NATIONAL INFORMATION SOCIETY POLICY:

A TEMPLATE

DEVELOPED BY THE INFORMATION FOR ALL PROGRAMME OF UNESCO TO ASSIST UNESCO MEMBER STATES IN THE DEVELOPMENT OF NATIONAL INFORMATION POLICY AND STRATEGY FRAMEWORKS

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EXECUTIVE SUMMARY

National Information Society Policy: A Template

This guideline methodology for the development of National Information Society Policies (NISPs) and legislation is intended to allow governments working with enterprises, community organizations, the science and technology sector, among other social actors, to create, implement and update agendas that would assist in the development of such policies and legislation. This work offers guidance and assistance, as well as general information on the development of Information Society policies, legislation, existing examples, processes, mechanisms, and information sources. This methodology is flexible and adaptable to countries at different levels of development, and can be implemented by governmental bodies and civil servants, articulated with an “expert pool" in each country.

This Template provides instructions for developing an NISP proposal and is basically a “how to” guide divided into the different steps necessary for preparing such a policy proposal. These steps follow a sequential structure, which is disaggregated in all its components. As UNESCO Member States most likely have their own institutional, administrative and governance practices and approaches the procedures described in this Template are not mandatory but rather serve as suggestions. The step-by-step approach shown in this Template serves to illustrate one way to proceed; it is not a prescription nor a set of rules for the way every administration should behave.

The fast evolution of Information and Communication Technologies (ICTs) and the construction, not only of a global “Information and Knowledge Society” but also of diverse "Information and Knowledge Societies" - according to countries and regions' particular historic, economic, and social contexts, needs and development levels- are compelling countries in all the regions throughout the world to reconsider their development agendas and to ask themselves what role they want to accomplish in this new era.

The work revises existing relevant documents in the field of Information Society Planning, legislation, policies and declarations; diverse countries expertise in the field of Information Society Planning and Legislation (Explicit National Digital Agendas, National, Regional and local Information Society policies, national and regional legislations, etc.); and international relevant documents in the field of Information Society Planning, legislation, policies and declarations..

An NISP can be defined as a roadmap -- a national, regional, or local plan -- for the inclusion and appropriation, by governments, institutions, communities and individuals, of the benefits derived from the construction of an Information Society. *The NISP is a highway, not a harbour. It is a process: a collaborative, open, and permanent building task. In order to travel this highway, it is necessary to envision it, to plan and build it, to make it useable for all citizens.*

This Template reviews existing relevant documents in the field of Information Society Planning, to include legislation, policies and declarations from diverse countries' expertise in the field of Information Society Planning and Legislation (specific national digital agendas, national, regional and local Information society policies and legislation, etc.) as well as international relevant documents in the field of Information Society Planning.

NISPs: A significant symbol for the beginnig of the new Millenium

UNESCO´s Information for All Programme (IFAP) is an intergovernmental programme created in 2000. Through IFAP, governments of the world have pledged to harness the opportunities from the information age to create (more) equitable societies through better access to information. IFAP is a platform for international policy discussions and programme development aimed at narrowing the gap between the information rich and the information poor. In the context of the rapid and permeable evolution of ICTs, UNESCO, with its mandate to promote the "intellectual and moral solidarity of mankind", is uniquely placed to provide a forum for international debate, and to contribute to policymaking, especially at international and regional levels.

UNESCO and IFAP have contributed to the formulation of National Policies for Information Society[1] in UNESCO countries. The concept of public policies for information societies is relatively young, and even the countries with dedicated efforts regarding local or national strategies, such as Canada, Australia or New Zealand, among others, only began doing so in the mid 1990s.

Therefore NISPs, even if rich in content and on organizational schemes, were still relatively young and scarce until the beginning of the new millennium. The 2003 World Summit of Information Society´s "Declaration of Principles Building the Information Society: a Global Challenge in the New Millennium" (WSIS, 2003a) states that "Sustainable development can best be advanced in the Information Society when ICT-related efforts and programmes are fully integrated in national and regional development strategies." (Paragraph 44). The WSIS 2003 Plan of Action declares that "Development of national e-strategies, including the necessary human capacity building, should be encouraged by all countries by 2005, taking into account different national circumstances" (WSIS, 2003b).

In 2005, the WSIS Tunis Commitment (WSIS, 2005a) declared: "We also recognize that the ICT revolution can have a tremendous positive impact as an instrument of sustainable development. In addition, an appropriate enabling environment at national and international levels could prevent increasing social and economic divisions, and the widening of the gap between rich and poor countries, regions, and individuals—including between men and women", and recognized the central role of public policy in setting the framework in which resource mobilization could take place. Paragraph 84 of the Tunis Agenda for Information Society declares: "Governments and other stakeholders should identify those areas where further effort and resources are required, and jointly identify, and where appropriate develop, implementation strategies, mechanisms and processes for WSIS outcomes at international, regional, national and local levels, paying particular attention to people and groups that are still marginalized in their access to, and utilization of ICTs".

[1] Even if this Template considers the Information Society as a stage towards the construction of te Knowledge Society, the term NISP is utilized because of its present international acceptance when referring to public policies for Information and Knowledge Society

UNESCO General Conference Resolution 34 C/Res.48 for Major Programme V, contained in the Approved Programme and Budget 2008–2009 (34 C/5), authorizes the Director General to "assist in the formulation of national information policy frameworks, in particular within the framework of the Information for All Programme (IFAP)". Moreover, the Executive Board stressed in its 2008 decision on IFAP that "the outcome documents of the World Summit on the Information Society (WSIS) should constitute the framework for the future strategic orientations of the Information for All Programme".

The progresses made in the new millennium towards the formulation and implementation of public policies for Information and Knowledge Society show the imperious need for UNESCO to provide a "roadmap" in order to help different developing countries in formulating or updating their respective Information Society agendas. Policies and strategies are driven not only by each country's specific history, social structure and endogenous factors, but also by the influence of the international context and external factors, as analyzed in the following pages.

Main findings

The main findings of this document are:

- Unlike other areas, technological change advances at the fastest pace known in history. Hence, governments, the private sector (enterprises and entrepreneurs), the science and technology sector, as well as civil society must keep up with this pace, elaborating not only long-term policies, but also short and medium-term strategies, which will produce visible results to the involved actors and the general population.
- Information Society policies are those which consider the overall development of governmental responsibility in the construction and permanent development of an Information Society suited to the country's context, specificities and potentials.
- There is no general formula for successful ICT policies and e-strategies. Governmental officers, teams of experts and policy makers in diverse developing countries may identify examples of successes or best practices either within their own territories, or regions, or in other similar countries in order to adjust them as needed to fit their nation's unique circumstances.

- The process of formulating and implementing Information Society Policies is determined by internal and external factors. Internal factors –such as the country's level of development- determine the context or environment in which a given country develops its national strategies. Among these factors are the socio-economic factors traditionally identified, and also the degree of advancement towards establishing an Information Society. Some of the strongest external factors are growth tendencies, stability and political orientation, which pre-determine a government's priorities. These external factors establish the degree of importance assigned by the national government to the ICT issue in each phase of the national strategy.
- Discussing an NISP makes governments, as well as the other stakeholders, better able to associate access and social appropriation of ICT to public policies.
- The establishment and implementation of regional, national and local explicit Information Society development strategies are essential for grasping the "Digital Opportunity". Countries need to not only build explicit NISPs, given the particular characteristics of the Information Society, but also require the constant updating of their public policies. The fast pace of technological innovation requires continuous updating and monitoring processes.

Essential guidelines

NISP goals may be formulated and implemented according to the following six essential guidelines:

1. The Millennium Development Goals[2]
2. The 2003 and 2005 World Summit for Information Society (WSIS) Declarations: Geneva Declaration of Principles, Geneva Plan of Action, Tunis Commitment, and Tunis Agenda for the Information Society[3]

[2] To be achieved by 2015, the MDGs are: halving poverty and hunger; achieving universal primary education; removing gender disparities; reducing under-five mortality by two-thirds and maternal mortality by three-quarters; reversing the spread of HIV/AIDS and other diseases; ensuring environmental sustainability; and halving the proportion of people without access to safe water.

[3] In the following page, you will find all the WSIS declarations: http://www.itu.int/wsis/index.html

3. Objectives established by regions (Arab States, Asia and the Pacific, Latin America and the Caribbean, Europe, North America, East, West and Central Africa, among others)
4. Principles and goals established by North-South, North-North and South-South coperation programs between regions. An example is the EU 27[4] cooperation with Africa (Joint EU – Africa Strategy, 2007). The European Union and the African Union have decided to develop a co-owned 'joint strategy' which "reflects the needs and aspirations of the peoples of Africa and Europe". Particularly relevant is the thematic Partnership on Science, Information Society and Space.
5. National development goals, as stated in national development plans. According to the Tunis Agenda for Information Society: "National e-strategies, where appropriate, should be an integral part of national development plans, including Poverty Reduction Strategies, aiming to contribute to the achievement of internationally agreed development goals and objectives, including the Millennium Development Goals" (WSIS, 2005b).
6. Regional (provinces, states in a country) and local development goals, For example, the Project Involving Local Youth Councils in Good Practices in Local Governance - Ecuador began in 2006 and responded to the needs of the existing leadership to create spaces in which young talented people can interact about new leadership styles based on transparency and social participation. The project also addressed specific local management issues and the application of the Law on Access to Public Information (LOTAIP). The use of ICTs in communication and information management was vital for the empowerment of these local youth groups, notably through the set-up of public "information corners" installed at easily accessible locations for local youth. The project benefits 15,000 local youth and municipal civil servants.

Who should read and use this template?

[4] EU-27: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom. Find more information at http://www.eea.europa.eu/help/eea-help-centre/faqs/what-is-the-eu-27

This template is meant for government officers and representatives (sometimes with the support of an expert team, sometimes with the assistance of their staff), other governmental bodies (such as the Government Council for Information Society in the Czech Republic, the National Information Society Agency in Korea, the National Office of Information Technologies in Argentina, just to quote a few examples), international bodies such as the National Commission for UNESCO, as well as universities, high schools and academies, etc. These governent officers and governmental bodies will lead the preparation, updating and implementation of the NISP process, together with stakeholders that represent private enterprises, universities, civil society organizations, among others. Generally speaking it is also recommendable to all those who will be involved in related courses of action in order for them to understand the procedures.

The present document encompasses two main scopes. The first scope, highlighted in the first and third modules, is more theoretical and offers a compilation of key concepts, documents, and glossaries from the different fields that should be analyzed and inserted in an NISP. The objective is to give a general background to those who will start the work. The second scope, as outlined in the second module is a practical guide which presents hands-on advice and useful exercises for a wide range of cases, situations and needs.

Issues to keep in mind

The following points are relevant issues for readers to keep in mind before using this template:

- Be creative: use this template as a guideline to reach your own NISP with unique characteristics suitable to your country's priorities.

- The formulation of an NISP necessarily implies a multistakeholder approach: governmental institutions, the private sector, universities and science & technology centres, as well as civil society organizations should be proactive actors during the whole process.

- Identify examples of ICT successes or best practices either nationally or regionally, or in other similar countries and adjust them as needed to fit your nation's unique circumstances.

- Since ICT issues are transversal to other themes, social actors, and to diverse challenges work in multistakeholder teams.

- Establish or assign a lead national agency to be responsible for broad-based coordination and collaboration within the government as well as with other sectors.

- Keep in mind the four main areas in which government strategy formulation should be focused on: connectivity, interoperability, predictability, and security.

- Facilitate the monitoring, assessment, and evaluation of the implemented measures.

- Nobody starts at "ground zero"; all countries have some experience on the Information Society beyond their development level.

- Each country boards the Information Society train at its own station; it is essential to take into account the national and regional circumstances, as each situation has unique characteristics.

- Start from the identification of each country´s own reality and needs, identifying the economic strengths and weakness, cultural diversity and institutional conditions in order to foster Information Society policies.

- Consider the intersectorial and multistakeholder approaches as central points of the NISP strategy in each country.

INTRODUCTION

In short, we face the third millennium like the apocryphal Irishman who, asked for the way to Ballynahinch, pondered and said: "If I were you, I wouldn't start from here."
But here is where we are starting from.
Eric Hobsbawm, Daily Times, Monday, November 24, 2008

The fast evolution of Information and Communication Technologies (ICTs) and the construction, not only of a global "Information Society", but also of diverse "Information Societies" according to the countries and regions' specific and different historical, economic, and social contexts and development levels, are compelling countries in all the regions in the world to re-consider their development agendas, and to ask themselves what role they want to accomplish in this new society. This document revises reviews the policies and legislation suggested and/or implemented by international organizations, governments, and non-governmental organizations (NGOs) in countries and regions, in order to propose a methodology that can be used to generate and update public policies for the Information Society.

What is an Information Society?

Primarily, the term defines a society in which the creation, distribution, and manipulation of information has become the most significant economic and cultural activity. An Information Society is often contrasted with societies in which the economic foundation is primarily industrial or agrarian.

Manuel Castells (2000), one of the first and best known researchers to have developed this knowledge area, prefers the term "informational society" to "information society" (establishing the comparison with the difference between industry and industrial). He states that while knowledge and information are decisive elements in all modes of development, "*the term informational indicates the attribute of a specific form of social organization in which information generation, processing, and transmission are*

transformed into the fundamental sources of productivity and power, due to the new technological conditions that arise during this historic period."

He also raises the issue of an Information Society as a continuous process of innovation: "*What characterizes the current technological revolution is not the central personage of knowledge and information, but rather the application of this knowledge and information to knowledge generation and information/communication processing devices, in a cumulative feedback loop between innovation and the uses of innovation.*" He also remarks: "*The diffusion of technology infinitely amplifies its power when its users appropriate it and redefine it. The new information technologies are not merely tools to be applied, but rather processes to be developed.(...) For the first time in history, the human mind is a direct productive force, not only a decisive element of the production system.*" The knowledge economy is the Knowledge Society´s economic counterpart whereby wealth is created through the economic exploitation of understanding. Specific to this kind of society is the central position information technology has for production, economy, and society at large.

Example 1. The Australian approach

The Australian Approach

Australia defines an Information Society as one where information, knowledge, and education are major inputs to business and social activity. It is not a separate 'new' society—it is a society in which the rapid development and diffusion of ICT-based innovation is transforming all sectors and all aspects of society. The Australian approach is one of a market-led information society with the government providing the framework for economic and social development, ensuring universal, affordable access to the information economy and its benefits, and ensuring a predictable, safe and secure environment. Partnerships with the private sector and civil society involving consultative processes, joint projects and the development of co- or self-regulatory processes ensure the development of an information society that meets the needs of all participants.

Source: Sadagopan and Weckert, 2005

From Information Society to Knowledge Society

According to Sally Burch in *The Information Society/ the Knowledge Society* (2005), "[t]he notion "knowledge society" emerged toward the end of the 90s and is particularly used as an alternative by some in academic circles to the "information society". UNESCO, in particular, has adopted the term "knowledge society", or its variant, "knowledge societies", within its institutional policies. As Burch et al. state, any definition that uses the term "society" will be extremely limited if it cannot describe a reality circumscribed to the World Wide Web or ICTs. The Internet is a new social interaction scenario, but this interaction coexists and interacts with the physical world. Meanwhile the Argentine expert Alejandro Prince (2005) reinforces the value of networking in the informational era. He defines an Information/Knowledge Society as "The economic and social state which survival and development actions are characterized by the potential capacity of its actors to connect to each other through networks, using ICTs extensively, intensively, and strategically in order to obtain and share, stock, process, analyze, and distribute information" .

The UNESCO World Report on Knowledge Societies for All (2005) stresses that Knowledge Societies are not to be confused with Information Societies. Knowledge Societies contribute to the well-being of individuals and communities, and encompass social, ethical and political dimensions. Singapore, for example, started out as a developing country of shantytowns at independence and achieved economic growth rates that surpassed those of most industrialized nations in just four decades by promoting knowledge (education) and creativity. On the other hand, Information Societies are based on technological breakthroughs that risk providing little more than "a mass of indistinct data" for those who don't have the skills to benefit from it.

Information Society is therefore considered as a necessary previous step to build Knowledge Societies. Abdul Waheed Khan, Assistant Director-General for Communication and Information of UNESCO, quoted by Burch (2005), states: "*Information society is the building block for knowledge societies. Whereas I see the concept of 'information society' as linked to the idea of 'technological innovation', the concept of 'knowledge societies' includes a dimension of social, cultural, economical, political and institutional transformation, and a more pluralistic and developmental perspective. In my view, the concept of 'knowledge societies' is preferable to that of the 'information society' because it*

better captures the complexity and dynamism of the changes taking place. (...) the knowledge in question is important not only for economic growth but also for empowering and developing all sectors of society."

National Information Society Policy: a step to Knowledge Societies

UNESCO´s approach states that emerging knowledge societies form the origin of a virtuous circle in which the progress of knowledge and technological innovation produces more knowledge in the long term. Therefore, knowledge production undergoes a considerable acceleration.

However, UNESCO (2005) considers that while information is a knowledge-generating tool, it is not knowledge itself. Emerging from the desire to exchange knowledge by making its transmission more efficient, information remains a fixed and stabilized form of knowledge. Thus information is in many cases a commodity, in which case it is bought or sold, whereas knowledge, despite certain restrictions (defence secrets, intellectual property, traditional forms of esoteric knowledge for example), belongs to any reasonable mind.

"The idea of the information society is based on technological breakthroughs. The concept of knowledge societies encompasses much broader social, ethical and political dimensions. There is a multitude of such dimensions which rules out the idea of any single, ready-made model, for such a model would not take sufficient account of cultural and linguistic diversity, vital if individuals are to feel at home in a changing world. Various forms of knowledge and culture always enter into the building of any society, including those strongly influenced by scientific progress and modern technology. It would be inadmissible to envisage the information and communication revolution leading – through a narrow, fatalistic technological determinism – to a single possible form of society". (Bindé et.al., UNESCO, 2005, p. 17).

Therefore, ICT tools are a necessary but not sufficient precondition for the societal and political process of developing knowledge societies. This Template concentrates on some aspects of this broader issue

Information or Knowledge Society issues are not isolated from other national strategies. Their transdisciplinary nature (joining technical disciplines to economic and social sciences) make them cross-cutting to other themes (e-government, e-health, education, social inclusion, infrastructures, etc.) that are fundamental to national, regional and local governments as well as to other relevant social actors. Therefore, Information or Knowledge Society issues, young as they are, are also the basis of transformations in a country's social and economical organization.

They present also a unique particularity: unlike other areas, technological change advances at the fastest pace known in history. Therefore governments must keep up this pace, elaborating not only long-term policies, but also short and medium term strategies, which will produce visible results to the involved actors and to the general population. There is no general formula for successful ICT policies and e-strategies. Governmental officers, teams of experts and policy makers in different developing countries may identify examples of successes or best practices either nationally or regionally, or in other similar countries and adjust them as needed to fit their nation's unique circumstances.

The issue of public policies for the Information Society is relatively young. Even countries that have dedicated efforts regarding local or national strategies, such as Canada, Australia or New Zealand, among others, only began this in the mid 1990s.

Example 2. The Icelandic experience with ICT policies

The Icelandic experience with ICT policies

More than fifteen years ago, Iceland presented its primary objective for Information Society policies, placing the country at the forefront of nations in the utilisation of information technology in the service of improved human existence and increased prosperity.

To follow up on this primary objective, five main objectives were set out as a foundation for a vision of the future:

1. Icelanders shall have easy access to the information society. That its advantages be

utilised to strengthen democracy and increase the quality of life for the benefit of the public and the Icelandic economy. That information technology be employed in all fields, whether for innovation, public health, science, the arts or other fields of daily life.

2. Complete equality shall be ensured between the public and private sectors in the field of information technology and the information industry. That the government, with the help of information technology, facilitate access to governmental information and services to level the status of individuals and companies without regard to residence and economic resources.

3. Information and telecommunications technologies shall be mobilised to improve the competitiveness of the Icelandic economy, increase productivity and proliferate the possibilities of exporting Icelandic inventiveness.

4. The educational system shall adapt to changed social dynamics and focus general education and continuing education upon the advantages of the information society while, at the same time, keeping watch over our language and culture.

5. Legislation, rules and working methods shall be re-examined with respect to information technology to stimulate technological progress and to protect the rights of individuals and companies.

Source: Iceland Prime Minister's Office, 1996

Therefore, the history and antecedents of NISPs even if rich in contents and on organizational scehemes, were still relatively young and scarce until the beginning of the new millennium. Policies and strategies are driven not only by each country's specific history, social structure and endogenous factors, but also by the influence of the international context and external factors, as analyzed in the following pages.

The international context

The force to build and update explicit NISPs and ICT legislation is not a local isolated impulse, but an international process that can be followed through international events and documents. The discussion and debate process that took place at national and international levels, triggered by the two WSIS events, deepened the perception regarding the need of constructing NISPs.

The 17th paragraph of the Tunis Commitment (2005) recommends governments, "using the potential of ICTs, to create public systems of information on laws and regulations, envisaging a wider development of public access points and supporting the broad availability of this information" and states "We are convinced that our goals can be accomplished through the involvement, cooperation and partnership of governments and other stakeholders, i.e. the private sector, civil society and international organizations, and that international cooperation and solidarity at all levels are indispensable if the fruits of the Information Society are to benefit all."

Example 3. The Kenya ICT Action Network

The Kenya ICT Action Network (KICTANet)

The impetus for a multi-stakeholder process in Kenya arose from a recommendation of the World Summit on the Information Society and long-standing collaboration between civil society and the private sector in advocating for different ICT policy changes in Kenya over the last two decades. KICTANet was initiated by civil society organisations in October 2004 during a meeting organised by the Media Council, the Association for Progressive Communication, the Catalysing Access to ICTs in Africa (CATIA) programme supported by the UK Department for International Development (DFID), TESPOK (Telecommunications Service Providers Association of Kenya), Summit Strategies and the Kenya WSIS Civil Society Caucus. These organisations together with the Kenya ICT Federation (KIF) formed the initial members of KICTANet.

The initiators of KICTANet were facing common problems relating to ICT policy in Kenya and felt that their individual goals could be achieved by focusing on the collective goal of sharing resources and skills, stimulating debate and catalysing the policy process.

Through interaction with stakeholders, awareness creation, mobilisation of the private and public sectors and civil society around policy issues and encouragement of synergies, KICTANet was able to achieve trust and social legitimacy among policy-makers, international institutions and the general public in Kenya. KICTANet played a catalytic role in facilitating ICT policy changes in the country.

Source: Adam et al., 2007

The “Declaration of Principles, Building the Information Society: a global challenge in the new Millennium” (2003)**,** declares “our common desire and commitment to build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, premised on the purposes and principles of the Charter of the United Nations and respecting fully and upholding the Universal Declaration of Human Rights”. Article 42 of the document states that “Sustainable development can best be advanced in the Information Society when ICT-related efforts and programmes are fully integrated in national and regional development strategies”.

The European Union was a strong pioneer in fostering regional and national Information Society policies. When the Heads of States met at the Lisbon summit in March 2000, European Union leaders set out a new strategy, based on a consensus among Member states, to make Europe more dynamic and competitive. The strategy became known as the “Lisbon Strategy” and came to cover a very wide range of policies. The strategy was relaunched in spring 2005 after initially moderate results and became more focused on growth and jobs. (EC, 2005a) A programme for European level reform – the Community Lisbon Programme - has been agreed upon and is reviewed annually. Member States undertake reforms at national level based on national reform programmes presented in 2006 and based on the policy guidelines (EC, 2005b) agreed collectively by all Member states in 2005.

According to Aballi et al., (UNESCO, 2008), the evolution of NISPs toward state policy orienting the development and consolidation of the information society inclusively and equitably is one of the main challenges of the present-day globalized world. For that reason, NISP goals may be formulated and implemented following six essential guidelines:

1. The Millennium Development Goals
2. The 2003 and 2005 World Summit for Information Society (WSIS) Declarations: Geneva Declaration of Principles, Geneva Plan of Action, Tunis Commitment, and Tunis Agenda for the Information Society
3. Objectives established by regions (Arab States, Asia and the Pacific, Latin America and the Caribbean, Europe, North America, East, West and Central Africa, among others)

4. Principles and goals established by North-South, North-North and South-South coperation programs between regions. An example is the EU 27 cooperation with Africa (Joint EU – Africa Strategy, 2007). The European Union and the African Union have decided to develop a co-owned 'joint strategy' which "reflects the needs and aspirations of the peoples of Africa and Europe". Particularly relevant is the thematic Partnership on Science, Information Society and Space.
5. National development goals, as stated in National Development Plans. According to the Tunis Agenda for Information Society: "National e-strategies, where appropriate, should be an integral part of national development plans, including Poverty Reduction Strategies, aiming to contribute to the achievement of internationally agreed development goals and objectives, including the Millennium Development Goals" (WSIS, 2005b).
6. Regional (provinces, states in a country) and local development goals. For example, the Project Involving Local Youth Councils in Good Practices in Local Governance - Ecuador started in 2006 and responded to the need for new spaces in which young talented people could interact about new leadership styles based on transparency and social participation. Also, the project addressed specific local management issues and the application of the Law on Access to Public Information (LOTAIP). The use of ICTs in communication and information management was vital in bringing empowerment of these local youth groups about, notably through the set-up of public "information corners" installed at locations of easy access for local youth. The project benefits 15,000 local youth and municipal civil servants.

Since the concept of Information Society and Knowledge Society are relatively recent, the concepts of National Information Society Policies are new too. In general, they date from the 1990s, with a few countries, such as Iceland, working on Information Society policies as early as the 1980s. However, as stated by UNESCO (2005): "Even before the first phase of the World Summit on the Information Society (Geneva, 10–12 December 2003), the international community's reflections in this area had been followed up by a number of initiatives, such as the World Conference on Higher Education, the World Conference on Science in Budapest, "Science for the Twenty-first Century: A New Commitment?" and the World Summit on Sustainable Development". This interest in the issue also translated,

during the preparation of the Geneva Summit (2003), and the Tunisia Summit (2005), into the organization of regional summits, forums, and initiatives on governmental and non-governmental levels.

International organizations, national governments, the academic sector, the private sector and civil society have overseen the transition to a new technological, economic and social paradigm. Today, the concept of the knowledge society has become an essential framework of reflection for most member countries of the UNESCO.

Discussing an NISP forces governments, as well as the other social agents, to associate access and social appropriation of information and communication technologies to public policies. As mentioned before, Information Society policies are those which consider the overall development of governmental responsibility in the construction and permanent development of an Information Society suited to the country's context, specifics, needs, and potential. Many countries have built sectoral digital agendas: e-government, e-learning, or others. Since these initiatives are not part of overall Information Society policies, they are not considered in this study. Also, considering that the formulation of public policies may be implicit or explicit, and thus inferable from a government's plans, programs, or governmental agendas, this study considers that a country has a National Digital Agenda, or National Information Society Policy, when this policy is explicit in an official document, or implicit in a higher hierarchy document, such as a National Development Plan.

In order to implement diverse aspects of a public agenda, concerted social actions are necessary. Political will does not emerge exclusively in the state or political environment; it is built by society. Therefore, though social alliances between diverse social actors, a given issue can be positioned in the public agenda. This issue depends on a number of factors, such as the participation of social agents in public policies decision making; their responsibility towards the negotiation rules; their cooperation and will; and naturally, each country's priorities.

As stated by Alicia Bañuelos, Minister of Progress of San Luis province in Argentina, "When there's is no real political will, it is improbable that society will appropriate Information Society, since society perceives that the political power considers Information

Society as alien to the country's development. An NISP does not finish with its presentation in society: this is just an event. Transforming a society into a Knowledge Society, through the impulse of a Knowledge economy, is a process, not a single action. And processes need rules and long-term vision"[5].

According to Martin Hilbert, Sebastián Bustos and João Carlos Ferraz (2005), the process of creating and implementing information society policies is subject to internal and external factors. Internal factors, such as a country's development level, determine the context or environment in which a given country develops its national strategies. The concept "development level" includes the socio-economic factors traditionally identified (per capita income, educational level of human resources, health, etc.), but also the degree of advancement towards an Information Society. These experts also identify more dynamic external factors, such as growth tendencies (among them, the macro economic context), stability and political orientation, which pre-determine a government's priorities. These external factors are determine the degree of importance assigned by the national government to the issue in each of the phases of a national strategy.

The degree of Information Society awareness is another external factor quoted by Hilbert, Bustos and Ferraz. For example, the celebration of the World Summit of Information Society 2003-2005 (WSIS) has contributed to governments' sensitization on the Information Society paradigm in their own countries.

Example 4. Recommendation WSIS Action Plan

Although none of the WSIS commitments urges explicitly national, regional or local governments to design and implement Information/Knowledge Society policies and strategies, the WSIS Action Plan (2003) recommended the initiation at the national level of "a structured dialogue involving all relevant stakeholders, including through public/private partnerships, in devising e-strategies for the Information Society and for the exchange of best practices." The resulting WSIS Plan of Action emphasized the importance of establishing "a trustworthy, transparent and non-discriminatory legal, regulatory and policy environment", for which "Governments should foster a supportive, transparent, pro-competitive and predictable policy, legal and regulatory framework, which provides the

[5] Interview with Alicia Bañuelos, December 2008, in San Luis, Argentina.

appropriate incentives to investment and community development in the Information Society.

Source: WSIS Action Plan (2003)

According to a recent working paper commissioned by InfoDEV (McNamara, 2008), many of the active programs managed by bilateral and international institutions to support policy and regulatory capacity building in developing regions are not well coordinated and it is their impact on policy and regulation, and their sustainability is not well known.

In specific fields such as telecommunications policies cannot be formulated at the national level alone. International institutions such as the World Trade Organisation (WTO), the reforming International Telecommunication Union (ITU), the World Intellectual Property Organisation (WIPO) and the Internet Corporation for Assigned Names and Numbers (ICANN) "are determining, with varying degrees of formality, the rules for global participation. While the biases and agendas of these various organisations have been identified and the factors contributing to the lack of effectual participation by developing countries acknowledged, the fact remains that, with the globalisation of communications, such global entities will increasingly determine the frameworks for effective participation… For this reason alone, it has become increasingly important to invest resources in influencing these agendas and their outcomes in ways that represent the interests of developing countries and emerging economies." (Gillwald and Abrahams, 2003; page 4)

Example 5. The Arab Status involvement

"[A]s Arab States join the World Trade Organization (WTO), they have been adapting their legal and regulatory systems to accommodate trademark, patent, and intellectual property rights (IPR) protection.

Source: Dutta and Coury, 2003

Arab Countries launched in January 2009 ITU's initiative "Connect Arab Countries 2011" that focused on prioritized initiatives establishing ICT indicators and capacity building; developing a regional regulatory framework; creating a centre for digital documentation and archiving of heritage; developing access nodes to connect Arab internet networks; and translation of ICT terminology into Arabic.

Source: ITU, 2009

Individual country status and research performance can be key in taking up a place in the international arena. “Those countries that currently are able to lobby and argue their country’s positions most effectively in international negotiations rely on rigorous data collection, analysis – and competing research from domestic academic institutions and policy institutes -- to inform their positions.” (Gillwald and Abrahams, 2003; page 5; Gillwald, 2003a) In this regard, it is important to examine the balance between ownership, control, access, and impact of ICT and telecommunication services. For example: “Is having a telephone network owned by a foreign company worse than not having one at all? How does a country without much domestic expertise in software ensure that it acquires the network it needs?” (Howkins and Valantin, 1997)

Moreover, NISPs are meant to impulse and facilitate countries’ development, as well as the well being of their populations. As stated by Soyo, Chacko and Pradhan (2004) “[b]e it for bridging the digital divide or re-positioning the nation in the new digital inter-connected economy, and ensuring that marginalized communities and cultures are not discounted in the move to embrace ICT, nations need to step back and evaluate where they stand. They need to ensure that national ICT policies and e-strategies address the core aspect of development—*human development.* In the final analysis*,* ICT policies and e-strategies should be the mean.”

Information Society Policies in Developing Countries

Is it possible for developing countries to (partially or totally) use policies already implemented by more developed countries? Which are the obstacles faced by developing countries? How does international context affect the developing world?

The Declaration of Principles of the World Summit on the Information Society (WSIS), in December 2003, expressed that “[w]e are resolute in our quest to ensure that everyone can benefit from the opportunities that information and communication technologies (ICTs) can offer. We agree that to meet these challenges, all stakeholders should work together to: improve access to information and communication infrastructure and technologies as well as to information and knowledge; build capacity; increase confidence and security in

the use of ICTs; create an enabling environment at all levels; develop and widen ICT applications; foster and respect cultural diversity; recognize the role of the media; address the ethical dimensions of the Information Society; and encourage international and regional cooperation. We agree that these are the key principles for building an inclusive Information Society."

Upon these principles that are essential to developing the Information Society (IS), a series of questions are raised:

- How is the building of an inclusive and equitable Information Society to be developed by the different social actors in developing countries?
- What elements should be focusing the efforts of governments, the private sector and civil society to implement National Information Society Policies (NISP)?
- What sources of financing should be encouraged to ensure the implementation of these NISPs?
- What are the conditions required to ensure that multistakeholder participation in the creation and implementation of NISP becomes a reality?

Characteristics of Developing countries

Although strategies for developing a local ICT sector date back to the 1980s (Singapore, India, and Brazil were some of the pioneers), a development application only emerged in the late 1990s. The expectations raised by the turn of the millennium contributed additional support to this shift in focus. With the support of new global public-private partnerships, such as the G-8 Digital Opportunity Task Force (DOT Force), and the UN ICT Task Force, countries shifted from random pilot experiences to more comprehensive policy approaches with national participation in international conferences on Information and Communication Technologies and Development (ICTD) strategies as the cornerstones. The goals set in this context ranged from identifying applications for ICT in development, to the development of entirely new domestic ICT industries (Brazil, India, Ghana, Argentina, and Uruguay, among others). The last decade has witnessed substantial increase in the development of ICTD strategies. In Africa alone by 2003 more than 35 countries had completed, or were in the process of completing related efforts (Zambrano and Browne, 2004).

Nevertheless, Zambrano and Browne (2004) sustain that "although more than 90 developing countries had already embarked on the design of national ICTD strategies before 2005, the results have been far from optimal. There is an urgent need to streamline approaches. Many of the strategies have a technological focus and aim at promoting the development of a local ICT industry (mostly software). Others are over-ambitious and lack the credibility to attract the required financial resources for implementation. Yet others do not identify concrete priorities and/or adequate implementations plans and are, for the most part, government driven — excluding all other sectors from the process. Moreover, most of them are not linked with national development agendas, such as poverty reduction and the MDGs".

Regarding the construction and updating of public policies and legislations for the Information Society, these authors affirm that developing countries face the following problems:

I. Lack of or insufficient of policy awareness, at all levels of government and citizenship, of the potential role of ICTs in social and economic development;

II. Lack of or insufficient technical and policy capacity on ICT issues, particularly regarding cutting edge technologies and new policy areas switched to IP networks, as well as Internet issues in general;

III. Weaknesses in national and regional policymaking processes, including:

i. lack of political leadership;

ii. absence of national ICT strategies;

iii. ineffective coordination between different government departments and agencies with ICT responsibilities;

iv. lack of private sector and civil society participation in national decision-making;

v. inadequate preparation for international meetings; and

vi. Ineffective use of financial and human resources.

Already in 1999, ESCAP had identified the factors affecting the formulation of national ICT policies in developing countries. That study stated that "[t]he importance of ICT policies is understood at the highest political level in many developing countries, and some countries have already adopted their own policies (…). The effectiveness of an ICT policy in one country does not guarantee that the same recipe would work in another and many

developing countries face similar constraints that need to be taken into account when ICT policies are formulated." (ESCAP, 1999)

Some of the factors identified by ESCAP (1999) are:

- *ICT infrastructure is weak.* Information presented illustrates that the lack of computer and telecommunications infrastructure is a key problem in many developing countries. National ICT policies therefore need to be very strong in this area.
- *ICT-related goods and services are made available on suppliers' terms and low per capita purchasing power does not allow markets to mature.* While the processing cost per unit calculated or stored has dropped dramatically, the unit price of the average personal computer sold has not fallen very much (…). Basic information technology, such as personal computers, their peripherals and software are available in major cities of developing countries. However, low purchasing power keeps the number of vendors down. Government ICT policies can help the development of ICT markets by reducing red tape, reducing import taxes and creating a favorable entrepreneurial environment.
- *Telecommunications monopolies still exist.* National ICT policies cannot afford to ignore the fact that the need for low-cost telecommunications services in developing countries is higher than ever. The policies also need adjustments because the existing market mechanism is being taken over by new modes of operation.
- *ICT readiness varies significantly between government departments.* Departments and agencies operating in a naturally ICT-intensive field are likely to be more advanced than others. A government can help by identifying a coordinating agency to maintain information about government ICT development ventures.
- *Public sector is a significant employer.* The computerization of routine functions allows governments to reduce staff and simultaneously to improve the quality of their services.
- *Management structures and styles are not conducive.* Most failures in ICT application development are caused by poor planning and management, and not by the lack of resources or poor technology choices. Management of ICT projects is often made more difficult by overly hierarchical organizational structures that are not conducive to innovative ideas. This can create a problem if the management is unaware, or resists becoming aware, of the benefits that could be achieved through the application of ICT.
- *Governments are struggling to find money for basic public services.* Government budgets tend to be tight, especially in developing countries, and this can create problems for rational ICT development and hamper the ability to react quickly to new requirements or to

buy the latest technology. In order to get value for money, ICT policies should require that the specifications of systems developed or purchased are reaffirmed by third-party experts before the order is placed.

- *The penetration and influence of the Internet are still minimal.* The Internet is changing the way in which data and information are collected and disseminated and how services are provided to clients. Thus, most new systems should be developed with either immediate or future Internet connectivity in mind.

- *Governments find it difficult to recruit and retain qualified ICT staff.* A key constraint for the effective application of ICTs in developing countries is the shortage of human resources. Apart from a lack of qualified ICT-system personnel, there is often high turnover of such personnel which can seriously hinder systems development or daily operations. In addition, the ICT skills of other related personnel are not very developed. These problems can lead to delayed and uncoordinated ICT development and contribute to inadequate data security. ICT policies need to address human resource development needs in a broad educational context." (ESCAP, 2007b)

Example 6. Highlights from Latin America

Brazil

Brazil's first strategic instrument was the Information Society (SocInfo) Program, created by Decree 3294 in December 1999, under the Ministry of Science and Technology. The SocInfo Program produced a "Green Book: Information Society in Brazil" (http://www.inst-informatica.pt/servicos/informacao-e-documentacao/biblioteca-digital/gestao-e-organizacao/BRASIL_livroverdeSI.pdf) , which sets the main strategic guidelines and organizes them into seven sectors: work and opportunities; universal citizen services; education for the Information Society; contents and cultural identity; government within everyone's reach; research and development, Information Society technologies and applications; advanced infrastructure and new services.

Nowadays Brazil is in a process of redesigning their national strategy, having formed the Executive Committee on e-Government, coordinated by the Ministry of Planning, Budgeting and Management in May 2003.

This multi-sectoral committee is working in eight technical groups, seeking to integrate the various scattered national initiatives into a coherent national plan. Mass access and digital inclusion appear as a high-priority strategic sector, especially for e-government.

Source: Fernandez Aballi et al, 2007

Source: MIS, 1997

Bolivia

In March 2002, Presidential Decree 26553 created the Agency to Develop the Information Society in Bolivia (ADSIB), a decentralized entity supervised by the Vice Presidency of the Nation. It was given the task of designing the strategic plan. Then in 2003, the National Committee for the Information Society in Bolivia was created, with ADSIB as its executive secretariat. This Committee is currently responsible for setting strategy and is chaired by the Vice Presidency and includes the Ministry of the Presidency, Ministry of Services and Public Works, Ministry of Sustainable Development and Planning, Ministry of Economic Development, Ministry of Finance, Ministry of Education, Ministry of Health and Sports, the President of Private Enterprise, a representative of Universities, with civil society represented by CrisBol, which is conveying the concerns of different NGOs, and a representative of the media.

It is currently completing the design stage for the action plan, called the National Strategy for Information and Communication Technologies for Development (ENTICD), under the Vice Presidency, ADSIB, the Vice Minister of Telecommunications, the Superintendence of Telecommunications and participation by multiple stakeholders from private and public sectors working through a virtual consultation system. ENTICD is receiving support from UNDP. ENTICD is also grouping all programs under way in the NICT area, under common strategic goals and lines of action. These include TIC Bolivia and actions that ADSIB is pursuing in the field of e-government.

Source: Fernandez Aballi et al, 2007

Chile

Chile's strategy was prepared by the Presidential Commission for "New Information and Communication Technologies" created by presidential decree in June 1998. This Commission, chaired by the Minister of Economics and comprised of several ministers and undersecretaries, senators and representatives of the private sector and civil society, presented its report, entitled *Chile: Toward the Information Society* in January 1999. To prepare this document, public and private sector participants were grouped in four categories: Trade legislation and regulation; New technologies and digital networks for productive and technological use; Modernization of the State and use of new technologies;

and Information Society, equity and cultural development.
This led to a large number of projects, especially in the e-government sector, between 1999 and 2002, positioning Chile among the world's most developed countries in this field.
With the new government in 2000, the President created the Committee of Ministers of Information Technologies, which gave rise to the Digital Action Group, comprising representatives of the public and private sector, civil society and academics, and coordinated by the Governmental Coordinator of Information Technologies, reporting to the Under-Secretariat of Economics. The GAD prepared and is implementing its plan of action, Chile's Digital Agenda, with a large number of initiatives under the following STRATEGIC SECTORS: mass access, education and training, e-government, digital development of companies, ICT industry start-up, and legal framework.
Source: Fernandez Aballi et al, 2007

In spite of these drawbacks, UNESCAP (1999) sustains that "[t]he ICT evolution will take place with or without a systematic, comprehensive and articulated policy". However, they state the lack of a coherent policy is liable to contribute to the development (or prolonged existence) of ineffective infrastructure and a waste of resources.

Listed below are some aspirations that ICT policies often try to meet:

- Increasing the benefits from information technology
- Helping people and organizations to adapt to new circumstances and providing tools and models to respond rationally to challenges posed by ICT
- Providing information and communication facilities, services and management at a reasonable or reduced cost
- Improving the quality of services and products
- Encouraging innovations in technology development, use of technology in general work flows.
- Promoting information sharing, transparency and accountability and reducing bureaucracy within and between organizations, and towards the public at large
- Identifying priority areas for ICT development (areas that will have the greatest positive impact on programmes, services and customers)

- Providing citizens with a chance to access information, so that they may further specify the quality of that access in terms of media, retrieval performance, and so on
- Attaining a specified minimum level of information technology resources for educational institutions and government agencies
- Supporting the concept of lifelong learning
- Providing individuals and organizations with a minimum level of ICT knowledge, and the ability to keep it up to date
- Helping to understand information technology, its development and its cross-disciplinary impact.

Example 7. African Information Society Initiative

African Information Society Initiative

In Africa, the African Information Society Initiative (AISI) provides a framework for the development and implementation of national information and communication infrastructure plans in all African countries and the pursuit of priority strategies, programmes and projects which can assist in the building of a sustainable Information Society. A key component of the AISI is the development of national e-strategies, or the NICI plans, policies and strategies aiming principally at assisting countries to deploy, harness and exploit ICTs for development.[6]

The AISI also defines the role of government as being that of providing a vision, a strategy and an enabling environment to develop national information and communication infrastructure and to ensure that all sectors of society benefit from it. To fulfill its role in achieving these objectives, the AISI recommends that each African government establishes or assigns a lead national agency to be responsible for broad-based coordination and collaboration within government as well as with other sectors. This role also includes the development of national policies and plans for adopting ICTs within the government to improve the effectiveness of government service delivery.

To ensure the smooth implementation of the national information and communication infrastructure in African countries, governments are also advised to address the legal and regulatory environment, which currently constrains the use of ICTs. This would require modification of laws and regulations in different areas such as communication, intellectual

[6] AISI, African Information Society Initiative, published by the Economic Commission for Africa, 2008 (http://www.uneca.org/aisi/docs/AISI+10.pdf)

property, privacy and free information flow.

Source: UNECA, 2008

Citizens' needs in the Information Society in developing countries

In order to benefit from the opportunities provided by the Information Society (IS), citizens should be prepared for the current economic, social, cultural and technological advances. Citizens' e-readiness describes the degree in which a country's society is qualified to participate as proactive agents in the different sectors and levels of the Knowledge Economy (KE), and the ability to accept the challenges posed by the new economic and technological environment. (Finquelievich, 2005) To this effect, the following elements, among others, are needed:

• Access to ICT infrastructures: hardware, software, connectivity; fast, free or low-cost access to Internet.

• ICT training (not only technological literacy, but also education in business management and organizations using ICTs); life-long education and training in courses, professions and skills related to the IS.

• Information and creativity to identify the opportunities offered by the IS.

• Information and social organization to demand from governments the ICT infrastructures, innovative education systems, legislation and public information, which are necessary to benefit from the opportunities offered by the IS.

• Effective ICT use: the capacity and opportunity to successfully integrate ICTs into the accomplishment of self or collaboratively identified goals.

. State and non-state provision of telecommunication infrastructure and connectivity services contributes to the people e-readiness. Cybercafés, which are mostly the result of private micro-undertakings, nowadays represent the access door to cyberspace for a large number of Latin American, Asiatic and African people.

Example 8. Planning in Western Asia

Planning in Western Asia

As a result of the World Summit on the Information Society (WSIS) third preparatory conference (PreCom-3), which was held in Geneva, from September 15-26, 2003,

working documents were produced for the Draft Plan of Action and the Draft Declaration of Principles. These documents were set to become final drafts to be adopted at the Summit after further deliberations between Governments to solve outstanding differences. The Economic and Social Commission for Western Asia (ESCWA), through its Information and Communication Technology Division, produced and advanced a tentative plan of action for Western Asia, which is based on the global Draft Plan of Action but tailored for the ESCWA region.

This customized plan was built around a framework that is flexible on many levels. Within that context, activities can be launched in parallel, amended to fit national priority areas, extended to include innovations in the field of ICT and executed at different times and according to the levels of application and the use of information technology in a country, or e-readiness status. This report endeavours to be a source of of guidance on the plan of action and to stimulate further discussions at both national and regional levels.

The tentative plan of action for the region is an evolving document that aims at igniting further cooperation among ESCWA member countries. ESCWA hopes that this report assists in drafting a final plan of action for the region, paving the way for effective strategies devised by regional and local communities and supported by proper policies that can lead to the information society in Western Asia. This new society can sustain development and reduce the digital divide by using ICTs as a tool to process and disseminate information and, more importantly, to empower people with knowledge, even in remote areas. Within that context, the following objectives form the main basis for cooperation and coordination among all stakeholders:

(a) To trigger substantive inputs specific to the ESCWA region with added value to local communities;

(b) To agree on tentative Information Society actions and indicative targets for priority areas that contribute to the compilation of a plan of action for ESCWA member countries;

(c) To promote social inclusion and increase the social and economic potential of ESCWA member countries, particularly vulnerable communities;

(d) To recommend an implementation framework;

(e) To devise guidelines for a monitoring mechanism in order to report on the progress of work.

Source: ESCWA, 2005

In Turkey, endeavours on transformation into an information society have also started to gain momentum since early 2000s in parallel to these developments. The "e-Transformation Information Society Project" that was included in the 58th and 59th Government Urgent Action Plan was launched in 2003, Hence all individual studies being carried out in this country have been gathered under an umbrella project and accelerated. The e-Transformation Information Society Project aims to carry out the process of transformation into an information society in a harmonious and integrated manner throughout society with all citizens, enterprises and public segments.

The actors:

General coordination of the Project has been assigned to the State Planning Organization and the e-Transformation Executive Board with the participation of the State Minister and Deputy Prime Minister, Minister of Transportation, Ministry of Industry and Trade, top-level bureaucrats and non-governmental organizations (NGOs), and the Advisory Council with the participation of public and private sectors and NGOs having been established.
Source: ISD, 2006

What is the role of the State in the access and integration of the IS, translated into policies and strategies?

Connectivity plays an outstanding role in developing countries' digital agendas. Although it is not always necessary for the state to provide social equipment for connectivity, such as telecentres, it is essential to regulate and optimize the operation of private places for public use, such as cybercafés. To regulate implies to set regulations in terms of equipment, comfort of users, e-security, times of use, and to facilitate the setting-up of cybercafés in low-populated areas through tax allowances or others, etc. To optimize implies, in this case, to enhance the roles of cybercafés, including training courses in ICT use, their use for social purposes, etc. In this way the state is relieved from the need to implement expensive infrastructure, and at the same time ensures access to Internet and related services to all people.

Once the population is acquainted with the daily use of cybercafés for all kinds of communication purposes and knows and uses community telecentres and TCC on a

regular basis, they will be more willing to progress towards other uses of these technologies beyond mere access and consumption, thus contributing to the empowerment and human, economic and social development of communities.

As posed by Gómez and Martínez (2001), "[t]he 'digital divide', which usually refers to inequities in the access to new ICTs, particularly Internet, is not the cause but the expression of the existing social, economic and political gaps, at global, national and local levels. Focusing only on the digital divide will not help communities to improve their living conditions, overcome poverty or have a more equitable access to goods and services." In developing countries it is necessary to build a new economy - the Information Economy - and adapt it to the needs, advantages, challenges, obstacles and potentialities of the region.

The role of the state is to foresee the needs and interests of the different social actors and be prepared for their legislation and control, as well to establish operative articulations among them. For this reason, the strategies and policies of developing countries' governments should be aimed at turning countries into pioneers in terms of technological, social and economic management. In order to achieve this it is necessary to focus on technological and scientific production, innovation, specialized training, knowledge management and the use of existing brains, avoiding "brain drain" and promoting "brain gain" through coordination with S&T centres abroad.

And above all, it falls on the ability to predict the trends towards technology needs and consumption of the population as well as the private sector offer for the purpose of acting promptly, not only in response to these trends, but in anticipating them when referring to the legal framework, regulations, strategies, and actions. In short, it is necessary and urgent for governments to implement integral policies in the sectors of telecommunications, informatics and ICTs in general and that these are aimed at coordinating the technological, economic and scientific development strategies with initiatives for social, cultural and communication development.

What is this Guideline methodology about?

This guideline methodology for the development of National Information Society Policies and legislation (NISP) is intended to allow governments associated with enterprises, community organizations, or other organizations interested in creating, implementing and updating agendas to develop these policies and legislations access to the methodology itself, as well as to general information on Information Society policies, legislations, existing examples, processes, mechanisms, and information sources. This methodology is flexible, adaptable to countries with diverse development levels, and able to be implemented by governmental officers and “expert pools" in each country.

The work reviews existing relevant documents in the field of Information Society Planning, legislation, policies and declarations; diverse countries’ expertise in the field of Information Society Planning and Legislation (Explicit National Digital Agendas, National, Regional and local Information Society policies, national and regional legislations, etc.); and international relevant documents in the field.

The text is divided into three Working Modules:

1. The first Module provides a Theoretical Framework which supplies definitions of the main concepts used in this work and identifies the existing information on National Information Society Policies: relevant documents in the field of Information Society Planning, legislation, policies and declarations; diverse countries’ expertise in the field of Information Society Planning and Legislation (Explicit National Digital Agendas, National, Regional and local Information Society policies, national and regional legislations, etc.); and international relevant documents in the field. It also describes briefly the diverse legal, economic, social, and technological contexts regarding Information Society, as well as the explicit national, regional, and/or local Information Society policies, either general or specific for given sectors (e-government, e-inclusion, e-education, e-health, etc.).
2. The second Module is a concrete guideline methodology, a Template for the development of national information society policies and legislations, so that the diverse social actors (governments, enterprises, NGOs, or other organizations) involved in creating, implementing, and updating agendas to develop these policies will have access to the existing information, methodology, general information, processes, mechanisms, and information sources. The Template includes three main phases: the starting point or formulation of an NISP; the implementation of

the NISP; and the monitoring and adaptation of the NISP. This methodology tends to be dynamic, flexible, and adaptable to countries at different levels of development. Moreover, a variety of activities are provided so that the individuals and groups charged with the formulation of the NISP may check if they have taken all the necessary steps to complete their work. The Module also includes the general bibliography.

3. Finally, the third Module is a glossary of all the terms and expressions currently used in Information Society policies and strategies. This Glossary also provides sources of information and links to relevant web sites related to these issues.

The work is complemented by an ANNEX containing a list of the most commonly used ACRONYMS in the field.

MODULE I: INFORMATION POLICIES PLANNING AND IMPLEMENTATION FEATURES

1.1. INTRODUCTION TO THE CONCEPTUAL FRAMEWORK

This Module supplies the theoretical framework, providing definitions of the main concepts used in this work and identifies the existing data on National Information Society Policies (NISP). It also describes briefly the diverse legal, economic, social, and technological contexts regarding the Information Society, as well as the explicit national, regional, and/or local Information Society policies, either general or specific for given sectors (e-government, e-inclusion, e-education, e-health, etc.).

Additionally, this Module provides a general outline of the scope of an NISP, together with a description of the successive phases of the construction of an NISP. These phases will be disaggregated into practical implementation steps in Module 2.

1.2. THE ADDED VALUE OF PUBLIC POLICIES IN INFORMATION / KNOWLEDGE SOCIETIES

Public policies have an outstanding place in the general process of developing the Information Society, as well as in the general strategy which needs to take into account the contributing general social and market-driven processes.

A public policy is an attempt by the government to address a public issue. The government, whether it is city, state or provincial, or national, develops public policy in terms of laws, regulations, decisions, and actions. Public policies can also be defined as courses of action in which public decision makers' work on the issues is defined as "public" or "of general interest". In short, *public policies are sets of goals, initiatives, decisions and actions carried out by a government to solve problems that citizens, and the government itself, consider a priority at a given moment. It refers to the governments' philosophies and main concerns, either as legislations or programs, which represent the governmental responsibility*.

If public policies can be defined as the body of principles that underpin the operation of legal systems in each state, NISPs can be defined as a coherent set of public strategies to promote the construction and development of an Information Society oriented to the overall and interrelated social, political, human, and technological development in each society, whose development motor is the production, use and equitable exploitation of knowledge by all social sectors.

Example 9. i2010 - A European Information Society for growth and employment

i2010 is an initiative driven by the revision of the Lisbon Strategy and provides a framework outlining broad policy guidelines with the goal of being an integrated policy to encourage knowledge and innovation. It also follows on the eEurope 2002 and 2005 programmes that had focused on providing the availability of a widespread broadband access, a secured information infrastructure and greater development of on-line public services and *e*Business applications. ETSI has contributed with specifications, reports and guidelines under these programmes and continues to do so through trying to answer to the EC's ICT Standardization Work programme[7].

Source: EC 2005a

These public policies are generally based on the assumption that knowledge- based goods and services integrate the central structure of the new economy in which information and knowledge, exchanged and disseminated through ICT-based networks will constitute the main input for societies´ development.

However, NISPs should always consider the interrelation among diverse policy areas in each country: infrastructures, e-government, education and training, health, legislation, security, and others.

NISPs may constitute key driving forces for national and regional development. Hilbert and Katz (2002) state that "the concept of the 'Information Society' and a 'knowledge-based Digital Economy' refers to a paradigm, which is profoundly transforming the world at the beginning of this new millennium. New forms of creating and diffusing information through digital technologies mainly drive this transformation. (...) digitized in many different sectors

[7] More information at http://www.etsi.org/WebSite/AboutETSI/RoleinEurope/Publicpolicy.aspx and at http://ec.europa.eu/information_society/activities/ict_psp/library/wp/index_en.htm.

of society, eventually introducing a new form of social and productive organization. This form of 'digital conduct' is an increasingly global phenomenon, emerging –on the main- from mature industrial societies. The adoption of this technology-based paradigm stays in a highly positive relation with the degree of development of a society. However, technology is not only the child of development (as it stems from development), but to a large extent, it is also its father (it is a tool for development)".

The elaboration of a public strategy or policy is often initiated by the State leader (President, Prime Minister, or other), based on his or her vision about the Information Society, or on the work of a governmental organization. As mentioned before, this governmental impulse to prepare an NISP is often triggered by international processes, such as the forums and debates leading to WSIS 2003 and WSIS 2005.

There are other factors that can influence the elaboration and updating of an NISP. Hilbert, Bustos and Ferraz (2005) consider that there are internal factors not subject to political decision, among them the hierarchical level held by the agency or person charged to lead the national strategy.

Example 10. Turkey's case

Turkey's case

In Turkey's 2006-2010 Action Plan (ISD, 2006), the actions were planned to start in 2006, be intensified in 2007-2008 to trigger demand rapidly and achieve the targeted economic and social benefits, and finalized in 2009-2010. Expansion of technological infrastructure and competency development programs planned for citizens and enterprises to create the demand would be implemented heavily in the initial years, whereas projects for the delivery of public services electronically based on the principle of citizen-focus would be spread on a longer term. Investments would be made in human resources and standard development efforts in the initial years to develop the IT sector and increase its competitive power in foreign markets in the long run, but it is expected that returns will be obtained in relatively longer term.

The implementation steps and cost analyses in the Program Definition Document prepared in parallel to the actions included in the Action Plan serve only as indicators and will not constitute the sole basis for resource allocation in public investment programs. Agencies and organizations responsible for the actions would prepare the feasibility studies for such

actions within the framework of investment program preparation guidelines.

Source: ISD 2006

In addition, the design of a national strategy is marked by the thematic priorities with which the issue is approached. A national strategy constitutes the combination of a wide range of thematic concerns. Governments can prioritize thematic areas, or direct a whole national strategy towards one specific issue. As a third internal factor, the working procedures and the special coordination for the participants' work is considered.

1.2.1. Why do Countries Need Explicit NISPs?

Many countries, regions, and cities have developed Information Society initiatives and actions without establishing an explicit public policy. Many of these initiatives have been successful, at least in some sectors, such as ICT infrastructures or e-government. In most countries an Information Society is not developed by public policy alone, but largely by market forces where they are strong enough. The question arises: Why do countries need to design explicit NISPs?

An NISP can be defined as a roadmap, a national, regional, or local plan for the inclusion or appropriation, by governments, institutions, communities and individuals of the benefits derived from the construction of an Information Society. *The NISP is a highway, not a harbour. It is a process, a collaborative, open, and permanent construction. In order to travel this highway, it is necessary to envision it, to plan and build it, to make it able to be travelled by all the citizens.*

As stated by Hilbert and Katz (2002): "The establishment and implementation of regional, national and local Information Society development strategies are indispensable in order to seize the 'Digital Opportunity'. 'Leapfrogging' development stages is possible (for developing countries); however, it is not an automatic process. Market mechanisms by themselves rather tend to deepen the digital divide between and within societies. To prevent this from happening strong and visionary leadership is required, reducing coordination costs and uncertainty". Later, these experts add: "The Information Society does not build on a vacuum. The path towards the 'digital age' depends heavily on the particular heritage from the 'industrial age' setting. In order to understand current and

potential future paths that can be taken in the transition toward an Information Society, regional peculiarities (such as the general degree of development in all its dimensions, markets, institutions, educational standards, public policies, culture, etc.) demand careful consideration." (Hilbert and Katz, 2002)

The United Nations Economic and Social Commission for Asia and the Pacific – ESCAP (ESCAP, 1999), observes that: "Even when promulgated as distinct policy pronouncements, ICT policies of necessity have to take into account other policy areas, such as education policies, information policies, trade and investment policies, and cultural and linguistic policies. However, the mere establishment of a written national ICT policy has value in itself. At a minimum, it conveys the message that the government is forward-looking and intends to pursue the utilization of ICT in society. Governments should, of course, aspire to more by putting the policy content into actual practice and becoming a role model in applying ICT in their own administration and services."

Example 11. Kerala, India - A consolidated vision

Kerala, India - A consolidated vision

States within larger countries have also given particular attention to NISPs. In Kerala, India, for example, the Report on “Information Technology Policy, Towards an inclusive Knowledge Society,” from the Department of Information Technology, Government of Kerala (2007) states in its preamble that “The Government has a comprehensive view of ICT as a vehicle for transforming Kerala into a knowledge-based, economically vibrant, democratic and inclusive society. By the term “inclusive,” the Government means that the benefits of the socioeconomic transformation possible through ICT should reach every single citizen of the State. This policy document defines the Government’s vision, mission and strategy for achieving the same.” The Government’s vision is to turn Kerala into a knowledge society with sustainable economic growth, social harmony and high quality of life for all.

Source: Government of Kerala, 2007

Countries do not only need to build explicit NISPs; given the particular characteristics of the Information Society, they also need the constant updating of their public policies. The fast pace of technological innovation requires a process of periodical updating and

monitoring. Technological convergence, triple play, interactive television on mobile phones, new services to citizens also based on mobile phones, Internet 2.0, traceable devices, and new software are drastically shifting the terms of the debate not only on access to technologies and citizens appropriation of those technologies, but also on access to diversified contents and national capacities to negotiate and achieve certain levels of development.

Explicit public policies functionalities

The construction and updating of explicit public policies for the Information Society have the following functions:

1. Compelling public institutions to make a diagnostic of their situation regarding the Information Society, e-readiness, etc., in order to base the public policies on the needs, demands, and aspirations identified.
2. Relating Information Society strategies with overall national policies and strategies
3. Identifying common goals, visions, and missions.
4. Redressing market failures or insufficiencies through legal and regulatory frameworks, and providing access to Information Society tools for social groups or regions that are not profitable for private enterprises.
5. Identifying sectoral goals, and integrating them in a coherent strategy
6. Avoiding dissociated visions of the Information Society
7. Identifying time schedules to implement these goals.
8. Facilitating multisectoral and multistakeholder participation
9. Avoiding duplication of efforts and waste of economic, human, and technological resources
10. Establishing or assigning a lead national agency to be responsible for broad-based coordination and collaboration within the government as well as with other sectors
11. Facilitating the monitoring, assessment, and evaluation of the implemented measures

As analyzed in the previous pages, policies and strategies are driven not only by each country's specific history, social structure and endogenous factors, but also by the influence of the international context and external factors. Internal and external factors, and their endless possible combinations, may vary in the diverse phases of a national strategy. The importance assigned by national governments to an NISP, the hierarchical

level of its designers and decision makers, thematic priorities, resources, and working methods, may differ en each phase.

1.2.2. Scopes and Thematic sectors of an NISP

An Information or Knowledge Society is not based only on advanced ICT. It includes all media. The WSIS Tunis Agenda (WSIS, 2005b) encourages all governments to give appropriate priority to ICTs, including traditional ICTs such as broadcast radio and television as well as knowledge-printed material in their national development strategies. It is also advisable to consider other technologies such as cellular telephony and interactive television.

A coherent national ICT strategy requires the involvement of ICT enterprises, telecommunications operators and Internet service providers to implement a pricing policy that takes into account the needs of marginalised communities. It also requires CSOs to mobilise around common aims and help build capacity through professional training and public sensitisation. In addition, judicial or institutional reform may be necessary to ensure coherent ICT regulation. All stakeholders should be involved in developing infrastructure appropriate to local conditions, with the aim of providing lower network costs at higher bandwidth to all communities, especially the most marginalised.
(2008 IPDC publication Media Development Indicators: A Framework For Assessing Media Development, UNESCO, 2008)

The Information Society also includes many interrelated sectors. The main ones are industrial and economic policy, technology policy, telecommunication policy, and the vast sector of social issues and policies that comprises electronic government, education, e-health, media policy, and culture in the Information Society, among others.

In turn, each one of these sectors includes a series of areas. These areas are represented in the following scheme (Illustration 1). None of these sectors can be approached in isolation. However, an NISP has to take the whole as well as each one individually into account, as well as the relationships established among them. For example, as illustrated

in the diagram, research and development interact with industrial and economic policy, technology policy, and social policy.

Illustration 1. Basic scope of an NISP

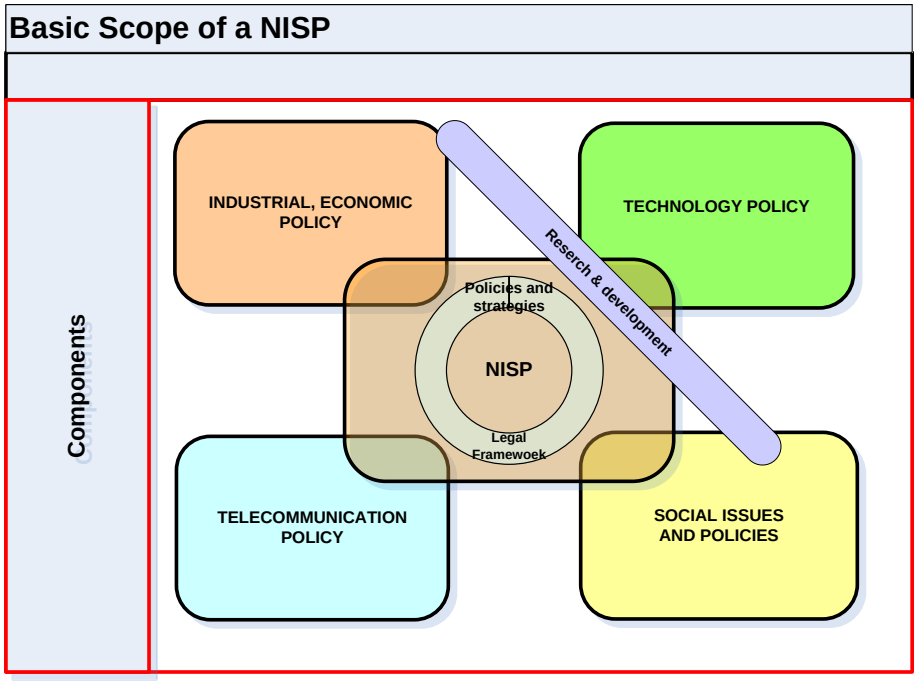


Table 1. Basic scope of an NISP

Policies and strategies and legislation are at the core of the NISP. Therefore, they cross the other four areas.
Policies and strategies • Development policies • Information Society policies and strategies • Plans • Projects • Agendas • Sectoral policies and strategies

- Local policies and strategies

Legislation

- Legal framework for the Information Society
- National Sectoral Digital Policies
- Permanent Task Force for Legislation in the Information Society
- Privacy and personal data protection
- Legislation for cyber crime
- Digital signature and digital documents
- Industrial regulation
- Regulatory framework for telecommunications
- Intellectual property
- Industrial rights, patents, and labels
- Consumers rights
- E-commerce

Industrial, Economic Policy

Employment

- Training of human resources
- Scholarship systems for young technicians and engineers
- Cooperation between universities and enterprises
- Governmental agreements with enterprises in the IT sector for employment plans

ICT Industries

- Productivity policies
- Promotion of ICT industries
- ICT training for SMEs
- ICT use in SMEs' management and organization
- Public-private partnerships
- E-business
- E-commerce
- Technopoles as the convergence of universities and ICT industries' efforts
- Fiscal policies
- Enterprises' social responsibility

Telecommunication Policy

Connectivity Infrastructures

- State policies
- Proportion of households with a computer
- Proportion of households with Internet and broadband access at home
- Bandwidth penetration and accessibility
- Fixed and mobile phone penetration and infrastructures
- Penetration of WiFi hotspots and coverage
- Universal service
- Interoperability & Networks interoperability
- Financial resources
- Licensing Policy
- Authorisation regime
- General conditions of entitlement
- Telephone numbering allocation
- Network charge controls
- Metering and billing

Technology Policy

Technology Policies and Innovation Systems

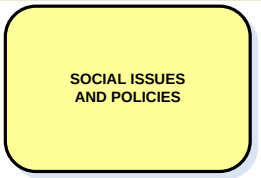
- Appropriate use of technology in the voting process
- Computer networking and public policy
- Productivity policies

E-security

- Security measures in e-networks
- Measures against cyber crime
- Confidentiality
- Integrity
- Availability of resources
- Technological responses to e-threats and risks

Social Issues and Policy

E-Government



- E-Management and services for citizens
- M-Management and services for citizens
- Digital cities
- Digital signature
- Citizens participation
- Homologation of state services
- Interoperability
- Data security

Education

- Information literacy
- ICT capacity
- Curricula for the Information Society
- Connected schools
- Training for teachers
- Evaluation of educational programs
- Contents for education
- Educational portals
- Universities in the Information Society
- Networked universities
- New careers for the Information Society

E-Health

- Training health staff in ICTs use
- Hospital networks
- Preventive measures
- Telemedicine
- Tele-epidemiology
- Public health systems communication
- Health e-card
- Assurance systems
- Home care

- E-care for the aging
- National, regional or local e-health networks

Access to Information and Knowledge

- Educational, scientific, and cultural institutions, including libraries, archives and museums as gateways to content
- Capacity to develop content and e-content, in local and/or indigenous languages.
- Use of traditional and new media in order to foster universal access to information, culture and knowledge for all (Internet as well as traditional media: radio, television, press, etc.).

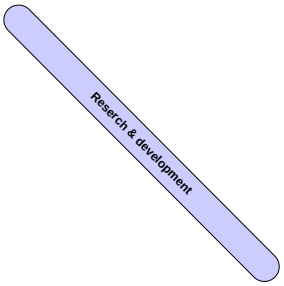
E-Inclusion and Diversity (Use of ICTs and generation of contents)

- ICT and cultural heritage
- ICT and gender
- Multilingualism and multiculturalism
- ICT for people with disabilities
- ICT and Aging
- Digital technologies and social inequality

Environmental preservation

- Re-use and refurbishing of electronic waste
- Final disposition of electronic waste
- State-enterprises agreements for the disposition of e-waste
- Study of international best practices
- Awareness campaigns

Research and Development



- National Research and Development + Innovation systems
- Creation of capacities
- Partnerships between universities and enterprises
- Intellectual property measures
- International cooperation

- Scientific e-networks between S&D+I centres
- Dissemination of knowledge

1.3. First considerations when planning an NISP

1.3.1. Phases of an NISP

The path leading to a political decision to formulate an NISP to the evaluation of the NISP´s impacts on society is a complex process which may be broken down into phases for better understanding. These phases should be considered as a whole.

UNESCO (Fernández-Aballí, 2007) points out several essential phases of the policy-making process such as: formulation, which includes assessment and situational analysis to identify and define the problem(s) to be addressed; setting goals for future developments (not necessarily present problems to be solved at the medium or long run); responsible state organizations or partners for the NISP implementation, monitoring; and updating or adaptation of the NISP.

This work provides a dynamic structure of the phases suggested by UNESCO, with the goal to facilitate, order, and direct the work of governmental officers and civil servants. These phases are fully developed and disaggregated in their integrating practical steps in Module 2.

The following chart provides descriptions of each phase and their main characteristics:

1. Formulation of the NISP: Deciding on the goals and planning the actions that will be implemented in the next phase. Some fundamental process, such as action diagnosis and planning, takes place in this phase.

2. Implementation of the NISP: The implementation phase gathers all the aspects related to the NISP implementation as planned in the NISP formulation phase, through a set of instruments and actions. In this phase, the implementation does not depend so much on the expert team, but on the government and other social actors, such as the private enterprise sector, universities, and civil society orgaizations.
3. NISP follow-up, monitoring, control and adaptation: Planning the required actions to carry out the NISP follow-up, monitoring, asessment, and adaptation or updating.

1.3.2. What's in an NISP?

The process at this moment of the NISP formulation is of great importance, since it is from here that the next steps will come from. The formulation of an NISP includes:

- The sensitization of decision makers to the significance and urgency of beginning a process to develop or update a national IS policy
- The implementation of a consultative experts group that will help civil servants and governmental officers in charge of the NISP formulation
- The involvenment of other social agents (private sector, S&T sector, social organizations)
- The diagnostic of national or local situations regarding the Information Society. This involves analysis of the national context, the country's e-readiness, and linkages with the international context, interpretation of the information situation and identification of development issues to be addressed.
- Setting goals for future developments
- Setting up policy guidelines, budget, responsible staff for the NISP implementation, and timetables
- Writing the NISP agenda

Example 12. Asia and the Pacific

Asia and the Pacific

Within the existing tools addressed to experts to plan and update NISPs, the Report "Good

Practices in Information and Communication Technology Policies in Asia and the Pacific: Promotion of Enabling Policies and Regulatory Frameworks for Information and Communication Technology Development in the Asia-Pacific Region"[8] is intended to be a resource for ICT policy planners and decision makers and offers policy-oriented perspectives on three major sets of issues:

1. Understanding the background and process of ICT policy formulation and implementation relevant to the Asian and Pacific countries;
2. Sharing the rich and diversified experiences of selected countries of the region in ICT policy development through best practices;
3. Developing materials for awareness and capacity-building programmes at the national and regional levels.

Source: ICSTD, 2005

In order to formulate an NISP, it is necessary that governments fully acknowledge that ICTs are a matter for public policies (Hilbert; 2007). If such conviction is not generated, there will not be the formulation or implementation of a solid NISP. The jurisdictional scope will have to be clearly defined by the political spheres from where these processes or their reformulation will begin. And, although in many countries the political and technical civil servants in charge rotate in different positions, the definition of the people in charge to impulse this process, as well as their capacity of management and negotiation with the government and other actors will have a fundamental impact on the NISP´s future.

1.3.4. Role of the government

ICT issues are subjects totally related to public policy (Hilbert; 2007). If governmental authorities do not understand this political dimension it will be difficult to reach the following stages. In this sense, the jurisdictional scope from where the NISP process will begin or reformulate has to be clearly defined by the political authorities. Due to the instability of the political positions in many countries, the definition of the responsible agency, office or sector that will drive the process will have a fundamental impact in the

[8] Prepared in 2005 by the Information, Communication and Space Technology (ICSTD), Information and Communications Technology and Disaster Risk Reduction (http://www.unescap.org/icstd/pubs/st_escap_2347.pdf)

following stages, as well as their capacity of management and negotiation with other governmental officers and actors.

The governmental bodies and officers in charge of the NISP process will rely , according to the positive experience form different countries, on the support and collaboration of a team of experts. Defining the development of an inter-sectoral strategy for the identification and call of excellent actors will be keys to achieve success at this stage.

On what factors does this call for actors depend? On political decisions, the social agents' participation in the elaboration and political decision making, their responsibility with regard to terms of negotiation, their cooperation and will, and naturally, on the existing priorities within each country.

ECLAC, through the Digital Panorama of Latin America and the Caribbean 2007 (2008), expresses a helpful idea to organize diverse aspects of the public agenda to present arranged social actions: "*Political will does not arise spontaneously and exclusively in the state (...), but it is constructed from the society. However, the main obstacle that interrupts the process constitutes the capacity to represent the social preferences from individual preferences*."[9]

Governmental agents will be able to resort to the support of a team or group of experts. The development of an inter-sectoral strategy for the identification of excellent actors will be fundamental to achieve the success of the NISP.

Example 13. NISP formulation in Central Asia

NISP formulation in Central Asia

The report entitled "Integration of Information and Communication Technologies into National Development Plans for Central Asian Countries"[10] suggests that to implement a mainstreaming approach to adopt ICT policy formulation for national development, a cross-disciplinary approach is needed. There are several crosscutting issues relating to infrastructure and involving different sectors. Therefore, a strategic approach to think

[9] The translation is ours.
[10] Shailendra Hajela, for Information, Communication and Space Technology (ICSTD), UN-ESCAP, (http://www.unescap.org/icstd/policy/publications/Integrating-ICT-into-Nat-Dev-Plans-for-Central-Asian-States/full-document.pdf)

strategically of the role of ICTs in development, the constraints and challenges facing the country and the development priorities need first to be identified. After that has been completed it will then be possible to consider the extent to which greater access to information and ICTs can contribute to improving people's lives.

The development planning issues to be addressed cut across several sectors and are interrelated. A participatory mechanism is essential to ensure that policies will correspond to real concerns and will be supported by stakeholders.

Sources: ICSTD, 2007

1.3.4. The multistakeholder approach

The full potential of ICT, as a relevant enabling tool to support the process of development, can be realised only if the ICT policies are effective. An essential element to make ICT policies effective is to ensure the active participation of stakeholders in government, the private sector, civil society, and eventually international organisations in the formulation and implementation of an NISP.

The Tunis Agenda for Information Society (2005) states in its Paragraph 80: "We encourage the development of multi-stakeholder processes at the national, regional and international levels to discuss and collaborate on the expansion and diffusion of the Internet as a means to support development efforts to achieve internationally agreed development goals and objectives, including the Millennium Development Goals". For making this a reality, a transparent and non-discriminatory ICT policy is necessary.

The same Document states in Paragraph 88, that "Building an inclusive development-oriented Information Society will require unremitting multi-stakeholder effort".

Later, in Paragraph 90, the Tunis Agenda remarks: "We acknowledge that multi-stakeholder participation is essential to the successful building of a people-centred, inclusive and development-oriented Information Society and that governments could play an important role in this process".

Which are the actors whose participation is key to successful NISP formulation and implementation?

- **Governments**

Government plays the most important role in the formulation of ICT policy and thus decides how countries are able to take advantage of the technical opportunities available to them and exploit them for good. A national strategy includes the combination of a wide range of thematic concerns. Governments can prioritize thematic areas, or orient a whole national strategy around key issues, such as infrastructure and connectivity, bridging the Digital Divide, training of human resources for the ICT sector, among others.

- **IT Sector, private enterprises**:

The private sector plays a vital role in the establishment of the knowledge economy. The national IT sector can (and often does) impulse the elaboration of an NISP. It is a strong actor that frequently leads technological and organizational innovations. Although Information and Knowledge Society public policies are formally led and put in place by governments, the diverse stakeholders and in particular the private sector make inputs into the policy process and affect its outcomes. In the context of globalised markets, large and rich corporations are often more powerful than developing countries' governments, allowing them to shape the policy-making process. However, it should be taken into account that while private-sector leadership is unquestioned in the process of building-out ICT environments, the public sector has to strive to complement its work.

Small, Medium and Micro Enterprises (SMMEs), are key actors in the elaboration of NISPs. UNDP – APDIP (2004) recommends that "National policies must take into account the challenges and public and private sector deficiencies faced by SMMEs (...). Equally important, the government, through policy, should clarify the linkages between enterprise development and human resource development by developing a knowledge-based workforce that supports the needs of enterprises for adopting, maintaining and innovating with ICTs".

- **Civil Society:**

There is no unanimously agreed upon definition of civil society. It can be defined as a diverse gathering of groups, networks and movements with multiple views and positions. Civil society as a 'third sector' is easily identifiable with the interests of non-governmental organisations (NGOs), community-based organisations, or not-for-profit organisations.

With the fast dissemination and social appropriation of the Internet, civil society has been used in a global sense for the first time to allude to extensive sharing of knowledge and expertise within and beyond national boundaries on a voluntary basis (Schauder, Johnson and Taylor, 2006).

Essentially, civil society means community groupings or networks and their activities. Civil society is an expression of shared democratic values and resources which is distinct from, but which intersects with, those of democratic political institutions or businesses. Civil society acts for the public good in the space between state and market sectors. Civil society organizations are increasingly participating in Information Society issues, mainly on access to information, right to information, connectivity, and telecommunications universal service. The concerns and interests of civil society organizations need to be addressed at the highest policy-making level.

- **Science & Technology sector:**

This sector, also called "Academic sector" or "the Academia" comprises national science and technology institutions, universities, science and technology research centres, among others. It is a relevant actor in the Information Society, since it provides both the highly qualified human resources, the researchers and the knowledge to build the Knowledge Society. Another relevant issue concerns the relationships between universities, high technology enterprises, and research programs. Permanent interaction between these three elements is key for ICT development. At times when boundaries between research and innovation policies are fading, scientific and technological research should be accompanied by supporting measures to facilitate the translation into successful products and services.

1.3.5. Assembling an Experts Group

In order to achieve a high level of effectiveness in the formulation of an NISP, international experience notes the convenience of assembling a group of experts on the Information Society and its diverse scopes to contribute their knowledge, give advice, and systematize

the process of definition, implementation and follow-up of the public policy for the Information Society.

This team or group of experts will work in close contact with the civil service or governmental body in charge of the implementation of the NISP. It is advisable to assemble a multisectorial and multistakeholder experts team.

1.3.6. The importance of an accurate diagnostic

This phase identifies and analyzes all aspects directly related to the national situation regarding the Information Society, as well as the external issues which have impacts within the national sphere. The identification of new goals, deriving from the setting of policy guidelines, can also be developed from analysis of national or international best practices in building NISPs. The establishment of the public vision on the issue, including a preliminary time frame to accomplish the consented goals, is followed by a process of formulation of policies and strategies, which in turn will be operatively implemented.

The diagnostic or assessment should involve societal stakeholders in order to explain their perceptions and opinions on the importance of the Information Society as a key element of development. The inclusion of diverse social actors as proactive stakeholders should be ensured from the very beginning of the policymaking process.

In order to assess the economic, social, human and technological conditions of the country regarding the Information Society, studies and research will have to be used and conducted. In some cases, these studies may be produced by chambers of IT enterprises, the government or NGOs. In other cases, they will have to be commissioned to an experts team, to consultants, or to national institutions responsible for statistics and censuses.

The role of the civil servants in charge of the NISP process does not consist of actually carrying on these studies, but to use the studies and research already command them (do not understand “already command them”) to expert professionals and to survey the coherence and accuracy of their results.

1.3.7. Diagnosing E-readiness

E-readiness describes a country's degree of preparation to participate as a proactive agent in the diverse sectors and levels of the Information Society, and to capitalize on the opportunities of participation offered by the new economic and technological environment (Finquelievich, 2004).

According to the text "Comparison of E-Readiness Assessment Models" in bridges.org[11], this implies not only considering if the measurable necessary infrastructures are laid out, but also going further, and considering whether ICTs are accessible to the majority of the population, and if the country has an adequate legislative and regulatory framework to sustain the use and social appropriation of these technologies.

E-readiness needs, among other elements:

- Access to ICT infrastructures: hardware, software, connectivity, etc.
- Training in the use of ICTs (not only technological litearcy, but also training in ICT-based management of enterprises, social organizations, etc.)
- Lifelong education and training in the careers, skills, and positions related to the Information Society.
- Access to public information about public and private initiatives related to the Information Society.

It is important to understand the relevance, for a national, regional or local community, to be prepared ("e-ready") for the Information Society and to lead an evaluation based on objective criteria, in order to establish milestones and basic measurable values of this e-readiness. In order to integrate the population to the Information Society, and to reduce the digital gap, it would be useful that all these and other issues are approached by a coherent, realistic and attainable strategy.

Diagnosing national or local e-readiness may be used by governments as a mechanism to collect the necessary information to address the formulation of NISP´s goals. This evaluation will help governments focus their efforts and identify areas that require the

[11] More information at http://www.bridges.org/

investment of larger resources, external efforts, or extra help.

"In determining what strategy to pursue, countries need to assess their degree of e-readiness—to see where they stand along the route to develop ICTs. By understanding their national strengths and weaknesses with respect to the use and development of ICTs, leaders can position their countries to take advantage of emerging opportunities and stave off competitive threats", state Paul Ulrich, James George Chacko and Phet Sayo (2004).

Example 14. Examples of ICT policies evaluation methods

Examples of ICT policies evaluation methods

Checci et.al. have developed a model to assess ICT policies in Arab countries. The research, supported by the US Government National Science Foundation (NSF)-funded project Arab ICT policy and IT transfer project at Georgia State University (GSU), concerns the development of an instrument designed to measure the impact of government ICT policies and cultural beliefs on systems outcomes. A multi-method approach is employed for testing. This work combines quantitative (survey-Information Society) and qualitative (semi-structured interview) methods.

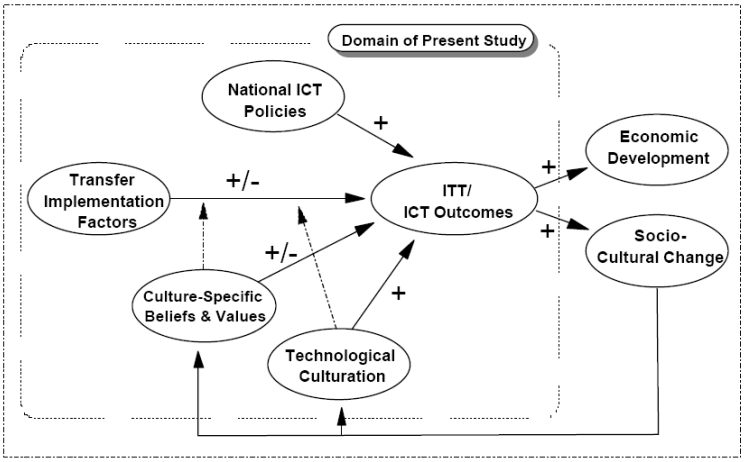


Figure 1: Research Model

The model shows a positive relation between national ICT policies and technological infrastructure and systems outcomes. The existence of ICT policies is a social constructio in

which beliefs and values are significant. The awareness of policies can be taken as a surrogate of the extent to which the policies have a reality in the social context.

In a region where technology transfer is important, the assessment considers measures of outcomes, including: prediction of success; actual use; intention to use; diffusion; success of system development.

Source: Checchi et. al, 2002

Table 1: Constructs involved in the study

Construct	Description
National ICT policies/ technological infrastructure	Status of the technology infrastructure of the nation. Policies aimed at encouraging or impeding ICT
Transfer implementation factors	Factors that influence the success of failure of the deployment of a technology or technologies
Culture-specific beliefs & values	Cultural and social responses of individuals and groups; beliefs and values; socio-culturally influenced motivations. This set is limited to those beliefs and values that are expected to have an influence on the adoption of ICT and specific to the culture or ethnic group being studied
Technological culturation	Influence of external, technologically advanced cultures (such as Western industrialized cultures, Ex-Soviets, Japan, Turks, etc.) on individual / group / culture as a whole
Information technology transfer (ITT) / ICT outcomes	Measures of outcomes include: prediction of success; actual use; intention to use; diffusion; success of system development

Source: Checchi et. al, 2002

The following phases include the identification of Identify Information Society ICT policies, through unstructured interviews to policy decision makers; the verification that actual policies were effectively implemented, through semi-structured interviews to policy implementers, to both institutions and individuals; and the measurement of the perceptions and awareness of the policies among the population, using quantitative and qualitative research.

Table 2: Phases of the project.

Phase	Objective	Methodology	Sample
I	Exploratory: Identify key ICT policies.	Unstructured interviews	Policy makers: this phase includes top management of influential institutions (see categories below)
II	Confirmatory: verify that intended policies were actually implemented Exploratory: gather data on the underlying model of influence of culture on ICT transfer and system outcomes	Semi-structured interviews	Policy implementers: this phase includes middle management of influential institutions (see categories)
III	Confirmatory: measure the awareness of the policies and perceptions of their (eventual) effectiveness and establish the validity of the model.	Combination of quantitative (structured, survey-like questions during the interview) and qualitative (open-ended questions)	Policy users: this phase includes people at all levels (from users to top management/officials)

Source: Checchi et. al, 2002

The tools used in different countries for these evaluations utilize diverse definitions of e-readiness and different methods for the measurements, such as indicators systems. The evaluations differ in their goals, strategies and results. The right tool, in each case, depends on the objective of the user (the evaluator and/or the government). The user may choose a tool that measures what a particular country is addressing or looking for, guided by a standard adjusted to the users´ own vision on an e-ready society.

1.3.8. Staff in charge

The guidelines will be put into practice by the governmental organization in charge. This group or organization may include other stakeholders (private sector, universities, NGOs, local governments, etc.). Therefore, determining the agency or organization, and the staff that will be in charge of the NISP process, or creating a specific governmental-coordinated mulktistakeholder agency is relevant for the success of the NISP.

Even if the national government will have the final decision in this area, it is advisable to include a multistakeholders' approach in this choice. If the activities are assigned to

diverse ministries or secretariats, or to other stakeholders, a specific agency in charge of the NISP will have to coordinate the different actions.

Example 15. E-Korea Vision 2006 implementation strategies

E-Korea Vision 2006 Implementation Strategies

- The government will establish and implement a yearly operational plan based on the Master Plan, e-Korea Vision 2006 each year. The Master Plan will be revised in response to the rapid environmental changes and technological developments of each year.
- The government will develop a detailed action plan in order to evaluate achievements semi-annually and report annually to the Informatization Promotion Committee. The realization of the global leader, e-Korea will be promoted through the systematic management of all issues and outcomes from each area, and cooperation will be strengthened between relevant government ministries and departments for the promotion of related businesses through the coordination of the Informatization Promotion Committee.

Source: E-Korea Vision, 2006

The next module, Module 2, is a concrete guideline methodology, a Template for the development of NISPs. It is addressed to the governments and the diverse social actors involved in creating, implementing, and updating agendas to develop these policiesin order for them to have access to the existing information, methodology, general information, examples, processes, mechanisms, and information sources.

Module 2, the core of the entire Template, comprises three main phases: the initial point or formulation of a NISP; the implementation of the NISP; and the monitoring, assessment and eventually the adaptation or updating of the NISP.

MODULE II: Template for the Elaboration of National Information Society Policies (NISP(s))

2.1. TEMPLATE INTRODUCTION

Module 2 serves as a practical guide that provides instructions for the preparation of a National Information Society Policy (NISP), based on the theoretical contents developed in Module I. This module is divided into different stages, each representing steps or phases structured in a sequential way that will lead the NISP process.

The present impulse and expansion of the Information Society (IS) has been accompanied by outstanding efforts in developing and disseminating tools for the planning, pursuit, and evaluation of those actions. After the first years when each country developed its own plan or set of actions, certain advances in the matter of criteria harmonization, use of common methodological instruments, quality improvement, etc. can be perceived. The different world summits and the large number of international meetings and events at regional level, as well as the role of different international organizations such as UNESCO have played a fundamental role.

Thus, the experiences that have been fostered in each country have served to, even within a framework of enormous inequalities, replicate good practices and overcome obstacles at a greater speed.

Nevertheless, since the IS process is relatively recent, many of these experiences still have not been systematized and are dispersed in diverse publications, manuals, websites, etc. in different languages and trying to reach very diverse objectives. This hinders its use by governments who require a concerted effort to survey and analyze the data. On the other hand, despite the lack of basic agreements or common methodology approaches on the IS development "model", many actors at the international, regional and local level, have been accumulating valuable experiences, and have built tools and working schemes of great interest.

This template presents a contribution to the formulation, implementation, and evaluation of NISPs, trying to elaborate a solid methodological proposal of the international experience and good practices that have been detected.

Although it is common to use compatible or complementary logics and tools with other types of sectorial or thematic projects, the specificity of IS development requires some different components which are often dismissed, which can lead to distortions and errors. Moreover, subjects such as the role of involved actors, the institutional and political responsibilities, the relation to the diverse aspects of the technological-scientific development, the complexity and necessity of political agreements, the importance of the follow-up and monitoring of the driven processes, the management and coordination of the information, to only mention a few, are very specific aspects of the IS that have to be considered.

This Template provides instructions for developing an NISP proposal. It is basically a "How to" guide divided into different steps to prepare a policy proposal. These steps, or phases, follow a sequential structure, disaggregated in all its components. Given that UNESCO member states have their own institutional, administrative and governance practices and approaches, the procedures described in this Template are not mandatory for any of them. The step-by-step approach shown in this Template serves as an example and an illustration of a way of proceeding; it is not a prescription or a set of rules for the way every administration should behave.

As every trip begins with a first step, the process of creating or updating an NISP begins from a departure point, a mark on a map. From this first moment, national or local government officers (sometimes with the support of an expert team, sometimes with the only assistance of their staff), will be those facing the exciting challenge of initiating, reviewing or reinitiating the process of an NISP elaboration. Many times the departure point is an opening call or invitation to a series of actors who, coordinated by the state, develop a series of processes that will lead to a proposal, to be implemented at national or local level, according to its dimension.

Once the NISP is assumed as a state policy, the diverse actors (those who have participated in the NISP elaboration process and others who took some kind of part in it at different times) will start working on its implementation based on the agreements reached by the diverse sectors and actors involved. The implementation of an NISP entails consequences; the execution of a new policy implies deep institutional changes, clashes of interests, new legislations, adjustments of budgets and investments, changes in fiscal

policies and market regulation norms, new definitions of social participation and involvement, and the opening of new processes of transparency and public control, among others.

The monitoring, assessment and readjustment of the established strategy are the last steps (but not the closing point) of this sequence. In order to successfully achieve this succession of steps, it is necessary to construct and apply sets of indicators, evaluation instruments, qualitative and quantitative studies of impacts, processes, results in order to generate statistics, public information, and periodic evaluation studies, etc. Since technology advances at a fast pace, updating of an NISP turns into essential. Most probably, the monitoring and assessment process can generate the inputs to readjust and update the NISP. In any case, it will never turn back to zero.

This module provides activities to be undertaken by the civil servants and coordinators in charge of the NISP, as reminders of the tasks that should be accomplished. Some examples of these tasks and their possible solutions are provided below under their respective headings.

2.2. Key factors

There are **five key factors** to consider when facing the task of elaborating or updating an NISP:

2.2.1. No country starts at "Ground Zero"

In the first place, it is necessary to recognize that no country departs from ground zero in the construction and development of the Information Society, and multiple examples shown in this work demonstrate this fact. There are countries that have started to impel Information Society policies and strategies a few years ago, or are starting to sketch explicit National Information Society Policies. Others have been implementing NISPs for more than a decade and are currently reviewing these practices, updating them,

discussing the success factors and the difficulties found along the way. And finally, there are a great number of countries that have yet to undertake this challenge.

2.2.2. Each country boards the train at its own station

Each local, national, and regional reality is unique. The policies and measures that can be useful for some countries are useless or even harmful for others. An NISP that may be suitable in a given development context cannot be implemented in another development degree without implementing a previous assessment and deep analysis. In particular, it is essential to identify economic and cultural difficulties or diverse institutional conditions to introduce certain policies.

This methodology, however, can be useful for all of them, since its dynamics allow "to catch the Information Society train" in any of the stations, to analyze their own context in the mirror provided by the diverse suggested steps, and to contribute to the retrofitting of the strategies. This methodology is a model, a scheme that should stimulate the involved actors to examine their individual country's needs and use their best capacities and strengths to develop an appropriate NISP for their own reality,.

2.2.3. Be aware of your own circumstances

It is essential to identify the economic strengths and weakness, cultural diversity and institutional conditions of each country or region in order to foster certain policies.

The methodology formulated in this guide is a model that will allow civil servants in charge of building an NISP to:

- Stimulate the involved actors to examine their own country needs and use its best capacities and strengths to develop the most suitable NISP.
- Enssure its application in countries at different levels of development.

It is because of the broad applicability of the above that this module can be applied to any country or region, regardless of its level of development, without necessarily being concerned about the progress made by the specific NISP it has established.

2.2.4. Consider the leading role of the government

The processes begun at this point of formulation will be essential, since they will be the starting point for the next steps. As mentioned in Module I, the government authorities should be aware that ICT issues are subjects totally related to public policy (Hilbert; 2007). If they do not understand this political dimension, it will be difficult to reach the subsequent stages. The jurisdictional scope from where the NISP process will begin or reformulate has to be clearly defined by the political authorities. The governmental officers in charge of the NISP process will have the support and collaboration of a team of experts. Therefore, defining the development of an inter-sectoral strategy for the identification and call of excellent actors will be the keys to achieving success at this stage.

What factors does this depend on? On political decisions, the social agents' participation in the elaboration of and political decision making, their responsibility in regard to terms of negotiation, their cooperation will, and, naturally, the existing priorities within each country. This will be possible as long as the consented upon social agreements can be maintained.

2.2.5. Intersectoriality: a key element in the strategy

Facing the NISP formulation, implementation, and updating is a real and complex challenge. In order to successfully tackle the initiative, the involvement of different actors is vital. This entails having in place a public policy that addresses the generation of public goods12. However, each actor will have a different conception of "public goods". For example, the economic approach of the expression may have a different sense than the political one. Each perspective and claim depends on a particular notion of how life would be ordered in an ideal society. A public good is not a general benefit and although it may be identified as so, it is not reducible to the goals of any particular organization.

[12] All those goods whose consumption does not reduce availability of the good and no one can be effectively excluded from using the good. For more specific information about an economic view of this definition, see Holcombe (1997)

This model fits conveniently into the process addressed in this document. Functions are defined for each one of the participating institutions[13], setting up a clear competence and specific commitment (institutions, like groups or individuals involved in the formulation of a NISP, are considered actors). Strategies and actions are formulated, and individuals or organizations are charged with carrying them out.

Thus under the necessary integrating state's coordination, the operational aspect of the intersectoriality tends to sustain itself on the hypothesis that new diverse institutionalities can induce better outlooks of organizational performance. This strategy tries to contribute to new criteria for planning and macropolitical direction, government and services public format adaptation, and a cross-sectional boarding of public policies.

This perspective indicates as "sectors" not only the usual ones from the governmental organization (executive, legislative, education, infrastructure, regulation of the telecommunications, etc.), but also refer to the logic of collective action and to mechanisms of social coordination. Therefore, the intersectoriality can mean the juncture between the public sector, the social sector, the enterprise sector, the academic sector, etc.

This model of coordinated intersectoriality can be applied with variables according to each country's social, economic and political context. There are countries where the state can lead this process. In other countries the original impulse comes from the market or from social organizations, although sometimes the government assumes the initiatives as its own. In other countries, the intersectoriality and multistakeholder approach are transformed into a political objective among themselves. Each state will be able to find different levels of institutional development for the mentioned sectors, and therefore create conditions and capacities for their involvement and joint actions.

[13] The intersectoriality notion in principle speaks to the integration of diverse sectors with a view to the definition of policies or the solution of social problems. But according to what it is understood by "sector" it ispossible to find shades or differentiated connotations. According to Cunill Grau (2005), two premises conceptually delimit the intersectoriality: 1) Integration between sectors makes possible the search of integral solutions. This assigns a foundation specifically political to the intersectoriality and is translated in the assumption of all those public policies that persecute integral aims, like the NISP; they must be interly-sectoral planned and executed. 2) Integration between sectors allows that the differences among them can be productively used to solve social problems. From this perspective the intersectoriality is consistent with the idea that creates better solutions (than the sectoriality) because it allows sharing resources that are owned by each sector.

Intersectoriality is one of the factors that can determine the success or failure of the initiatives. Indeed, the success will depend on the cooperation between the different sectors and their respective actors, which will make the joint search of solutions possible. The fundamental issues in the formulation of a multisectoral and multistakeholder strategy are:

- To define which individuals and organizations are able or should assume responsibilities and commitments in the different stages of the NISP;
- To define and distribute functions to each of the involved actors (institutions or individuals), establishing specific capacities and resources;
- To consider the larger amount of possible actors who might support and be involved in the different processes (state, market-enterprises and entrepreneurs-, civil society, university, citizens, etc.);
- To consider not only the usual public sector “areas" related to the Information Society such as telecommunications, infrastructure, science and technology, but also other instances from the executive authority, like education, social development, health, legislative branches, regulators, etc;
- Intersectoriality assumes attempting different modalities to join the public sector, the social sector, the private sector, and the academic sector. All of which may encourage within their own institutions intra-sector and internal consensual policies. Each of the institutions will present different levels of development, conditions and capabilities for their participation and joint actions;
- To understand that roles can vary (for example, in many countries, the NISP creation has been the result of a government with strong leadership role, whereas in others, it has arisen like an initiative from the market, or by strong campaigns from the civil society sector);
- To respect the essence of each actor and her/his own activities. With this in mind, each actor will be able to maintain it independence against the others.

Table 2. Summary of the Introduction

	Summary
A	The present impulse and expansion of the Information

developing process (or The development process) and the role of UNESCO	Society (IS) has been accompanied by outstanding efforts in developing and disseminating tools for planning, pursuit and evaluation of those processes. After individual and often isolated initiatives to formulate NISPs, countries have started to harmonize criteria, methodological tools, etc. among them The different world wummits and the large numbers of international meetings and events at regional level, as well as the role of the different international organizations such as UNESCO, have had a fundamental role. Because of this, experiences have started to be replicated and the obstacles may be able to be overcome opportunely.
What is this template	This template is a methodological proposal based on the international experience and the good practices that have been detected.
To whom this template is addressed	The governmental officers and civil servants of the national or local state (sometimes with the support of an expert team, sometimes with the only assistance of their staff), who face the exciting challenge of initiating, reviewing or updating the process of an NISP elaboration.
Key factors to use this Guide	1. No country starts at “Zero”, since all countries have some experience on the Information Society, beyond their level of development. 2. Each country boards the fast Information Society train at its own station; it is essential to take into account the national and regional circumstances, since each situation

	has unique characteristics. 3. Start from each country´s own reality and needs, identifying the economic strengths and weakness, cultural diversity and institutional conditions in order to foster IS policies. 4. Recognize the role of the government and of the governmental agents acting as coordinators for the whole process. 5. Consider the intersectorial and multistakeholder approaches as central points of the NISP strategy in each country.

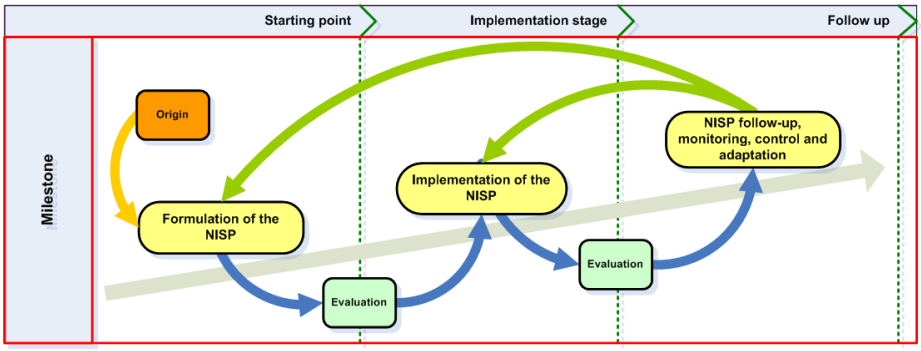
2.3. STRATEGIC FRAMEWORK

2.3.1. Milestones

The NISP definition and implementation is a process of strategic planning. As mentioned earlier in this document, the sequential stages to create, implement and improve an NISP entail only an ideal construction to facilitate its analysis. This guide features diverse milestones to understand each stage of an NISP.

The various amounts of activities and processes can be defined sequentially in the following way (Illustration 3):

Illustration 2. Milestones in the process of constructing a NISP



For a public policy formulation on Information Society, it is necessary to undertake a series of processes that involve people, groups and institutions. Activities are promoted and executed, information is generated and interchanged, and a collective production is directed through a decision making process.

These processes will be conditioned by external political and economic factors, by the national context and internal factors, and the expression of the diverse sector interests.

Table 3. Milestones´ components

Formulation of the NISP	**Involved actors** During this stage, the governmental representatives in charge who will assume the responsibility for initiating the formulation of the NISP, together with the other involved social actors, will develop a series of processes. These technical and political officers will be supported during the whole process- or at least part of it- by a group of experts on the Information Society who will contribute their knowledge and advice. In this context, an intersectorial strategy is required. **Objectives** To prepare the dianostics in which the NISP will be

based.

To formulate the NISP - including deciding the goals, strategies, and actions that will be implemented in the next phase.

Outcomes

An NISP Plan of Action, providing gudelines, a defined strategy, a timeline, a budget, a list of involved actors, and the institutional transformation required to implement the NISP.

List of experts on the Information Society.

List of research centers working on Information Society.

Diagnostics of the present situation regarding the Information Society, at national, regional, or local level.

Diagnostics of the present situation regarding the Information Society areas (such as e-government, m-government, education for Information Society, e-heath, among others) at national, regional, or local level.

List of goals to be achieved by the NISP .

Strategies to be used to achieve the goals, timeline, agents in charge of the accomplishment of each goal, financial, human and technological resources assigned to each goal .

Action Plan.

Implementation of the NISP

Description

This phase concerns the implementation of the gudelines and strategies that were planned in the previous stage. This phase will incorporate possible rectifications or modifications if external or internal changes have happened (management changes, macroeconomic crises, evaluations, new political definitions, etc.). Decisions should be taken on

resource allocation, governmental and multisakeholder bodies charged with the implementation of the NISP, distribution of tasks, and the adjustment of the project to the real context in which the NISP will be developed.

It will be useful for the governmental body responsible for the implementation, together with the involved stakeholders, to define tools and instruments to check indicators, survey results, and use of the impact assessment to be used in the follow-up, monitoring, control and adaptation stages.

Objetives

The implementation phase gathers all the aspects related to the implementation of the NISP as planned in the elaboration phase, through a set of instruments and actions. In this phase, the implementation does not depend so much on the expert team, but on the government and other social actors.

Outcomes

Projects derived from the Action Plan.

List of Tasks' assignations.

NISP follow-up, monitoring, control and adaptation

Description

In this phase, the NISP's results as well as the impacts of the whole NISP building process are evaluated using sets of indicators.

Objetive:

To monitor and assess the NISP´s execution, impacts, and achievements.

Outcomes

An Assessment report of each of the NISP phases.

An assessment report of the partial and/or total results achieved by the NISP.

Tip 1. Factors which impact the NISP dvelopment process

Every phase will undergo permanent evaluation and adaptation actions. This process will allow to: assess expected and unexpected results, and evaluate required adjustments. Many qualitative and quantitative indicators tools are available for governmental officers, experts groups and other involved actors.
The phases to plan and carry out the NISP's guidelines and strategies are shown as a model to facilitate working on the NISP.
This model allows each country to assume a position according to its own development stage, culture, and socio-economic context.
In the process of elaborating public policies, it is necessary to consider each and every one of these phases.

Example 16. Actions implemented in Africa and Europe

In Africa, development process cycle for the National Information and Communication Infrastructure policies and plans (NICI) is summarized as follows:

Phase 1:

The first phase of the methodology concentrates on the development of the *framework document.* The framework document, among other things provides an analytical basis for the development of the subsequent policy document and plan. This is achieved through a baseline study, which establishes benchmarks so that subsequent monitoring and evaluation can assess the effects of identified programmes on the target population.

Phase 2:

This phase concentrates on the development of the *policy document*, which provides details of the government's policy commitments in relation to what needs to be done through the exploitation and development of ICTs.

Phase 3:

This phase of the methodology is devoted to the development of the first plan guided by the government's policy commitments detailed in the policy document. This plan, the first of series of rolling plans serves as a cornerstone of the government's socio-economic development plan over a specific time frame.

Phase 4: This final phase involves the actual implementation of the specific programmes in the plan. Once the plan is developed and implemented, progress is monitored and evaluated on a regular basis. The monitoring and evaluation exercise will be based on the analysis of relevant indicators to assess progress towards Information Society development and socio-economic impact[14].

Within the existing tools addressed to experts to plan and update NISPs, the report "Good Practices in Information and Communication Technology Policies in Asia and the Pacific: Promotion of Enabling Policies and Regulatory Frameworks for Information and Communication Technology Development in the Asia-Pacific Region" (ESCAP, 2004) is intended to be a resource for ICT policy planners and decision makers and offers policy-oriented perspectives on three major sets of issues:

Understanding the background and process of ICT policy formulation and implementation relevant to the Asian and Pacific countries;

- Sharing the rich and diversified experiences of selected countries of the region in ICT policy development through best practices;
- Developing materials for awareness and capacity-building programmes at the national and regional levels.

Source: African Information Society Initiative, 1999

The approach of the report "Rethinking the European ICT agenda - Ten ICT-breakthroughs for reaching Lisbon goals" (MEA, 2004) consisted of five phases

a) The preparation phase was used to determine the outlines of the study in order to establish the main issues under investigation. An e-Boardroom session with industry leaders and policy makers was held to verify the first results of the desk study concluded in an outline paper
b) The second phase consisted of an extensive interview round, with opinion leaders, Information Society decision makers throughout Europe and the five reference countries to identify new insights, new perspectives, discontinuities, and a new sense of urgency that would give rise to the formulation of new policy questions. As annex D

[14] See page 28 of the quoted report for scheme on NICI cycle

shows, over 90 thought-leaders were interviewed. These interviews resulted in an extensive list of policy questions and breakthroughs.

c) During the third phase the ranking and selection of this master list of policy questions and breakthroughs took place in several workshops with representatives from the ICT industry, users and policy makers for the Information Society.

d) During the selection phase the African Information Society Initiative made the final selection of the main breakthroughs and policy questions using the input of Information Society policy across Europe during the second e-Boardroom meeting and some additional interviews.

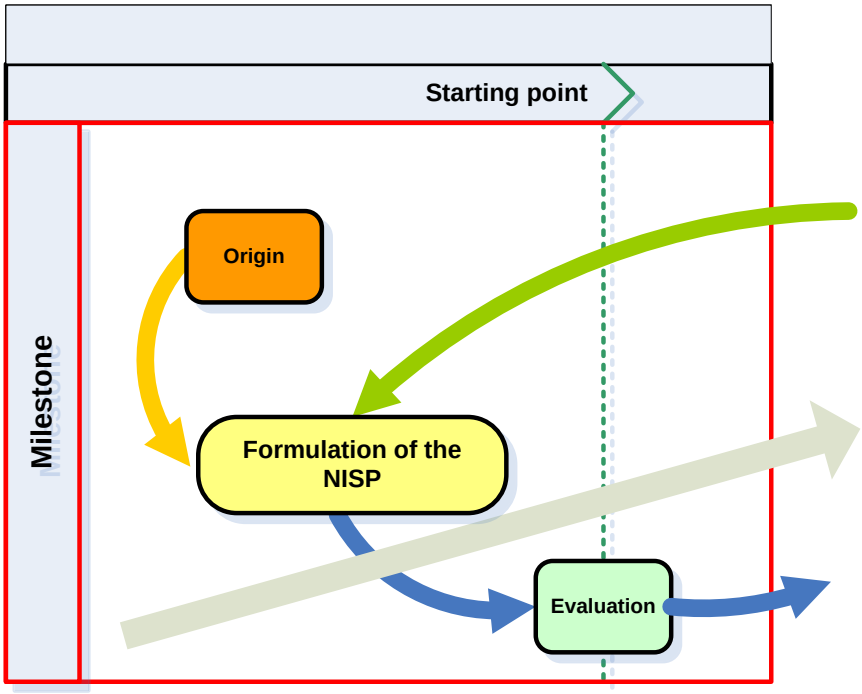
e) Finally the fifth phase consisted of the elaboration of the results, some additional interviews to further verify the outcomes and the writing of the report.

Source: MEA, 2004

2.4. Starting point: formulation of a National Policy for Information Society (NISP)

2.4.1. Introduction to the starting point

Illustration 3. Starting point



International experiences, supported by international organizations, such as UNESCO, have shown the importance of a planned and organized effort to reach the expected results. This is proved not only in governmental circles, but also in the market, the non-profit organizations, NGOs, and the Academia. These actors have been taking actions to limit improvisation, make decisions in a conscious way, and improve the quality of their interventions.

The NISP formulation phase corresponds to the foundational or re-foundational moment of the public policy (in those cases where the current policy implemented is being reviewed or updated). It is a key stage that requires an accurate definition of all the issues that will influence the upcoming phases of the process.

According to ECLAC (Hilbert et al., 2005), the extent of actors' participation is a determining factor of the duration of this phase because it is closely related to the process of generation of consensus among the diverse actors or stakeholders. The entire process will be determined by the complex search for consensus in relation to the policy objectives to be implemented, the actions to be defined, and the legitimacy and commitment assumed by the involved actors.

In order to formulate or update an NISP, it is necessary to consider a series of issues that will determine the whole process. ECLAC (Hilbert et al, 2005) states that the progression of elaborating, updating and implementing Information Society policies is influenced by internal and external factors. Internal social and economic factors influence the context or environment in which a given country develops its national strategies. ECLAC also identifies more dynamic external factors, such as the global macro-economic context, growth tendencies, stability, and political orientation. These external factors usually pre-determine a government's priorities and are vital influences on the degree of importance assigned by the national government to diverse areas in the Information Society in each of the phases of a national strategy.

Within this framework, three fundamental processes will be developed

1. Diagnosis
2. Analysis
3. Action Planning

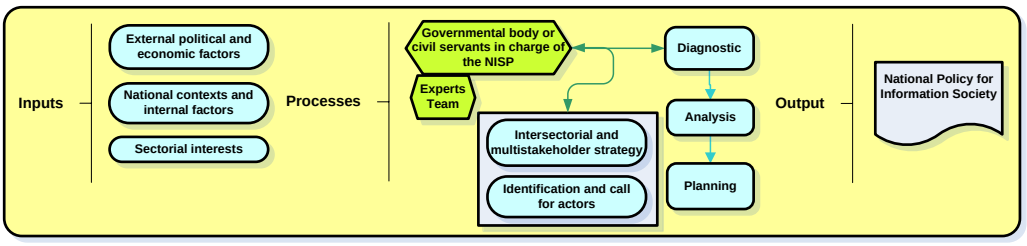
The final outcome of this work can be reached by drafting a document that gives the NISP its essence. It can be a digital agenda, a national plan, a national strategy, or any other definition to denote a national strategy that will have to be implemented in the following stage. The name is not so relevant, however, *the hierarchy of this document is important, since its materialization will depend on its level of formality and institutionally.Additionally,*

it will be an expression of the consensus reached and the commitments assumed by each one of the actors.

From this general point of view, the entire process will be determined by the complexity implied in the search for consensus in relation to the policy objectives to be implemented, the actions to be defined, and the legitimacy and commitment assumed by the involved actors. According to CEPAL (Hilbert et al., 2005), the extent of actors' participation is a determining factor of the duration time of this phase due it is closely related to the consensus generation process. These times may vary among different countries.

Illustration 5 shows the components that comprised in the NISP's formulation phase: Inputs, Processes, and Outpouts or final results.

Illustration 4. Components of the Formulation phase



2.4.2. Inputs or factors that influence an NISP formulation

a. Political and economic external factors

The external factors are exogenous to political decisions on Information Society national strategies, since the strategies´ designers and decision-makers do not have decision-making power over them.

- **International organizations**: International organizations frequently trigger regional and national initiatives to develop NISPs, as was shown in the processes leading to WSIS 2003, WSIS 2005, and E-LAC 2007, among others. They also provide assessments and best practices of ongoing Information Society policies.

Nevertheless, international organizations have their own agendas and their own models on the Information Society. The experts in charge of designing NISPs should be careful to adopt the inputs that will benefit their country's specific needs and goals, and to leave aside those inputs that apply to different contexts.

- **Commercial partnerships**: Commercial alliances or partnerships strongly influence national policies and strategies. A given government may wish to protect its alliances with a regional block (for example, MERCOSUR or the European Union), adopting measures for a common or coherent Information Society scheme. On the contrary, external commercial alliances may exclude or economically harm countries or regions, which will instead lead to adopting policies that try to compensate this exclusion.

b. National contexts and internal factors

- **Degree of maturity of the political group regarding the Information Society:** The degree of awareness of the political groups in power regarding Information Society will clearly influence the elaboration and implementation of an NISP. If a government is informed and willing to build a National Information Society agenda to fully integrate its country in the global Information Society – while respecting its own specificities-, it will be supportive and receptive of the transformations proposed by the NISP. If the government is not sensitized about the importance of Information Society, if it considers that constructing its national Information Society agenda will not bring it votes, nor political benefits, the NISP may be not elaborated at all, or, even if formulated, it will not receive full support to implement the proposed measures.
- **State agency in charge of the NISP:** Among them is the hierarchical level held by the agency, group or person charged to lead the national strategy. Obviously, the higher the hierarchical level, the larger the support to the policies proposed by this agency or group and the higher the possibilities to concretely implement them. The working procedures and the special coordination for the participants´ work are to be considered.
- **Infrastructure and generic ICT services**: The most obvious thematic topics of Information Society strategies focus on the build-out of the ICT infrastructure and services. Depending on the characteristics of each country's infrastructure and ICT

services, and the number and location of the underserved population, policies should be aimed at fostering universal access and use of the technology by providing a basic minimum of connectivity for the whole of society, with special emphasis on marginalized groups, such as rural inhabitants, ethnic minorities, women, the disabled and elderly people (ECLAC, 2003).

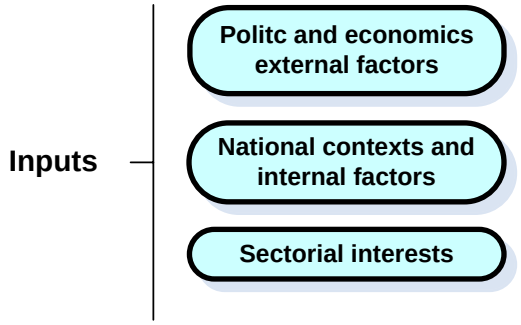
- **Regulatory frameworks**: National regulatory frameworks are key elements in the formulation of NISPs. They need to be established or adjusted in order to ensure the concrete implementation, assessment and renovation of national policies. The regulation of the telecommunications industry and the strengthening of hardware and software markets are key policy areas (ECLAC, 2003).

c. Sectoral interests

- **State:** A national strategy constitutes the combination of a wide range of thematic concerns. Governments can prioritize thematic areas, or orient a whole national strategy around one issue, such as infrastructure and connectivity.
- **IT sector, private enterprises**: The national IT sector can impulse the elaboration of an NISP. It is a strong actor that frequently leads technological and organizational innovations. However, it should be taken into account that while private-sector leadership is unquestioned in the process of building-out ICT environments, the public sector has to strive to complement its work. As stated by ECLAC (2003), market mechanisms alone are often not sufficient to create programmes and tools that can help lead the way to broader development goals. Besides, IT enterprises can focus on given thematic areas, or foster a national strategy around the issues that interest them (training human resources for ICT enterprises, software and informatics services, etc.).
- **Civil Society:** As stated by ECLAC (2003), "The complexity and pace of ICT development, on the one hand, and the profound implications of ICT implementation, on the other, require a close partnership between the private and public sectors and civil society right from the start". Civil society is increasingly participating in Information Society issues, mainly on access to information, right to information, connectivity, and telecommunications universal service. The concerns and interests of civil society need to be addressed at the highest policy-making level.

- **Science & Technology sector:** This sector, also called “Academic sector” is a relevant actor in Information Society, since it provides both the researchers and the knowledge to carry on the Informational Paradigm: innovative technologies facilitate the production of knowledge, which in turn facilitate the production of even more ground-breaking technology and procedures. In other words, knowledge creation takes place on the boundaries between universities, private sector, public sector and the political spheres. Hence the role of the academic sector and its ability of transformation come into sharp focus. ICT is one of the technological science fields most evidently acting on the borders between academic research and politics/society and the private sector.

Illustration 5. Inputs for the Starting point



Diverse activities are provided so that the individuals and groups charged with the formulation of the NISP may check if they have taken all the necessary steps to complete their work.

Activity 1 consists of verification and checking of the key factors influencing the NISP formulation process.

Activity 1. Verification lista: formulation phase

VERIFICATION LIST: FORMULATION PHASE		
Key Factors		
	YES	***NO***

1. Were all the existing key factors taken into account?		
2. Have you prepared a detailed check list of external and internal key factors?		
3. Have you analyzed how those factors can affect the NISP formulation process?		
4. Have you prioritized those factors that can threaten the success of the NISP formulation's global strategy?		
5. Did you think of a way to neutralize the negative effects and/or up-scale the positive ones?		

Activity 2 consists on the identification and analysis of the determinant (key) factors that influence the NISP formulation process.

Activity 2. List of conditioning factors identification and analysis

LIST OF KEY FACTORS IDENTIFICATION AND ANALYSIS			
Factor (Who or What is it?)	**Type (external / internal)**	**How can it affect the NISP formulation?**	***Which actions can be implemented to neutralize the negative effects and/or up-scale the positive ones?***
i.e.: Lack of updated legal frame	i.e.: Internal	Hindering the formulation of goals and strategies that are not contemplated in the present legal frame	*. Debating updating the legal frame, standards, norms, etc.* *. Involving the legislative power in the NISP* *. Updating the legal frame*
i.e.: Insufficiency of local ICT policy experts	i.e.: Internal	Difficulties in preparing a balanced and objective preliminary	*. Search for regional and international reports that contemplate the national*

		assessment report	*perspective* *. Consultation with international or regional experts*
i.e.: Lack or insufficiency of local ICT and telecommunication statistics	i.e.: Internal	Low capacity to lobby and argue their country's positions in international negotiations	*. Allocate resources to engage in statistical research in local academic institutions and national research centres*
i.e.: National and local interests in Information Society are not represented by global and international leading agendas	i.e.: External	Low level of funding and representation in international negotiations Low negotiation capacity	*. Train national representatives in order to represent the country in international events.* *. Determine leading ideas to negotiate in international scenarios in order to defend the national interests and find suitable partners*
i.e.: Lack of national ownership of telecommunication services	i.e.: Internal	Low level of autonomy and management of ICT services (such as universal services and low tariffs)	*. Arrange multisectoral meetings to negotiate new ICT strategies* *. Plan state's partnerships with ICT enterprises* *. Plan regulation activities*

Comment [W1]: Let´s use no periods

2.4.3. Main processes of this phase

From the definition of the institutional space from where the NISP process will be fostered and supported, a series of political and empirical processes will start to be developed. They are synthesized in the following illustration:

Illustration 6. Political and Empirical Processes

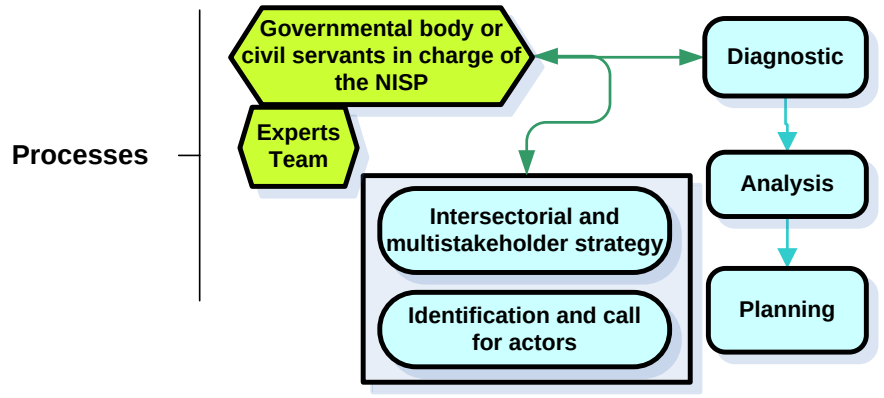


Table 4. Synthesis of the main processes in this phase

Processes	Objective	Description	Outcomes
Assembling of team of experts	**To assemble a group of experts on Information Society that contributes their knowledge to the diverse phases of the process.**	**In order to achieve a high level of effectiveness in the formulation of the NISP, the international experience suggests inviting a group of experts on Information Society and its diverse sectors, to**	**An active experts group that collaborates in the different phases of the process.**

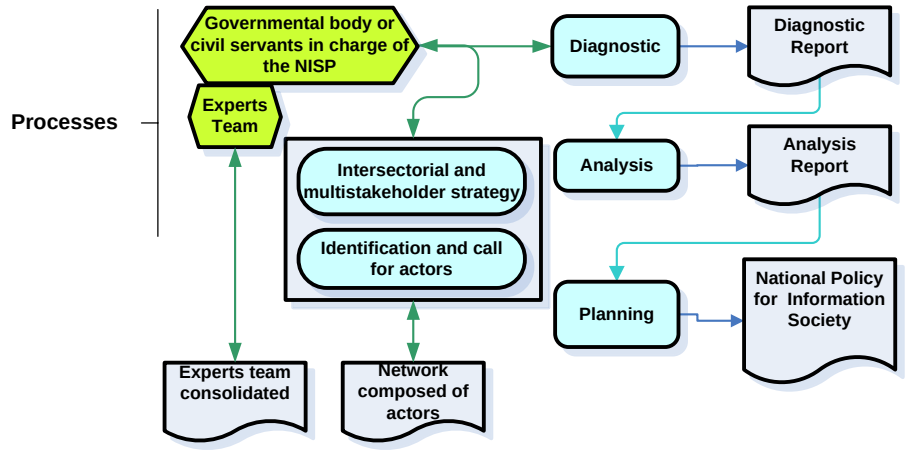
		contribute their know-how and their advice to the process of definition, implementation and follow-up of the NISP. **The experts can work *ad honorem* or receive honoraries**	
Actors identification and call	**Identify and invite diverse actors from all sectors (institutions and individuals) to be involved in the process.**	**A high diversity of social actors are directly or indirectly envolved with the NISP. The governmental agents' capacity to summon and involve them in the diverste stages of the NISP is fundamental to its success**	**Sectoral, multisectoral and multistakeholder groups and networks**
Diagnostic	**To obtain an an updated diagnostic that will describe the country´s e-readiness, its needs in Information Society, and its**	**Prepare an updated diagnostic of all the necessary components (sectors) for the NISP formulation and implementation. Diagnosis of the**	**A diagnosis that will describe the country´s e-readiness, its needs in Information Society, and its diverse sectors.**

	diverse sectors to be used as a basis for the NISP	**panorama In the diverse areas (e-government, education, ICT industries, telecommunication policies, legal framework, etc.)** **This diagnostic will be be the key input for the analysis phase.**	
Analysis	**To analyze the needs of the country regarding Information Society (the expected model to be reached), and to establish consented goals, strategies, and main guidelines.**	**Based on the previous diagnosis, state the reasons why the country should embark on this initiative, the quantification of the project, the analysis on viability, the political frame and the support the NISP will have at the time of its implementation.** **It is also an exercise where the institutional strategy and transformations may be defined and**	**A document that features the most important NISP strategic and methodological guidelines. It is a fundamental input for planning implementation actions. This document is a first approach to the definitive formulation, a declaration of interests and a communication of expectations.**

		reached by diverse soaicla actors. It is the description of the expected model to reach.	
Planning	**To define goals, strategies, engaged resources, timetable, and to appoint the agents in charge for the NISP's implementation.**	**Diverse methods and tools may be used for planning, according to the criteria defined by the governmental coordinators, with the team of experts.**	**A document formulating the Information Society model that the country wants to reach.**

Illustration 8 shows how the processes and their diverse phases generate products or outcomes.

Illustration 7. Processes and outputs



a. Expert Team Call and Implementation

In order to achieve a high level of effectiveness in the formulation of NISP, the governmental officers in charge of the NISP may assemble an Expert Team (ET) in Information Society or/and its constituent sectors to contribute their knowledge discuss, and systematize the process of definition of goals and strategies, implementation and follow-up on public policy for the Information Society. This group of experts can participate in one or more stages of the NISP development. However, the expert role is fundamental in the first stages, or when a policy adjustment or update is necessary.

Table 5. Expert Team structure

The mission	Actively support and collaborate with the governmental team to elaborate a proposal for the NISP as well as its implementation, monitoring, and assessment
How to choose the specialists to conform the ET	All countries, independently of their degree of development, currently count on experts on Information Society: members of government, private consultants, entrepreneurs in the IT sector, academic researchers, and/or NGO representatives who have participated in the WSIS 2003 and 2005 processes, representatives who have participated in national and international forums and events on Information Society issues, professors and graduate students who have published papers on these issues, or just specialized people who have a role, as producers or disseminators, in the national IT sector.
Who is an expert	An "expert" is someone widely recognized as a reliable source of technique or skill whose ability for judging or deciding rightly, justly, or wisely is accorded authority and status by peers or the public in a specific and well-distinguished domain. An expert, more generally, is a person with extensive knowledge or ability in a particular area of study. The experts who may conform the team should come from diverse disciplines and sectors, in order

	to provide a wide range of viewpoints

The implementation of an ET by the national government will depend on criteria based on answering the following questions:

a. Who will coordinate the ET? (national agency, ministry, etc.)
b. Will all the social actors (government, academia, private sector, civil society) be participate in equal conditions in the ET?
c. How will suitable members of the ET be identified?

The diverse economic and political contexts in each country will help to define the answer to the fist question. Decision makers in the public sector are primary actors for developing the information society in each country. Those representatives are the common denominator and driving force behind the establishment of solid multistakeholder coordination, active political leadership, effective policy changes, and adequate allocation of financial resources and human efforts.

Regarding the social actors, the more they are involved in the creation or updating of an NISP, the more they will respond favorably to its implementation in their respective sectors. The respective roles played by local and regional NGOs, private businesses and consultants, and researchers, are vital in developing the information society. Most countries have implemented multistakeholder ETs, either to create, update, and monitor their NISPs. This is also valid for regions.

Table 6. Integration of the Expert Team

Who integrates the experts' team?	Once the national agent or agents that will coordinate the ET are defined, the issue of identifying the experts remains. There are many sources of experts on Information Society in each of the participating sectors: • Directors of governmental agencies related to Information Society issues (ministries or secretariats of telecommunications, science and technology, education, health, etc.) • Presidents of national chambers gathering industries

	of the telecommunications and IT sectors • Relevant academics and researchers on Information Society issues (identifiable through universities, national research and development agencies, forums, academic events, etc) • Members of significant NGOs working on IS issues (identifiable through their websites, virtual and physical forums, events, etc)
How to assemble an Experts Team?	Since national governments are to coordinate the NISP, a governmental agency or initial group should be the one to summon the experts. This can be done though diverse procedures: • By identifying the experts through previous personal contacts, through virtual or face to face forums and events, or by using the procedure described above. • Through calls addressed to the diverse sectors' organizations (governmental agencies, private sector, the S&T sector, civil society) so that each sector can choose its representatives • Organizing a sensibilization and information event with representatives of diverse sectors to discuss the possibility of creating or updating an NISP
How does an Expert Team work?	Experts Teams can work in different ways. However, a common pattern can be identified, in which the experts (in which the experts what?) the following steps are: 1. Establishing a common methodology 2. Reaching an agreement to work together for a given time 3. Agreeing on preparing an outcome (first or second draft of the NISP) 4. Establishing the periodicity of the meetings 5. Establishing diverse working groups according to the chosen methodology (for example, interdisciplinary and multisectorial groups that will work on e-government, e-

	education, e-heath, infrastructures, contents, etc.) 6. Deciding how to combine face to face meetings with ICT use (e-mails, wikis, virtual forums, etc.) 7. Working on partial reports (e-government, infrastructures, contents, etc.) 8. Debating the reports 9. Unifying the reports into a first draft 10. Debating the first draft 11. Elaborating a second (hopefully final) draft

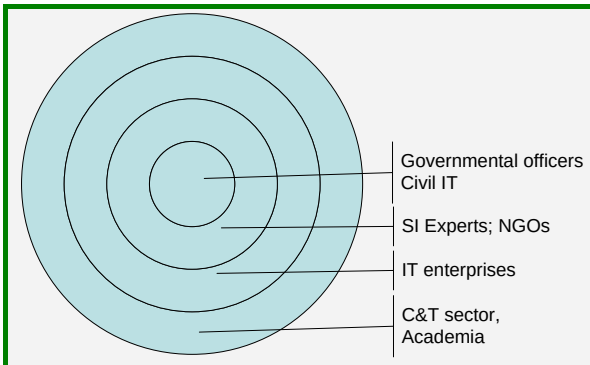
Example 17. Argentina's call for multistakeholder partners

Multistakeholder partners invitation to participate in the formulation of a NISP

In 2008, the Argentine National Office for Information Technology (ONTI) was charged with the formulation of a National Digital Agenda. The ONTI decided to work with partners from the governmental areas, private IT enterprises, the academia and civil society.

ONTI organized a concentric scheme for involving the diverse actors. It started by inviting governmental officers from diverse national public institutions (Ministry of Science, Technology and Innovation, Ministry of Education, Program of Information Society, among others) to formulate a basic methodology to work on the formulation of the Argentina Digital Agenda (ADA).

Afterwards, Information Society experts and NGO representatives were invited to join the group. Later, presidents of IT enterprises' chambers and entrepreneurs were invited to work with the enlarging ADA group. Finally, representatives of the science and technology sector, and universities, were involved in the formulation of ADA. The whole Call process took a month. A qualified Expert' Group was thus conformed.



Source: Authors' experience as members of the Experts Team

Activity 3 is a checklist which allows verification of fullfilment of the tasks linked to the identification and summoning of experts to integrate the Experts Team

Activity 3. Verification list expert team

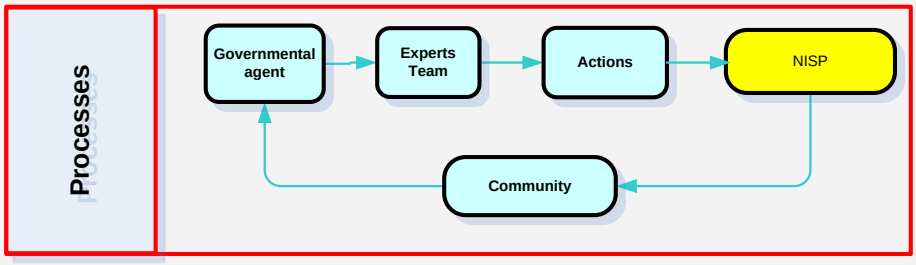
VERIFICATION LIST: FORMULATION PHASE .		
Expert Team		
	YES	*NO*
1. Have you completed all the required actions to identify the experts?		
2. Did you apply intersectorial and multidisciplinary criteria in the identification process?		
3. Did you apply intersectorial and multidisciplinary criteria in the team selection process?		
4. Have you encouraged them to participate?		
5. Once you have the team, do they belong to different sectors (intersectoriality) and from different professions (multidisciplinary)?		
6. Has the global strategy of whom will coordinate the Expert Team been decided in an aware and coherent way?		
7. Are all the actors going to participate under the same conditions and with the same rights?		
8. Has this decision taken into account the political and economic context?		
9. Was the work methodology for the Expert Team defined according to the UNESCO model? If not, to which other model?		

Example 18. Strategies of an Expert Team implementation in the Asia Pacific

Strategies of implementation of an expert team in the Asia Pacific

The role of Expert Teams is mainly to:

- Identify the problem areas to be solved though an NISP
- Identify the goals that the country wants to achieve in Information Society
- Identify relevant priority areas
- To identify the participating actors in an NISP
- To propose a working methodology
- To establish a timetable
- To carry on a debate
- To use the results as inputs in an NISP initial proposal
- To submit the proposal to the national government
- To submit the proposal (once validated by the national government) to other social actors, to the national community, and to generate a debate around it
- To formulate the NISP
- To devise guidelines for a monitoring mechanism in order to report on the progress of work.



Source: UNDP, 2004

b. Actors´ Identification and Call

One of the essential steps in this strategy is the identification and call of those social actors that, either institutionally or individually, are firmly related to the development of Information Society. Together with the governmental coordinator, and the Experts Team, these diverse actors will participate in different moments of the development of the NISP, and provide their opinions, requirements, and proposals.

These actors are representatives of the private sector, the science & technology sector, the civil society, the media, as well as of the country's regions, porvinces or states, and of local governments. As when summoning the Experts Team, the call for participating social actors requires to identify the idividuals, groups, organizations and institutions in diverse governmental levels (national, regional, local), the private sector (enterprises, ICT industries), ICT services, the scientific and technological sector (universities, reserch centres), civil society, the media, etc. According to their interest, they will get involved in the NISP process at different stages.

The identification of actors defines those in charge of the process based on their competences and adequacies. This allows for the coordination mechanisms within an institution and between the sectors; and in particular the facilitation of the establishment of strategic alliances based on common interests and shared results.

It is important to bear in mind that the diverse actors' involvement may change with time and at each of the different stages of the NISP. This is why it is relevant to call for these actors from the beginning of the whole process, since they will leave deep marks in the following phases. It is possible that some of the identified actors that are very active in the first stage of the work vary their positions later due to diverse reasons - economic, political, ideological reasons- or because of their capacity to become involved at different moments of the process.

The actors express their interests at different moments from the development of the public policy, in diverse specific tasks of its implementation and in several management activities that provide support to the attainment of the expected results. In the process, the active actors, according to their interests, assume roles or different responsibilities and, more important still, change with the context because they are learning through the participatory activity.

Procedures to identify social actors

Individuals or organizations get involved with the development of a public policy when the topic generates enough interest and strength to generate concrete actions. The following steps may be followed by the civil servants in charge of the NISP, and by the Expert Team:

a) *To identify potential actors*. The goal is to detect all the possible actors that may be of interest, given their linkage with the topic.
b) *To generate involvement with the development of the NISP*. According to the interests declared by the diverse actors, they can be associated with given activities in the formulation of the NISP (direct participation in the debates, diagnostics, studies and research, wtritting documents, dissemination, etc.).
c) *To determine the prioritary interests*. Each involved group may participate in the NISP development phase in which their contributions are most relevant.
d) *To map the actors*. This methodological tool allows to update and clarify the interests and contributions of each one of the participating actors in the diverse phases of the NISP development.

These procedures allow for the development of an interactive and participative public policy, enabling the coordination to perceive the new alliances and coalitions that will be built between the actors during the development of the process. The information collected while identifying the diverse actors, their interactions, and their interests will also be decisive in the implementation phase,when deciding the distribution of responsibilities.

Activity 4 helps to map out the diverse actors according to the basic NISP scope. Examples are provided as indications.

Activity 4. Map of actors according the NISP development area

Basic NISP Scope (See NISP Scope in Module 1)	**Actors**			
	Government	**Private Sector**	**Civil Society**	**Universities, S&T sector**

Policies and strategies **Legislation**	i.g.: (i.g or i.E.) Representatives of the Ministry of Justice	i.g.: Private lawyers' offices ICT enterprises' Legal Departments	i.g.: NGOs specialized in Information Society policies, strategies, and legislation	i.g.: Researchers specialized in Information Society policies, strategies, and legislation
Industrial, Economy Policy **Employment** **ICT Industries**	i.g.: Representatives of the Ministry of Economy, Industry, other public institutions relating to Public Management, Labour, etc.	i.g.: Representatives of ICT Chambers and industries	i.g.: NGOs specialized in Information Society economy and market	i.g.: Researchers specialized in Information Society economy and market
Telecommunications Policy **Connectivity** **Infrastructures**	i.g.: Representatives of Communication Ministry, Secretary and other public institutions, such as regulating entities, etc.	i.g.: Representatives of ICT chambers and industries, mainly telecommunications	i.g.: NGOs specialized in telecommunications' impacts in society	i.g.: Researchers specialized in telecommunications
Technology Policy **E-security** **Research and Development**	i.g.: Representatives of the Ministry of Economy, Industry, Science and Technology and other public institutions relating to R&D&I.	i.g.: Representatives of S&T&I Chambers and main companies (private initiatives an IT clusters and S&T parks)	i.g.: NGOs specialized in S&T&I	i.g.: Researchers specialized in S&T&I
Social Issues and policies **E-Government** **Education** **E-Health** **Access to Information and Knowledge** **E-Inclusion and Diversity** **Environmental preservation**	i.g.: Representatives of the Education and Health Ministries, Environment Ministry, Secretariats and other public institutions related to social inclusion, enviromental preservation and	i.g.: Representatives of public and private schools, research institutes, hospitals, and health centers.	i.g.: NGOs specialized in social inclusion, health, enviromental preservation and diversity, women, children, ageing people, etc.	i.g.: Researchers specialized in social inclusion, health, enviromental preservation, gender, and diversity

	diversity.			

c. Diagnostic

In this phase, it is necessary to collect the data that will be analyzed and processed into useful information for the decision making. Illustration 9 shows the processes leading to the formulation of a diagnostic.

Illustration 8. Diagnosis Process

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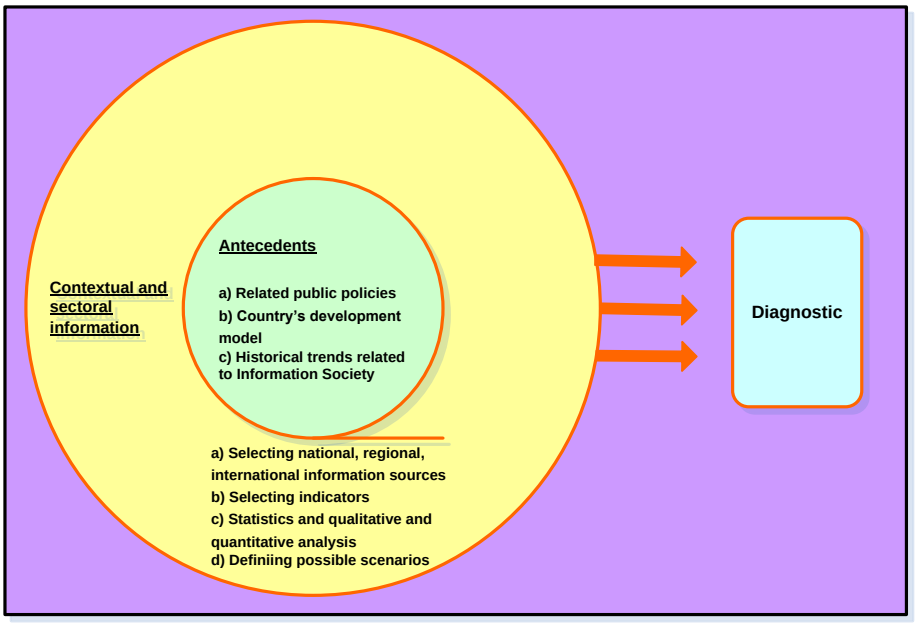


The analysis attempts to identify the country's main historical trends and progress regarding the construction of Information Society. This data is useful to the governmental officers in charge in order to identify the country´s needs, demands, capacities, actors, resources, among others issues.

It becomes relevant to establish which kind of data on Information Society, national e-readiness, sectoral progresses (e-education, e-health, e-government, IT industries, etc.) should be used, which are the relevant international, regional, and national information sources, the information processing sources and methods, as well as which are the sets of indicators to be utilized in the diagnostic. In order to use this data to draft an inclusive and equitable model of Information Society, the information should be carefully analyzed. To formulate this diagnostic, it is vital to identify and interrelate public policies and strategies associated totally or partially to Information Society.

Each involved actor may generate its own information sources (specific studies, research, etc.), and provide qualitative and quantitative efforts in this phase of the NISP. The construction of a common information repository, as well as the common definition of indicators and indexed to be used during the whole process of the elaboration of the NISP will be extremely useful.

Tools for the Diagnostic

In order to collect data on the country's e-readiness and on the trends regarding building the Information Society, the following strategies may be used (Activity 5):

Activity 5. Tools for the diagnostic

	Possible sources and tools:
Progress in e-readiness (computers park, penetration of the Internet, broadband, WiFi, etc. Public access Internet equipments (cybercafes, community technological centres, among others)	▪ National censuses ▪ Reports and studies of the Chambers of IT industries ▪ Experts´research and studies

For collecting the historical trends data, it is possible to use the following strategies (Activity 6):

Activity 6. Historical Trends Survey

	Possible sources and tools:
In order to plan telecommunications	

infrastructure and telecommunications policies, it is necessary to collect data on the historical trends of the Information Society at national and local level.	▪ Interviews with key informants ▪ Documental survey ▪ Legal and legislative documents (laws, decrees, etc.) ▪ Reports and studies of the Chambers of IT industries ▪ Experts´research and studies

For collecting data about the social and economic situation, it is possible to use the following strategies (Activity 7):

Activity 7. Social and economic situation survey

	Possible sources and tools:
In order to plan telecommunications infrastructure and telecommunications policies and legislation, it is necessary to understand the country´s social and economic situation (territory, population, living conditions, employment, education and science, public health, public security, financial system, ethnic composition, gender relations, social hierarchies based on caste, religion, ethnic belonging, language, among ithers	▪ Official and private statistical and information institutions ▪ Reports by research centres, universities, etc. ▪ Census ▪ Interviews with key informants ▪ Text review

For collecting data related to geography and environment, it is possible to use the following strategies (Activity 8):

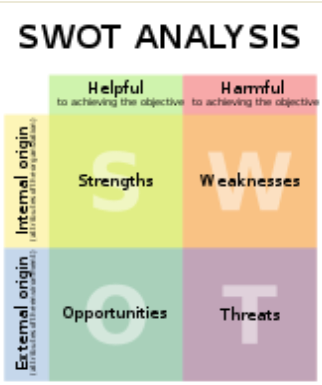
Activity 8. Geographic survey

	Possible tools:
It is necessary to know the physical and geographic context of the country and the regions in which the NISP strategies will have impact: topography, population density and distribution, built environment, infrastructures, productive areas, markets,	▪ Official and private statistical and information institutions ▪ Research centres, universities, etc. ▪ Census

etc.

Activity 9 shows how to use the SWOT Analysis as an alternative to process the collected information. SWOT Analysis is a simple but effective. It is a strategic planning method used to evaluate the **S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats involved in a project or in a business venture. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favourable or unfavourable to achieving that objective.

Activity 9. SWOT Method



The SWOT method is a good instrument to work with in small groups. It tends to overvalue the perceptions of the participants, which is why it should be be complemented with other analyses and sources. It is commonly used in workshops, since the collective form is ideal for obtaining better results.

SWOT presents the following steps:

1. To determine the subjects to be analyzed. Take the time for a brainstorming on the themes that you need to analyze. The result will be an agenda of discussion subjects, and it can be organized according to the following sections:

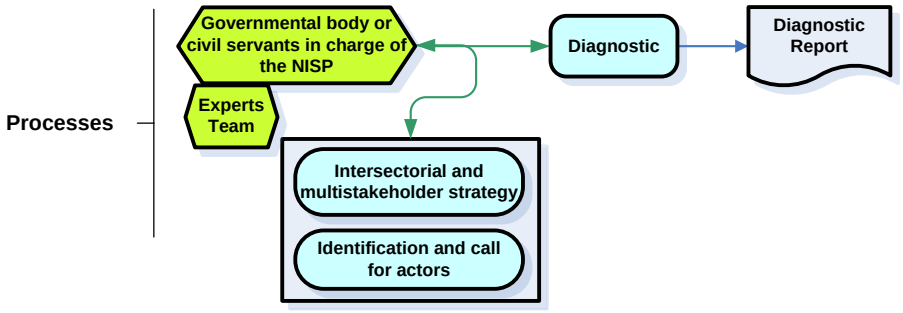
2. To identify the strengths, opportunities, weaknesses, and threats working in groups. The workshop moderator can explain the SWOT method insisting on the separation of the internal dimensions (weaknesses and strengths) and external (threats and opportunities). Later, the participants are divided into small groups to facilitate the participation. Each group identifies the strengths, opportunities, weaknesses, and threats for each identified subject; they write down each category in color cards that have previously been distributed: red for the threats, blue for the opportunities, green for the strengths and yellow for the weaknesses. Depending on the time and the number of subjects, each group can approach the whole agenda or merely a part of it.

3. To present the results and discuss them. The moderator of each group sets out the results, placing the cards on a char located on the wall that has the different axes of the analysis already outlined. Once all groups have presented their findings topics presented on the first step will be discussed.

4. To systematize the discussion results. The content of cards and the discussion contributions and corrections should be transcribed in a document.

The result of the diagnotic process is a document or a series of documents that will provide the input for the analysis process, as well as serve as the conceptual support to justify the transformations needed to buld a public policy for Information Society. Illustration 10 shows the dynamic process leading to the diagnostic report.

Illustration 9. Diagnostic processes & Diagnostic report



Example 19. Information Society planification in Poland

Information Society planification in Poland

The Strategy for the Development of the Information Society in Poland until 2013, prepared by the Government of Poland, is consistent with the Information Society documents that delineate the strategic development directions for Poland:

- National Development Strategy 2007-2015 (http://bip.mrr.gov.pl);
- National Strategic Reference Framework 2007-2013 (http://bip.mrr.gov.pl);
- Strategic Governance Plan (http://www.premier.gov.pl).

The Strategy takes into account the priorities of the European information society policy that result from the assumptions of the Lisbon Strategy and the initiatives: "eEurope – Information Society for all" and its continuation "i2010 – A European Information Society for growth and employment" (http://www.ukie.gov.pl).

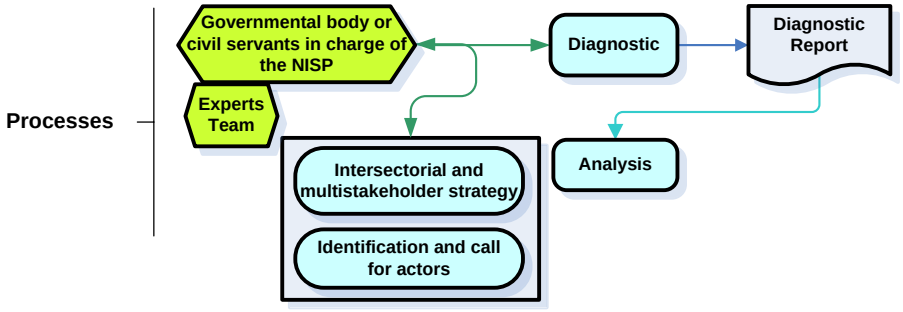
This Strategy is sectoral and, as such, defines the vision and mission for the development of the Information Society in Poland until 2013. Within each of its three areas – human, economy and state – it maps out strategic directions and determines the objectives that should be accomplished in order to achieve the desired development status for the information society in Poland in 2013.

The pace of development of Poland's Information Society depends on various factors that result from current conditions and ongoing changes in Poland and in other EU member states. In order to achieve a diagnostic, these factors are discussed below, using the SWOT analysis structure.

Source: MRR, 2008

d. Analysis of obstacles and accelerating factors

Illustration 10. Analytical balance



The process of analisis of obstacles and accelerator processes (accelerator proceses are proceedings and actions that remove the identified obstacles) is an intermediate step between the diagnosis and the implementation phase. In this phase, the civil servants or bodies in charge of the NISP, together with the expert team, will have to answer the most relevant questions regarding the ideal Information Society model they wish to achieve.

The outcome of this phase is a first draft or description of the Information Society model, which also includes a declaration of interest, and list of expectation, of the involved actors,.

Based on the diagnostics, and on the exchange of opinions and information with sectoral national and international actors, the persons and groups in charge of the NISP may advance to:

- Anlysis of alternatives and strategies.
- Priorities to consider, relating them to the nacional political, social, technologic and economic strategies.
- The general and sectoral goals of the NISP construction process.
- The possible obstacles to be faced.
- The accelerating factors that may remove these obstacles.
- The necessary institucional transformations needed to implement the NISP (legislation, standards, the possible creation of a National Agency for Information Society, among others).

Table 7: Summarizes the tasks needed to complete the diagnostic phase.

Table 7. Elements for Analysis

Tasks	Description
Analysis of alternatives and definition of the overall process´strategies	The information collected in the Diagnostic phase (e-readiness, Information Society trends, et.) can be confronted to the NISP´s expected goals. It is probable that the diagnostic will show that not all the desired goals can be achieved. It is an opportunity to weigh the diverse options to formulate a NISP or to update it. Sometimes it becomes necessary to take strategic

	decisions on which goals will be privileged. Therefore, the analysis of alternatives and the choice of the action strategies is the first part of the bridge between diagnostic and planning.
Definition of priorities, general and sectoral goals	The analysis of priorities defines which goals are included in the NISP and which are left aside, at least for the moment. The criteria for defining priorities are variable, depending on the development of the country, and on its own political, social and economic context. General and sectoral goals have to be defined. It is useful to debate the feasibility of these goals. It is fundamental to analyse the financial needs to achieve the NISP´s implementation, the possible budget allocation, and the human resources that will be needed, both at the beginning of the NISP´s implementation and thoughout its development. This can develop into in a strategy to train adequate human resources to carry out the NISP.
Identification of obstacles	The identification of obstacles identifies those factors that can inhibit or slow down the process of building or updating the country's specific Information Society policy. The most common obstacles are: 1. Historical and cultural (resistance to change) 2. The countries diverse development levels 3. Managerial 4. Political (power struggles or issues) 5. Institutional 6. Infrastructural 7. Geographical 8. Inssuficient adequate human resources
Identification of accelerating factors to remove the obstacles	The obstacles identified for each one of the proposed goals can be removed by the impulse of *accelerating* or *facilitating factors*. Accelerating factors are measures or

	actions taken at institutional and political level; they imply coordinated operations between the diverse involved actors. Accelerating factors require financial investments, specialized human resources, communicational strategies and training strategies.
Institutional changes	The implementation of a relevant public policy, such as an NISP, should be acompanied by the necessary institucional transformations: changes in the legislation, regulation norms, standards, or even new governmental institutions, such as an Information Society Agency. In some cases, these changes may generate conflicts of interest among the diverse participating actors. The coordinating group should be alert and provide a space for debate for each conflicting issue. It may be necessary to analyze the NISP best practices in national and International experiences, as well as to examine the institucional and political sustainability capacity, and the necessary agrements between the government and the diverse actors involved in the NISP.

Activity 10 features the diverse scopes of an NISP, intersected by columns which allow ithe dientification of alternatives for each category (strategic lines, obstacles, and acceleratig factors). This input is necessary for subsequent integration into a general strategy. Examples are provided as indicative title. (again, is this necessary or is the table self-explanatory?)

Activity 10. Balance of obstacles and accelerating factors

Basic Scope of the NISP	Balance of obstacles and accelerating factors		
	Strategic lines	**Obstacles**	**Accelerating factors**
▪ **Policies and strategies** ▪ **Legislation** ▪ **There's no larger**	To formulate and implement a National Policy for	Lack of interest from the higher	Sensitization and information among

heading in blue here.	Information Society.	governmental instances.	governmental representatives.
Industrial, Economy Policy ▪ **Employment** ▪ **ICT Industries**	To formulate and implement a national strategy to strenghten ICT industries and to make them competitive in the global scenario.	Lack of instruments to both foster investment and stimulate the R&D&I human resources.	Stimulate international cooperation tools and offer incentives to R&D&I professional careers.
Telecommunication Policy ▪ **Connectivity Infrastructures**	To formulate and implement national strategies to improve telecommunication infrastructures and to build inclusive and balanced connectivity.	Lack of instruments to regulate private activities in the ICT.	Strengthen national regulation authority or create an autonomous regulating entity.
Technology Policy ▪ **E-security** ▪ **Research and Development**	To formulate and implement a national strategies to improve e-security. To strenghten research and development in the public and private sectors.	Lack of R&D&I initiative to create a local technology pole. Low economic resources granted to R&D activities.	Promote special tax benefits and funding regions to R&D&I initiatives. Increase economic resources granted to R&D activities. Promote public-private

			partnerships for R&D activities.
Social Issues and Policies ▪ **E-Government** ▪ **Education** ▪ **E-Health** ▪ **Access to Information and Knowledge** ▪ **E-Inclusion and Diversity** ▪ **Environmental preservation**	To formulate and implement national strategies for e-inclusion.	Lack of research and development initiatives on social issues related to social inclusion, environmental preservation, and diversity.	Foster local research and public campaigns on social inclusion, enviromental preservation and diversity issues.

Tip 2. Factors to consider during the beginning of the NISP planning

When the previous actions are completed, the persons and groups in charge of the NISP may write a preliminary document, a real starting point for the final document. This document is an important tool for the planning stage.

The NISP formulation implies:

a) To consider that the NISP is an exercise with a long term projection, which will comprise many years and that will probably have to overcome a succession of governments with diverse political tendencies.

b) To consider that its implementation requires the permanent search for consensus among the diverse stakeholders, as well as carrying out participative processes.

c) To accurately define the institutional and managerial framework required for the implementation of the NISP.

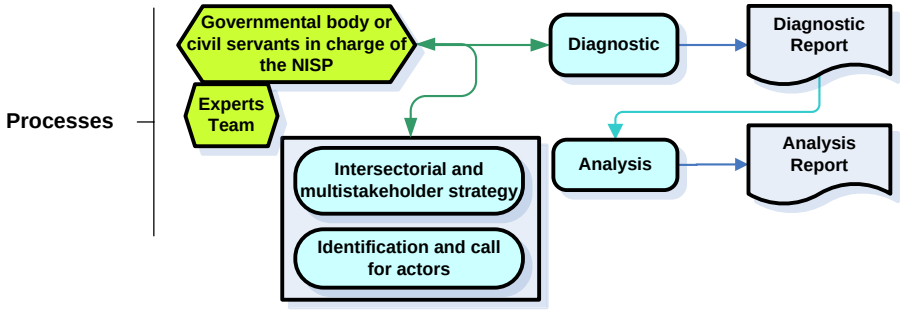
d) To define the role of the diverse stakeholders.

e) To choose indicators and guidelines for future NISP monitoring and assessment.

f) To establish procedures to communicate the NISP to the population.

Illustration 12 shows the interrelation between the phases of planning a multisectoial and multistakeholder strategy for the NISP, producing one or several diagnostics featured in a diagnostic report, and finishing with the analysis and its report.

Illustration 11. Analysis report.



e. Planning the Implementation Phase

A project in public policies is a collaborative enterprise, frequently involving research that is carefully planned to achieve a particular aim. The implementation of a project such as an NISP is related to goals and strategies, but also to dreams, desires, and experiences. Planning and implementing an NISP means unbinding a process in order to achieve a change. It involves the investment of human, financial, and technological resources in order to achieve a series of goals, withinin a given time, through a list of activities coordinated by a management unit.

The diagnosis and analysis of the obstacles and accelerating factors, within their diverse stages, have allowed for the establishment of general strategies and priorities. This information can be used to structure the different NISP elements.

The objective of the planning process is to define the steps that will have to be executed to put into practice what was until that point just a set of ideas and uncoordinated experiences. The document that results from this process will be "the" main implementation instrument. It encompases budget allocation, execution, human resources, follow-up, and the evaluation of the project. This document is a relevant internal and external communication tool for the decision making.

Setting goals for future developments

A goal or objective is a projected state of affairs that a person or a system plans or intends to achieve: an organizational desired end-point in some sort of assumed development. Many organizations endeavor to reach goals within a specific time by setting deadlines.

When formulating or updating an NISP, goal-setting involves establishing specific, measurable and time-targeted objectives. It should be ensured that participants have a clear awareness of what they should do to achieve or help achieve an objective. Establishing goals for future developments depends on the needs identified in the diagnostics, on the demands established by the diverse stakeholders, and on the study of international best practices, which will show goals to attain and that go further than actually satisfying present needs.

In order to establish goals, it is useful to imagine the country or region in Information Society in the short, medium and long run.

Setting policy guidelines, specific objectives, responsible staff for the NISP implementation, budget, and timetables

- **Establishing guidelines**

A guideline is a statement or other indication of policy or procedure by which to determine a course of action. For each of the NISP's goal, one or more guidelines will determine their direction towards realization. Policies and guidelines describe standards that have stakeholders' consensus; achieving this consensus is itself a core policy.

Once the officers in charge of the NISP, together with the experts group, have established the goals to be attained by the NISP, it is time to identify the policy guidelines that will direct the actions for its concretion. In turn, these policy guidelines will be determined by the chosen priority areas of action.

Ulrich, Chacko and Sayo (2004) suggest ten priority areas for ICT policies and e-strategies:

1. ICTs within Poverty-Reduction Strategy Programmes and Millennium Development Goals (MDGs)
2. The Role of Gender in ICT
3. Supportive Government Policies and e-Government
4. Infrastructure, Access and Telecom Development
5. Building Human Capacity and Generating Jobs in a Knowledge-Based Economy
6. Developing Local Content and Managing Knowledge
7. Public-Private Partnerships (PPPs): Mobilizing and Allocating Resources
8. Regulatory Frameworks and Privatization
9. Intellectual Property, Legal Issues and Security
10. Economic Development and Competitiveness in a Globalized Economy

These priority areas are merely indicative. Each country, each regional or local government, will choose the areas relevant to them.

Example 19. Pakistan e-strategy

Pakistan e-strategy

One example of the right way to develop an e-strategy comes from Pakistan, which in 2000 demonstrated the appropriate actions for crafting and then acting upon an e-strategy. Pakistan began a nationwide ICT development programme by first reviewing best practices from around the world, adapting what it learned to the local context, introducing supportive policies, and then revising its budget allocation sharply upward to cover the cost of reaching its targets.

Source: Ulrich, Chacko and Sayo, 2004

Priority areas and strategic guidelines may evolve from the original NISP when it is updated.

Example 20. Albania ICT strategy

Albania ICT strategy

Albania published its first strategy document in 2003. It was formally approved but no concrete steps were undertaken by the government. In 2007 the country formulated a new document, and the government worked to implement ICT in critical sectors (Kacani et. Al., 2008). The following government projects with important ICT components were funded with about 64 million EUR mainly from international donors (data based on the draft strategy of 2007):

- Legislation for electronic services in public procurement, electronic certificates, electronic payments, and electronic surveillance.
- Creation of National Agency for Information Society and National Center for Registration of Businesses
- Deployment of the site for electronic public procurement
- Launch of online services to help tax payment from businesses
- Adoption of Automated System for Customs Data (ASYCUDA) in customs.
- New electronic civil status registry
- Preparation for smart identity cards and deployment of electronic certificates
- Planning of reorganization of address system in urban centers
- Remote access to the database of the Ministry of Justice arranged for other high level institutions.

Source: Kacani Jorgaq & Gudar Beqiraj & Neki Frasheri, 2008

The priority areas will have to be disaggregated into partial specific objectives. For example, in the second half of 2008 Hungary a comprehensive strategy of informatics (Bodi, 2008) that consisted of four parts::

1. e-Public Administration Strategy
2. Digital Literacy Action Plan
3. e-Economy Action Plan
4. Broadband Action Plan

Within the area of the e-Public Administration Strategy, the objective is to set up a general vision for all the participants in the field of e-public administration, a framework to be followed by all projects, and to define the key strategic factors for the implementation of the goals.

Example 21. Hungary's strategic planning in e-Public Administration

Hungary's strategic planning

Hungary developed four strategic fields for its e-Public Administration strategy :

• Modernisation of the public services for the citizens, enterprises and the public administration

• Introduction of integrated services for governmental institutions, back offices in order to promote a transparent and effective public administration

• Contribution to the spread of professional e-government knowledge at leadership level and implementation

• Development of e-government adaptability especially of those enterprises and citizens disadvantaged in the area of IT

Source: Bodi, 2008

The strategy identifies the main programmes that should be followed by the institutions:

• Horizontal programmes: set up guidelines and a framework for the institutional service developments, including the content, process development and technological implementation of those services.

• Vertical programmes: EU 20 (EU funding program) services development by sectors.

• Integrated, shared services: contribute to eliminate parallel processes, and to further cost-efficient developments and functions.

- ***Linking and integrating the NISP with the Budget***

When assigning budgets to the goals and activities to be accomplished in the NISP, it is necessary to first have accurate information about how does the government link macro level development policies and priorities to budgetary processes in order to translate into results on the ground for citizens. In developing countries, there is very often a huge disconnect between macro priorities and policies and the actual use of limited resources for implementation and delivery of planned results.

The civil servants in charge of the NISP must also discuss the ways in which the budgeting system can link the use of resources with producing optimal development results though the NISP. It would be useful to connect the NISP's budget allocation to the national budgeting system to improve results.

The persons in charge of the NISP will need to have a diagnostic about the cost of the strategies and activities they will propose. If necessary, these activities may be broken down in different phases.

Other items to be considered are how national policies link resources to results. Does the national / local government use evidence of performance of similar programs to inform budget decisions? What tools is the national / local government using to have performance data fed into resource allocation processes?

Only provided with this information will civil servants and experts groups be able to determine budget allocation to the NISP's activities.

- **Establishing timetables**

A timetable or schedule is an organized list, usually set out in tabular form, providing information about a series of arranged events or activities, in particular the time at which these activities are planned to take place. A timetable establishes organization, visibility, feasibility and credibility to an NISP's plan of action. The NISP's timetable will have to be set with realistic criteria, taking into consideration the staff charged to carry on the activities, the available budget, and the detected urgencies to achieve the settled goals.

Given the fast pace of technological innovation, it is relevant to define the activities that will be developed in the short, medium and long run. Activity 11 provides some examples on how to organize a timetable.

Activity 11. Indicative Timetable

GOALS	TASKS	INDIVIDUALS OR INSTITUTIONS IN	SCHEDULE

		CHARGE	
i.g: Achieve 70% of access to the Internet.	Implementing WiFi connections in all the urban settlements above 50 inhabitants.	National Agency of Information Society National Chamber of ICT Enterprises	January 2010 – February 2011
Provide personal portable computers to the entire educational system, in order to encourage e-inclusion.	Provide personal computers to all school children, to all the teachers in the nacional educational system, and train all teachers in the educational use of computers by year 2012.	National Agency of Information Society; Ministry of Education	February 2010 – January 2012
Improve the productivity, competitivity and internacional integration of national ICT enterprises, based on partnerships,	Implement a Software Strategic Plan. Its activities are oriented towards the improvement of productivity and competitivity of	National Ministry of Economy Chambers of ICT enterprises Universities and S&T centres Enterprises clusters	March 2010 – June 2012

the creation of new bussiness models, and other initiatives.	the ICT industries and enterprises, to triple the exports in the next 3 years, and to have at least 10 enterprises that invoice more than US$ 15 million per year by 2012		
Encourage the development of small and medium enterprises that link the production of cultural contents to the use of new digital networks, such as the Internet, mobile telephony, or digital TV	Implementation of the first call and granting of a prize: Entrepreneurs in culture and new technologies in 2010. Incubation of a maximum of five companies	National Ministry of Economy Federation of SMEs Cultural production centres Chambers of ICT enterprises Universities and S&T centres	March 2010 – June 2012

- ***Dissemination***

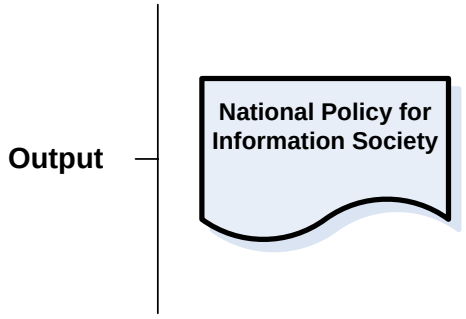
After the final new policy approval by the appropriate structures, the next step is to plan and implement a broad communication and distribution strategy. The dissemination of an NISP depends mainly on the political vision of each government and of the involved actors. However, since an NISP is a public policy, citizens have the right to be informed about it and to comment on its contents. As mentioned in the previous point, NISPs can be published in different formats, such as paper form or online formats ranging from PDF files uploaded at a governmental website (or each involved actors website), to videos, to CD Roms.

The NISP should be disseminated not only among Information Society experts, but also among the citizens, through traditional media (newspapers, TV) and through the Internet (using all the potentials of Internet 2.0).

The first step to disseminate an NISP is to organize press conferences to present the new initiative to the massive media. The public presentation of the NISP, as well as the organization of citizens' forums, will greatly contribute to the populations' sensitization to Information Society issues. It is important to prepare tools and formal channels to catalyze the feedback and comments in order to enrich the work.

2.4.4. Outcomes

Illustration 12. Outputs



A National Policy for Information Society can give birth to a variety of products or outcomes. Since we refer to EXPLICIT policies, these products will probably be documents

treating the issue in diverse degrees of extension and depth. Some of these documents may also express a previous step or a proposal to be discussed before arriving at the actual NISPs.

The first reports can take diverse forms and feature diverse authorships. They can be a set of reports written by the diverse sector's representatives, coordinated by a government's official. Or they can be charged to experts in the Information Society area, who will put together the diagnostics on the state of Information Society in the country, plus the concepts expressed by all sectors in the discussions and debates, and the derived recommendations.

For example, Uruguay produced its Recommendations of Goals and Objectives for Uruguay's Digital Agenda 2007-2008 for Information and Knowledge Society (Rivoir and Rios, 2007) in July 2007. This document, written by two experts, proposed goals, objectives, responsible individuals or entities for each goal, and indicators to measure their achievement. This was an intermediary outcome.

The final version of Uruguay's Digital Agenda, 2008-2010 (AGESIC, 2008), declares that "The present version of Digital Agenda (ADU 08-10), was presented by the National Agency for the Development of the Electronic Management Government and Information Society, and approved by the Advisory Council of the Information Society. It is structured around the objectives: access, fairness and inclusion; productive development; electronic government; creation of capacities and knowledge; institutionalization and normative frame. It includes the goals to be reached during the 2008-2010 period. Is is from the mechanisms of pursuit that the forms of updating for future will have to be derived, not only for the contents, but for the development of the modalities of the agenda"[15]. This final outcome - extremely precise in its outcomes, individuals and organizations responsible for its implementation, and time schedules- was extensively publicized in national and international media.

The NISP main outcome, generally called the action plan, is a detailed planning and implementation document that accompanies a National ICT Strategy. Before the first

[15] http://www.agesic.gub.uy/Sitio/descargas/Agenda%20Digital%20del%20Uruguay%200708.doc.pdf . The translation from Spanish is ours.

outcome and the definitive action plan, a consultation round may take place among Information Society experts, governmental members and representatives of the private, science and technology, and civil society sectors, or local authorities in the diverse country's provinces or states, on a specific interim report. The final report or action plan can therefore collect and integrate the diverse opinions of the different sectors and local authorities.

A good example is Portugal's Livro Verde Para Sociedade da Informaçao (Green Book for Information Society; MIS, 1997). Approved by the Portuguese Cabinet in April 1997, the Livro Verde, elaborated by the Commission of Information Society of the Ministry of Sciences of Portugal, includes a series of political measures, studies the social and legal implications, and aims to illustrate experiences carried out in the public administration and the Portuguese companies that participate in the Information Society (state, schools, companies, labor market, industry, national infrastructure, research and development), with the purpose of obtaining their integration in this new way of social and economic development, in which the acquisition, collection, processing, transmission and distribution of information plays a central role in all the activity of today's world.

The objective of this Livro Verde, which comprises a "National Initiative for the Information Society", is to lead the development of action plans that allow benefiting from the new knowledge availability – a consequence of the information revolution and its associated tools. At the same time, this book tries to lead a strategic thought that allows defining a way to implant Information Society in Portugal so that the announced measures can be applied by the government, after its approval by the competent organisms. In order to give the fullest diffusion to these measures, a web page was created so that the document could be read in either soft or hard copy.

a. Writing the NISP Action Plan

An action plan is a specific method or process for acheiving the results called for by one or more objectives. It proposes outcomes within specific time frames, and operates within limited and defined resource envelopes. It also defines coordination arrangements for implementation of an NISP.

Writing the action plan means to explain in a coherent and easily understandable way all the steps that have been taken up to that moment: the needs to have an NISP, the basis on which the NISP is formulated, the objectives, goals, strategies, activities, responsible staff, and timetables, among others.

Generally the NISP report covers the following items.

- Vision
- Mission
- Departure context
- Goals
- Strategies
- Activities

Since the NISP will be read by a variety of people, including political decision makers, civil servants, technicians, civil society representatives, academics, entrepreneurs, and laymen, it is advisable to keep the style and language readable and understandable for all types of readers.

A policy may also contain the following optional elements:

1. Reference to other relevant policies and procedures
2. Examples to illustrate the working of the policy
3. Where in the policy "hierarchy" the policy fits, i.e. how it interacts with other policies
4. Enforcement mechanism and appeal process (if applicable)
5. Exceptions to and exemptions from the working of the policy

2.5. Implementation phase

The implementation phase is the moment to put into practice the guidelines, the assigned budget and the activities planned in previous phases. The main tool at this stage is the political will to support the proposed goals, and to encourage the maintenance and streghtening of the established alliances between the multiple participating stakeholders.

Illustration 13. Implementation stage

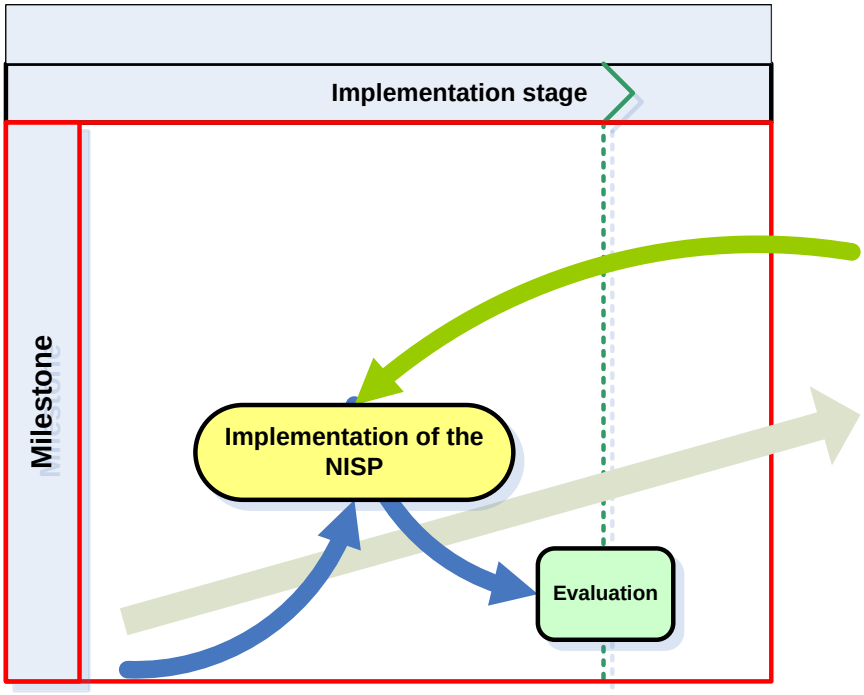
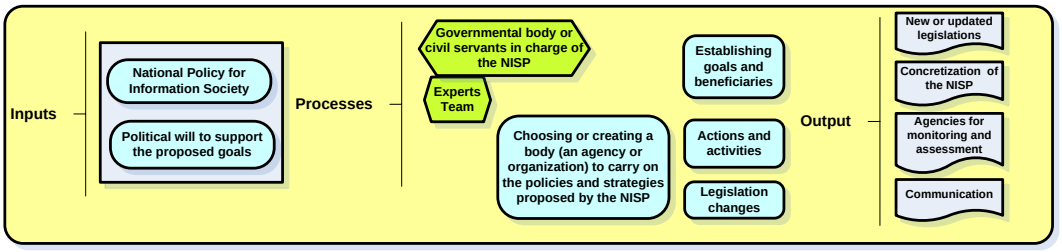


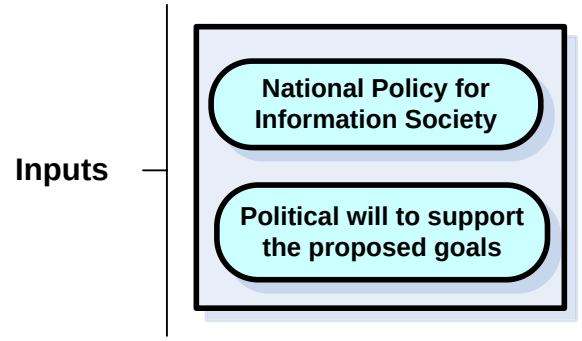
Illustration 14. Implementation phase components



2.5.1. Inputs for the implementation phase

The implementation phase gathers all the aspects related to the implementation of the NISP as planned in the elaboration stage, through a set of instruments and actions. In this phase, the implementation does not depend so much on the civil servant or governmental bodies charged with the construction of the NISP, nor on the experts team, but on the government and other social actors.

Illustration 15. Implementation phase inputs

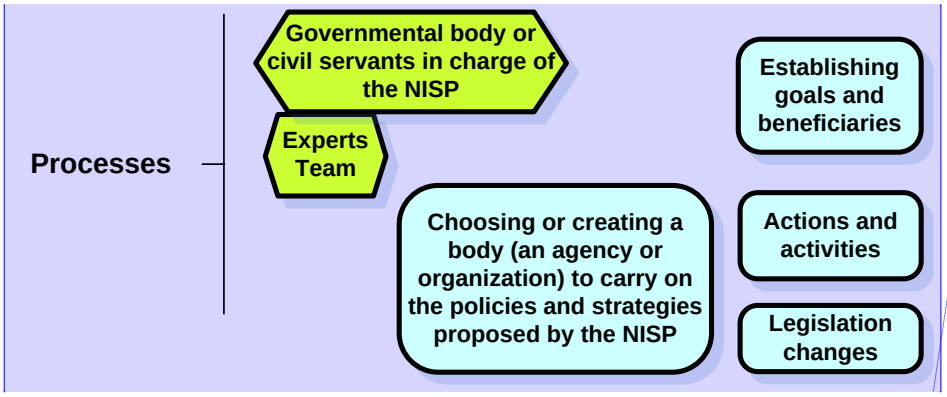


Tip 3. The implementation actions differ in each policy or strategy

- Choosing or creating a body (an agency or organization) to carry out the policies and strategies proposed by the NISP. This organization is usually coordinated by the government, but it includes multisectoral stakeholders: enterprises, universities, NGOs, etc.
- Establishing goals and beneficiaries: Goals are the reason for the policy to exist; the beneficiaries are the individuals, communities and organization that will benefit from the NISP´s implementation.
- Plannig actions and activities to achieve the goals, concrete programs and projects, as priority areas: e-government, e-health, cybersecurity, etc.

- Legislation changes to make the NISP proposal feasible.

Illustration 16. Implementation phase processes



Comment [W2]: Hay que cambiar el grafico, y poner en vez de carry on the policies… Carry out the policies

2.5.2. Fast-Track Initiatives

Some procedures (Findlay, 2007) advise starting the implementation of the NISP with iniciatives or projects that can be developed in the short run and that will show the stakeholders, the financial sources, and the citizens, the efficacy of the NISP. However, every national environment requires different implementation steps. In the case of deciding on fast track iniciatives or projects, it is sensible to start with concrete, uncomplicated projects, which can be easily carried out.

- Implement early
- Demonstrated momentum/results
- Non complex projects
- Have a visible impact with citizens
- Support with promotion and awareness

Fast-Track Projects often include:

- e-Government Portal
- Community Access Centres
- Computers for Schools
- ICT related legislative amendments

2.5.3. Full Implementation

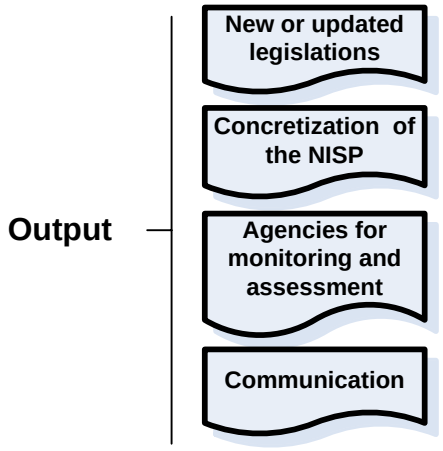
After the actors responsible for the NISP implementation have proved their efficacity and involvement, it is time to proceed to the full implementation of the policies and strategies. The requirements of full implementation are the following:

- Strengthened Governance model
- Detailed Project Planning
- Project Management/Integration
- Project staffing
- Streamlined procurement/contracting
- Financial management

2.5.4. Implementation Phase Outcomes

- New or updated legislations on Information Society
- The solidification of parts of the NISP, through concrete initiatives and projects, or of the full policy, over a given period of time
- The nomination of control agencies for monitoring and assessment
- Communication of the NISP to the population, in order to obtain citizens' involvement

Illustration 17. Outputs of the implementation phase



2.6. Follow-up phase

The assessment or control is the method through which governments and society may judge the real worthiness or credit of governmental (or multistakeholder) actions. Many countries are concerned about measuring the effective impacts of a NISP. The evaluation process implies a systematic examination of the NISP's objectives and its results, that is to say, an analysis of the distance between the effective results and the expected results.

Illustration 18. NISP follow-up, monitoring, control and adaptation.

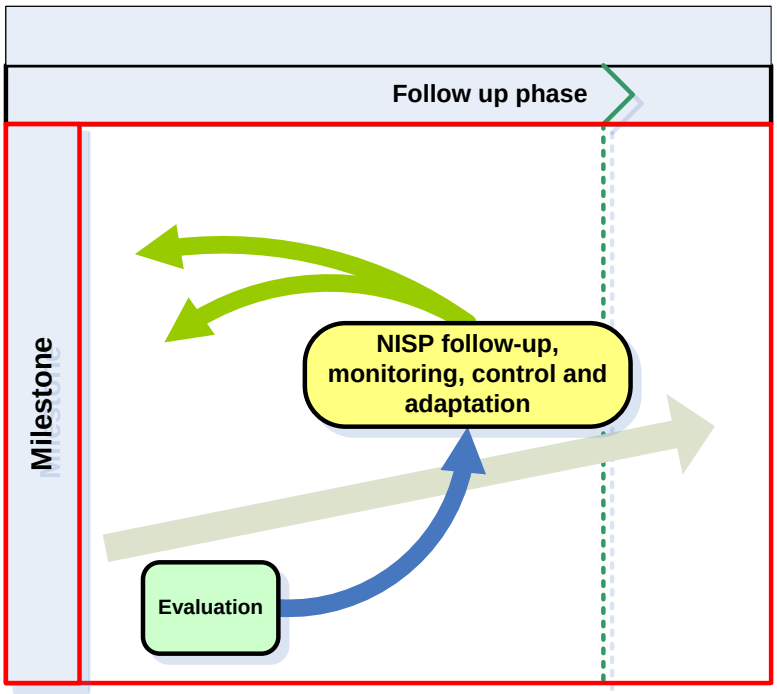
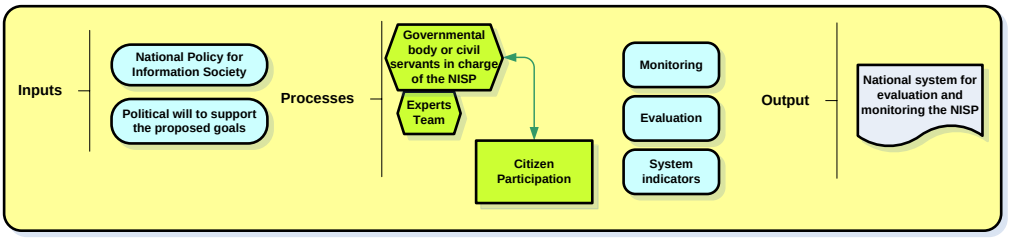
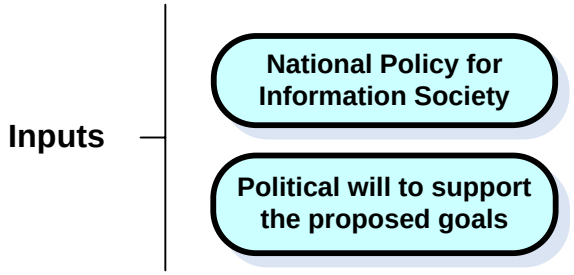


Illustration 19. Follow-up components



This distance may result from the intervention of random elements and/or the governments or chosen organization's handling of determined obstacles. In general, the monitoring and evaluation processes measure the distance between the orchestrated policy and the initial plan, and the economic effects generated by the executed policy.

Illustration 20. Inputs of the follow-up phase



2.6.1. Monitoring

According to Phil Bartle (2007), monitoring is the regular observation and recording of activities taking place in a project or programme. It is a process of routinely gathering information on all aspects of the project. In this case, to monitor is to check on how NISP's activities are progressing. Monitoring also involves giving feedback about the progress of the NISP to the stakeholders, implementers and beneficiaries of the project. Reporting enables the gathered information to be used in making decisions for improving the NISP's performance.

It is important to consider that generally there is no data available to consider the long term effects of the NISP. Therefore, rather than the accurate evaluation of the NISP's implementation results, a complete analysis or monitoring during several years is necessary.

Monitoring provides information that will be useful in:

- Analysing the situation in the country or community;
- Determining whether the inputs in the NISP are well utilized;
- Identifying problems facing the NISP's implementation and finding solutions;
- Ensuring all activities are carried out properly by the right people and in time;
- Using lessons from the experience to update the NISP, its strategies and tactics;
- Determining whether the way the NISP implementation was planned is the most appropriate way of achieving the goals.

2.6.2. Evaluation

Evaluation is a key phase, measuring and analyzing the impact of actions taken, to judge whether goals have been attained. In order to achieve effective evaluations, the departing situations or diagnostics have to be taken into account, in order to verify the changes that have been triggered by the NISP and its successive phases. Evaluation is not limited to the NISP's application: it should take place in all the phases of the NISP. As a result of this process, it may prove necessary to establish corrective measures demanding the formulation of new policy guidelines and implementation of new strategic actions, taking situational shifts into account. The policy can thus be updated. It should also be updated after some years.

Evaluation is a process of placing value on what an NISP has achieved particularly in relation to activities planned and overall objectives. It involves value judgment and hence it is different from monitoring (which is observation and reporting of observations). It is important to identify the constraints or bottlenecks that hinder the NISP implementation in achieving its goals. Solutions to the constraints can then be identified and implemented.

Evaluation should provide a clear picture of the extent to which the intended objectives of the NISP's actions and policies have been realized. Evaluation can and should be done during and after implementation.

Before implementing the NISP, evaluation is needed in order to:

- Assess the possible consequences of the planned NISP to the country over a period of time;
- Assist in making decisions on how the project will be implemented.

During the NISP's implementation:
Evaluation should be a continuous process and should take place in all the implementation activities. This enables the organization in charge to progressively review the strategies according to the changing circumstances in order to attain the desired activity and objectives.

After projects' implementation:
Evaluation should be used to retrace the NISP's planning and implementation process and results after its implementation.

Due to the time inbetween the layout or planning and the effective instrumentation, the evaluation of technological and organizational policies becomes an additional tool to understand the faults in the process, from the elaboration of the NISP to its application. Evaluating an NISP and studying its limitations can help formulate a new suitable policy which contemplates the real necessities of the country. In many cases, it is verified that the implementation difficulties are due to lack of coordination between the agents who act in the innovation system (companies, research centers, universities, NGOs) and financing institutions.

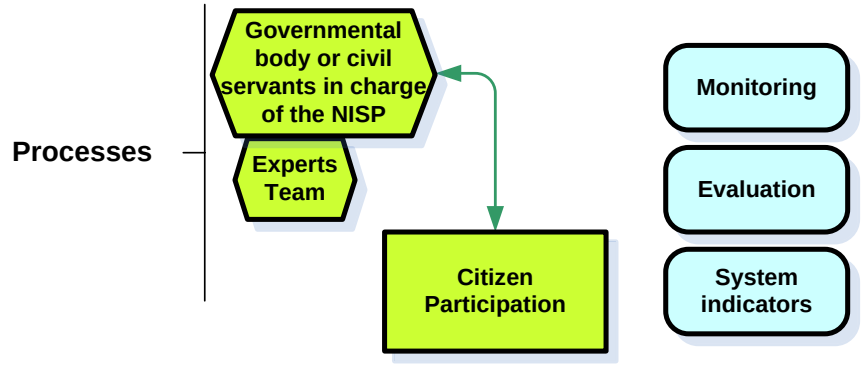
The second aspect of the evaluation is centered on the axis that links the policy with its economic effects. In this case, the evaluation aims to understand the way in which the implemented NISP directly and indirectly affected the performance of the participating agents, as well as other spheres of the economy. The first methods of evaluation were created decades ago in developed countries and were based, mainly, on quantitative analysis, using two tools: the "administrative information" of the companies to catch the

policy's impact on the sales, and the "cost-benefit" analysis to understand the relation between the financial gains and losses of the companies favored by the program. However, it is considered that those two evaluation tools are limited because they summarize the impacts of the policy with a unique financial variable and do not grasp all dimensions of the process.

The difficulties in measuring the effects of innovation policies, such as NISPs, are due to the fact that the innovation factor is the result of a dynamic process that supposes both short and long-term articulations among diverse stakeholders. In addition this process deals with the establishment of an innovative institutional environment, as well as new regulatory policies; both effects that are not easily measurable by means of traditional cost-benefit analysis.

In addition to quantitative methods (surveys, questionnaires), it may be useful to employ qualitative evaluation methods, including interviews to key informers, questionnaires, surveys, and case studies.

Illustration 21. Processes of the follow-up phase



Example 22. The Macedonian Strategy

The Macedonian Strategy

On September 21, 2005, the Parliament of the Republic of Macedonia adopted the

National Information Society Development Strategy 1 (hereinafter "the Strategy"). The Strategy represents the result of numerous efforts and processes in which various entities took place from the domestic political scene, the civil sector, international organizations, as well as from the political processes. The National Information Society Policy of the Republic of Macedonia States the "Development of a process of permanent monitoring and evaluation of the achieved results in the development of the Information society, with an emphasis of mandatory usage of the feedback (indicators) to create the future policies, strategies and plans in the Republic of Macedonia".

Source: Republic of Macedonia, 2005

2.6.3. The use of indicators

An indicator provides evidence that certain condition exists or certain results have or have not been achieved. Indicators enable decision-makers to assess progress towards the achievement of intended outputs, outcomes, goals, and objectives. As such, indicators are an integral part of a results-based accountability system[16].

Indicators can measure inputs, processes, outputs, and outcomes. Input indicators measure resources, both human and financial, devoted to a particular program or intervention (i.e., number of case workers). Input indicators can also include measures of characteristics of target populations (i.e., number of clients eligible for a program). Process indicators measure ways in which program services and goods are provided (i.e., error rates). Output indicators measure the quantity of goods and services produced and the efficiency of production (i.e., number of people served, speed of response to reports of abuse). These indicators can be identified for programs, sub-programs, agencies, and multi-unit/agency initiatives. Outcome indicators measure the broader results achieved through the provision of goods and services. These indicators can exist at various levels: population, agency, and program.

As for the criteria for selecting indicators, Horsch (2007) admits that choosing the most

[16] Horsch, Karen: Indicators: Definition and Use in a Results-Based Accountability System, Harvard Family Research Project, 1997, http://www.hfrp.org/publications-resources/browse-our-publications/indicators-definition-and-use-in-a-results-based-accountability-system

appropriate indicators can be difficult. Development of a successful accountability system requires that several people be involved in identifying indicators, including those who will collect the data, those who will use the data, and those who have the technical expertise to understand the strengths and limitations of specific measures.

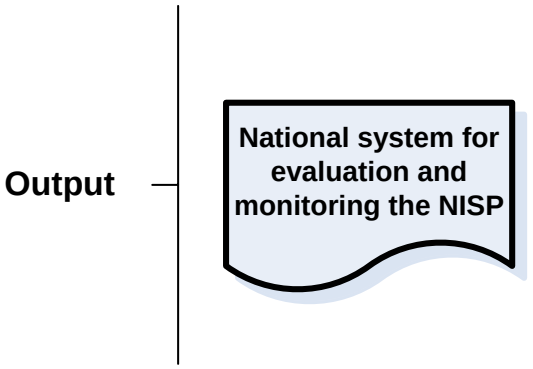
Some questions that may guide the selection of indicators are:

- Does this indicator enable one to know about the expected result or condition?
- Is the indicator defined in the same way over time? Are data for the indicator collected in the same way over time?
- Will data be available for an indicator?
- Are data currently being collected? If not, can cost effective instruments for data collection be developed?
- Is this indicator important to most people? Will this indicator provide sufficient information about a condition or result to convince both supporters and skeptics?
- Is the indicator quantitative?

As stated by Horsch, it is important to note that indicators serve as a red flag; good indicators merely provide a sense of whether expected results are being achieved. They do not answer questions about why results are or are not achieved, unintended results, the linkages existing between interventions and outcomes, or actions that should be taken to improve results. As such, data on indicators need to be interpreted with caution. They are best used to point to results that need further exploration, rather than as definitive assessments of program success or failure.

Some indicators systems developed by international organizations, and national and regional governments, are the following: OECD´s Guide to Measuring the Information Society (OECD, 2009); the ICT Development Index (IDI) of the International Communication Union - ITU (ITU, 2009b) and UNCTAD´s "The Global Information Society: a Statistical View" (UNCTAD, 2008).

Illustration 22. Outcomes of the follow-up phase



2.7. Permanent evaluation: a key element in the whole process

Working on an NISP does not finish with the final report or action plan. As a matter of fact, an NISP's work continues through monitoring and permanent evaluation. The main criteria of evaluation should be the verification of the achievement of goals and objectives laid down in an NISP. These criteria should be relevant to each of the goals and objectives.

There are many methodologies to carry out assessments and evaluations. One of them is the outcome mapping, a methodology endorsed by International Development Research centre, IDRC, Canada. Outcome mapping provides not only a guide to essential evaluation map-making, but also a guide to learning and increased effectiveness, and affirmation that being attentive along the journey is as important as, and critical to, arriving at a destination. It will help a program be specific about the actors it targets, the changes it expects to see, and the strategies it employs and, as a result, be more effective in terms of the results it achieves[17].

Evaluation of an NISP also provides an assessment of the NISP´s relevance, effectiveness and impact, efficiency and utility. An key aim of the evaluation is to assess the country's

See Outcome Mapping: Building Learning And Reflection Into Development Programs, 2002, by Sarah Earl, Fred Carden and Terry Smutylo. This publication explains the various steps in the outcome mapping approach and provides detailed information on workshop design and facilitation. It includes numerous worksheets and examples.

added value of these initiatives; their impacts at national level and lessons to be learned that may inform work-programme development of the agreed time line.

The process of monitoring and evaluating progress in achieving the goals of an Information Society policy is decisive in actually implementing the chosen goals. Without some indication, signals, even warnings of how all elements of society are adapting to the installation and application of the NISP, there can be no way of understanding whether the shift towards the construction of an Information Society or its permanent updating is actually taking place or working in positive ways. Moreover, there can be no understanding of future policy steps without reference to the current status of the NISP implementation and application procedures.

A multistakeholder commission may be designated in order to periodically monitor and assess the NISP´s efficiency and impacts.

Example 23. eEurope 2005 Final Evaluation

eEurope 2005 Final Evaluation

This evaluation contains the eEurope 2005 Action Plan, complementing the evaluation of the multi-annual programme of MODINIS (2003-2005). Its assessment includes three different evaluation criteria:

1. *Relevance and utility*: whether the objectives of that programme corresponded to the needs, opportunities and challenges of society
2. *Efficiency*: examining the level of resource use (inputs) required to produce outputs and generate results
3. *Impact*: whether the intervention has created the intended effects

Within each of these criteria a set of evaluation questions have been formulated to make the scope of the evaluation operational. The methodological approach is based on four types of analysis conducted in consecutive phases and makes use of multiple data sources; programme analysis, peer group analysis, country analysis and an impact analysis – developing an impact model.

Source: EC, 2007

The use of indicators to monitor these objectives is critically important, particularly in developing countries, where the digital divide is a prominent political issue. Indicators provide feedback with regard to national policy making and investment, and also in terms of external participation in projects and investments. In order to design the assessment methodology, the appointed commission will need to build a set of indicators (ESCWA, 2005).

The surveys can be reduced to chosen groups or open to the public. In this case, web surveys can be extremely useful, as shown by the Web-Based Survey on Electronic Public Services in Poland:

Example 24. WEB-Based Survey on Electronic Public Services in Poland

WEB-Based Survey on Electronic Public Services in Poland (III Edition 2004)

Conducted by he Ministry of Interior and Administration, the Ministry of Science and Information Society (public) and Technologies Capgemini Poland (consulting company, private). The report is conducted regularly, as part of the "eEurope 2002" and "eEurope 2005" strategies.This report evaluates the public service's development in Poland in comparison with other European countries. It points out the strengths and weaknesses of Polish eGovernment and helps to build up a proper developing strategy leading Poland to EU's level.

Source: MRR, 2008

Based on the evaluation findings, the assessment report may suggest that several aspects of both management and content of the given NISP can be improved when continuing the development of successive phases and updatings.

In the case of the eEurope 2005 Final Evaluation, the assessment report was conducted with a mixture of quantitative and qualitative methods." The mixture was chosen to meet the requirement that the evaluation be exploratory and forward thinking in order to provide lessons for the future. The methodology applied is more system and model oriented that what is commonly considered evaluation practice standard. The soundness and validity of the analyses and data elaborations have been secured through triangulation of findings from multiple sources.

The scope of the data collection was wide and different data were linked to each other in the analysis. The methodology contain four types of analysis

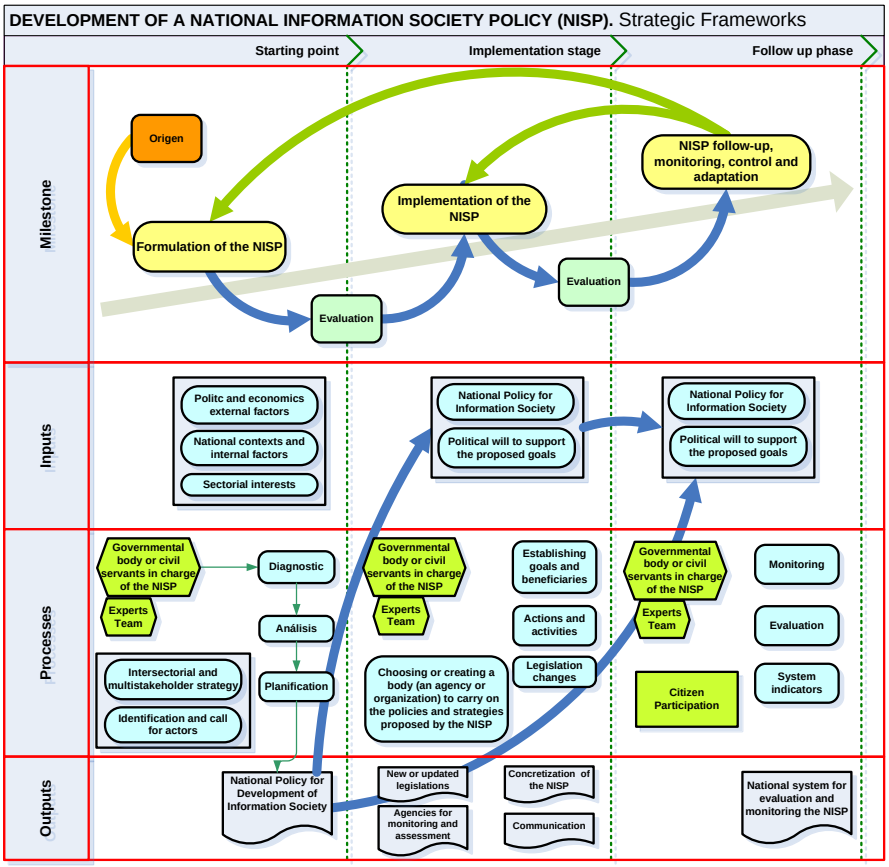
- Programme analysis
- Peer-group analysis
- Country analysis
- Impact analysis - impact cases and development of impact model

The overall objective of the programme analysis was to establish a preliminary description and analysis of the programme. The analysis primarily provided the basis for the assessment of the *efficiency,* but also provided input for the assessment of the programme's relevance, in particular regarding the relationship to other programmes. The data supporting the analysis was collected through desk research and interviews with programme related personnel both within the Commission services and in member states. Interviews were conducted both face to face and over the phone. The selection of interview partners was made in cooperation with the Commission, DG INFSO".

Another example from Poland is the *ePolska 2004-2006 monitoring report* (MRR 2008)**.** Conducted by the Ministry of Interior and Administration (MI&A) and the Ministry of Science and Information Society Technologies (public), this report was the first one in a series to be conducted regularly to monitor the progress in developing the Information Society in Poland. Based on the information given by all departments responsible for the implementation of the strategy, it deals with the following issues: to provide a cheap, broadband, safe internet for all citizens; to create on-line public services and eLearning platforms; to support a common ability to use PCs and to fight against eExlusion.

Illustration 24 shows the complete map pf the procedures to formulate, implement, monitor and evaluate an NISP:

Illustration 23. NISP Map


DEVELOPMENT OF A NATIONAL INFORMATION SOCIETY POLICY (NISP). Strategic Frameworks
Starting point
Implementation stage
Follow up phase
Milestone
Origen
Formulation of the NISP
Evaluation
Implementation of the NISP
Evaluation
NISP follow-up, monitoring, control and adaptation
Inputs
Politc and economics external factors
National contexts and internal factors
Sectorial interests
National Policy for Information Society
Political will to support the proposed goals
National Policy for Information Society
Political will to support the proposed goals
Processes
Governmental body or civil servants in charge of the NISP
Experts Team
Diagnostic
Análisis
Planification
Intersectorial and multistakeholder strategy
Identification and call for actors
Governmental body or civil servants in charge of the NISP
Experts Team
Choosing or creating a body (an agency or organization) to carry on the policies and strategies proposed by the NISP
Establishing goals and beneficiaries
Actions and activities
Legislation changes
Governmental body or civil servants in charge of the NISP
Experts Team
Citizen Participation
Monitoring
Evaluation
System indicators
Outputs
National Policy for Development of Information Society
New or updated legislations
Agencies for monitoring and assessment
Concretization of the NISP
Communication
National system for evaluation and monitoring the NISP

2.8. REMINDERS FOR GOVERNMENTAL OFFICERS, POLICY MAKERS AND EXPERTS TEAMS

There is no general recipe for successful ICT policies and e-strategies. Govenmental officers, experts teams, and policy makers in countries at different levels of development may identify examples of successes or best practices either within their own territories, or in other similar countries in order to adapt them as necessary to fit their nation's unique circumstances.

Nevertheless, a few principles are common to most, if not all, successful approaches. In crafting ICT policies, experts groups and policy makers face nine major challenges[18]:

1. A need for vision and leadership;
2. Consistency with other national development goals;
3. Coordination within government;
4. Consultation for consensus on objectives and approaches;
5. Implementation of articulated and realistic plans of action;
6. Resources prioritized and not based on mere wishful thinking;
7. Supportive legal framework to enable ICT policies;
8. Supportive policy frameworks to facilitate implementation; and
9. Objectives against which to monitor progress and produce defined results.

In view of these challenges it may be useful to consider these suggestions:

1. Knowing the degree of e-readiness is fundamental to set future goals and to implement realistic policies. Implement a reliable diagnostic on the status of your country regarding Information Society.
2. Establish a baseline of indicators that characterize the present and the historical trends leading up to it. Be precise in setting goals. Based on the previous diagnostic, and on the set of indicators you have used, formulate goals and monitor progress towards achieving them.

[18] Based on Ulrich, Chacko and Sayo (2004)

3. Be informed about international best practices. Use the Internet and other ICTs to research and identify best practices from other areas, which can eventually be replicated or adapted to your country's needs and context.
4. Prioritize your objectives, as well as the participating actors' goals and interests.
5. Engage stakeholders as early as possible with consultative and participatory workshops and seminars with the private sector, academia and civil society. For the general public, awareness campaigns and educational programmes may be the best tools for appropriate and productive adoption of ICTs.
6. Enlist the participation of federal, regional and local governments in your country in planning National Information Society policies and strategies from the early stages. Participating in the creation and updating of policies and strategies will not only provide the necessary information about local needs, goals, and demands, but it will also facilitate the involvement of provinces and regional states, as well as the implementation of the policies in their regions.
7. Consider that some of these actors and interests may be in conflict with other areas; others may deserve simultaneous but separate approaches.
8. Keep a long-term vision. Some policies generally only influence decisions over the medium to long term.
9. Be alert about leapfrogging opportunities. Analyse the stages through which other countries' successful ICT policies and industries have passed and find out where, if any, opportunities exist for leapfrogging these stages with cuting-edge or emerging ICTs.
10. Let government coordinate ICT initiatives—with investments, but most importantly, with conducive policies and legislation to encourage private capital and entrepreneurship. Governments are also the "model users" that by using ICTs will disseminate their appropriation by the citizens, for example, in e-government applications.
11. Let the private sector drive ICT initiatives, with investments, entrepreneurship, and coordination with the state and other stakeholders. While governments set the policies and the planning, much of the implementation falls upon the private sector. As such, private companies and organizations have a stake in ensuring that ICT policies and e-strategies match their priorities.
12. Engage the active participation of the science and technology or academic sector. This sector provides knowledge to be applied in ICT production and dissemination,

as well as the human resources to work in state and private ICT-related enterprises. Academic institutions can play a relevant role in helping design and evaluate ICT projects that may involve technically demanding research. In addition, their corporate research counterparts are also active in developing standards that are revolutionizing the spread and use of ICT.

13. Involve civil society organizations. ICT strategies should balance economic and social concerns to combine sectoral growth with the development of society. In the economic arena, the private sector drives progress, but in the social arena, civil society organizations (CSOs) and local communities should assume importance, particularly in rural areas far from the reach of central governments.
14. Ensure that policies and strategies are periodically monitored, evaluated, updated and modified as necessary to yield the desired results.

i. Index of Illustrations

ii. Index of Tables

iii. Index of Activities

iv. Index of Examples

v. Index of Tips

MODULE III

GLOSSARY

A

Access to Information

The right to access to publicly-funded information means that all information, including scientific and social research, that is produced with the support of public funds should be freely available to all. More broadly, access to information also refers to communities or individuals gaining access to information which was previously not available to them, as a result of access to information and communication technologies and/or the internet.
Source: APC Internet Rights Charter, http://www.apc.org/

Accessibility

Accessibility is a general term used to describe the degree to which a system is usable by as many people as possible. In the context of the internet, accessibility refers to the design of web interfaces, content and applications which are accessible to all, including people with physical, sensory or cognitive disabilities, people with changing abilities due to aging, people who are not literate, people who speak minority languages and people with slow internet connections.
Source: Wikipedia, http://en.wikipedia.org/wiki/Accessibility; W3C Web Accessibility Initiative http://www.w3.org/WAI/intro/accessibility.php#terms; and APC Internet Rights Charter http://www.apc.org/

Accelerating Factors

Accelerating factors are specific measures or actions taken at institutional and political level to overcome the obstacles in a given process. They imply coordinated operations, a kind of consensus among the diverse involved actors. Accelerating factors require financial investments, specialized human resources, communicational strategies, and training strategies.

Advocacy

The act of pleading or arguing in favour of something, such as a cause, idea, or policy; it is an active support.

Source: The American Heritage Dictionaries on Answers.com, http://www.answers.com/advocacy?cat=biz-fin

Agenda

A list or program of things to be done or considered. See also “Political Agenda.”

Source: Merriam – Webster´s Online Dictionary, http://www.merriam-webster.com/dictionary/agenda) .

Analytical Phase

The Analytical Phase, also called Assessment, is the phase for strategic definitions, when the Expert’s Group will have to answer to questions on the general and sectoral goals of the initiated process. It is the feedback of the Diagnostic. The Analytical phase is also an exercise in which the Experts Group will have to define the necessary institutional transformations (such as the creation of a National Information Society Agency, or changes in the legislation) to reach the proposed Information Society model.

AISI - The African Information Society Initiative

AISI is an action framework that has been the basis for information and communication activities in Africa since 1996. AISI is not about technology. It is about giving Africans the means to improve the quality of their lives and fight against poverty. The African Information Society Initiative aims at supporting and accelerating socio-economic development across the region. Driven by critical development imperatives, it focuses on priority strategies, programmes and projects which can assist in the sustainable build-up of an information society in African countries. This is in accordance with the regional integration goals of the Treaty establishing the African Economic Community, which foresaw the necessity of information networks and of regional databases, information sources and skills capacities.

Source: AISI, http://www.uneca.org/aisi/

ASEAN - Association of South-East Asian Nations

ASEAN was established on August 8, 1967, in Bangkok by the five original member countries: Indonesia, Malaysia, Philippines, Singapore, and Thailand. Brunei Darussalam joined on January 8, 1984, Vietnam on July 28, 1995, Laos and Myanmar on July 23, 1997, and Cambodia on April 30, 1999.

Official website: http://www.asean.or.id/

Assessment

The process of documenting (usually in measurable terms) knowledge, skills, attitudes and beliefs. Assessment can focus on one individual actor, a community, the institution, or the educational system as a whole.

Source: Wikipedia, http://en.wikipedia.org/wiki/Assessment

APC - Association for Progressive Communications

APC is an international network of civil society organisations dedicated to empowering and supporting groups and individuals working for peace, human rights, development and protection of the environment, through the strategic use of information and communication technologies (ICTs), including the Internet.

Source: Association for Progressive Communications, http://www.apc.org/

B

Beneficiaries

A beneficiary in the broadest sense is a natural person or other legal entity who receives money or other benefits from a benefactor. In this guide, it is important to identify the beneficiaries because that will indicate how one want the benefits divided.

Source: Wikipedia, http://en.wikipedia.org/wiki/Heir

C

Capacity-building

Capacity-building should be understood as a whole range of ideas, approaches and development interventions rather than a single concept. It goes from purely technical input (e.g. training) via organisational development (focusing on an organisation's systems and physical assets, but also on its people, its culture and its ability to plan for the future) and institutional development (the strengthening of links and development of the environments within which organisations exist) to a broader process involving individuals and communities in poor countries, strengthening and building their understanding and

knowledge of their own needs, entitlements and rights, and enabling them to organise themselves to respond to this understanding.

Source: "Capacity building: A buzz word or an aid to understanding?" by Ben Green and Mike Battcock, in Developments Magazine, 2001. Available at http://www.developments.org.uk/

Civil Society

Civil society commonly embraces a diversity of spaces, actors and institutional forms, varying in their degree of formality, autonomy and power. Civil societies are often populated by organisations such as registered charities, development non-governmental organisations, community groups, women's organisations, faith-based organisations, professional associations, trades unions, self-help groups, social movements, business associations, coalitions and advocacy groups.

Source**:** "What is civil society?", initial working definition adopted by the Centre for Civil Society at the London School of Economics, http://www.lse.ac.uk/collections/CCS/what_is_civil_society.htm

Cultural and Linguistic Diversity

The WSIS Plan of Action states that cultural and linguistic diversity, while stimulating respect for cultural identity, traditions and religions, is essential to the development of an information society based on the dialogue among cultures and regional and international cooperation and an important factor for sustainable development. Websites, online tools and software are dominated by the use of Latin script. This effects the development of local content in non-Latin languages and impedes the possibility of intercultural content exchange.

Source: Action line C8 of the WSIS Plan of Action http://portal.unesco.org/ci/en/ev.php-URL_ID=15927&URL_DO=DO_TOPIC&URL_SECTION=201.html; and APC Internet Rights Charter, http://www.apc.org/

Creative Commons

Creative Commons is a nonprofit corporation dedicated to making it easier for people to share and build upon the work of others, consistent with the rules of copyright. It provides free licenses and other legal tools to mark creative work with the freedom the creator wants it to carry, so others can share, remix, use commercially, or any combination thereof.

Source: Creative Commons website, http://creativecommons.org/

Community

There are a number of ways of defining communities and together they make up the interconnected systems of society. Some approaches include: geographic communities (such as suburbs or towns that are often referred to as "the local communities"); communities of interest, identity, or circumstance (such as the business and its various industry sectors and the research communities); the non-profit and voluntary sectors, which are also known as the community sector; ethnic and cultural communities; communities of interest such as those for hobbies, sports or politics; imagine communities (a concept coined by Benedict Anderson which states that a nation is a community socially constructed, which is to say imagined by the people who perceive themselves as part of that group); and communities of circumstance, such as youth, parenthood, senior citizens or the disabled; among other perceptions.

Connectivity

The ability to use an electronic network in order to send and receive information between any locations, devices or business services.

Convergence

Term applied to the way in which computing, telecommunications and television are moving towards a common technological basis characterized by the use of digital systems.

D

Development

The concept of development is used in a broad range of disciplines, such as biology, natural sciences, philosophy, economics, telecommunications, and social sciences. In this guide, the concept “development” is more related to human development than to economic growth. If economic growth does not always translate into human development, it is essential to conceive public policies that foster a kind of development that take into account the improvement of the people’s standard of living and not only the economic growth of the country.

Diagnostic

The Diagnostic, also called Assessment Phase, refers to a diagnostic analysis process based on situational theory. The Hersey-Blanchard situational theory is a situational leadership theory developed by Paul Hersey, and Ken Blanchard. They created a model of situational leadership in the late 1960s that allows for analysis of the needs of the situation, then the adoption of the most appropriate leadership style. It has been proven popular with managers over the years because it is simple to understand, and it works in most environments for most people. This analysis means to identify: the country's main historical antecedents; the national political definitions the adopted development models; the progresses in the construction of an Information Society; and the obstacles and limitations found in this process.

Source: Wikipedia, The Free Encyclopaedia, http://en.wikipedia.org/wiki/Hersey-Blanchard_situational_theory

Digital Divide

The term "digital divide" was coined in the 1990s to describe the perceived growing gap between those who have access to and the skills to use ICT and those who, for socio-economic and/or geographical reasons, have limited or no access. There was a particular concern that ICT would exacerbate existing inequalities. A number of areas of specific concern were identified both here and abroad, namely that people could be disadvantaged by their geographic location, age, gender, culture and/or economic status.

Digital Literacy

Refers to the ability to use digital technology, communication tools or networks to locate, evaluate, use and create information.

Disruptive Technology

This term was coined by Clayton M. Christensen to describe a new, low-cost, often simpler technology that displaces an existing sustaining technology. Disruptive technologies are usually initially inferior to the technology that they displace, but their low cost creates a market that induces technological and economic network effects that provide the incentive to enhance them to match and surpass the previous technology. They create new industries, but eventually change the world. Examples include the internal combustion engine, transistors and the Internet.

Source: Wikipedia, http://en.wikipedia.org/wiki/Disruptive_technology

E

e-LAC

eLAC is a regionally concerted strategy that conceives of Information and Communications Technologies (ICTs) as instruments for economic development and social inclusion. It is a strategy with a long-term vision (until 2015) in line with the Millennium Development Goals (MDGs) and those of the World Summit on the Information Society (WSIS), which is concentrated on short-term action plans with concrete qualitative and quantitative goals to be achieved:

- **eLAC2007** with 30 goals and 70 activities for the years 2005-2007
- **eLAC2010** with 83 goals to be achieved during the 2008-2010 period.

The eLAC Action Plans aim to:

- 1) Act as a "metaplatform" for public-private action in order to coordinate the efforts of various sectors, with an end to generating synergies, avoiding the duplication of efforts, and strengthening regional projects, by means of cooperation and the exchange of best practices at a regional level.
- 2) Forge national strategies and initiatives in specific areas, establishing lines of action and defining indicators that illustrate the state of progress in the development of the information society.
- 3) Deepen knowledge on critical issues in order to support the definition, design, implementation and evaluation of policies.
- 4) Intermediate between the needs of the region's countries and the rhythm of global development, considering regional particularities within the context of the goals of the global community.

Source: eLAC page on ECLAC website http://www.eclac.org/socinfo/elac/default.asp?idioma=IN

Enabling Environment

It refers to the national policies, laws, physical infrastructure (roads, electricity, etc.), and other infrastructure (access to education, access to the Internet, access to banks, etc.) that need to be in place for people to be able to use ICTs to their advantage. Source: ICT for Rural Livelihoods, http://www.ict4rl.info/Topics/EnablingEnvironment

e-Crime

Electronic crime covers offences where a computer or other ICT is used as a tool to commit an offence, is the target of an offence or is used as a storage device in an offence. Source: New Zealand Police: Services: E-Crime Unit, http://www.police.govt.nz/service/ecrime/

e-GIF - E-government Interoperability Framework

The e-GIF is a significant tool to enable agencies to work together electronically in a spirit of collaboration. It allows agencies to focus on the business of integrating their services for people without having to decide on competing technology standards. In the e-government context, interoperability relates specifically to the electronic systems that support business processes between agencies and between government and people and business. It does not mean that a central agency will dictate common systems and processes. Interoperability can be achieved by the application of a framework of policies, standards and guidelines that leave decisions about specific hardware and software solutions open for individual agencies or clusters of agencies to resolve. Source: E-government Unit, New Zealand, http://www.e-government.govt.nz/docs/e-gif-v-2/chapter4.html

e-Government

Definitions of "e-government" range from "the use of information technology to free movement of information to overcome the physical bounds of traditional paper and physical based systems" to "the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees." The common theme behind these definitions is that e-government involves the automation or computerization of existing paper-based procedures that will prompt new styles of leadership, new ways of debating and deciding strategies, new ways of transacting business, new ways of listening to citizens and communities, and new ways of organizing and delivering information. Ultimately, e-government aims to enhance access to and delivery of government services to benefit citizens. More importantly, it aims to help strengthen government's drive toward effective governance and increased transparency to better manage a country's social and economic resources for development. Source: Wikipedia, http://en.wikibooks.org/wiki/E-government/Definition

e-Health

Involves the electronic enablement of the health and disability support services in order to: empower individuals and their families to manage their own health and participation better; improve the co-ordination and integration of care delivery to individuals; and allow population health initiatives such as a disease mapping to occur in a timely fashion.

e-Inclusion

Refers to specific policies to encompass activities related to the achievement of an inclusive information society.

e-Learning

Learning that is facilitated by the use of digital tools and content. Typically, it involves some form of interactivity, which may include online interaction between the learner and their teacher or peers. It can also be defined as the delivery of a learning, training or education program by electronic means. E-learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material.

Source: Derek Stockley (2003), http://derekstockley.com.au/elearning-definition.html

E-learning can also involve a greater variety of equipment than online training or education, for as the name implies, "online" involves using the Internet or an Intranet. CD-ROM and DVD can be used to provide learning materials.

e-Readiness

The “state of play” of a country’s information and communications technology (ICT) infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit. E-readiness is not simply a matter of the number of computers, broadband connections and mobile phones in the country (although these naturally form a core component of the rankings); it also depends on such things as citizens’ ability to utilise technology skillfully, the transparency of the business and legal systems, and the extent to which governments encourage the use of technologies.

Source: “2006 e-readiness rankings” by Economist Intelligence Unit, http://a330.g.akamai.net/7/330/2540/20060424215053/graphics.eiu.com/files/ad_pdfs/2006Ereadiness_Ranking_WP.pdf

_e_-Europe Initiative

On December 8, 1999, the European Commission launched an initiative entitled "e-Europe: An Information Society for All", which proposes ambitious targets to bring the benefits of the Information Society within reach of all Europeans. The initiative focuses on ten priority areas, from education to transport and from healthcare to the disabled.
Official website: http://ec.europa.eu/eeurope/

Experts

An expert is someone widely recognized as a reliable source of technique or skill whose faculty for judging or deciding rightly, justly, or wisely is accorded authority and status by their peers or the public in a specific well distinguished domain. An expert, more generally, is a person with extensive knowledge or ability in a particular area of study. Experts are called in for advice on their respective subject, but they do not always agree on the particulars of a field of study. An expert can be, by virtue of training, education, profession, publication or experience, believed to have special knowledge of a subject beyond that of the average person, sufficient that others may officially (and legally) rely upon the individual's opinion.
Source: Wikipedia, http://en.wikipedia.org/wiki/Expert

EUREKA

Launched in 1985, EUREKA has already changed the face of pan-European cooperative research and development. It is a framework through which industry and research institutes from 26 European countries and the European Union develop and exploit the technologies crucial to global competitiveness and a better quality of life.
Official website: http://www3.eureka.be/Home/

Evaluation

Encompasses a process of judging value on what an NISP has achieved particularly in relation to activities planned and overall objectives. It involves value judgment and therefore it is different from monitoring (which is observation and reporting of observations). It is important to identify the constraints or bottlenecks that hold back the NISP implementation in achieving its goals. Solutions to the constraints can then be identified and implemented.

F

Future Internet

Future Internet is a summarizing term for world-wide research activities dedicated to the further development of the original Internet. While the technical development of the Internet has been an extensive research topic from the beginning, an increased public awareness of several critical shortcomings in terms of performance, reliability, scalability, security and many other categories including societal, economical and business aspects, has led to Future Internet research efforts. Given the diversity of technologies related to the Internet, extended by lower and higher layers and applications, the related research topics are wide spread. The time horizon of Future Internet studies is typically considered to be long term, taking several years before significant results can be expected or corresponding deployments take place in the real world.

Source: Wikipedia, http://en.wikipedia.org/wiki/Future_Internet

Framework

A basic conceptual structure used to solve or address complex issues. This very broad definition has allowed the term to be used as a buzzword, especially in a software context and social sciences.

Source: Wikipedia, http://en.wikipedia.org/wiki/Framework

FOSS - Free and Open Source Software

Free and Open Source Software (FOSS) includes programmes whose licenses give users the freedom to run, copy, distribute, study, change and improve the software as well as share copies of either the original or the modified software, under the same license agreement. Free, in this context, refers to free use and not necessarily "free of charge".

Source**:** Free Software Foundation, http://www.fsf.org/licensing/essays/free-sw.html

G

GDP

Gross Domestic Product is a measure of the size of the economy of a particular territory. It is defined as the total value of all goods and services produced within that territory during a specified period (most commonly, per year).

Source: Wikipedia, http://en.wikipedia.org/wiki/Gross_domestic_product

Gender and ICTs

In many societies, women are the most impoverished and with the least access to resources and with little control over decisions that affect their lives. For this reason, women are on the wrong side of the digital divide, with limited access to and control over ICTs. When considering the factors that contribute to these inequalities it is important to understand the ways in which ICTs are allocated between women and men (the gendered allocation of ICTs), the different opportunities that exist for men and women with respect to education, training and skills development, employment and working conditions, content development and access to power structures and decision-making processes. Beyond questions of access to technology and software, other major concerns may need to be addressed such as the need to break down gender and cultural barriers to women's access to careers in technology, or absence of women in decision-making structures.

Source: GenderIT.org, http://www.genderit.org/en/beginners/whygender.htm, and APC Glossary, http://www.apc.org/en/glossary/term/328

Governance

Governance refers to all the rules, procedures and practices affecting how powers are exercised, whether at the international or national level or within an organisation or network.

Source**:** Europa glossary, http://europa.eu/scadplus/glossary/governance_en.htm

Government

Refers to the organisation that is the governing authority of a political unit, the ruling power in a political society, and the apparatus through which a governing body functions and exercises authority.

Source: Wikipedia, http://en.wikipedia.org/wiki/Government

G7

Refers to the group of the seven most developed industrial countries: Canada, France, Germany, Italy, Japan, United Kingdom, and the United States.

G8

Refers to the group of the eight leading industrialised nations: Canada, France, Germany, Italy, Japan, Russia, United Kingdom, and the United States.

I

ICT Sector

In most countries, the ICT sector is an agglomeration of the communications sector, including telecommunications providers, and the information technology sector, which ranges from small software development firms to multi-national hardware and software producers.

Source: "Growth and Innovation Framework" by the Ministry of Economic Development, New Zealand, http://www.med.govt.nz/templates/ContentTopicSummary____566.aspx

ICT Policy

Refers to those plans of actions to guide decisions and achieve rational outcomes on ICT related areas. Usually, it covers three main areas: telecommunications (especially telephone communications), broadcasting (radio and TV) and the Internet. It may be national, regional or international. Each level may have its own decision-making bodies, sometimes making different and even contradictory policies. ICT policy is formally put in place by governments, but increasingly in most contexts, different stakeholders including the private sector and civil society make inputs into the policy process, thereby affecting its outcomes.

Source: APC, www.apc.org

ICT Taskforce

In March 2001, the Economic and Social Council requested the Secretary-General to establish an Information and Communication Technologies (ICT) Task Force. This initiative is intended to lend a truly global dimension to the multitude of efforts to bridge the global digital divide, foster digital opportunity and thus firmly put ICT at the service of development for all. The Task Force is supported by the heads of state and governments of all UN member states who endorsed the ECOSOC Ministerial Declaration at the Millennium Summit in September 2000.

Official website: http://www.unicttaskforce.org/

In New Zealand, this group was established in response to the government's Growth and

Innovation Framework. It has four related goals, which are to enhance the existing innovation framework, develop skills and talent, increase global connectedness and focus effort for maximum gain. The Taskforce comprised a tightly focused group of New Zealand ICT business leaders with relevant commercial experience. It reported into the growth potential of New Zealand ICT and identified the collective private sector and government contributions needed to achieve this potential.

Source: "ICT Taskforce, Breaking through the Barriers" (2003), http://www.nzte.govt.nz/section/13680.aspx

Information

This term has many meanings depending on the context. For example, it is often related to such concepts as meaning, knowledge, communication, truth, representation, and mental stimulus. See also Information Society and ICT.

Source: Wikipedia, http://en.wikipedia.org/wiki/Information

Information literacy

Refers to the life-long ability to locate, evaluate, use and create information.

Information Society

A term for a society in which the creation, distribution and manipulation of information has become the most significant economic and cultural activity. An Information Society may be contrasted with societies in which the economic underpinning is primarily industrial or agrarian. The machine tools of the Information Society are computers and telecommunications, rather than lathes or ploughs.

Source: A Whatis Definition, http://whatis.techtarget.com/definition/0,,sid9_gci213588,00.html

Manuel Castells (2000), a well known Spanish sociologist that has deeply analyzed this knowledge area, prefers the term "informational society" to "information society" (establishing the comparison with the difference between industry and industrial). He states that while knowledge and information are decisive elements in all modes of development, "*the term informational indicates the attribute of a specific form of social organization in which information generation, processing, and transmission are transformed into the fundamental sources of productivity and power, due to the new technological conditions that arise during this historic period.*"

ICT - Information and Communications Technology (or technologies)

An umbrella term that includes all technologies for the manipulation and communication of information.

Source: Wikipedia, http://en.wikipedia.org/wiki/Information_and_Communication_Technologies

Information, Communication Technology (ICT) goods

ICT goods are those that are either intended to fulfil the function of information processing and communication by electronic means, including transmission and display, OR which use electronic processing to detect, measure and/or record physical phenomena, or to control a physical process. ICT goods are defined by the OECD in terms of the United Nations Harmonised System.

Source: OECD Glossary for Statistical Terms, http://stats.oecd.org/glossary/detail.asp?ID=6274

Innovation

The term means a new way of doing something. It may refer to incremental, radical, and revolutionary changes in thinking, products, processes, or organizations. Colloquially, the word "innovation" is often synonymous with the output of the process. However, economists tend to focus on the process itself, from the origination of an idea to its transformation into something useful, to its implementation; and on the system within which the process of innovation unfolds. Since innovation is also considered a major driver of the economy, especially when it leads to increasing productivity, the factors that lead to innovation are also considered to be critical to policy makers.

Source: Wikipedia, http://en.wikipedia.org/wiki/Innovation

Innovating firm, technological product and process

A technological product and process innovating firm is one that has implemented technologically new or significantly technologically improved products or processes during the period under review.

Source: OECD, http://stats.oecd.org/glossary/search.asp

IDB - Inter-American Development Bank

The IDB (although sometimes found abbreviated as IADB), is an international organization established and headquartered in Washington, D.C., United States, in 1959 to support

Latin American and Caribbean economic and social development and regional integration by lending mainly to governments and government agencies, including state corporations.
Source: Wikipedia, http://en.wikipedia.org/wiki/Inter-American_Development_Bank

Intellectual property

Very broadly, it means the legal rights that result from intellectual activity in the industrial, scientific, literary and artistic fields. Countries have laws to protect intellectual property, for two main reasons: to give statutory expression to the moral and economic rights of creators in their creations and the rights of the public to access those creations; and to promote, as a deliberate act of government policy, creativity and the dissemination and application of its results, and encourage the fair trading that contributes to economic and social development. Intellectual property is traditionally divided into two branches: industrial property and copyright. Industrial property includes inventions (patents), trademarks, industrial designs and geographic indications of source and copyright includes literary and artistic works.
Source: "WIPO Intellectual Property Handbook: Policy, Law and Use" by WIPO, http://www.wipo.int/about-ip/en/iprm/

Inter-modal competition

Competition between dissimilar technologies, such as ADSL and wireless technologies. Intra-modal competition refers to competition between similar technologies.

Interoperability

The ability of two or more systems or components to exchange information and to use the information that has been exchanged.
Source: Software Engineering Institute, Carnegie Mellon University,
http://www.sei.cmu.edu/str/index.html

IP - Internet Protocol

The IP is a network-layer protocol that contains addressing information and some control information that enables packets of data to be routed between hosts on the Internet.
Source: Cisco Systems Inc., http://www.cisco.com/univercd/cc/td/doc/cisintwk/ito_doc/ip.htm

Internet Governance

The definition of Internet Governance has been contested by differing groups across political and ideological lines. One of the key debates centers on the authority and participation of certain actors, such as national governments and corporate entities to play a role in the Internet's governance. A working group established after a United Nations-initiated World Summit on the Information Society (WSIS) proposed the following definition of Internet Governance as part of its June 2005 report: Internet governance is the development and application by governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet.

Source, Wikipedia, http://en.wikipedia.org/wiki/Internet_governance

IANA - The Internet Assigned Numbers Authority

The IANA is the entity that oversees global IP address allocation, root zone management for the Domain Name System (DNS), media types, and other Internet protocol assignments. It is operated by the Internet Corporation for Assigned Names and Numbers, better known as ICANN. Prior to the establishment of ICANN for this purpose, IANA was administered primarily by Jon Postel at the Information Sciences Institute at the University of Southern California, under a contract USC/ISI had with the United States Department of Defense, until ICANN was made to assume the responsibility under a United States Department of Commerce contract.

Source: Wikipedia, http://en.wikipedia.org/wiki/Internet_Assigned_Numbers_Authority

ICANN - the Internet Corporation for Assigned Names and Numbers

ICANN is the Internet Corporation for Assigned Names and Numbers. Headquartered in Marina Del Rey, California, United States, ICANN is a non-profit corporation that was created on September 18, 1998, in order to oversee a number of Internet-related tasks previously performed directly on behalf of the U.S. Government by other organizations, notably the Internet Assigned Numbers Authority (IANA). ICANN's tasks include responsibility for Internet Protocol (IP) address space allocation, protocol identifier assignment, generic (gTLD) and country code (ccTLD) Top Level Domain name system management, and root server system management functions. More generically, ICANN is responsible for managing the assignment of domain names and IP addresses. To date, much of its work has concerned the introduction of new generic top-level domains. The technical work of ICANN is referred to as the IANA function. ICANN's other primary

function involves helping preserve the operational stability of the Internet; to promote competition; to achieve broad representation of global Internet community; and to develop policies appropriate to its mission through bottom-up, consensus-based processes.

Source: Wikipedia, http://en.wikipedia.org/wiki/ICANN

IETF - the Internet Engineering Task Force

The Internet Engineering Task Force (IETF) develops and promotes Internet standards, cooperating closely with the W3C and ISO/IEC standard bodies and dealing in particular with standards of the TCP/IP and Internet protocol suite. It is an open standards organization, with no formal membership or membership requirements.

Source: Wikipedia, http://en.wikipedia.org/wiki/Internet_Engineering_Task_Force

ITU - International Telecommunication Union

ITU is the leading United Nations agency for information and communication technology issues, and the global focal point for governments and the private sector in developing networks and services. For nearly 145 years, ITU has coordinated the shared global use of the radio spectrum, promoted international cooperation in assigning satellite orbits, worked to improve telecommunication infrastructure in the developing world, established the worldwide standards that foster seamless interconnection of a vast range of communications systems and addressed the global challenges of our times, such as mitigating climate change and strengthening cybersecurity. ITU also organizes worldwide and regional exhibitions and forums, such as ITU TELECOM WORLD, bringing together the most influential representatives of government and the telecommunications and ICT industry to exchange ideas, knowledge and technology for the benefit of the global community, and in particular the developing world.

Source: ITU website, http://www.itu.int/net/about/index.aspx

Inter-operability

Devices, in particular application programmes, are inter-operable when, in addition to communicating with each others, they can also execute together a common task. They co-operate. This requires additional standards, such as API (Application Programme Interfaces).

Source: EUROPA - Europe's Information Society Thematic Portal, http://europa.eu/scadplus/glossary/.htm

i2010 - A European Information Society for 2010

The i2010 is the European Commission's new strategic framework for the information and media society, launched in June 2005. It centres on three priorities: completing a single European information space which will encourage an open, competitive internal market for the information and media society; promoting innovation and investment in research into information and communication technologies (ICT); creating a European information society based on inclusion and stressing better public services and quality of life. i2010 is the first initiative taken by the Commission within the renewed Lisbon partnership for growth and employment. This strategy follows on from two action plans, eEurope 2002 and eEurope 2005, which set out the steps to be taken to promote ICT in Europe.

Source: Europa Glossary, http://europa.eu/scadplus/glossary/infoso_media_policy_guidelines_en.htm

J

Joint Africa-EU Strategy:

The European Union and the African Union have decided to further strengthen the ties linking both continents by developing a 'co-owned joint strategy' which reflects the needs and aspirations of the peoples of Africa and Europe. The purpose of this Joint Strategy is to develop a political vision and practical approaches for the future partnership between the EU and Africa, based on mutual respect, common interests and the principle of ownership. The negotiations on the Joint Strategy have been ongoing since February 2007, and a first draft was approved in May 2007. The final Strategy was therefore adopted at the EU-Africa Summit which was held in Lisbon in December 2007.

Source: Eurafrica.net, http://europafrica.net/jointstrategy/

K

Knowledge

Is built up from interaction with the world, and is organised and stored in each individual's mind. It is also stored on an organisational level within the minds of employees and in paper and electronic records. Two forms of knowledge can be distinguished: tacit, or implicit knowledge, which is held in a person's mind and is instinctively known without

being formulated into words; and explicit knowledge, which has been communicated to others and is held in written documents and procedures. Organisations are increasingly recognising the value of knowledge, and many employees are now recognised as knowledge workers.

Knowledge society

A society that creates, shares and uses knowledge for the prosperity and well-being of its people. Knowledge societies share the belief that knowledge forms a major component of any human activity. Economic, social, cultural, and all other human activities become dependent on a huge volume of knowledge and information. A knowledge society is one in which knowledge becomes a major creative force.

Source: Wikipedia, http://en.wikipedia.org/wiki/Knowledge_society

M

M-Government

As an integral part of the e-government program, many central and local governments in the world start to offer e-government services via a variety of service delivery channels apart from the web. One of these service delivery channels is mobile telephony. Use of mobile telephony in delivering e-government services gave birth to the mobile government or m-government.

Source: m-Government: Definition and Perspectives

The Development Gateway, www.developmentgateway.org/e-government

Matrix

A broad term that means the place in which material things or concepts are developed or formed. In this case, it is the context in which policies are conceived and put into action.

Methodology

In this guide, it refers to pubic policy specific analysis techniques.

Monitoring

The regular observation and recording of activities taking place in a project or programme. It is a process of routinely gathering information on all aspects of the project. In this case, to monitor is to check on how NISP's activities are progressing. Monitoring also involves giving feedback about the progress of the NISP to the stakeholders, implementers and beneficiaries of the project. Reporting enables the gathered information to be used in making decisions for improving the NISP's performance.

Source: The Nature of Monitoring and Evaluation, by Phil Bartle, http://www.scn.org/cmp/modules/mon-wht.htm

N

NISPs - National Information Society Policies

NISPs can be defined as a coherent set of public strategies to promote the growth of an Information Society oriented to the overall and interrelated social, political, human, and technological development in each society, which development motor is the production use and equitable exploitation of knowledge by all the social sectors. These public policies are generally based on the assumption that knowledge- based goods and services integrate the central structure of the new economy, in which information and knowledge, exchanged and disseminated through ICT-based networks, will constitute the main input for society development.

Next Generation Internet

Next Generation Internet is a term used by governments, corporations and educators to describe the future network and the work underway to develop it. The future Internet will be so pervasive, reliable and transparent that it will be taken for granted. It will be a seamless part of life much like electricity or plumbing. However, getting to this will involve exploring technologies and network capacities that are in advance of offerings from commercial providers in terms of bandwidths, communications protocols and services.

O

OECD - Organisation for Economic Co-operation and Development

OECD comprises 30 member countries sharing a commitment to democratic government and the market economy. Its work covers economic and social issues, from macroeconomics to trade, education, development and science and innovation.
Source: OECD, http://www.oecd.org/about/0,2337,en_2649_201185_1_1_1_1_1,00.html

P

Political agenda

Refers to a set of issues and policies laid out by either the executive or cabinet in government which tries to dictate existing and near-future political news and debate. The political agenda while shaped by government can be influenced by grass-roots support from party activists at events such as a party conference and can even be shaped by non governmental activist groups which have a political aim.
Source: Wikipedia, http://dictionary.babylon.com/Political%20agenda

Propositive Matrix

The third phase of the NISP formulation process, which follows the Diagnostic and the Analysis. It is a logical framework that outlines the NISP proposals, identifies and suggests accelerator factors to reach the desired goals (Accelerator factors are those elements or measures that remove the identified obstacles). The Propositive Matrix confronts the ideal Information Society model drafted in the Analytical phase with the possible obstacles that will have to be overcome, and identifies the accelerator factors which will be used to reach the goals more rapidly and efficiently.

Public sector

The public sector comprises the general government sector plus all public corporations including the central bank.
Source: OECD, http://stats.oecd.org/glossary/search.asp

Public policy

In any society, governmental entities enact laws, make policies, and allocate resources. This is true at all levels. Public policy can be generally defined as a system of laws,

regulatory measures, courses of action, and funding priorities concerning a given topic promulgated by a governmental entity or its representatives.

Public policies can also be defined as public policies can be defined as the body of principles that underpin the operation of legal systems in each state

Source: Dean G. Kilpatrick, Definitions of Public Policy and the Law, http://www.musc.edu/vawprevention/policy/definition.shtml and Wikipidia, http://en.wikipedia.org/wiki/State_(law)

R

Radio frequency

It refers to a location or band on the radio frequency spectrum, such as 800, 900 or 1800Mhz.

RFID - Radio Frequency Identification

First appeared in tracking and access applications during the 1980s. These wireless systems allow for non-contact reading and are effective in manufacturing and other hostile environments where barcode labels may not survive. RFID has established itself in a wide range of markets including livestock identification and automated vehicle identification systems because of its ability to track moving objects.

Source: AIM - The Global Trade Association for Automatic Identification, http://www.aimglobal.org/technologies/rfid/

Roadmap

A roadmap is a detailed plan to guide progress toward a goal; a set of guidelines, instructions, or explanations.

Source: Merriam-Webster Dictionary Online, http://www.merriam-webster.com/dictionary/roadmap

S

Sectoral:

A distinct part, especially of society or of a nation's economy.

Source: Dictionary.com, http://dictionary.reference.com/browse/Sectoral

SMEs

SMES are Small and medium-sized enterprises. Its size varies in diverse countries. It is usually taken to be a firm of up to 50 full-time equivalent employees (FTEs).

Stakeholder

A person, group, organization, or system who affects or can be affected by an organization's actions.

Source: Wikipedia, the Free Encyclopedia, http://en.wikipedia.org/wiki/Stakeholder

Stakeholder theory

The stakeholder theory is a theory of organizational management and business ethics that addresses morals and values in managing an organization. It was originally detailed by R. Edward Freeman in the book *Strategic Management: A Stakeholder Approach*, and identifies and models the groups which are stakeholders of a corporation, and both describes and recommends methods by which management can give due regard to the interests of those groups. In short, it attempts to address the "Principle of Who or What Really Counts." The concept identifies and models the groups which are stakeholders of a corporation or project.

Source: Wikipedia, the Free Encyclopedia, http://en.wikipedia.org/wiki/Stakeholder

Stakeholder analysis

The process of identifying those affected by a project or event.

Source: Wikipedia, the Free Encyclopedia, http://en.wikipedia.org/wiki/Stakeholder

Strategic knowledge

Is concerned with the decisions made during the conceptual design phase and is used for deciding the course of action when there are conflicting criteria. Strategic knowledge is used by the designer to decide what actions to perform in a given situation, where actions are considered to have observable consequences.

Source: Faculty of Architecture, Design and Planning, University of Sydney, http://faculty.arch.usyd.edu.au/kcdc/conferences/SKCF/SKCFIntro.html

Strategic use

Strategic use of information and communication technologies by civil society organisations (CSOs) is not technology-driven; it requires a deep understanding of the context in which the technology is being deployed. It means ensuring that tools and technologies that can support CSOs in meeting their strategic objectives (or mission) exist and are available and accessible. Availability and accessibility covers a range of factors, such as infrastructure, cost, intellectual property dispensations, and adherence to standards. Strategic use also requires that CSOs be aware of the range of technology options available and have the skills and knowledge to use them effectively and securely, and that they understand their own organisational context and needs.

Source: APC Annual Report 2005, http://www.apc.org/

T

Telematics

Refers to the integrated use of telecommunications and informatics (see also ICT - Information and Communications Technology). More specifically it is the science of sending, receiving and storing information via telecommunication devices.

Source: Wikipedia, http://en.wikipedia.org/wiki/Telematic

Telematics Infrastructure

Refers to the assembly of telecommunications and information-processing systems and services that offers a base for telematics applications.

Source: EUROPA - Europe's Information Society Thematic Portal, http://ec.europa.eu/information_society/index_en.htm

Telework

Telework may be broadly defined as work undertaken by an individual for an employer or client that is mostly performed at a location other than the traditional workplace, using information and communication technology. It can encompass a variety of working arrangements, including home-working; telecottages/telecentres; and working from satellite offices in different locations. Teleworkers may be company employees or self-employed.

Source: European Foundation for the Improvement of Living and Working Conditions, http://www.eurofound.europa.eu/ewco/balance/telework/index.htm

Template

A design pattern that defines a structure to define series of phases, redefined in subclasses.

U

UNCTAD - United Nations Conference on Trade and Development

Established in 1964, UNCTAD promotes the development-friendly integration of developing countries into the world economy. UNCTAD has progressively evolved into an authoritative knowledge-based institution whose work aims to help shape current policy debates and thinking on development, with a particular focus on ensuring that domestic policies and international action are mutually supportive in bringing about sustainable development.

Source: UNCTAD , http://www.unctad.org/Templates/StartPage.asp?intItemID=2068

UNDP - United Nations Development Program

UNDP is the UN's global development network, an organization advocating for change and connecting countries to knowledge, experience and resources to help people build a better life.

Official website: UNDP, http://www.undp.org

UNESCO - United Nations Education Science Culture Organisation

This specialized United Nations agency, founded in 1945, currently functions as a laboratory of ideas and a standard-setter to forge universal agreements on emerging ethical issues.

Official website: UNDP, http://www.unesco.org/

UNECA, United Nations Economic Commission for Africa

The Economic Commission for Africa (ECA) was established by the Economic and Social Council (ECOSOC) of the United Nations (UN) in 1958 as one of the UN's five regional commissions. ECA's mandate is to promote the economic and social development of its member states, foster intra-regional integration, and promotes international cooperation for Africa's development. ECA's dual role as a regional arm of the UN, and as a part of the regional institutional landscape in Africa, positions it well to make unique contributions to member states' efforts to address their development challenges. Its strength derives from its role as the only UN agency mandated to operate at the regional and subregional levels to harness resources and bring them to bear on Africa's priorities.

Source: UNECA, http://www.uneca.org/aisi/

Universal Service

Refers to a set of basic services that have to be made available at an affordable price to all users by public or private operators irrespective of the user's geographical location.

Usability

The term used to denote the ease with which people can employ a particular tool or other human-made object in order to achieve a particular goal. Usability can also refer to the methods of measuring usability and the study of the principles behind an object's perceived efficiency or elegance. In human-computer interaction and computer science, usability usually refers to the elegance and clarity with which the interaction with a computer programme or a website is designed.

Source: Wikipedia, http://en.wikipedia.org/wiki/Usability

W

WSIS - World Summit on the Information Society

WSIS was a global series of events held in two phases. The first phase took place in Geneva in December 2003 and the second phase will take place in Tunis in November 2005. The objective of the first phase was to develop and foster a clear statement of political will and take concrete steps to establish the foundations for an Information Society for all, reflecting all the different interests at stake. The second phase involves a process

of monitoring and evaluation of the progress of feasible actions outlined in Geneva and a concrete set of deliverables to be achieved by the time the Summit met again in Tunis in November 2005.

Source: World Summit on the Information Society, http://www.itu.int/wsis/basic/about.html

Other Glossaries and related resources

- Europa Glossary at http://europa.eu/scadplus/glossary/governance_en.htm
- Multilingual glossary on EU institutions, policies and enlargement (11 languages)
- CORDIS (Community Research and Development Information Services), through the "A-Z Index" at http://www.cordis.lu/guidance/a-zindex.htm and the "Thematic Index" at http://www.cordis.lu/guidance/thematic_index.htm
- The Association for Progressive Communications (APC) Glossary at http://www.apc.org/en/glossary

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ANNEX 1: ACRONYMS

ACG: Arab Content Group

ACP: African, Caribbean and Pacific Countries

ADA: Argentina Digital Agenda

ADR: alternative dispute resolution

ADSIB: Agency to Develop the Information Society in Bolivia

ADU: Agenda Digital de Uruguay

AfDB: African Development Bank

AFRINIC: African Network Information Centre

AGESIC: Agencia para el Desarrollo del Gobierno de Gestión Electrónica y la Sociedad de la Información y del Conocimiento

AHCIET: Asociación Hispanoamericana de Centros de Investigación y Empresas de Telecomunicaciones

AISI: African Information Society Initiative

APC: Association for Progressive Communications

ASEAN: Association of South-East Asian Nations

ASO: Address Supporting Organization

ASPA: American Society for Public Administration

ASYCUDA: Adoption of Automated System for Customs Data

B2B: business-to-business

B2C: business-to-consumer

CATIA: Catalysing Access to ICTs in Africa

CASE: computer-aided software engineering

CS: Civil Society

CSO: Civil Society Organization

DFID: UK Department for International Development

DG INFSO: Information Society and Media Directorate General

DNSO: Domain Name Supporting Organization

DOT Force: Digital Opportunity Task Force

DSF: Digital Solidarity Fund

EC: European Commission

ECLAC: Economic Commission for Latin America and the Caribbean

EMR: electronic medical records

ENTICD: National Strategy for Information and Communication Technologies for Development

ERP: enterprise resource planning

ESCAP: Economic and Social Commission for Asia and the Pacific

ESCWA: Economic and Social Commission for Western Asia

ESIS: European Survey of Information Society

ET: Expert team

ETSI: European Telecommunications Standards Institute

FDI: foreign direct investment

GAD: Global Architectural Development

G2B: Government-to-business

G2C: Government-to-citizen

G2E: Government-to-employees

G2G: Government-to-Government

GAC: Government Advisory Committee

GIC: Global Internet Council

GIGF: Global Internet Governance Forum

GIPC: Global Internet Policy Council

GSU: Georgia State University

IAB: Internet Architecture Board

IANA: The Internet Assigned Numbers Authority

ICANN: Internet Corporation for Assigned Names and Numbers

ICARSOs: Internet Coordination, Administration, Regulatory and Standards Organizations

ICC: International Chamber of Commerce

ICSTD: Information, Communication and Space Technology

ICT: information and communication technology

ICTD: information and communication technology for development

IDB: Inter-American Development Bank

IDI: ICT Development Index

IDRC: International Development Research Centre

IESG: Internet Engineering Steering Group

IETF: Internet Engineering Task Force

IFAP: Information for All Programme

IG: Internet Governance

IGF: Internet Governance Forum

IIC: International Internet Council

IP: Internet Protocol

IPDC: International Programme for the Development of Communication

IPR: intellectual property rights

IRPOs: Internet Resource Provision Organizations

IRTF: Internet Research Task Force

IS / ISOC: Internet Society

ISP: Internet service provider

IT: Information Technology

ITT: Information Technology Transfer

ITU: International Telecommunication Union

KE: Knowledge Economy

KICTANet: Kenya ICT Action Network

KIF: Kenya ICT Federation

LOTAIP: Law on Access to Public Information

MDGs: Millennium Development Goals

MSP: multi-sector partnership

NEPAD: New Partnership for Africa's Development

NGO: non-governmental organization

MI&A: Polish Ministry of Interior and Administration

NICI: National Information and Communication Infrastructure

NISE: National Information Society Experiences

NISP: National Information Society Policy

OAU: Organization of African Unity, now replaced with the African Union (AU)

OCR: optical character recognition

OECD: Organisation for Economic Co-operation and Development

ONTI: Argentine National Office for Information Technology

OSS: open-source software

PDF: Portable Document Format

PIWA: Panos Institute West Africa

PPP: private and public partnership

PSO: Protocol Supporting Organization

R&D: research and development

R&D&I: Research, Development and Innovation
RFID: Radio Frequency Identification
S+D+I: Science, Development and Innovation
SMEs: small and medium-sized enterprises
SOs: Supporting Organizations
SocInfo: Fundación Sociedad de la Información
S&T: Science and Technology
SWOT: Strengths, Weaknesses, Opportunities, and Threats
TESPOK: Telecommunications Service Providers Association of Kenya
TV: television
UNDPEPA: United Nations Division for Public Economics and Public Administration
UNCTAD: United Nations Conference on Trade and Development
UNDP: United Nations Development Program
UNESCO: United Nations Education Science Culture Organisation
UNECA: United Nations Economic Commission for Africa
UNESCAP: United Nations Economic and Social Commission for Asia and the Pacific
USG: United State Government
VoIP: Voice over Internet Protocol
W3C: World Wide Web Consortium
WIPO: World Intellectual Property Organisation
WGIG: Working Group on Internet Governance
WICANN: World Internet Corporation for Assigned Numbers and Names
WSIS: World Summit on the Information Society
WTO: World Trade Organisation

2.5. Implementation phase

The implementation phase is the moment to put into practice the guidelines, the assigned budget and the activities planned in previous phases. The main tool at this stage is the political will to support the proposed goals, and to encourage the maintenance and streghtening of the established alliances between the multiple participating stakeholders.

Illustration 24. Implementation stage

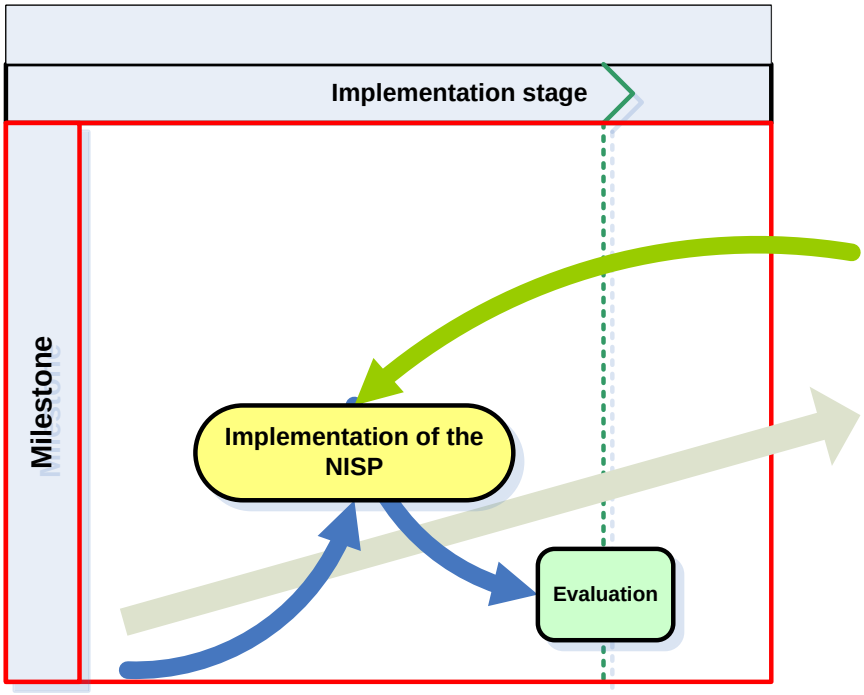
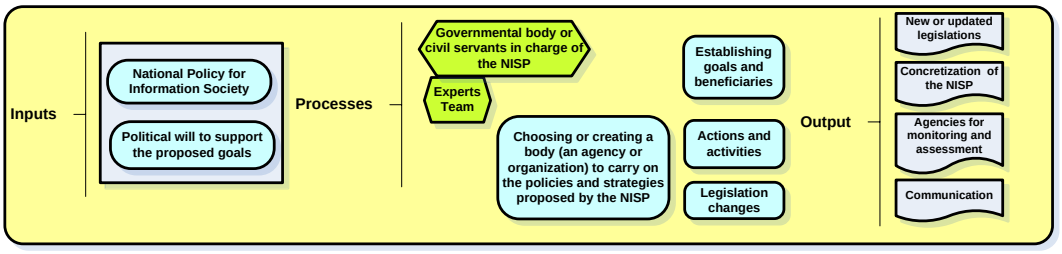


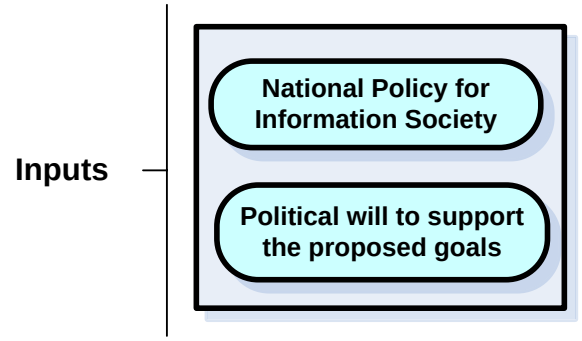
Illustration 25. Implementation phase components



2.5.1. Inputs for the implementation phase

The implementation phase gathers all the aspects related to the implementation of the NISP as planned in the elaboration stage, through a set of instruments and actions. In this phase, the implementation does not depend so much on the civil servant or governmental bodies charged with the construction of the NISP, nor on the experts team, but on the government and other social actors.

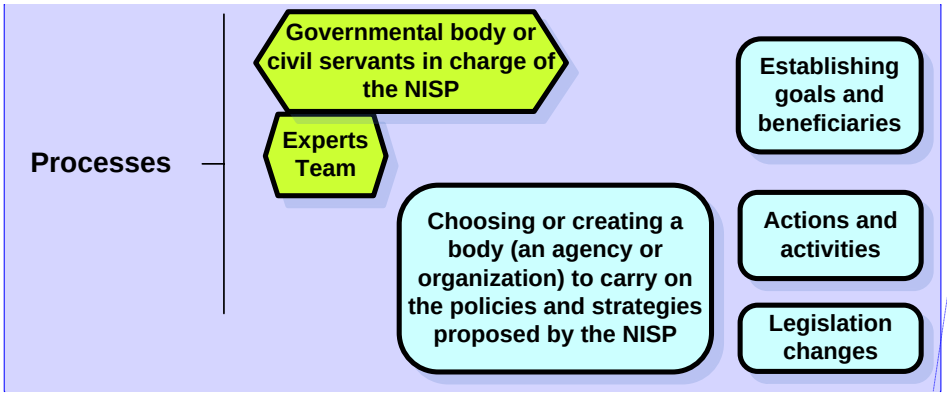
Illustration 26. Implementation phase inputs



Tip 4. The implementation actions differ in each policy or strategy

- Choosing or creating a body (an agency or organization) to carry out the policies and strategies proposed by the NISP. This organization is usually coordinated by the government, but it includes multisectoral stakeholders: enterprises, universities, NGOs, etc.
- Establishing goals and beneficiaries: Goals are the reason for the policy to exist; the beneficiaries are the individuals, communities and organization that will benefit from the NISP´s implementation.
- Plannig actions and activities to achieve the goals, concrete programs and projects, as priority areas: e-government, e-health, cybersecurity, etc.
- Legislation changes to make the NISP proposal feasible.

Illustration 27. Implementation phase processes



Comment [W3]: Hay que cambiar el grafico, y poner en vez de carry on the policies… Carry out the policies

2.5.2. Fast-Track Initiatives

Some procedures (Findlay, 2007) advise starting the implementation of the NISP with iniciatives or projects that can be developed in the short run and that will show the stakeholders, the financial sources, and the citizens, the efficacy of the NISP. However, every national environment requires different implementation steps. In the case of deciding on fast track iniciatives or projects, it is sensible to start with concrete, uncomplicated projects, which can be easily carried out.

- Implement early
- Demonstrated momentum/results
- Non complex projects
- Have a visible impact with citizens
- Support with promotion and awareness

Fast-Track Projects often include:

- e-Government Portal
- Community Access Centres
- Computers for Schools
- ICT related legislative amendments

2.5.3. Full Implementation

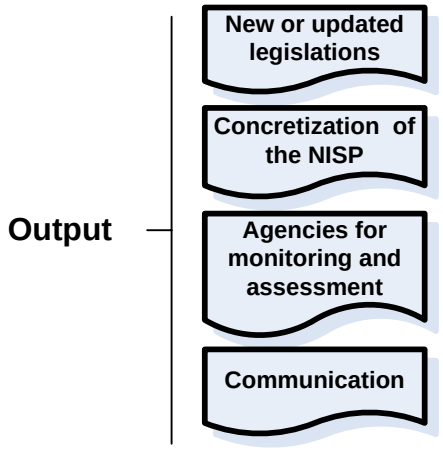
After the actors responsible for the NISP implementation have proved their efficacity and involvement, it is time to proceed to the full implementation of the policies and strategies. The requirements of full implementation are the following:

- Strengthened Governance model
- Detailed Project Planning
- Project Management/Integration
- Project staffing
- Streamlined procurement/contracting
- Financial management

2.5.4. Implementation Phase Outcomes

- New or updated legislations on Information Society
- The solidification of parts of the NISP, through concrete initiatives and projects, or of the full policy, over a given period of time
- The nomination of control agencies for monitoring and assessment
- Communication of the NISP to the population, in order to obtain citizens' involvement

Illustration 28. Outputs of the implementation phase



2.6. Follow-up phase

The assessment or control is the method through which governments and society may judge the real worthiness or credit of governmental (or multistakeholder) actions. Many countries are concerned about measuring the effective impacts of a NISP. The evaluation process implies a systematic examination of the NISP's objectives and its results, that is to say, an analysis of the distance between the effective results and the expected results.

Illustration 29. NISP follow-up, monitoring, control and adaptation.

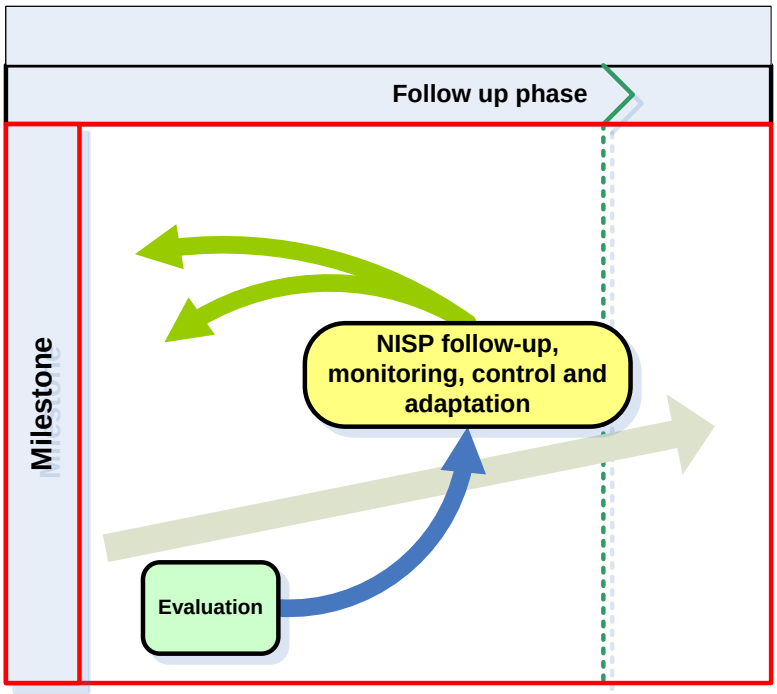
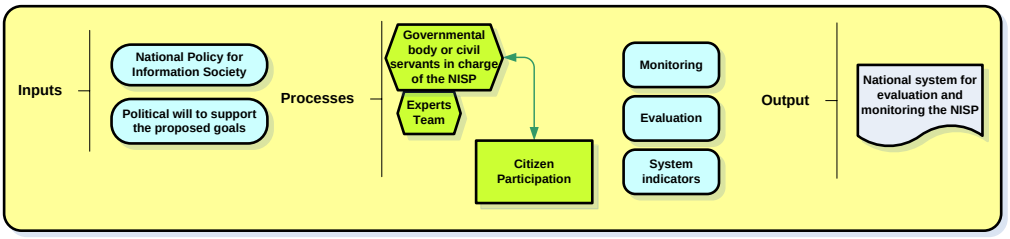
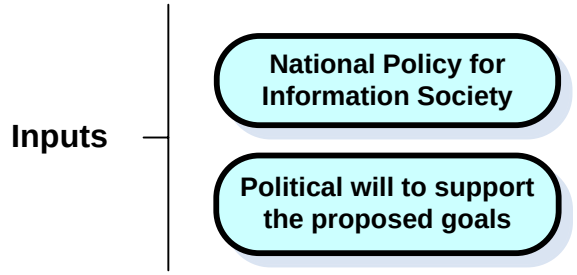


Illustration 30. Follow-up components



This distance may result from the intervention of random elements and/or the governments or chosen organization's handling of determined obstacles. In general, the monitoring and evaluation processes measure the distance between the orchestrated policy and the initial plan, and the economic effects generated by the executed policy.

Illustration 31. Inputs of the follow-up phase



2.6.1. Monitoring

According to Phil Bartle (2007), monitoring is the regular observation and recording of activities taking place in a project or programme. It is a process of routinely gathering information on all aspects of the project. In this case, to monitor is to check on how NISP's activities are progressing. Monitoring also involves giving feedback about the progress of the NISP to the stakeholders, implementers and beneficiaries of the project. Reporting enables the gathered information to be used in making decisions for improving the NISP's performance.

It is important to consider that generally there is no data available to consider the long term effects of the NISP. Therefore, rather than the accurate evaluation of the NISP's implementation results, a complete analysis or monitoring during several years is necessary.

Monitoring provides information that will be useful in:

- Analysing the situation in the country or community;
- Determining whether the inputs in the NISP are well utilized;
- Identifying problems facing the NISP's implementation and finding solutions;
- Ensuring all activities are carried out properly by the right people and in time;
- Using lessons from the experience to update the NISP, its strategies and tactics;
- Determining whether the way the NISP implementation was planned is the most appropriate way of achieving the goals.

2.6.2. Evaluation

Evaluation is a key phase, measuring and analyzing the impact of actions taken, to judge whether goals have been attained. In order to achieve effective evaluations, the departing situations or diagnostics have to be taken into account, in order to verify the changes that have been triggered by the NISP and its successive phases. Evaluation is not limited to the NISP's application: it should take place in all the phases of the NISP. As a result of this process, it may prove necessary to establish corrective measures demanding the formulation of new policy guidelines and implementation of new strategic actions, taking situational shifts into account. The policy can thus be updated. It should also be updated after some years.

Evaluation is a process of placing value on what an NISP has achieved particularly in relation to activities planned and overall objectives. It involves value judgment and hence it is different from monitoring (which is observation and reporting of observations). It is important to identify the constraints or bottlenecks that hinder the NISP implementation in achieving its goals. Solutions to the constraints can then be identified and implemented.

Evaluation should provide a clear picture of the extent to which the intended objectives of the NISP's actions and policies have been realized. Evaluation can and should be done during and after implementation.

Before implementing the NISP, evaluation is needed in order to:

- Assess the possible consequences of the planned NISP to the country over a period of time;
- Assist in making decisions on how the project will be implemented.

During the NISP's implementation:
Evaluation should be a continuous process and should take place in all the implementation activities. This enables the organization in charge to progressively review the strategies according to the changing circumstances in order to attain the desired activity and objectives.

After projects' implementation:
Evaluation should be used to retrace the NISP's planning and implementation process and results after its implementation.

Due to the time inbetween the layout or planning and the effective instrumentation, the evaluation of technological and organizational policies becomes an additional tool to understand the faults in the process, from the elaboration of the NISP to its application. Evaluating an NISP and studying its limitations can help formulate a new suitable policy which contemplates the real necessities of the country. In many cases, it is verified that the implementation difficulties are due to lack of coordination between the agents who act in the innovation system (companies, research centers, universities, NGOs) and financing institutions.

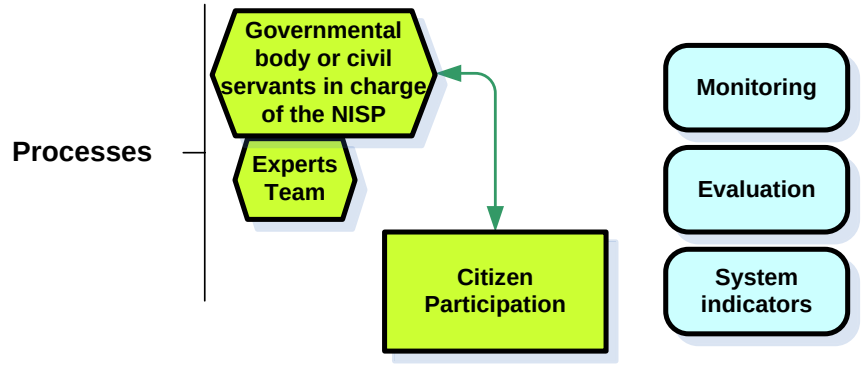
The second aspect of the evaluation is centered on the axis that links the policy with its economic effects. In this case, the evaluation aims to understand the way in which the implemented NISP directly and indirectly affected the performance of the participating agents, as well as other spheres of the economy. The first methods of evaluation were created decades ago in developed countries and were based, mainly, on quantitative analysis, using two tools: the "administrative information" of the companies to catch the

policy's impact on the sales, and the "cost-benefit" analysis to understand the relation between the financial gains and losses of the companies favored by the program. However, it is considered that those two evaluation tools are limited because they summarize the impacts of the policy with a unique financial variable and do not grasp all dimensions of the process.

The difficulties in measuring the effects of innovation policies, such as NISPs, are due to the fact that the innovation factor is the result of a dynamic process that supposes both short and long-term articulations among diverse stakeholders. In addition this process deals with the establishment of an innovative institutional environment, as well as new regulatory policies; both effects that are not easily measurable by means of traditional cost-benefit analysis.

In addition to quantitative methods (surveys, questionnaires), it may be useful to employ qualitative evaluation methods, including interviews to key informers, questionnaires, surveys, and case studies.

Illustration 32. Processes of the follow-up phase



Example 25. The Macedonian Strategy

The Macedonian Strategy

On September 21, 2005, the Parliament of the Republic of Macedonia adopted the

National Information Society Development Strategy 1 (hereinafter "the Strategy"). The Strategy represents the result of numerous efforts and processes in which various entities took place from the domestic political scene, the civil sector, international organizations, as well as from the political processes. The National Information Society Policy of the Republic of Macedonia States the "Development of a process of permanent monitoring and evaluation of the achieved results in the development of the Information society, with an emphasis of mandatory usage of the feedback (indicators) to create the future policies, strategies and plans in the Republic of Macedonia".

Source: Republic of Macedonia, 2005

2.6.3. The use of indicators

An indicator provides evidence that certain condition exists or certain results have or have not been achieved. Indicators enable decision-makers to assess progress towards the achievement of intended outputs, outcomes, goals, and objectives. As such, indicators are an integral part of a results-based accountability system[19].

Indicators can measure inputs, processes, outputs, and outcomes. Input indicators measure resources, both human and financial, devoted to a particular program or intervention (i.e., number of case workers). Input indicators can also include measures of characteristics of target populations (i.e., number of clients eligible for a program). Process indicators measure ways in which program services and goods are provided (i.e., error rates). Output indicators measure the quantity of goods and services produced and the efficiency of production (i.e., number of people served, speed of response to reports of abuse). These indicators can be identified for programs, sub-programs, agencies, and multi-unit/agency initiatives. Outcome indicators measure the broader results achieved through the provision of goods and services. These indicators can exist at various levels: population, agency, and program.

As for the criteria for selecting indicators, Horsch (2007) admits that choosing the most

[19] Horsch, Karen: Indicators: Definition and Use in a Results-Based Accountability System, Harvard Family Research Project, 1997, http://www.hfrp.org/publications-resources/browse-our-publications/indicators-definition-and-use-in-a-results-based-accountability-system

appropriate indicators can be difficult. Development of a successful accountability system requires that several people be involved in identifying indicators, including those who will collect the data, those who will use the data, and those who have the technical expertise to understand the strengths and limitations of specific measures.

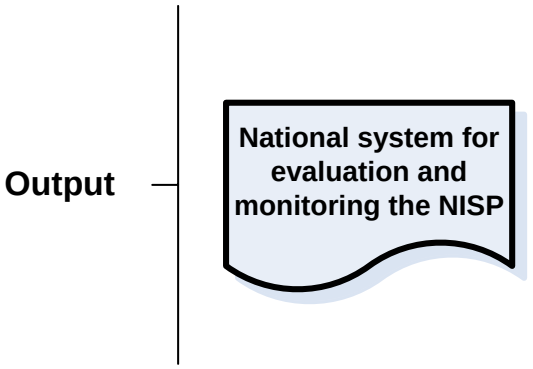
Some questions that may guide the selection of indicators are:

- Does this indicator enable one to know about the expected result or condition?
- Is the indicator defined in the same way over time? Are data for the indicator collected in the same way over time?
- Will data be available for an indicator?
- Are data currently being collected? If not, can cost effective instruments for data collection be developed?
- Is this indicator important to most people? Will this indicator provide sufficient information about a condition or result to convince both supporters and skeptics?
- Is the indicator quantitative?

As stated by Horsch, it is important to note that indicators serve as a red flag; good indicators merely provide a sense of whether expected results are being achieved. They do not answer questions about why results are or are not achieved, unintended results, the linkages existing between interventions and outcomes, or actions that should be taken to improve results. As such, data on indicators need to be interpreted with caution. They are best used to point to results that need further exploration, rather than as definitive assessments of program success or failure.

Some indicators systems developed by international organizations, and national and regional governments, are the following: OECD´s Guide to Measuring the Information Society (OECD, 2009); the ICT Development Index (IDI) of the International Communication Union - ITU (ITU, 2009b) and UNCTAD´s "The Global Information Society: a Statistical View" (UNCTAD, 2008).

Illustration 33. Outcomes of the follow-up phase



2.7. Permanent evaluation: a key element in the whole process

Working on an NISP does not finish with the final report or action plan. As a matter of fact, an NISP's work continues through monitoring and permanent evaluation. The main criteria of evaluation should be the verification of the achievement of goals and objectives laid down in an NISP. These criteria should be relevant to each of the goals and objectives.

There are many methodologies to carry out assessments and evaluations. One of them is the outcome mapping, a methodology endorsed by International Development Research centre, IDRC, Canada. Outcome mapping provides not only a guide to essential evaluation map-making, but also a guide to learning and increased effectiveness, and affirmation that being attentive along the journey is as important as, and critical to, arriving at a destination. It will help a program be specific about the actors it targets, the changes it expects to see, and the strategies it employs and, as a result, be more effective in terms of the results it achieves[20].

Evaluation of an NISP also provides an assessment of the NISP´s relevance, effectiveness and impact, efficiency and utility. An key aim of the evaluation is to assess the country's

See Outcome Mapping: Building Learning And Reflection Into Development Programs, 2002, by Sarah Earl, Fred Carden and Terry Smutylo. This publication explains the various steps in the outcome mapping approach and provides detailed information on workshop design and facilitation. It includes numerous worksheets and examples.

added value of these initiatives; their impacts at national level and lessons to be learned that may inform work-programme development of the agreed time line.

The process of monitoring and evaluating progress in achieving the goals of an Information Society policy is decisive in actually implementing the chosen goals. Without some indication, signals, even warnings of how all elements of society are adapting to the installation and application of the NISP, there can be no way of understanding whether the shift towards the construction of an Information Society or its permanent updating is actually taking place or working in positive ways. Moreover, there can be no understanding of future policy steps without reference to the current status of the NISP implementation and application procedures.

A multistakeholder commission may be designated in order to periodically monitor and assess the NISP´s efficiency and impacts.

Example 26. eEurope 2005 Final Evaluation

eEurope 2005 Final Evaluation

This evaluation contains the eEurope 2005 Action Plan, complementing the evaluation of the multi-annual programme of MODINIS (2003-2005). Its assessment includes three different evaluation criteria:

1. *Relevance and utility*: whether the objectives of that programme corresponded to the needs, opportunities and challenges of society
2. *Efficiency*: examining the level of resource use (inputs) required to produce outputs and generate results
3. *Impact*: whether the intervention has created the intended effects

Within each of these criteria a set of evaluation questions have been formulated to make the scope of the evaluation operational. The methodological approach is based on four types of analysis conducted in consecutive phases and makes use of multiple data sources; programme analysis, peer group analysis, country analysis and an impact analysis – developing an impact model.

Source: EC, 2007

The use of indicators to monitor these objectives is critically important, particularly in developing countries, where the digital divide is a prominent political issue. Indicators provide feedback with regard to national policy making and investment, and also in terms of external participation in projects and investments. In order to design the assessment methodology, the appointed commission will need to build a set of indicators (ESCWA, 2005).

The surveys can be reduced to chosen groups or open to the public. In this case, web surveys can be extremely useful, as shown by the Web-Based Survey on Electronic Public Services in Poland:

Example 27. WEB-Based Survey on Electronic Public Services in Poland

WEB-Based Survey on Electronic Public Services in Poland (III Edition 2004)

Conducted by he Ministry of Interior and Administration, the Ministry of Science and Information Society (public) and Technologies Capgemini Poland (consulting company, private). The report is conducted regularly, as part of the "eEurope 2002" and "eEurope 2005" strategies.This report evaluates the public service's development in Poland in comparison with other European countries. It points out the strengths and weaknesses of Polish eGovernment and helps to build up a proper developing strategy leading Poland to EU's level.

Source: MRR, 2008

Based on the evaluation findings, the assessment report may suggest that several aspects of both management and content of the given NISP can be improved when continuing the development of successive phases and updatings.

In the case of the eEurope 2005 Final Evaluation, the assessment report was conducted with a mixture of quantitative and qualitative methods." The mixture was chosen to meet the requirement that the evaluation be exploratory and forward thinking in order to provide lessons for the future. The methodology applied is more system and model oriented that what is commonly considered evaluation practice standard. The soundness and validity of the analyses and data elaborations have been secured through triangulation of findings from multiple sources.

The scope of the data collection was wide and different data were linked to each other in the analysis. The methodology contain four types of analysis

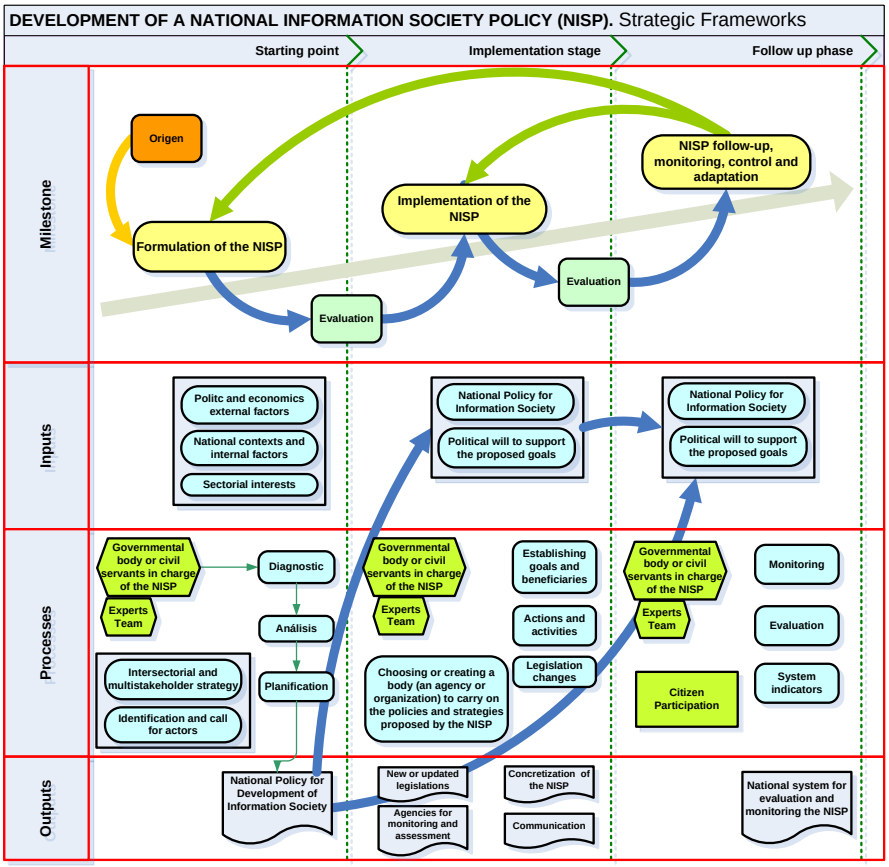
- Programme analysis
- Peer-group analysis
- Country analysis
- Impact analysis - impact cases and development of impact model

The overall objective of the programme analysis was to establish a preliminary description and analysis of the programme. The analysis primarily provided the basis for the assessment of the *efficiency,* but also provided input for the assessment of the programme's relevance, in particular regarding the relationship to other programmes. The data supporting the analysis was collected through desk research and interviews with programme related personnel both within the Commission services and in member states. Interviews were conducted both face to face and over the phone. The selection of interview partners was made in cooperation with the Commission, DG INFSO".

Another example from Poland is the *ePolska 2004-2006 monitoring report* (MRR 2008)**.** Conducted by the Ministry of Interior and Administration (MI&A) and the Ministry of Science and Information Society Technologies (public), this report was the first one in a series to be conducted regularly to monitor the progress in developing the Information Society in Poland. Based on the information given by all departments responsible for the implementation of the strategy, it deals with the following issues: to provide a cheap, broadband, safe internet for all citizens; to create on-line public services and eLearning platforms; to support a common ability to use PCs and to fight against eExlusion.

Illustration 24 shows the complete map pf the procedures to formulate, implement, monitor and evaluate an NISP:

Illustration 34. NISP Map


DEVELOPMENT OF A NATIONAL INFORMATION SOCIETY POLICY (NISP). Strategic Frameworks
Starting point
Implementation stage
Follow up phase
Milestone
Origen
Formulation of the NISP
Evaluation
Implementation of the NISP
Evaluation
NISP follow-up, monitoring, control and adaptation
Inputs
Politc and economics external factors
National contexts and internal factors
Sectorial interests
National Policy for Information Society
Political will to support the proposed goals
National Policy for Information Society
Political will to support the proposed goals
Processes
Governmental body or civil servants in charge of the NISP
Experts Team
Diagnostic
Análisis
Planification
Intersectorial and multistakeholder strategy
Identification and call for actors
Governmental body or civil servants in charge of the NISP
Experts Team
Choosing or creating a body (an agency or organization) to carry on the policies and strategies proposed by the NISP
Establishing goals and beneficiaries
Actions and activities
Legislation changes
Governmental body or civil servants in charge of the NISP
Experts Team
Citizen Participation
Monitoring
Evaluation
System indicators
Outputs
National Policy for Development of Information Society
New or updated legislations
Agencies for monitoring and assessment
Concretization of the NISP
Communication
National system for evaluation and monitoring the NISP

2.8. REMINDERS FOR GOVERNMENTAL OFFICERS, POLICY MAKERS AND EXPERTS TEAMS

There is no general recipe for successful ICT policies and e-strategies. Govenmental officers, experts teams, and policy makers in countries at different levels of development may identify examples of successes or best practices either within their own territories, or in other similar countries in order to adapt them as necessary to fit their nation's unique circumstances.

Nevertheless, a few principles are common to most, if not all, successful approaches. In crafting ICT policies, experts groups and policy makers face nine major challenges[21]:

10. A need for vision and leadership;
11. Consistency with other national development goals;
12. Coordination within government;
13. Consultation for consensus on objectives and approaches;
14. Implementation of articulated and realistic plans of action;
15. Resources prioritized and not based on mere wishful thinking;
16. Supportive legal framework to enable ICT policies;
17. Supportive policy frameworks to facilitate implementation; and
18. Objectives against which to monitor progress and produce defined results.

In view of these challenges it may be useful to consider these suggestions:

15. Knowing the degree of e-readiness is fundamental to set future goals and to implement realistic policies. Implement a reliable diagnostic on the status of your country regarding Information Society.
16. Establish a baseline of indicators that characterize the present and the historical trends leading up to it. Be precise in setting goals. Based on the previous diagnostic, and on the set of indicators you have used, formulate goals and monitor progress towards achieving them.

[21] Based on Ulrich, Chacko and Sayo (2004)

17. Be informed about international best practices. Use the Internet and other ICTs to research and identify best practices from other areas, which can eventually be replicated or adapted to your country's needs and context.
18. Prioritize your objectives, as well as the participating actors' goals and interests.
19. Engage stakeholders as early as possible with consultative and participatory workshops and seminars with the private sector, academia and civil society. For the general public, awareness campaigns and educational programmes may be the best tools for appropriate and productive adoption of ICTs.
20. Enlist the participation of federal, regional and local governments in your country in planning National Information Society policies and strategies from the early stages. Participating in the creation and updating of policies and strategies will not only provide the necessary information about local needs, goals, and demands, but it will also facilitate the involvement of provinces and regional states, as well as the implementation of the policies in their regions.
21. Consider that some of these actors and interests may be in conflict with other areas; others may deserve simultaneous but separate approaches.
22. Keep a long-term vision. Some policies generally only influence decisions over the medium to long term.
23. Be alert about leapfrogging opportunities. Analyse the stages through which other countries' successful ICT policies and industries have passed and find out where, if any, opportunities exist for leapfrogging these stages with cuting-edge or emerging ICTs.
24. Let government coordinate ICT initiatives—with investments, but most importantly, with conducive policies and legislation to encourage private capital and entrepreneurship. Governments are also the "model users" that by using ICTs will disseminate their appropriation by the citizens, for example, in e-government applications.
25. Let the private sector drive ICT initiatives, with investments, entrepreneurship, and coordination with the state and other stakeholders. While governments set the policies and the planning, much of the implementation falls upon the private sector. As such, private companies and organizations have a stake in ensuring that ICT policies and e-strategies match their priorities.
26. Engage the active participation of the science and technology or academic sector. This sector provides knowledge to be applied in ICT production and dissemination,

as well as the human resources to work in state and private ICT-related enterprises. Academic institutions can play a relevant role in helping design and evaluate ICT projects that may involve technically demanding research. In addition, their corporate research counterparts are also active in developing standards that are revolutionizing the spread and use of ICT.

27. Involve civil society organizations. ICT strategies should balance economic and social concerns to combine sectoral growth with the development of society. In the economic arena, the private sector drives progress, but in the social arena, civil society organizations (CSOs) and local communities should assume importance, particularly in rural areas far from the reach of central governments.
28. Ensure that policies and strategies are periodically monitored, evaluated, updated and modified as necessary to yield the desired results.

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ii. Index of Tables

iii. Index of Activities

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v. Index of Tips

MODULE III

GLOSSARY

A

Access to Information

The right to access to publicly-funded information means that all information, including scientific and social research, that is produced with the support of public funds should be freely available to all. More broadly, access to information also refers to communities or individuals gaining access to information which was previously not available to them, as a result of access to information and communication technologies and/or the internet. Source: APC Internet Rights Charter, http://www.apc.org/

Accessibility

Accessibility is a general term used to describe the degree to which a system is usable by as many people as possible. In the context of the internet, accessibility refers to the design of web interfaces, content and applications which are accessible to all, including people with physical, sensory or cognitive disabilities, people with changing abilities due to aging, people who are not literate, people who speak minority languages and people with slow internet connections.

Source: Wikipedia, http://en.wikipedia.org/wiki/Accessibility; W3C Web Accessibility Initiative http://www.w3.org/WAI/intro/accessibility.php#terms; and APC Internet Rights Charter http://www.apc.org/

Accelerating Factors

Accelerating factors are specific measures or actions taken at institutional and political level to overcome the obstacles in a given process. They imply coordinated operations, a kind of consensus among the diverse involved actors. Accelerating factors require financial investments, specialized human resources, communicational strategies, and training strategies.

Advocacy

The act of pleading or arguing in favour of something, such as a cause, idea, or policy; it is an active support.

Source: The American Heritage Dictionaries on Answers.com, http://www.answers.com/advocacy?cat=biz-fin

Agenda

A list or program of things to be done or considered. See also “Political Agenda.”
Source: Merriam – Webster´s Online Dictionary, http://www.merriam-webster.com/dictionary/agenda) .

Analytical Phase

The Analytical Phase, also called Assessment, is the phase for strategic definitions, when the Expert’s Group will have to answer to questions on the general and sectoral goals of the initiated process. It is the feedback of the Diagnostic. The Analytical phase is also an exercise in which the Experts Group will have to define the necessary institutional transformations (such as the creation of a National Information Society Agency, or changes in the legislation) to reach the proposed Information Society model.

AISI - The African Information Society Initiative

AISI is an action framework that has been the basis for information and communication activities in Africa since 1996. AISI is not about technology. It is about giving Africans the means to improve the quality of their lives and fight against poverty. The African Information Society Initiative aims at supporting and accelerating socio-economic development across the region. Driven by critical development imperatives, it focuses on priority strategies, programmes and projects which can assist in the sustainable build-up of an information society in African countries. This is in accordance with the regional integration goals of the Treaty establishing the African Economic Community, which foresaw the necessity of information networks and of regional databases, information sources and skills capacities.
Source: AISI, http://www.uneca.org/aisi/

ASEAN - Association of South-East Asian Nations

ASEAN was established on August 8, 1967, in Bangkok by the five original member countries: Indonesia, Malaysia, Philippines, Singapore, and Thailand. Brunei Darussalam joined on January 8, 1984, Vietnam on July 28, 1995, Laos and Myanmar on July 23, 1997, and Cambodia on April 30, 1999.
Official website: http://www.asean.or.id/

Assessment

The process of documenting (usually in measurable terms) knowledge, skills, attitudes and beliefs. Assessment can focus on one individual actor, a community, the institution, or the educational system as a whole.

Source: Wikipedia, http://en.wikipedia.org/wiki/Assessment

APC - Association for Progressive Communications

APC is an international network of civil society organisations dedicated to empowering and supporting groups and individuals working for peace, human rights, development and protection of the environment, through the strategic use of information and communication technologies (ICTs), including the Internet.

Source: Association for Progressive Communications, http://www.apc.org/

B

Beneficiaries

A beneficiary in the broadest sense is a natural person or other legal entity who receives money or other benefits from a benefactor. In this guide, it is important to identify the beneficiaries because that will indicate how one want the benefits divided.

Source: Wikipedia, http://en.wikipedia.org/wiki/Heir

C

Capacity-building

Capacity-building should be understood as a whole range of ideas, approaches and development interventions rather than a single concept. It goes from purely technical input (e.g. training) via organisational development (focusing on an organisation's systems and physical assets, but also on its people, its culture and its ability to plan for the future) and institutional development (the strengthening of links and development of the environments within which organisations exist) to a broader process involving individuals and communities in poor countries, strengthening and building their understanding and knowledge of their own needs, entitlements and rights, and enabling them to organise themselves to respond to this understanding.

Source: "Capacity building: A buzz word or an aid to understanding?" by Ben Green and Mike Battcock, in Developments Magazine, 2001. Available at http://www.developments.org.uk/

Civil Society

Civil society commonly embraces a diversity of spaces, actors and institutional forms, varying in their degree of formality, autonomy and power. Civil societies are often populated by organisations such as registered charities, development non-

governmental organisations, community groups, women's organisations, faith-based organisations, professional associations, trades unions, self-help groups, social movements, business associations, coalitions and advocacy groups.

Source: "What is civil society?", initial working definition adopted by the Centre for Civil Society at the London School of Economics, http://www.lse.ac.uk/collections/CCS/what_is_civil_society.htm

Cultural and Linguistic Diversity

The WSIS Plan of Action states that cultural and linguistic diversity, while stimulating respect for cultural identity, traditions and religions, is essential to the development of an information society based on the dialogue among cultures and regional and international cooperation and an important factor for sustainable development. Websites, online tools and software are dominated by the use of Latin script. This effects the development of local content in non-Latin languages and impedes the possibility of intercultural content exchange.

Source: Action line C8 of the WSIS Plan of Action http://portal.unesco.org/ci/en/ev.php-URL_ID=15927&URL_DO=DO_TOPIC&URL_SECTION=201.html; and APC Internet Rights Charter, http://www.apc.org/

Creative Commons

Creative Commons is a nonprofit corporation dedicated to making it easier for people to share and build upon the work of others, consistent with the rules of copyright. It provides free licenses and other legal tools to mark creative work with the freedom the creator wants it to carry, so others can share, remix, use commercially, or any combination thereof.

Source: Creative Commons website, http://creativecommons.org/

Community

There are a number of ways of defining communities and together they make up the interconnected systems of society. Some approaches include: geographic communities (such as suburbs or towns that are often referred to as "the local communities"); communities of interest, identity, or circumstance (such as the business and its various industry sectors and the research communities); the non-profit and voluntary sectors, which are also known as the community sector; ethnic and cultural communities; communities of interest such as those for hobbies, sports or politics; imagine communities (a concept coined by Benedict Anderson which states that a nation is a community socially constructed, which is to say imagined by the people who perceive

themselves as part of that group); and communities of circumstance, such as youth, parenthood, senior citizens or the disabled; among other perceptions.

Connectivity

The ability to use an electronic network in order to send and receive information between any locations, devices or business services.

Convergence

Term applied to the way in which computing, telecommunications and television are moving towards a common technological basis characterized by the use of digital systems.

D

Development

The concept of development is used in a broad range of disciplines, such as biology, natural sciences, philosophy, economics, telecommunications, and social sciences. In this guide, the concept "development" is more related to human development than to economic growth. If economic growth does not always translate into human development, it is essential to conceive public policies that foster a kind of development that take into account the improvement of the people's standard of living and not only the economic growth of the country.

Diagnostic

The Diagnostic, also called Assessment Phase, refers to a diagnostic analysis process based on situational theory. The Hersey-Blanchard situational theory is a situational leadership theory developed by Paul Hersey, and Ken Blanchard. They created a model of situational leadership in the late 1960s that allows for analysis of the needs of the situation, then the adoption of the most appropriate leadership style. It has been proven popular with managers over the years because it is simple to understand, and it works in most environments for most people. This analysis means to identify: the country's main historical antecedents; the national political definitions the adopted development models; the progresses in the construction of an Information Society; and the obstacles and limitations found in this process.

Source: Wikipedia, The Free Encyclopaedia, http://en.wikipedia.org/wiki/Hersey-Blanchard_situational_theory

Digital Divide

The term "digital divide" was coined in the 1990s to describe the perceived growing gap between those who have access to and the skills to use ICT and those who, for socio-economic and/or geographical reasons, have limited or no access. There was a particular concern that ICT would exacerbate existing inequalities. A number of areas of specific concern were identified both here and abroad, namely that people could be disadvantaged by their geographic location, age, gender, culture and/or economic status.

Digital Literacy

Refers to the ability to use digital technology, communication tools or networks to locate, evaluate, use and create information.

Disruptive Technology

This term was coined by Clayton M. Christensen to describe a new, low-cost, often simpler technology that displaces an existing sustaining technology. Disruptive technologies are usually initially inferior to the technology that they displace, but their low cost creates a market that induces technological and economic network effects that provide the incentive to enhance them to match and surpass the previous technology. They create new industries, but eventually change the world. Examples include the internal combustion engine, transistors and the Internet.

Source: Wikipedia, http://en.wikipedia.org/wiki/Disruptive_technology

E

e-LAC

eLAC is a regionally concerted strategy that conceives of Information and Communications Technologies (ICTs) as instruments for economic development and social inclusion. It is a strategy with a long-term vision (until 2015) in line with the Millennium Development Goals (MDGs) and those of the World Summit on the Information Society (WSIS), which is concentrated on short-term action plans with concrete qualitative and quantitative goals to be achieved:

- **eLAC2007** with 30 goals and 70 activities for the years 2005-2007
- **eLAC2010** with 83 goals to be achieved during the 2008-2010 period.

The eLAC Action Plans aim to:

- 1) Act as a "metaplatform" for public-private action in order to coordinate the efforts of various sectors, with an end to generating synergies, avoiding the

duplication of efforts, and strengthening regional projects, by means of cooperation and the exchange of best practices at a regional level.

- 2) Forge national strategies and initiatives in specific areas, establishing lines of action and defining indicators that illustrate the state of progress in the development of the information society.
- 3) Deepen knowledge on critical issues in order to support the definition, design, implementation and evaluation of policies.
- 4) Intermediate between the needs of the region's countries and the rhythm of global development, considering regional particularities within the context of the goals of the global community.

Source: eLAC page on ECLAC website http://www.eclac.org/socinfo/elac/default.asp?idioma=IN

Enabling Environment

It refers to the national policies, laws, physical infrastructure (roads, electricity, etc.), and other infrastructure (access to education, access to the Internet, access to banks, etc.) that need to be in place for people to be able to use ICTs to their advantage. Source: ICT for Rural Livelihoods, http://www.ict4rl.info/Topics/EnablingEnvironment

e-Crime

Electronic crime covers offences where a computer or other ICT is used as a tool to commit an offence, is the target of an offence or is used as a storage device in an offence. Source: New Zealand Police: Services: E-Crime Unit, http://www.police.govt.nz/service/ecrime/

e-GIF - E-government Interoperability Framework

The e-GIF is a significant tool to enable agencies to work together electronically in a spirit of collaboration. It allows agencies to focus on the business of integrating their services for people without having to decide on competing technology standards. In the e-government context, interoperability relates specifically to the electronic systems that support business processes between agencies and between government and people and business. It does not mean that a central agency will dictate common systems and processes. Interoperability can be achieved by the application of a framework of policies, standards and guidelines that leave decisions about specific hardware and software solutions open for individual agencies or clusters of agencies to resolve. Source: E-government Unit, New Zealand, http://www.e-government.govt.nz/docs/e-gif-v-2/chapter4.html

e-Government

Definitions of “e-government” range from “the use of information technology to free movement of information to overcome the physical bounds of traditional paper and physical based systems” to “the use of technology to enhance the access to and delivery of government services to benefit citizens, business partners and employees.” The common theme behind these definitions is that e-government involves the automation or computerization of existing paper-based procedures that will prompt new styles of leadership, new ways of debating and deciding strategies, new ways of transacting business, new ways of listening to citizens and communities, and new ways of organizing and delivering information. Ultimately, e-government aims to enhance access to and delivery of government services to benefit citizens. More importantly, it aims to help strengthen government’s drive toward effective governance and increased transparency to better manage a country’s social and economic resources for development.

Source: Wikipedia, http://en.wikibooks.org/wiki/E-government/Definition

e-Health

Involves the electronic enablement of the health and disability support services in order to: empower individuals and their families to manage their own health and participation better; improve the co-ordination and integration of care delivery to individuals; and allow population health initiatives such as a disease mapping to occur in a timely fashion.

e-Inclusion

Refers to specific policies to encompass activities related to the achievement of an inclusive information society.

e-Learning

Learning that is facilitated by the use of digital tools and content. Typically, it involves some form of interactivity, which may include online interaction between the learner and their teacher or peers. It can also be defined as the delivery of a learning, training or education program by electronic means. E-learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way to provide training, educational or learning material.

Source: Derek Stockley (2003), http://derekstockley.com.au/elearning-definition.html

E-learning can also involve a greater variety of equipment than online training or

education, for as the name implies, "online" involves using the Internet or an Intranet. CD-ROM and DVD can be used to provide learning materials.

e-Readiness

The “state of play” of a country’s information and communications technology (ICT) infrastructure and the ability of its consumers, businesses and governments to use ICT to their benefit. E-readiness is not simply a matter of the number of computers, broadband connections and mobile phones in the country (although these naturally form a core component of the rankings); it also depends on such things as citizens’ ability to utilise technology skillfully, the transparency of the business and legal systems, and the extent to which governments encourage the use of technologies.

Source: “2006 e-readiness rankings” by Economist Intelligence Unit, http://a330.g.akamai.net/7/330/2540/20060424215053/graphics.eiu.com/files/ad_pdfs/2006Ereadiness_Ranking_WP.pdf

***e*-Europe Initiative**

On December 8, 1999, the European Commission launched an initiative entitled "e-Europe: An Information Society for All", which proposes ambitious targets to bring the benefits of the Information Society within reach of all Europeans. The initiative focuses on ten priority areas, from education to transport and from healthcare to the disabled.

Official website: http://ec.europa.eu/eeurope/

Experts

An expert is someone widely recognized as a reliable source of technique or skill whose faculty for judging or deciding rightly, justly, or wisely is accorded authority and status by their peers or the public in a specific well distinguished domain. An expert, more generally, is a person with extensive knowledge or ability in a particular area of study. Experts are called in for advice on their respective subject, but they do not always agree on the particulars of a field of study. An expert can be, by virtue of training, education, profession, publication or experience, believed to have special knowledge of a subject beyond that of the average person, sufficient that others may officially (and legally) rely upon the individual's opinion.

Source: Wikipedia, http://en.wikipedia.org/wiki/Expert

EUREKA

Launched in 1985, EUREKA has already changed the face of pan-European cooperative research and development. It is a framework through which industry and

research institutes from 26 European countries and the European Union develop and exploit the technologies crucial to global competitiveness and a better quality of life.
Official website: http://www3.eureka.be/Home/

Evaluation

Encompasses a process of judging value on what an NISP has achieved particularly in relation to activities planned and overall objectives. It involves value judgment and therefore it is different from monitoring (which is observation and reporting of observations). It is important to identify the constraints or bottlenecks that hold back the NISP implementation in achieving its goals. Solutions to the constraints can then be identified and implemented.

F

Future Internet

Future Internet is a summarizing term for world-wide research activities dedicated to the further development of the original Internet. While the technical development of the Internet has been an extensive research topic from the beginning, an increased public awareness of several critical shortcomings in terms of performance, reliability, scalability, security and many other categories including societal, economical and business aspects, has led to Future Internet research efforts. Given the diversity of technologies related to the Internet, extended by lower and higher layers and applications, the related research topics are wide spread. The time horizon of Future Internet studies is typically considered to be long term, taking several years before significant results can be expected or corresponding deployments take place in the real world.
Source: Wikipedia, http://en.wikipedia.org/wiki/Future_Internet

Framework

A basic conceptual structure used to solve or address complex issues. This very broad definition has allowed the term to be used as a buzzword, especially in a software context and social sciences.
Source: Wikipedia, http://en.wikipedia.org/wiki/Framework

FOSS - Free and Open Source Software

Free and Open Source Software (FOSS) includes programmes whose licenses give users the freedom to run, copy, distribute, study, change and improve the software as

well as share copies of either the original or the modified software, under the same license agreement. Free, in this context, refers to free use and not necessarily "free of charge".

Source**:** Free Software Foundation, http://www.fsf.org/licensing/essays/free-sw.html

G

GDP

Gross Domestic Product is a measure of the size of the economy of a particular territory. It is defined as the total value of all goods and services produced within that territory during a specified period (most commonly, per year).

Source: Wikipedia, http://en.wikipedia.org/wiki/Gross_domestic_product

Gender and ICTs

In many societies, women are the most impoverished and with the least access to resources and with little control over decisions that affect their lives. For this reason, women are on the wrong side of the digital divide, with limited access to and control over ICTs. When considering the factors that contribute to these inequalities it is important to understand the ways in which ICTs are allocated between women and men (the gendered allocation of ICTs), the different opportunities that exist for men and women with respect to education, training and skills development, employment and working conditions, content development and access to power structures and decision-making processes. Beyond questions of access to technology and software, other major concerns may need to be addressed such as the need to break down gender and cultural barriers to women's access to careers in technology, or absence of women in decision-making structures.

Source: GenderIT.org, http://www.genderit.org/en/beginners/whygender.htm, and APC Glossary, http://www.apc.org/en/glossary/term/328

Governance

Governance refers to all the rules, procedures and practices affecting how powers are exercised, whether at the international or national level or within an organisation or network.

Source**:** Europa glossary, http://europa.eu/scadplus/glossary/governance_en.htm

Government

Refers to the organisation that is the governing authority of a political unit, the ruling

power in a political society, and the apparatus through which a governing body functions and exercises authority.
Source: Wikipedia, http://en.wikipedia.org/wiki/Government

G7

Refers to the group of the seven most developed industrial countries: Canada, France, Germany, Italy, Japan, United Kingdom, and the United States.

G8

Refers to the group of the eight leading industrialised nations: Canada, France, Germany, Italy, Japan, Russia, United Kingdom, and the United States.

I

ICT Sector

In most countries, the ICT sector is an agglomeration of the communications sector, including telecommunications providers, and the information technology sector, which ranges from small software development firms to multi-national hardware and software producers.
Source: "Growth and Innovation Framework" by the Ministry of Economic Development, New Zealand, http://www.med.govt.nz/templates/ContentTopicSummary____566.aspx

ICT Policy

Refers to those plans of actions to guide decisions and achieve rational outcomes on ICT related areas. Usually, it covers three main areas: telecommunications (especially telephone communications), broadcasting (radio and TV) and the Internet. It may be national, regional or international. Each level may have its own decision-making bodies, sometimes making different and even contradictory policies. ICT policy is formally put in place by governments, but increasingly in most contexts, different stakeholders including the private sector and civil society make inputs into the policy process, thereby affecting its outcomes.
Source: APC, www.apc.org

ICT Taskforce

In March 2001, the Economic and Social Council requested the Secretary-General to establish an Information and Communication Technologies (ICT) Task Force. This initiative is intended to lend a truly global dimension to the multitude of efforts to bridge

the global digital divide, foster digital opportunity and thus firmly put ICT at the service of development for all. The Task Force is supported by the heads of state and governments of all UN member states who endorsed the ECOSOC Ministerial Declaration at the Millennium Summit in September 2000. Official website: http://www.unicttaskforce.org/

In New Zealand, this group was established in response to the government's Growth and Innovation Framework. It has four related goals, which are to enhance the existing innovation framework, develop skills and talent, increase global connectedness and focus effort for maximum gain. The Taskforce comprised a tightly focused group of New Zealand ICT business leaders with relevant commercial experience. It reported into the growth potential of New Zealand ICT and identified the collective private sector and government contributions needed to achieve this potential.

Source: "ICT Taskforce, Breaking through the Barriers" (2003), http://www.nzte.govt.nz/section/13680.aspx

Information

This term has many meanings depending on the context. For example, it is often related to such concepts as meaning, knowledge, communication, truth, representation, and mental stimulus. See also Information Society and ICT. Source: Wikipedia, http://en.wikipedia.org/wiki/Information

Information literacy

Refers to the life-long ability to locate, evaluate, use and create information.

Information Society

A term for a society in which the creation, distribution and manipulation of information has become the most significant economic and cultural activity. An Information Society may be contrasted with societies in which the economic underpinning is primarily industrial or agrarian. The machine tools of the Information Society are computers and telecommunications, rather than lathes or ploughs. Source: A Whatis Definition, http://whatis.techtarget.com/definition/0,,sid9_gci213588,00.html

Manuel Castells (2000), a well known Spanish sociologist that has deeply analyzed this knowledge area, prefers the term "informational society" to "information society" (establishing the comparison with the difference between industry and industrial). He states that while knowledge and information are decisive elements in all modes of development, "*the term informational indicates the attribute of a specific form of social organization in which information generation, processing, and transmission are*

transformed into the fundamental sources of productivity and power, due to the new technological conditions that arise during this historic period."

ICT - Information and Communications Technology (or technologies)

An umbrella term that includes all technologies for the manipulation and communication of information.

Source: Wikipedia, http://en.wikipedia.org/wiki/Information_and_Communication_Technologies

Information, Communication Technology (ICT) goods

ICT goods are those that are either intended to fulfil the function of information processing and communication by electronic means, including transmission and display, OR which use electronic processing to detect, measure and/or record physical phenomena, or to control a physical process. ICT goods are defined by the OECD in terms of the United Nations Harmonised System.

Source: OECD Glossary for Statistical Terms, http://stats.oecd.org/glossary/detail.asp?ID=6274

Innovation

The term means a new way of doing something. It may refer to incremental, radical, and revolutionary changes in thinking, products, processes, or organizations. Colloquially, the word "innovation" is often synonymous with the output of the process. However, economists tend to focus on the process itself, from the origination of an idea to its transformation into something useful, to its implementation; and on the system within which the process of innovation unfolds. Since innovation is also considered a major driver of the economy, especially when it leads to increasing productivity, the factors that lead to innovation are also considered to be critical to policy makers.

Source: Wikipedia, http://en.wikipedia.org/wiki/Innovation

Innovating firm, technological product and process

A technological product and process innovating firm is one that has implemented technologically new or significantly technologically improved products or processes during the period under review.

Source: OECD, http://stats.oecd.org/glossary/search.asp

IDB - Inter-American Development Bank

The IDB (although sometimes found abbreviated as IADB), is an international organization established and headquartered in Washington, D.C., United States, in 1959 to support Latin American and Caribbean economic and social development and

regional integration by lending mainly to governments and government agencies, including state corporations. Source: Wikipedia, http://en.wikipedia.org/wiki/Inter-American_Development_Bank

Intellectual property

Very broadly, it means the legal rights that result from intellectual activity in the industrial, scientific, literary and artistic fields. Countries have laws to protect intellectual property, for two main reasons: to give statutory expression to the moral and economic rights of creators in their creations and the rights of the public to access those creations; and to promote, as a deliberate act of government policy, creativity and the dissemination and application of its results, and encourage the fair trading that contributes to economic and social development. Intellectual property is traditionally divided into two branches: industrial property and copyright. Industrial property includes inventions (patents), trademarks, industrial designs and geographic indications of source and copyright includes literary and artistic works.

Source: "WIPO Intellectual Property Handbook: Policy, Law and Use" by WIPO, http://www.wipo.int/about-ip/en/iprm/

Inter-modal competition

Competition between dissimilar technologies, such as ADSL and wireless technologies. Intra-modal competition refers to competition between similar technologies.

Interoperability

The ability of two or more systems or components to exchange information and to use the information that has been exchanged.

Source: Software Engineering Institute, Carnegie Mellon University, http://www.sei.cmu.edu/str/index.html

IP - Internet Protocol

The IP is a network-layer protocol that contains addressing information and some control information that enables packets of data to be routed between hosts on the Internet.

Source: Cisco Systems Inc., http://www.cisco.com/univercd/cc/td/doc/cisintwk/ito_doc/ip.htm

Internet Governance

The definition of Internet Governance has been contested by differing groups across political and ideological lines. One of the key debates centers on the authority and

participation of certain actors, such as national governments and corporate entities to play a role in the Internet's governance. A working group established after a United Nations-initiated World Summit on the Information Society (WSIS) proposed the following definition of Internet Governance as part of its June 2005 report: Internet governance is the development and application by governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet.

Source, Wikipedia, http://en.wikipedia.org/wiki/Internet_governance

IANA - The Internet Assigned Numbers Authority

The IANA is the entity that oversees global IP address allocation, root zone management for the Domain Name System (DNS), media types, and other Internet protocol assignments. It is operated by the Internet Corporation for Assigned Names and Numbers, better known as ICANN. Prior to the establishment of ICANN for this purpose, IANA was administered primarily by Jon Postel at the Information Sciences Institute at the University of Southern California, under a contract USC/ISI had with the United States Department of Defense, until ICANN was made to assume the responsibility under a United States Department of Commerce contract.

Source: Wikipedia, http://en.wikipedia.org/wiki/Internet_Assigned_Numbers_Authority

ICANN - the Internet Corporation for Assigned Names and Numbers

ICANN is the Internet Corporation for Assigned Names and Numbers. Headquartered in Marina Del Rey, California, United States, ICANN is a non-profit corporation that was created on September 18, 1998, in order to oversee a number of Internet-related tasks previously performed directly on behalf of the U.S. Government by other organizations, notably the Internet Assigned Numbers Authority (IANA). ICANN's tasks include responsibility for Internet Protocol (IP) address space allocation, protocol identifier assignment, generic (gTLD) and country code (ccTLD) Top Level Domain name system management, and root server system management functions. More generically, ICANN is responsible for managing the assignment of domain names and IP addresses. To date, much of its work has concerned the introduction of new generic top-level domains. The technical work of ICANN is referred to as the IANA function. ICANN's other primary function involves helping preserve the operational stability of the Internet; to promote competition; to achieve broad representation of global Internet community; and to develop policies appropriate to its mission through bottom-up, consensus-based processes.

Source: Wikipedia, http://en.wikipedia.org/wiki/ICANN

IETF - the Internet Engineering Task Force

The Internet Engineering Task Force (IETF) develops and promotes Internet standards, cooperating closely with the W3C and ISO/IEC standard bodies and dealing in particular with standards of the TCP/IP and Internet protocol suite. It is an open standards organization, with no formal membership or membership requirements.

Source: Wikipedia, http://en.wikipedia.org/wiki/Internet_Engineering_Task_Force

ITU - International Telecommunication Union

ITU is the leading United Nations agency for information and communication technology issues, and the global focal point for governments and the private sector in developing networks and services. For nearly 145 years, ITU has coordinated the shared global use of the radio spectrum, promoted international cooperation in assigning satellite orbits, worked to improve telecommunication infrastructure in the developing world, established the worldwide standards that foster seamless interconnection of a vast range of communications systems and addressed the global challenges of our times, such as mitigating climate change and strengthening cybersecurity. ITU also organizes worldwide and regional exhibitions and forums, such as ITU TELECOM WORLD, bringing together the most influential representatives of government and the telecommunications and ICT industry to exchange ideas, knowledge and technology for the benefit of the global community, and in particular the developing world.

Source: ITU website, http://www.itu.int/net/about/index.aspx

Inter-operability

Devices, in particular application programmes, are inter-operable when, in addition to communicating with each others, they can also execute together a common task. They co-operate. This requires additional standards, such as API (Application Programme Interfaces).

Source: EUROPA - Europe's Information Society Thematic Portal, http://europa.eu/scadplus/glossary/.htm

i2010 - A European Information Society for 2010

The i2010 is the European Commission's new strategic framework for the information and media society, launched in June 2005. It centres on three priorities: completing a single European information space which will encourage an open, competitive internal market for the information and media society; promoting innovation and investment in

research into information and communication technologies (ICT); creating a European information society based on inclusion and stressing better public services and quality of life. i2010 is the first initiative taken by the Commission within the renewed Lisbon partnership for growth and employment. This strategy follows on from two action plans, eEurope 2002 and eEurope 2005, which set out the steps to be taken to promote ICT in Europe.

Source: Europa Glossary, http://europa.eu/scadplus/glossary/infoso_media_policy_guidelines_en.htm

J

Joint Africa-EU Strategy:

The European Union and the African Union have decided to further strengthen the ties linking both continents by developing a 'co-owned joint strategy' which reflects the needs and aspirations of the peoples of Africa and Europe. The purpose of this Joint Strategy is to develop a political vision and practical approaches for the future partnership between the EU and Africa, based on mutual respect, common interests and the principle of ownership. The negotiations on the Joint Strategy have been ongoing since February 2007, and a first draft was approved in May 2007. The final Strategy was therefore adopted at the EU-Africa Summit which was held in Lisbon in December 2007.

Source: Eurafrica.net, http://europafrica.net/jointstrategy/

K

Knowledge

Is built up from interaction with the world, and is organised and stored in each individual's mind. It is also stored on an organisational level within the minds of employees and in paper and electronic records. Two forms of knowledge can be distinguished: tacit, or implicit knowledge, which is held in a person's mind and is instinctively known without being formulated into words; and explicit knowledge, which has been communicated to others and is held in written documents and procedures. Organisations are increasingly recognising the value of knowledge, and many employees are now recognised as knowledge workers.

Knowledge society

A society that creates, shares and uses knowledge for the prosperity and well-being of its people. Knowledge societies share the belief that knowledge forms a major component of any human activity. Economic, social, cultural, and all other human activities become dependent on a huge volume of knowledge and information. A knowledge society is one in which knowledge becomes a major creative force.

Source: Wikipedia, http://en.wikipedia.org/wiki/Knowledge_society

M

M-Government

As an integral part of the e-government program, many central and local governments in the world start to offer e-government services via a variety of service delivery channels apart from the web. One of these service delivery channels is mobile telephony. Use of mobile telephony in delivering e-government services gave birth to the mobile government or m-government.

Source: m-Government: Definition and Perspectives

The Development Gateway, www.developmentgateway.org/e-government

Matrix

A broad term that means the place in which material things or concepts are developed or formed. In this case, it is the context in which policies are conceived and put into action.

Methodology

In this guide, it refers to pubic policy specific analysis techniques.

Monitoring

The regular observation and recording of activities taking place in a project or programme. It is a process of routinely gathering information on all aspects of the project. In this case, to monitor is to check on how NISP's activities are progressing. Monitoring also involves giving feedback about the progress of the NISP to the stakeholders, implementers and beneficiaries of the project. Reporting enables the gathered information to be used in making decisions for improving the NISP's performance.

Source: The Nature of Monitoring and Evaluation, by Phil Bartle, http://www.scn.org/cmp/modules/mon-wht.htm

N

NISPs - National Information Society Policies

NISPs can be defined as a coherent set of public strategies to promote the growth of an Information Society oriented to the overall and interrelated social, political, human, and technological development in each society, which development motor is the production use and equitable exploitation of knowledge by all the social sectors. These public policies are generally based on the assumption that knowledge- based goods and services integrate the central structure of the new economy, in which information and knowledge, exchanged and disseminated through ICT-based networks, will constitute the main input for society development.

Next Generation Internet

Next Generation Internet is a term used by governments, corporations and educators to describe the future network and the work underway to develop it. The future Internet will be so pervasive, reliable and transparent that it will be taken for granted. It will be a seamless part of life much like electricity or plumbing. However, getting to this will involve exploring technologies and network capacities that are in advance of offerings from commercial providers in terms of bandwidths, communications protocols and services.

O

OECD - Organisation for Economic Co-operation and Development

OECD comprises 30 member countries sharing a commitment to democratic government and the market economy. Its work covers economic and social issues, from macroeconomics to trade, education, development and science and innovation. Source: OECD, http://www.oecd.org/about/0,2337,en_2649_201185_1_1_1_1_1,00.html

P

Political agenda

Refers to a set of issues and policies laid out by either the executive or cabinet in government which tries to dictate existing and near-future political news and debate. The political agenda while shaped by government can be influenced by grass-roots support from party activists at events such as a party conference and can even be shaped by non governmental activist groups which have a political aim.
Source: Wikipedia, http://dictionary.babylon.com/Political%20agenda

Propositive Matrix

The third phase of the NISP formulation process, which follows the Diagnostic and the Analysis. It is a logical framework that outlines the NISP proposals, identifies and suggests accelerator factors to reach the desired goals (Accelerator factors are those elements or measures that remove the identified obstacles). The Propositive Matrix confronts the ideal Information Society model drafted in the Analytical phase with the possible obstacles that will have to be overcome, and identifies the accelerator factors which will be used to reach the goals more rapidly and efficiently.

Public sector

The public sector comprises the general government sector plus all public corporations including the central bank.
Source: OECD, http://stats.oecd.org/glossary/search.asp

Public policy

In any society, governmental entities enact laws, make policies, and allocate resources. This is true at all levels. Public policy can be generally defined as a system of laws, regulatory measures, courses of action, and funding priorities concerning a given topic promulgated by a governmental entity or its representatives.
Public policies can also be defined as public policies can be defined as the body of principles that underpin the operation of legal systems in each state
Source: Dean G. Kilpatrick, Definitions of Public Policy and the Law, http://www.musc.edu/vawprevention/policy/definition.shtml and Wikipidia, http://en.wikipedia.org/wiki/State_(law)

R

Radio frequency

It refers to a location or band on the radio frequency spectrum, such as 800, 900 or 1800Mhz.

RFID - Radio Frequency Identification

First appeared in tracking and access applications during the 1980s. These wireless systems allow for non-contact reading and are effective in manufacturing and other hostile environments where barcode labels may not survive. RFID has established itself in a wide range of markets including livestock identification and automated vehicle identification systems because of its ability to track moving objects.

Source: AIM - The Global Trade Association for Automatic Identification, http://www.aimglobal.org/technologies/rfid/

Roadmap

A roadmap is a detailed plan to guide progress toward a goal; a set of guidelines, instructions, or explanations.

Source: Merriam-Webster Dictionary Online, http://www.merriam-webster.com/dictionary/roadmap

S

Sectoral:

A distinct part, especially of society or of a nation's economy.

Source: Dictionary.com, http://dictionary.reference.com/browse/Sectoral

SMEs

SMES are Small and medium-sized enterprises. Its size varies in diverse countries. It is usually taken to be a firm of up to 50 full-time equivalent employees (FTEs).

Stakeholder

A person, group, organization, or system who affects or can be affected by an organization's actions.

Source: Wikipedia, the Free Encyclopedia, http://en.wikipedia.org/wiki/Stakeholder

Stakeholder theory

The stakeholder theory is a theory of organizational management and business ethics that addresses morals and values in managing an organization. It was originally detailed by R. Edward Freeman in the book *Strategic Management: A Stakeholder Approach*, and identifies and models the groups which are stakeholders of a

corporation, and both describes and recommends methods by which management can give due regard to the interests of those groups. In short, it attempts to address the "Principle of Who or What Really Counts." The concept identifies and models the groups which are stakeholders of a corporation or project.

Source: Wikipedia, the Free Encyclopedia, http://en.wikipedia.org/wiki/Stakeholder

Stakeholder analysis

The process of identifying those affected by a project or event.

Source: Wikipedia, the Free Encyclopedia, http://en.wikipedia.org/wiki/Stakeholder

Strategic knowledge

Is concerned with the decisions made during the conceptual design phase and is used for deciding the course of action when there are conflicting criteria. Strategic knowledge is used by the designer to decide what actions to perform in a given situation, where actions are considered to have observable consequences.

Source: Faculty of Architecture, Design and Planning, University of Sydney, http://faculty.arch.usyd.edu.au/kcdc/conferences/SKCF/SKCFIntro.html

Strategic use

Strategic use of information and communication technologies by civil society organisations (CSOs) is not technology-driven; it requires a deep understanding of the context in which the technology is being deployed. It means ensuring that tools and technologies that can support CSOs in meeting their strategic objectives (or mission) exist and are available and accessible. Availability and accessibility covers a range of factors, such as infrastructure, cost, intellectual property dispensations, and adherence to standards. Strategic use also requires that CSOs be aware of the range of technology options available and have the skills and knowledge to use them effectively and securely, and that they understand their own organisational context and needs.

Source: APC Annual Report 2005, http://www.apc.org/

T

Telematics

Refers to the integrated use of telecommunications and informatics (see also ICT - Information and Communications Technology). More specifically it is the science of sending, receiving and storing information via telecommunication devices.

Source: Wikipedia, http://en.wikipedia.org/wiki/Telematic

Telematics Infrastructure

Refers to the assembly of telecommunications and information-processing systems and services that offers a base for telematics applications.

Source: EUROPA - Europe's Information Society Thematic Portal, http://ec.europa.eu/information_society/index_en.htm

Telework

Telework may be broadly defined as work undertaken by an individual for an employer or client that is mostly performed at a location other than the traditional workplace, using information and communication technology. It can encompass a variety of working arrangements, including home-working; telecottages/telecentres; and working from satellite offices in different locations. Teleworkers may be company employees or self-employed.

Source: European Foundation for the Improvement of Living and Working Conditions, http://www.eurofound.europa.eu/ewco/balance/telework/index.htm

Template

A design pattern that defines a structure to define series of phases, redefined in subclasses.

U

UNCTAD - United Nations Conference on Trade and Development

Established in 1964, UNCTAD promotes the development-friendly integration of developing countries into the world economy. UNCTAD has progressively evolved into an authoritative knowledge-based institution whose work aims to help shape current policy debates and thinking on development, with a particular focus on ensuring that domestic policies and international action are mutually supportive in bringing about sustainable development.

Source: UNCTAD , http://www.unctad.org/Templates/StartPage.asp?intItemID=2068

UNDP - United Nations Development Program

UNDP is the UN's global development network, an organization advocating for change and connecting countries to knowledge, experience and resources to help people build a better life.

Official website: UNDP, http://www.undp.org

UNESCO - United Nations Education Science Culture Organisation

This specialized United Nations agency, founded in 1945, currently functions as a laboratory of ideas and a standard-setter to forge universal agreements on emerging ethical issues.

Official website: UNDP, http://www.unesco.org/

UNECA, United Nations Economic Commission for Africa

The Economic Commission for Africa (ECA) was established by the Economic and Social Council (ECOSOC) of the United Nations (UN) in 1958 as one of the UN's five regional commissions. ECA's mandate is to promote the economic and social development of its member states, foster intra-regional integration, and promotes international cooperation for Africa's development. ECA's dual role as a regional arm of the UN, and as a part of the regional institutional landscape in Africa, positions it well to make unique contributions to member states' efforts to address their development challenges. Its strength derives from its role as the only UN agency mandated to operate at the regional and subregional levels to harness resources and bring them to bear on Africa's priorities.

Source: UNECA, http://www.uneca.org/aisi/

Universal Service

Refers to a set of basic services that have to be made available at an affordable price to all users by public or private operators irrespective of the user's geographical location.

Usability

The term used to denote the ease with which people can employ a particular tool or other human-made object in order to achieve a particular goal. Usability can also refer to the methods of measuring usability and the study of the principles behind an object's perceived efficiency or elegance. In human-computer interaction and computer science, usability usually refers to the elegance and clarity with which the interaction with a computer programme or a website is designed.

Source: Wikipedia, http://en.wikipedia.org/wiki/Usability

W

WSIS - World Summit on the Information Society

WSIS was a global series of events held in two phases. The first phase took place in Geneva in December 2003 and the second phase will take place in Tunis in November 2005. The objective of the first phase was to develop and foster a clear statement of political will and take concrete steps to establish the foundations for an Information Society for all, reflecting all the different interests at stake. The second phase involves a process of monitoring and evaluation of the progress of feasible actions outlined in Geneva and a concrete set of deliverables to be achieved by the time the Summit met again in Tunis in November 2005.

Source: World Summit on the Information Society, http://www.itu.int/wsis/basic/about.html

Other Glossaries and related resources

- Europa Glossary at http://europa.eu/scadplus/glossary/governance_en.htm
- Multilingual glossary on EU institutions, policies and enlargement (11 languages)
- CORDIS (Community Research and Development Information Services), through the "A-Z Index" at http://www.cordis.lu/guidance/a-zindex.htm and the "Thematic Index" at http://www.cordis.lu/guidance/thematic_index.htm
- The Association for Progressive Communications (APC) Glossary at http://www.apc.org/en/glossary

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ANNEX 1: ACRONYMS

ACG: Arab Content Group

ACP: African, Caribbean and Pacific Countries

ADA: Argentina Digital Agenda

ADR: alternative dispute resolution

ADSIB: Agency to Develop the Information Society in Bolivia

ADU: Agenda Digital de Uruguay

AfDB: African Development Bank

AFRINIC: African Network Information Centre

AGESIC: Agencia para el Desarrollo del Gobierno de Gestión Electrónica y la Sociedad de la Información y del Conocimiento

AHCIET: Asociación Hispanoamericana de Centros de Investigación y Empresas de Telecomunicaciones

AISI: African Information Society Initiative

APC: Association for Progressive Communications

ASEAN: Association of South-East Asian Nations

ASO: Address Supporting Organization

ASPA: American Society for Public Administration

ASYCUDA: Adoption of Automated System for Customs Data

B2B: business-to-business

B2C: business-to-consumer

CATIA: Catalysing Access to ICTs in Africa

CASE: computer-aided software engineering

CS: Civil Society

CSO: Civil Society Organization

DFID: UK Department for International Development

DG INFSO: Information Society and Media Directorate General

DNSO: Domain Name Supporting Organization

DOT Force: Digital Opportunity Task Force

DSF: Digital Solidarity Fund

EC: European Commission

ECLAC: Economic Commission for Latin America and the Caribbean

EMR: electronic medical records

ENTICD: National Strategy for Information and Communication Technologies for Development

ERP: enterprise resource planning

ESCAP: Economic and Social Commission for Asia and the Pacific

ESCWA: Economic and Social Commission for Western Asia

ESIS: European Survey of Information Society

ET: Expert team

ETSI: European Telecommunications Standards Institute

FDI: foreign direct investment

GAD: Global Architectural Development

G2B: Government-to-business

G2C: Government-to-citizen

G2E: Government-to-employees

G2G: Government-to-Government

GAC: Government Advisory Committee

GIC: Global Internet Council

GIGF: Global Internet Governance Forum

GIPC: Global Internet Policy Council

GSU: Georgia State University

IAB: Internet Architecture Board

IANA: The Internet Assigned Numbers Authority

ICANN: Internet Corporation for Assigned Names and Numbers

ICARSOs: Internet Coordination, Administration, Regulatory and Standards Organizations

ICC: International Chamber of Commerce

ICSTD: Information, Communication and Space Technology

ICT: information and communication technology

ICTD: information and communication technology for development

IDB: Inter-American Development Bank

IDI: ICT Development Index

IDRC: International Development Research Centre

IESG: Internet Engineering Steering Group

IETF: Internet Engineering Task Force

IFAP: Information for All Programme

IG: Internet Governance

IGF: Internet Governance Forum

IIC: International Internet Council

IP: Internet Protocol

IPDC: International Programme for the Development of Communication

IPR: intellectual property rights

IRPOs: Internet Resource Provision Organizations

IRTF: Internet Research Task Force

IS / ISOC: Internet Society

ISP: Internet service provider

IT: Information Technology

ITT: Information Technology Transfer

ITU: International Telecommunication Union

KE: Knowledge Economy

KICTANet: Kenya ICT Action Network

KIF: Kenya ICT Federation

LOTAIP: Law on Access to Public Information

MDGs: Millennium Development Goals

MSP: multi-sector partnership

NEPAD: New Partnership for Africa's Development

NGO: non-governmental organization

MI&A: Polish Ministry of Interior and Administration

NICI: National Information and Communication Infrastructure

NISE: National Information Society Experiences

NISP: National Information Society Policy

OAU: Organization of African Unity, now replaced with the African Union (AU)

OCR: optical character recognition

OECD: Organisation for Economic Co-operation and Development

ONTI: Argentine National Office for Information Technology

OSS: open-source software

PDF: Portable Document Format

PIWA: Panos Institute West Africa

PPP: private and public partnership

PSO: Protocol Supporting Organization

R&D: research and development

R&D&I: Research, Development and Innovation

RFID: Radio Frequency Identification

S+D+I: Science, Development and Innovation

SMEs: small and medium-sized enterprises

SOs: Supporting Organizations

SocInfo: Fundación Sociedad de la Información

S&T: Science and Technology

SWOT: Strengths, Weaknesses, Opportunities, and Threats

TESPOK: Telecommunications Service Providers Association of Kenya

TV: television

UNDPEPA: United Nations Division for Public Economics and Public Administration

UNCTAD: United Nations Conference on Trade and Development

UNDP: United Nations Development Program

UNESCO: United Nations Education Science Culture Organisation

UNECA: United Nations Economic Commission for Africa

UNESCAP: United Nations Economic and Social Commission for Asia and the Pacific

USG: United State Government

VoIP: Voice over Internet Protocol

W3C: World Wide Web Consortium

WIPO: World Intellectual Property Organisation

WGIG: Working Group on Internet Governance

WICANN: World Internet Corporation for Assigned Numbers and Names

WSIS: World Summit on the Information Society

WTO: World Trade Organisation