologies (ICTs). The driving force behind IICD activities is that local 'change agents' themselves identify and develop proposals for realistic ICT applications - local ownership forms the essential basis for sustainable socio-economic development.

Acting as a catalyst, IICD's three-pronged strategy is mainly delivered through a series of integrated Country Programmes.

First, IICD facilitates ICT Roundtable Processes in selected developing countries, where local stakeholders identify and formulate ICT-supported policies and projects based on local needs.

Second, working with training partners in each country, Capacity Development activities are organised to develop the skills and other capacities identified by the local partners.

Third, IICD draws on its global network to provide information and advice to its local partners, also fostering local information exchange networks on the use of ICTs for development. The best practices and lessons learned are documented and disseminated internationally through a Knowledge Sharing programme.

In support of these activities, IICD invests in the development of concrete partnerships with public, private and non profit organisations, thus mobilising knowledge and resources needed by IICD and its local partners.

Country Programmes are currently being implemented in Bolivia, Burkina Faso, Ghana, Jamaica, Mali, Tanzania, Uganda and Zambia.