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**Regional Plan of Action
for Building the Information Society**

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Executive summary

The plan of action for building the information society in Western Asia was prepared by the United Nations Economic and Social Commission for Western Asia (ESCWA), through its Information and Communication Technology Division, as a follow up to the first phase of the World Summit on the Information Society (WSIS), held in Geneva, from 10 to 12 December 2003.

The plan of action for building the information society in Western Asia, hereafter referred to as Regional Plan of Action (RPoA), takes into consideration the challenges associated with maintaining an integrated and sustainable effort for building the information society in the region and translates these challenges into specific programmes and projects. Needless to say, this would require efficient coordination and effective partnership among concerned organizations but would also have the benefit of strengthening inter-Arab cooperation in a framework of partnership that embraces all stakeholders.

The RPoA is the result of collaborative efforts on the regional and international levels. The following is a chronological list of these efforts:

- The Arab information and communication technology strategy¹, adopted by the Arab Summit in 2001.
- The Cairo Declaration and the document titled "Towards an Arab information society: A Framework for Collaborative Action" both produced by Pan-Arab Regional Conference on WSIS in Cairo in June 2003².
- A tentative plan of action for the information society in the region, produced by ESCWA in December 2003³.
- The Global Plan of Action (PoA)⁴, resulting from the Geneva phase of the WSIS.
- A series of roundtables⁵ organized by ESCWA during 2004; in particular the second roundtable, titled "strategies and plans of action for building the

¹ League of Arab States, resolution number 214, 28/3/2001. <http://www.atcm.org.eg>.

² "Towards an Arab information society: A Framework for Collaborative Action", Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

³ ESCWA, "Tentative plan of action for Western Asia: Building the regional information society", E/ESCWA/ICTD/2003/12

⁴ WSIS-03/GENEVA/DOC/5-E

⁵ Roundtable on "ICT as an enabler for economic development" (April 2004), roundtable on "strategies and plans of action for building the information society in Western Asia" (June 2004), and roundtable on "information society indicators and profiles in Western Asia" (October 2004). <http://www.escwa.org.lb/wsis/>.

information society in Western Asia” and aimed at reaching a consensus on a suitable plan of action for building the information society in the region and ensuing national and regional activities. The projects and programmes resulting from the roundtables were used in developing the RPoA.

- The list of six government priority projects produced by the Taskforce on Realization of the Arab Telecommunications and Information Strategy⁶; these projects, resulting from the scoring process and the priorities set by the Arab Telecommunications and Information Council of Ministers, are included in the RPoA as priority government projects.
- The Second Regional Preparatory Conference for WSIS held in Damascus on the 22nd and 23rd of November 2004 to discuss a “Proposed regional plan of action for building the information society⁷”. The feedbacks that ESCWA gathered from the Second Regional Preparatory Conference, including the Damascus Call⁸, constituted vital resources in revising and improving the RPoA.

The flexibility and extensibility of the RPoA are articulated through the adoption of a modular scheme based on programmes and projects designed for triggering partnerships in ESCWA member countries and inducing interactive participation of a broad spectrum of stakeholders. As such, the RPoA could evolve to assimilate future needs of a variety of stakeholders in ESCWA member countries, incorporating new information and communication technology (ICT) innovations, and becoming part of the mechanism for promoting effective partnerships.

The present document lays down a comprehensive strategic framework that aims at the creation of adequate endogenous capabilities for harnessing information and knowledge, thus contributing to building ICT production capabilities and promoting the development of the information society in the region. The proposed strategic framework is based on ten thrust areas, partnership programmes and regional projects.

The thrust areas, which are mainly derived from the PoA and designated within the RPoA, address a multitude of issues and constitute the core of the strategic framework. They are:

1. Policies and strategies;
2. ICT infrastructure;
3. Access to information and knowledge;
4. Capacity building;

⁶ Report and recommendations of the third meeting of Arab Telecommunications and Information Strategy Formalization Taskforce (Cairo: 27-29, September 2004), G 15-08/ 03(04/09)/02 – T(0440)

⁷ E/ESCWA/ICTD/2004/4

⁸ <http://www.escwa.org.lb/wsis/conference2/outcome.html>

5. Building confidence, trust and security;
6. Enabling environment;
7. ICT applications;
8. Cultural, linguistic and local content;
9. Media;
10. International and regional cooperation.

Actions undertaken within the above-mentioned areas will ultimately contribute to building the capabilities needed for harnessing ICT for socio-economic development. Furthermore, they would constitute the main pillars for promoting the development of a sustainable information society. In each of these areas a set of objectives is identified and associated to a number of high-impact strategic lines of action selected with a view to regional realities, and extending over a period ending 2015.

Partnership programmes, envisaged as a means of identifying and promoting a number of regional projects, are designed with the aim of instigating fruitful partnerships and securing the necessary resources for producing tangible incentives for migration towards a regional information and knowledge society. The programmes supplement the areas of the strategic framework with well-defined endeavours in such a way that each programme will serve one or more areas.

Programmes are elaborated on the basis of a result-based management (RBM) approach and are mapped to the areas of the strategic framework. Thus, the core programme description is presented in concise form including the programme's main objective, challenges, implementation strategy, expected accomplishments, and indicators of achievements.

Regional projects, the building blocks for developing an integrated information society, aim at delivering attainable solutions to solve a range of problems, with varying time-frames; short- as well as medium- and long-term, in the process of promoting the information society in the region.

Most of the regional projects have national components with specific pilot projects in selected ESCWA member countries. A review of the efforts completed by the Taskforce for the Realization of the Arab Telecommunications and Information Strategy and the resulting list of projects that the Taskforce has recommended for inclusion in the RPoA are presented as regional priority projects for Arab Governments. A list of additional regional projects for each of the recommended partnership programmes is included, in order to foster the creation of coalition of organizations, be they local, regional, or international, with the aim at enabling a participatory state for implementing development activities,

In addition to the above, the RPoA puts forth criteria for reaching the maturity needed to achieve successful project implementation and to facilitate the participation of parties interested in proposing and/or implementing projects aimed at developing the information society in the region.

Funds needed to implement the RPoA are addressed at the project level; the estimated cost of regional projects proposals varies from as low as tens of thousands of US dollars to as high as several million, with the cost of the majority of the projects falling between USD 300,000 and USD 1,000,000. By budgeting at the project level, the RPoA prepares for greater transparency and improved accountability in building the regional information society within a framework based on multi-stakeholder partnerships. Naturally, contribution to implementing the proposed regional projects may not only be confined to monetary inputs, and could take other forms such as in-kind contributions.

A model for partnerships in promoting and building the information society in the region is proposed involving high-impact entrepreneurs, mature national, regional and international firms, governments, universities, investors, donors, and international/regional organizations. Several modalities for implementing the above partnerships are presented, with special emphasis on attracting investors and donors. Furthermore, a partnership scheme is recommended, together with modalities for implementing projects, monitoring progress and evaluating results.

Last but not least, it stands to reason that a plan of action for building the information society in the region would acquire wider support and enjoy greater benefits if it were to address the needs of all Arab countries, rather than merely those of the ESCWA countries. By including all Arab countries, the process of developing an information society would become more efficient, avoiding duplication, and achieving more effective resource sharing and allocation. The common culture and language that characterize the Arab countries would bring together a wider range of stakeholders with converging interest in building a regional information society. The design of the plan of action and the different areas of focus provide a common denominator for serving ESCWA member countries as well as Arab countries. In line with the above, ESCWA presented this RPoA to the Arab Working Group for WSIS preparation formed by the Arab Telecommunications and Information Council of Ministers established under the auspices of the League of Arab States, for consideration in developing an Arab Plan of action for building the information society.

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ABBREVIATIONS AND ACRONYMS

ACG	Arab Content Group
ADNTF	Arab Domain Names Task Force
GCC	The Cooperation Council for the Arab State of the Gulf
ADNS	Arab Domain Name System
ASYCUDA	Automated System for Customs Data
CSSN	Computer-Supported Social Network
DAI	Digital Access Index
DAC	Digital Arabic Content
EMR	Electronic Medical Records
ERP	Enterprise Resource Planning
FDI	Foreign Direct Investment
PoA	Global Plan of Action resulting from the Geneva phase of the WSIS
GAFTA	Greater Arab Free Trade Area
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IPO	ICT Partnership Online
ITSAM	Integrated Transport System in the Arabic Mashreq
IPRs	Intellectual Property Rights
ICANN	Internet Corporation for Assigned Names and Numbers
MoU	Memorandum of Understanding
MD	Millennium Declaration
MSP	Multi-Sector Partnership
NGO	Non-Governmental Organization
OSS	Open-Source Software
PPP	Private and Public Partnership
PCP	Project Concept Paper
ProDoc	Project Document
RPoA	Regional Plan of Action
RFC	Request For Comments
R and D	Research and Development
RBM	Result-Based Management
ROI	Return on Investment
SME	Small and Medium Enterprises

I. INTRODUCTION: FROM GLOBAL TO REGIONAL

A. PREMISES

The plan of action for building the information society in Western Asia, hereafter referred to as Regional Plan of Action (RPoA), fills a critical void. It outlines how the global and regional ICT strategies could stimulate change at the regional and national levels. It offers a comprehensive framework for translating the strategies into ICT projects that create value and progress towards a sustainable regional information society. It is based on the fact that improved ICT is, above all, a question of commitment to deep process changes that require sustained efforts, and that these changes could bring clear rewards.

This RPoA is the result of collaborative efforts on the regional and international levels as well as input from national initiatives. Foremost are the global Plan of Action (PoA)⁹, resulting from the Geneva phase of the World Summit on the Information Society (WSIS), the Arab information and communication technology strategy¹⁰, hereafter referred to as Arab ICT Strategy, adopted by the Arab Summit in 2001. Additionally, the RPoA takes into consideration the efforts of the Pan-Arab Regional Conference on WSIS, held in Cairo on June 2003. A document titled “Towards an Arab information Society: a Framework for Collaborative Action” was produced in this meeting and was endorsed by the Arab Council of Ministers of Communications and Information in its 7th ordinary session.

A tentative plan of action for the information society in the region, which was produced by ESCWA in December 2003, included a list of action lines and time frames and constituted the basis for discussions. Regional specificity, a key issue contributing to the formulation of the RPoA, was addressed through a series of roundtables¹¹ organized by ESCWA during 2004, in particular the second roundtable, titled “strategies and plans of action for building the information society in Western Asia” and aimed at reaching a consensus on a suitable plan of action for building the information society in the region and ensuing national and regional activities. The projects and programmes resulting from the roundtables were used in developing the RPoA. On the 22nd and 23rd of November 2004, ESCWA conducted the Second Regional Preparatory Conference for WSIS in Damascus to discuss a “Proposed regional plan of action for building the information society¹²”. The feedbacks that ESCWA gathered from the Second Regional Preparatory Conference constituted vital resources in revising and improving the RPoA.

⁹ WSIS-03/GENEVA/DOC/5-E

¹⁰ League of Arab States, resolution number 214, 28/3/2001. <http://www.atcm.org.eg>.

¹¹ Roundtable on “ICT as an enabler for economic development” (April 2004), roundtable on “strategies and plans of action for building the information society in Western Asia” (June 2004), and roundtable on “information society indicators and profiles in Western Asia” (October 2004). <http://www.escwa.org.lb/wsis/>.

¹² E/ESCWA/ICTD/2004/4

By building upon the recommendations and results reached through the above efforts, a rational plan is constructed for developing the information society in the ESCWA region. The culmination of this consolidation provided the main building blocks for the synthesis of the RPoA. On an equally important level, the RPoA seeks to fulfil the development goals derived from the Millennium Declaration¹³. Within this context, it is designed to create bases for national, regional and international cooperation over an extended period, ending in 2015.

B. RPOA CONSIDERATIONS

This document takes into consideration the challenges associated with maintaining an integral and sustainable effort for building the information society in the region and translates the challenges into specific programmes, with the aim of strengthening inter-Arab cooperation in a framework of partnership that embraces all stakeholders. To that end, a modular structure is adopted, which accommodates newly identified modules. This entails acknowledging the model of having an evolving RPoA that can assimilate future needs of ESCWA member countries along with a mechanism to periodically introduce new regional strategic actions, report on progress of work, and adjust the plan accordingly. The following is a description of distinct characteristics pertaining to the RPoA.

Partnership forms the basis for developing and implementing the RPoA. In this sense, the RPoA advocates and fosters the creation of a coalition of organizations, both public and private, and individuals, with the aim at building the information society in the region. This characteristic leads to a more responsive, enabling and participatory state for managing and planning development activities as society became more complex.

Decentralization shifts the emphasis from having a central authority controlling the RPoA and reduces the disillusionments with central planning. This characteristic is based on new ways of managing development programmes and projects brought about by the emergence of partnership strategies.

Results-based management (RBM) system places high emphasis on achieving results and enables organizations to become a focused development agency rather than one that is just consumed by the process of transferring resources. This characteristic of the RPoA, by stressing more on the results attained and the use of indicators to track progress, induces organizations to act proactively and not reactively. For more information on RBM paradigm, refer to Annex A.

¹³ The United Nations Millennium Declaration emphasized the importance of ICTs in achieving socio-economic development goals and affirmed the need to ensure that the “benefits of new technologies, especially information and communication technologies, are available to all”. The implementation of such a plan of action is closely linked to the Millennium Development Goals (MDG). Available at: www.un.org/millenniumgoals.

Modularity enables the RPoA to address stakeholders' requirements in a structured manner, where independent and self-contained modules are combined to forge a comprehensive RPoA. This characteristic provides the flexibility needed to efficiently address the challenges of building the regional information society and the means to promote partnerships.

Open-endedness refers to the size of the plan as well as the absence of specific ending date for the RPoA; unlike the common 5-year or 10-year plans, the RPoA is an evolving plan that allows ad hoc actions with corresponding timeframe to be added in order to meet unforeseen requirements or to adjust the plan to cater for new technological innovations.

Rolling projects allows the RPoA to be open ended with "rolling" projects, in the sense that, as needs evolve and projects are executed, new projects can be introduced to reach further objectives, while building on results achieved through the completed activities of previous projects.

Leading responsibility is based on structuring the RPoA in a manner that paves the way for having organizations coordinating programmes as well as champions adopting and implementing projects; as new programmes and projects are added leading responsibilities come into existence, thus supplementing the characteristics of partnership and decentralization

Implementation upon maturity is a key characteristic for implementing the RPoA; in this context maturity refers to developing comprehensive project documents, completing partnerships subscription, securing necessary funds, and allocating needed resources to start implementation.

Periodic monitoring and progress reporting constitutes the main monitoring tool for the implementation of the RPoA, while ensuring continuity and evolution.

Online partnership enables the RPoA to cater for additional partnership subscription for existing or newly added programmes or projects without the hustle of organizing regional meetings and without succumbing to the confinements of space and location. This characteristic supplements the dynamism of RPoA.

C. PROPOSED PLAN STRUCTURE

The modular structure adopted in designing the RPoA, for flexibility and extensibility purposes, consists of programmes defined according to the most important areas to be tackled in the region so as to put up the foundations of a sustainable information society. Each programme will have a coordinating institution, which will ensure complementarity and consistency of the programme content and coordinating its various components. These components are essentially well-defined projects, each with a lead agency, responsible for its execution, and partners, including donor agencies, implementing institutions and beneficiaries. Whenever a project proposal has reached maturity, i.e. a partnership scheme is complete with all partners ready to carry out their part, then it is launched. This list can grow as projects mature and more projects and programmes are added.

The document is structured to represent a top-down approach starting from a global and regional perspective. It proposes a strategic framework and, then, it recommends and elaborates the main functionalities of a number of programmes specifically designed for triggering partnerships in ESCWA member countries and inducing interactive participation of a broad spectrum of stakeholders. Guiding principles for the definition of regional and national projects related to the various programmes are presented. Finally, several partnership and financing considerations are discussed.

The next chapter proposes a strategic framework with ten areas that aim at developing critical endogenous capabilities needed to locally harness information and knowledge. These areas constitute the main pillars for supporting the development of a sustainable knowledge economy and information society. Each of these areas identifies a set of objectives respectively associated to a number of high-impact strategic action lines entrenched in regional realities. The global Plan of Action for building the information society that was adopted during Phase 1 of WSIS was an important reference for defining the areas in the strategic framework. The intersection and comparison of the seven axes of the Arab ICT strategy with these areas is also presented.

Chapter three recommends programmes that meet regional requirements and embody the potential of harnessing ICT for socio-economic development. The programmes supplement the areas of the strategic framework with well-defined endeavours. Each programme is succinctly described in two pages and linked to the strategic framework and indicators of achievement. Projects will be related to the various programmes and the open-ended structure ensures that partners can propose new projects during the execution process. Projects will be regional in nature but will necessarily have national components. Some will be short-term and others will be long-term projects, while in alignment to Millennium Development Goals. These projects will constitute the building blocks for developing the information society.

Chapter four is dedicated to the development of the RPoA into regional projects for building the information society. It provides criteria for reaching the maturity needed to ensure a good start for project implementation and to facilitate the participation of parties interested in proposing and/or implementing projects aimed at building the information society in the region. Then, a list of proposed regional projects for each of the programmes recommended in chapter 3 is presented. The chapter ends with a review of the efforts completed by the Taskforce for the Realization of the Arab Telecommunications and Information Strategy and the resulting list of regional priority projects that the Taskforce is recommending to include in the RPoA.

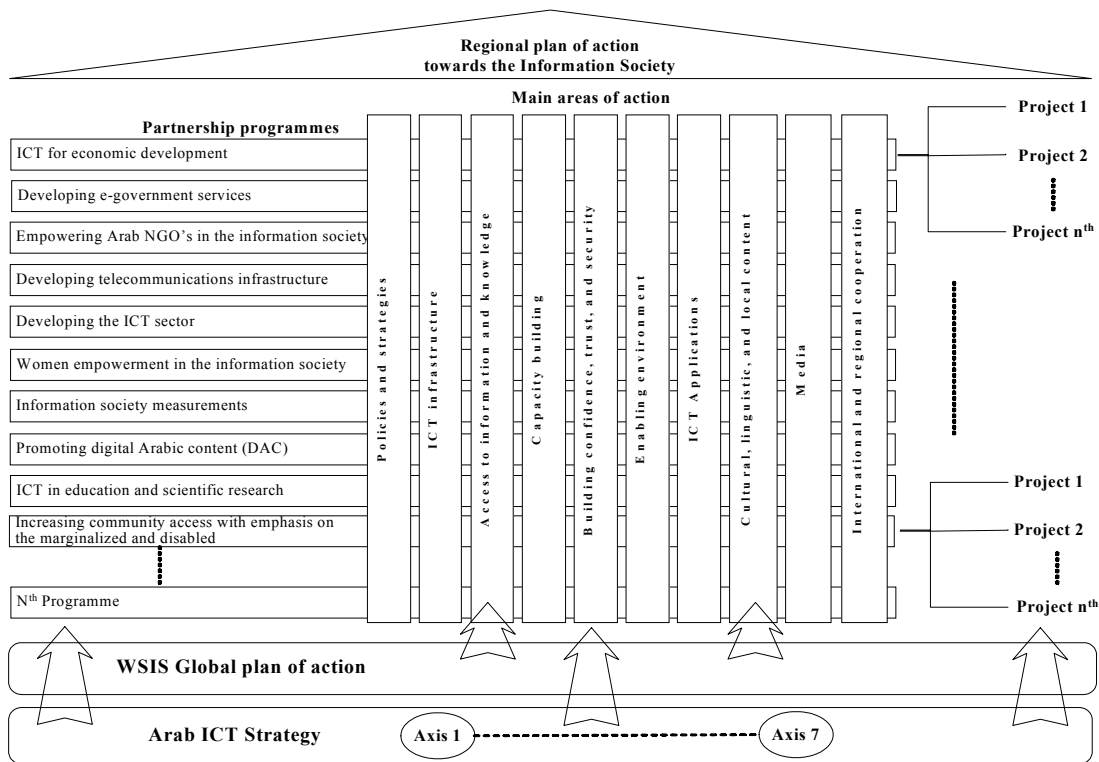
Chapter five shows the need for building partnerships in ICT with a view to support a high rate of start-up businesses in the region. Partnerships, entrepreneurships and venture capital should be added to the list of reform activities. Guiding principles for partnership are also outlined and a model presented for partnership and financing projects involving government, business community, non-governmental organizations (NGO), civil society, educational and financing institutions.

II. STRATEGIC FRAMEWORK

A. INTRODUCTION

This chapter proposes a comprehensive strategic framework that aims at the creation of adequate endogenous capabilities for harnessing information and knowledge, thus contributing to building the information society and enhancing development in the region. The framework is made up of several components. Chief among these is a group of partnership programmes encompassing ten main areas for action (see figure I). These areas constitute the main pillars for supporting the development of a sustainable information society. Each of these areas identifies a set of objectives, which are respectively associated to a number of high-impact strategic actions lines entrenched in regional realities. The strategic framework derives its areas from the global plan of action for building the information society that was adopted by the Geneva Summit. Furthermore, these areas serve the seven axes of the Arab ICT Strategy, with the latter being also a core substance that the strategic framework conforms to.

Figure I. General layout of the strategic framework



Source: ICTD, ESCWA

The proposed areas of actions intersect with the partnership programmes in such a way that each programme will have one or more dominant areas of focus. The programmes, covered thoroughly in the next chapter, supplement the areas with well-defined endeavours and aim at triggering partnerships and inducing interactive participation of the stakeholders. Similarly, each programme will include a number of projects; the latter constitute the building blocks for developing the information society.

Two approaches have been followed in the selection process of proposed projects, and which are complementary. The first one was followed by the Taskforce for the Realization of the Arab Telecommunications and Information Strategy resulting in six priority regional projects; Arab Governments are urged to cooperate in advancing their implementation. This approach was based on a scoring process and priorities set by the Arab Telecommunications and Information Council of Ministers. The other approach, derived from the partnership scheme, enables stakeholders to contribute and participate in building the information society. The projects considered in the second approach are not necessarily a priority for Governments, even though most of them have specific national components. The implementation of these non-prioritised projects is contingent upon satisfying a number of criteria known as “implementation upon maturity” and elaborated in chapter 4. These two approaches for including projects in the RPoA complement each other by allowing governmental discretion while providing the needed flexibility to incorporate additional projects by other major stakeholders, be they local, regional or international.

B. MAIN AREAS OF FOCUS FOR THE STRATEGIC FRAMEWORK

Building the information society and making use of the opportunities offered by ICT presupposes inherent capabilities in a number of areas. With this in mind, the strategic framework aims at streamlining actions at the regional level and at promoting the development of national capacity for achieving the transition towards the information society. It puts forward a plan with a number of strategic action lines to achieve significant changes in various areas and at a number of levels of intervention, with a view to serve women, youth, elderly, and special segments of the population such as impoverished communities and the disabled.

Ten areas, addressing a multitude of issues, constitute the core of the strategic framework. Cumulatively, these areas will ultimately contribute to the creation of adequate endogenous capabilities for harnessing ICT for socio-economic development, thus paving the way for the development of the information society. An overview¹⁴ of these areas is presented hereafter.

1. Policies and strategies: This is a preliminary area to promote ICT for development. The process of adopting proper policies and formulating strategies are essential for mobilizing all stakeholders from a cross section

¹⁴ “Tentative plan of action for Western Asia: building the regional information society”, E/ESCWA/ICTD/2003/12

of the public and private sectors and for disseminating the opportunities created by the information society.

2. ICT infrastructure: ICT infrastructure is essential in reducing the digital divide by providing universal, sustainable and affordable connectivity and access to all, especially remote and marginalized areas at national and regional levels.
3. Access to information and knowledge: ICT is a tool that enables and facilitates access to information and knowledge, thus empowering individuals, organizations and communities. This area aims at promoting public domain information and increasing access to information and knowledge.
4. Capacity building: This area develops the necessary skills to benefit fully from the information society. ICT capacity building is a main pillar supporting sustainable development of the information society; as such it encompasses all people.
5. Building confidence, trust and security: The sensitivity, value and protection of digital information are increasing. This area tackles specific requirements in matters relating to security and privacy, particularly the protection of personal data in the case of individuals and confidential information in the case of enterprises.
6. Enabling environment: Providing an enabling environment is crucial for marshalling resources and creating a climate that is conducive to the acquisition and dissemination of ICT. Moreover, legislative and regulatory frameworks constitute essential bases for cooperation between the public and private sectors.
7. ICT applications: this area acknowledges the importance of developing ICT thematic applications for building the information society in the fields of e-government, e-commerce, e-learning, e-health, and e-employment.
8. Cultural, linguistic and local content: The digital content, particularly on the Internet, preserves the language, facilitates its evolution and promotes cultural diversity while sustaining socio-economic development. In addition, digital content development can play a major role in preserving a national heritage.
9. Media: The media¹⁵, by reaching wide audiences and disseminating information, plays an important role in promoting the information society and in contributing to freedom of expression and plurality of information.

¹⁵ Such as television, radio and the press

10. International and regional cooperation: The successful implementation of the information society requires cooperation among all stakeholders at both an international and regional level. This area strengthens the establishment of multi-stakeholder dialogue and promotes private and public partnership as well as multi-sector partnership.

C. THE ARAB ICT STRATEGY AND FRAMEWORK FOR COLLABORATIVE ACTION

The Amman Arab Summit adopted the Arab ICT Strategy through resolution 214 of March 2001 and called for developing it into an action plan and plausible activities. The Arab ICT Strategy, which was prepared before the WSIS global plan of action, proposes seven axes for building the information society. These axes form the goals that the Plan of Action's areas aim at fulfilling through the proposed action lines, programmes, and projects.

In addition, the Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003, adopted a document titled "Towards an Arab information society: A Framework for Collaborative Action". The latter was endorsed by the Arab Council of Ministers of Communications and information in its 7th Ordinary Session (Cairo – 18th of June 2003)¹⁶. The themes and actions recommended in this document were deliberately taken into consideration while formulating this RPoA. The action lines specified in this Framework have been included in the RPoA. Reference is made in the RPoA to the actions that are derived from either the Arab Strategy or the Framework for Collaborative Action.

The following is a list of the themes covered in the Framework for Collaborative Action¹⁷:

1. Recognizing the role ICT in development;
2. Creating a favourable and responsive multi-segment environment;
3. Policies and legislation;
4. Determining indicators;
5. Regional integration;
6. Planning for integration and building a regional information infrastructure;
7. Universal access to information and knowledge;
8. Capacity building: Human resources development, education, and training;
9. Networks and information security;

¹⁶ Source: Towards an Arab information society: A Framework for Collaborative Action, Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

¹⁷ Ibid

10. Software piracy and its relation to the economy;
11. Serving citizens;
12. Bringing governments into the digital age, serving citizens and poverty reduction;
13. Supporting culturally diverse and multilingual content;
14. Preserving the region's information and audiovisual heritage;
15. Trade and commerce in the information society;
16. Research and development;
17. Cooperation and funding in the field of ICT;
18. Using non-governmental organizations and civil society as agents of change.

D. ACTION LINES

The areas of the strategic framework complement each other and are most effective when launched simultaneously with a view to achieving optimal coordination. Changes in emphasis can be introduced to take into account specific conditions and priorities. During implementation, the centre of gravity can shift from one area to another as dictated by progress and specific regional priorities.

The Plan of Action has been built around a flexible framework that could accommodate the addition of future lines of actions. In this respect, the following non-exhaustive list of actions can be launched in parallel, amended to fit regional/sub-regional/national priority areas, extended to include innovations in the field of ICT, and executed at different times according to changes in expected accomplishments and indicators of achievement. The responsible entities for carrying out these action lines are Governments, through their Ministries of Telecommunications and Information Technology, National ICT council, or other entities depending on each country's preferences. Collaboration with international and regional organization, such as ESCWA for their thorough knowledge of the region, as well as United Nations Educational, Scientific and Cultural Organization (UNESCO) and United Nations Development Programme (UNDP), is highly recommended in the process of building the information society. It is also envisaged that each country would eventually select the actions lines that best suit its needs, prioritise them, adjust the time frame, and assign a responsible entity to implement each action.

AREA 1. POLICIES AND STRATEGIES

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To formulate policies for building the information society	1.1 To enhance capacity of ICT policy development	1.1.1 Conducting awareness campaign, delivering meetings and organizing workshops to present policy targets, recommendations and promotion material based on case studies and evaluations 1.1.2 Ensuring that best practices are exchanged among ESCWA member countries and with the international ICT community ^{a/} .	ST	Number of national policies for building the information society
2. To develop e-strategies	2.1 To enhance capacity of national	2.1.1 Conducting national e-readiness assessment	ST	Number of countries adopting e-strategies.
	Government to develop and adopt strategies for building the information society.	2.1.2 Developing national e-strategies	ST	

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} See “Towards an Arab information society: A Framework for Collaborative Action”, Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

AREA 2. ICT INFRASTRUCTURE

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To develop national broadband backbone infrastructure	1.1 To increase national bandwidth with a view to develop broadband access	1.1.1 Developing an affordable, secure and reliable ICT infrastructure at a national level with efficient connectivity to a regional Internet backbone.	ST	Number of countries with broadband infrastructure
2. To provide affordable and reliable ICT infrastructure to isolated segments of the population, especially in rural areas	2.1 To provide telecommunications and Internet services to communities that do not have any connection	2.1.1 Delivering necessary telecommunications infrastructure to rural areas, with a target to cover 80% of the population ^{at}	MT	Increase in telecommunications penetration rate, such as fixed lines per 100 inhabitants and mobile lines per 100 inhabitants
		2.1.2 Considering wireless communication technologies as strategic substitutes to fixed-line technologies in addition to using available satellite capacity	MT	Increase in Internet users and subscribers
		2.1.3 Offering incentive schemes to encourage private sector, such as Internet service providers, to target this neglected segment of the market and provide affordable services	MT	Increase in Internet service providers servicing neglected segment of the market.

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
3. To foster regional integration through cooperation among member countries in order to adopt compatible and scalable solutions	3.1 To provide low-cost regional data and voice communications	3.1.1 Conducting adequate studies to assess current conditions of regional/national infrastructure as well as planning and financing the regional backbone ^{a/} . 3.1.2 Developing a regional broadband backbone infrastructure that handles all regional traffic and offers competitive prices vis-à-vis existing global backbones ^{b/} .	LT	Number of countries in the region connected through a backbone

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} See "Towards an Arab information society: A Framework for Collaborative Action", Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

^{b/} See the Arab information and communication technology Strategy adopted by the League of Arab States resolution number 214 Amman, <http://www.atcm.org.eg>.

AREA 3. ACCESS TO INFORMATION AND KNOWLEDGE

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To emphasize the importance of accessing information and building knowledge	1.1 To develop a culture for seeking information	1.1.1 Promoting in education institutions and in the media the importance for access information and knowledge	MT	Number of countries with increased access to information
2. To increase access to information and knowledge	2.1 To enhance capacity of national Government to develop and adopt	2.1.1 Developing strategies for promoting affordable connectivity	ST	Number of countries adopting strategies for affordable connectivity

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
	strategies for increasing access to information and knowledge	2.1.2 Region-wide promotion of better conditions for increasing access to information and knowledge	ST	Increase in Digital Access Index (DAI of the International Telecommunication Union)
	2.2 To facilitate access to information and knowledge	2.2.1 Implementing and supporting sustainable public and community access points, including Internet kiosks, e-libraries, and community ICT centres ^{a/}	ST	Number of sustainable public and community access points.
		2.2.2 Developing affordable technologies and computer interfaces that are not text-based to facilitate public access to ICT. ^{b/}	MT	Number of affordable technologies and computer interfaces that facilitate public access to ICT

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} See "Towards an Arab information society: A Framework for Collaborative Action", Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

^{b/} See the WSIS Plan of Action, WSIS-03/GENEVA/DOC/5-E, 12 December 2003.

AREA 4. ICT CAPACITY BUILDING

Capacity building for the region goes beyond expanding basic ICT skills among the population by actually developing expertise in various ICT fields. The proposed model for ICT capacity building is based on developing three areas, namely, human resources, research and development (R and D), and ICT enterprises. Women, youth, the elderly and the disabled will be given particular consideration in order to safeguard their inclusion in the information society.

1. *Developing human resources*

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To provide school students with adequate skills required to actively participate in the information society	1.1 To reduce ICT illiteracy in schools	1.1.1 Establishing computer labs in public schools to provide training and Internet access to the community	ST	Number of schools with computer labs
		1.1.2 Incorporating ICT in school curricula, with particular emphasis to build the capabilities of children between 6 and 15 years old	ST	Number of schools with ICT incorporated in their curricula
		1.1.3 Training teachers to handle a dynamic student-centred learning environment either in traditional classrooms or in virtual classes; and instituting ICTs as a prerequisite skill for graduating teachers	ST	Number of countries instituting ICT as a prerequisite skill for graduating school teachers

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
	1.2 To have 80% of secondary schools connected to the Internet and make this service available to student ^{a/} .	1.2.1 Implementing affordable Internet connections and services, and securing safer access to the Internet	MT	Number of schools with access to the Internet for students
2. To produce quality ICT university graduates	2.1 To foster partnership between private sector and universities	2.1.1 Partnering with the private sector to encourage firms to benefit from student training and graduation projects	ST	Number of partnerships between private firms and universities, including cooperation with international firms.
		2.1.2 Modifying existing curricula to include ICT skills in all degrees and accelerate diffusion to all universities	ST	Number of universities with curricula modified to include ICT
	2.2 To disseminate e-learning	2.2.1 Providing online education through e-learning and virtual universities	MT	Number of virtual universities and universities with e-learning services
	2.3 To increase researches that have commercial applications	2.3.1 Developing ICT postgraduate curricula, such as master's degrees and doctorates	MT	Number of research papers with successful commercial values
		2.3.2 Creating an enabling environment for ICT researchers	MT	Increase in ICT researchers

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
		2.3.3 Developing a dynamic system to respond to, and cope with, the changes taking place in the ICT sector	LT	Number of dynamic system in place to respond and cope with changes in ICT sector.
3. To develop ICT vocational training and align programmes with market demand	3.1 To enhance the quality of vocational training, particularly in the field of ICT	3.1.1 Developing the ICT skills of vocational teachers	ST	Number of vocational training initiatives delivering ICT courses and certification
		3.1.2 Seeking international certification	ST	
	3.2 To disseminate vocational training to rural areas and disadvantaged communities	3.2.1 Promoting distance learning for delivering vocational training in community centres	MT	Number of community centres providing distance learning for vocational training
	3.3 To provide affordable and skilled labour with credentials for serving markets demands	3.3.1 Partnering with private sector to introduce new ICT technical courses based on newly introduced technologies	MT	Number of partnerships established between vocational training institutions and private sector.
		3.3.2 Partnering with the private sector to build up the necessary skills to guarantee immediate employment and effective results for business firms	MT	

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

a/ See "Towards an Arab information society: A Framework for Collaborative Action", Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

2. Research and development

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement	
1. To revitalize R and D in the region and promote endogenous ICT innovations	1.1 To solicit government to support R and D	1.1.1 Securing sustainable financial support from Government to support R and D	ST	Number of countries allocating or increasing the percentage of their Government budgets to R and D	
		1.1.2 Connecting R and D institutions by a high speed network ^{a/}	MT		
		1.1.3 Establishing centres of excellence ^{a/} for software industry ^{b/} and in selected ICT fields.	MT	Number of centres of excellence in the region or Number of countries flagged as centres of excellence for selected ICT fields.	
	1.2 To develop the software industry and promote the region as a centre of excellence in some ICT fields		1.2.2 Promoting R and D to stimulate and boost creativity, thereby developing endogenous technology solutions rather than foreign-based ones ^{c/} .	MT	Number of regional initiatives for developing endogenous technology
			1.2.3 Establishing new institution forms such as technology incubators	MT	Number of new institutional forms

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
	1.3 To build workforce capabilities and increase productivity of traditional local industries	1.3.1 Providing ICT tools for local traditional industry ^{d/} .	MT	Number of traditional industries which have increased productivity and efficiency by using ICT

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

a/ See “Towards an Arab information society: A Framework for Collaborative Action”, Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

b/ Other potential areas for R and D include Arabic natural language processing with speech input/output command functionalities, Arabic optical character recognition (OCR), and Arabic full indexing technique.

c/ Suggested initiatives, which could trigger a subsequent industry based on ICT, include the production of animated movies in Arabic.

d/ Traditional industries in the clothing and artisan sector can be enhanced by introducing ICT in the design and manufacturing processes.

3. ICT enterprises

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To increase the use of open-source software (OSS)	1.1 To encourage the use of open-source solutions in small and medium enterprises (SMEs), educational and health institutions, and in the public sector.	1.1.1 Identifying and promoting a network of experts in OSS	ST	Number of OSS expert's network in the region
		1.1.2 Conducting regional workshops	ST	Number of ICT firms developing and supporting solutions based on OSS
		1.1.3 Developing software applications using OSS technologies for commercial purposes by the private sector, more specifically by SMEs	MT	Number of public and private institutions using applications based on OSS
2. To promote ICT services, especially system integration services in the region	2.1 To provide customized ICT turnkey solutions in order to increase competitiveness of firms in the region	2.1.1 Offering more incentives to keep highly skilled talents	ST	Number of established ICT firms providing services and system integration solutions in the region
		2.1.2 Simplifying procedures related to import, export, licensing and inspection in order to increase the velocity of businesses	MT	Number of ICT firms with operations extending outside the region
3. To encourage software development industry	3.1 To develop the software industry and the norms for producing quality solutions and services	3.1.1 Removing or reducing taxes on software firms as well as increasing government expenditures on ICT	ST	Percentage contribution of software development industry to national gross domestic product (GDP)

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
		3.1.2 Strengthening quality assurance norms in software development and production.	ST	Increase in number of ICT software firms that have obtained a quality assurance certification
		3.1.3 Establishing fora at an international level to present regional and local software firms	MT	Increase in export value of software and related services among countries as well as to outside the region
		3.1.4 Seeking partnership with international firms and technology providers ^{a/}	MT	Number of partnerships with international firms and technology providers
		3.1.5 Encouraging international firms to operate in the region	MT	Number of international firms with operation in the region
		3.1.6 Creating and disseminating such innovative institutional forms as technology incubators and technology parks	MT	Percentage increase of labour force working in this industry and graduated from (or are currently in) new institutional forms

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} See “Towards an Arab information society: A Framework for Collaborative Action”, Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

AREA 5. BUILDING CONFIDENCE, TRUST AND SECURITY

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To build adequate security procedures	1.1 To increase confidence in conducting electronic business and commerce	1.1.1 Improving the overall security of online transactions by supporting industry-led security certifications and encryption ¹⁸	ST	Increase in electronic transactions expenditure
		1.2.1 Sharing best practices in the field of information security and encouraging their use by all concerned parties	MT	Number of countries succeeded in sharing good practices and handling incidents
	1.2 To adopt a mechanism for cooperating on security issues and incidents	1.2.2 Setting up real-time incident handling and response, and developing a cooperative network between focal points for sharing information and technologies on incident response	MT	Number of countries with operational real-time incident handling and response systems
2. To streamline judicial processes	2.1 To build the capabilities of judiciary staff	2.1.1 Providing extensive training for judiciary staff on legislative issues related to cyber laws	ST	Number of countries with judiciary staff trained to develop cyber laws
		2.1.2 Fostering consumer protection from marketplace fraud, through licensure, inspection, investigation, enforcement and public education activities.	ST	Number of countries with consumer protection

¹⁸ For example establishing a regional firm similar to Verisign®.

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
3. To develop cyber law enforcement systems	3.1 To build the capabilities of law enforcement	3.1.1 Providing extensive training for law enforcement on cyber crimes and relevant security issues	ST	Number of countries with law enforcement trained to fight cyber crime
4. To enable e-business and e-commerce services	4.2 To attract investment in ICT sector and promulgate the set up of e-business and e-commerce services	4.2.1 Streamlining judicial processes to become more efficient and effective in combating cyber crimes and protecting Intellectual property rights (IPRs) as well as considering a regional dispute resolution system ^{a/} .	MT	Number of countries with applicable laws for mitigating cyber crimes and relevant security issues
		4.2.2 Drafting, adopting, and implementing laws in order to conduct online transactions legally, such as e-signature law ^{a/} .	MT	Increase in online transactions laws
5. To promote IPRs	5.1 To encourage creation of new intellectual property.	5.1.1 Imposing IPR laws on content and on ICT solutions, including issues related to copyright laws, trademarks, trade names and domain name registrations	ST	Number of countries adopting and enforcing IPR
	5.2 To facilitate IPR procedures on regional level	5.2.1 Establishing a regional body consolidating all IPR processes in all member countries	MT	Number of countries represented in the regional body

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} See “Towards an Arab information society: A Framework for Collaborative Action”, Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

AREA 6 . ENABLING ENVIRONMENT

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To develop a conducive environment for building the information society	1.1 To disseminate access to ICT and information	1.1.1 Devising laws for providing high-speed Internet access	ST	Number of countries with initiatives for increasing access to ICT
		1.1.2 Enforcing laws to fight harmful content and to mitigate frauds on the Internet	ST	Number of countries with initiatives for fighting harmful content on the Internet
		1.1.3 Providing low cost for using and access the Internet ^{a/} , particularly at public access points, educational institutions and community centres	ST	Number of countries with affordable access to use the Internet
		1.1.4 Connecting areas that are outside the current telecommunications backbone	ST	Number of initiatives increasing participation of women and marginalized segment of the population in building the information society
		1.1.5 Emphasizing public ICT services that support social inclusiveness of all people in the information society	MT	
2. To promote the liberalization of the telecommunications sector	2.1 To encourage foreign direct investment (FDI) and private sector development in the telecommunication sector	2.1.1 Supporting liberalization of the telecommunications sector	MT	Number of countries with liberalized telecommunication sector
		2.1.2 Streamlining and simplifying telecommunications licensing procedures	MT	
3. To revise fiscal law in order to promote and build the ICT sector	3.1 To encourage and increase investment in the ICT sector	3.1.1 Introducing tax and custom reforms to support the ICT sector	ST	Increase in investment and market capitalization of

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
		3.1.2 Attracting FDI through various incentive schemes, including tax concessions over a period of 10 years for newly-established ICT firms	MT	ICT sector

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

a/ See “Towards an Arab information society: A Framework for Collaborative Action”, Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

AREA 7. ICT APPLICATIONS

This section acknowledges the importance of developing ICT thematic applications for building the information society in the fields of public administration, business, education, health, and employment¹⁹. Organizations in the region need to move from simply maintaining a presence on the Web to full-fledged transformations in terms of structure and processes. Such transformations, particularly in the areas of e-government, e-business, e-learning and e-health, are best achieved through the following four-phase model²⁰:

(a) Presence phase, which consists of a Web site that contains static information (to be completed by 2005);

(b) Interaction phase, which involves the exchange of information and electronic forms that can be completed electronically or printed and then transmitted by mail (to be completed by 2007);

(c) Transaction phase, where the functions are automated and there are more streamlining capabilities (to be completed by 2010);

(d) Transformation phase, in which the current structure is transformed, including relevant laws and procedures, paving the way for a new virtual organization (to be completed by 2015).

1. E-government applications

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To formulate and adopt e-government strategies	1.1 To increase capacity of Government in developing and implementing effective and sustainable e-government	1.1.1 Conducting regional seminars and workshops to assist countries in formulating and revising e-government strategies	ST	Number of countries with e-government strategies

¹⁹ Additional sectoral applications could be added to this area, such as e-agriculture or e-tourism.

²⁰ While some applications have to progress sequentially through these phases, others can leapfrog into the more advanced phases of interaction and transaction.

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
	strategies	1.1.2 Encouraging all countries to adopt e-government strategies while taking into account different national circumstances	ST	
2. To enhance the delivery of services and information to businesses and citizens	2.1 To increase number of e-government services as well as their transparency and accountability	2.1.1 Automating requests and updates of personal documents ^{a/}	ST	Number of e-government services that are provided online
		2.1.2 Automating business registrations and streamlining interaction with government, such as automating tax processes, customs declarations, building permits and renewal of licences ^{a/}	MT	
3. To improve the efficiency of governmental processes	3.1 To pave the way for the development of electronic records and digital data	3.1.1 Developing a framework for securely storing and archiving documents and other electronic records of information	ST	Number of Governments that have started to digitise and store their records
		3.1.2 Promoting the development and use of open, interoperable, non-discriminatory and market-driven standards	ST	

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
	3.2 To enhance the exchange of data and information among Government departments with a country	3.2.1 Linking governmental networks together	MT	Number of national Government with functioning networks
	3.3 To optimise government processes and resources	3.3.1 Implementing enterprise resource planning (ERP) applications, including financial, human resource management, property management, and workflow systems	MT	Number of Ministries that have automated their core processes
		3.3.2 Developing knowledge-based systems	LT	Number of implemented knowledge-based systems

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

a/ See "Towards an Arab information society: A Framework for Collaborative Action", Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

1. E-business and e-commerce applications

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To promote e-business and improve the efficiency of traditional, local and regional industries, particularly	1.1 To increase velocity of business and enhance the competitiveness of firms and traditional industries	1.1.1 Investigating the use of ICTs with the aim of improving the efficiency of traditional, local and regional industries	ST	Number of ICT solutions aimed at enhancing traditional, local and regional industries

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
SMEs		1.1.2 Automating basic processes by implementing software applications in the respective fields of accounting, human resource management, inventory control, manufacturing and customer relationship management.	MT	Number of businesses automating their back and front office operations
2. To promote e-commerce and entrepreneurial activities in rural areas	2.1 To succeed in linking suppliers to consumers and sustaining the flow of information and goods along the supply chain	2.1.1 Establishing community centres that provide access to e-commerce services	ST	Number of successful e-commerce applications, especially those serving SMEs
		2.1.2 Locating potential customers and markets and linking them to rural areas by developing e-commerce applications in partnership with the private sector and with local and regional organizations.	ST	
		2.1.3 Establishing multilateral / bilateral agreements to advance e-commerce and streamline e-transactions ^{a/} .	ST	Number of established multilateral / bilateral agreements to advance e-commerce and streamline e-transactions

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} See "Towards an Arab information society: A Framework for Collaborative Action", Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

3. E-learning applications

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement	
1. To encourage and advance e-learning in the region	1.1 To promote regional cooperation for developing domestic e-learning policies, with a view to reduce illiteracy rate	1.1.1 Conducting thorough analyses of existing education policies in order to support and regulate online learning	ST	Number of countries adopting e-learning policies	
		1.1.2 Ensuring that a renewed and concerted effort is made to tackle and substantially reduce illiteracy using all available methods, including media ^{af} .	MT	Number of countries with reduced illiteracy rate	
	1.2 To disseminate e-learning applications and services in the region	1.2.1 Developing affordable and user-friendly ICT-based solutions that target students, teachers and parents	ST	Number of online learning systems as well as affordable ICT-based learning solutions	
		1.2.2 Developing e-libraries and community centres to promote lifelong learning, distance learning and ICT-based learning	ST	Number of e-libraries and community centres with e-learning services	
		1.2.3 Capitalizing on the high penetration rate of television programmes in the region to develop and disseminate distance learning	ST	Number of television distance learning programmes	
		1.2.4 Launching virtual universities, thereby reducing both the cost of learning and the time spent away from a job while learning	MT	Number of virtual universities	
	2. To improve the quality and value of e-learning	2.1 To regulate e-learning standards and set up quality norms	2.1.1 Promoting standards related to e-learning structures, security and ethical issues	ST	Number of countries with e-learning standards

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
		1.1.3 Implementing quality certification for online educational services	ST	Number of online educational services with quality certification
		2.1.3 Developing school networks at a local and regional level	MT	Number of school networks
3. To develop an e-learning industry	3.1 To pave the way for the development of an e-learning industry	3.1.1 Promoting R and D with the aim of triggering innovative modalities and methods related to teaching that have a greater impact on learning and society	MT	Number of centres/firms with R and D activities in e-learning
		3.1.2 Building regional learning repositories that provide the main building blocks of e-learning content development	MT	Number of regional learning repositories
		3.1.3 Investing in e-learning commercial solutions and developing an e-learning industry	MT	Number of local and regional e-learning commercial solutions

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

a/ See “Towards an Arab information society: A Framework for Collaborative Action”, Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

4. E-health applications

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To develop national e-health strategies	1.1 To solicit national Government to develop and adopt e-health strategies	1.1.1 Formulating and adopting e-health policies and strategies	ST	Number of countries with e-health strategy
		1.1.2 Initiating a legal framework for e-health applications.	MT	
	1.2 To implement and adapt international standard to the region	1.2.1 Developing e-health standards for the region	MT	Regional standards for e-health
2. To deliver health services to isolated segments of the population and to rural areas	2.1 To use ICT-based initiatives for providing medical and humanitarian assistance to isolated segments of the population and to rural areas	2.1.1 Establishing community telemedicine centres and e-health caravans with online access to doctors and hospitals to deliver basic health services, particularly to women and youth in remote and rural areas	ST	Number of community telemedicine centres, e-health caravans, and Web enabled systems for basic health
		2.1.2 Developing Web enabled systems providing preventive services and diagnosis for basic health issues ^{a/} .	ST	
	2.2 To increase awareness on common disease and revitalize the role of women as a health providers in their families and communities ^{a/}	2.2.1 Facilitating access to medical knowledge and locally relevant content resources to strengthen public prevention programmes on women's health and diseases such as HIV/AIDS ^{a/} and Bilharzia, which are common in the region	ST	Number of public prevention ICT-based applications on women's health and common disease in the region

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
3. To improve the effectiveness and efficiency of the health system in both the private and public sectors	3.1 To enhance health preventive measures as well as the exchange of healthcare information	3.1.1 Establishing a health information network among healthcare institutions	MT	Number of healthcare institutions connected to a national / regional health information network
		3.1.2 Alerting, monitoring and controlling the spread of contagious diseases through the improvement of the common information system ^{b/}	MT	
	3.2 To improve health services and increase their quality	3.2.1 Implementing enterprise resource planning for health institutions	MT	Number of healthcare institutions with automated back and front office operations
		3.2.2 Applying a set of quality criteria for e-health services	MT	
		3.2.3 Implementing electronic medical records (EMR)	MT	Number of countries adopting EMR and knowledge-based healthcare systems
		3.2.4 Developing knowledge-based healthcare systems	LT	

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} See “Towards an Arab information society: A Framework for Collaborative Action”, Pan-Arab regional conference on WSIS, held in Cairo on 16th-18th of June 2003.

^{b/} See the WSIS Plan of Action, WSIS-03/GENEVA/DOC/5-E, 12 December 2003.5.

5. E-employment

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To provide an enabling environment for e-employment	1.1 To develop guidelines, best practices and promote new business models for e-employment	1.1.1 Developing guidelines, best practices and new labour laws for e-workers and e-employers built on principles of social justice and gender equality ^{a/}	MT	Number of countries supporting e-employment in the region
		1.1.2 Promoting new ways of organizing work and business with the aim of raising productivity, growth and well-being through investment in ICTs and human resources ^{a/}	LT	Number of firms and organizations with policies for supporting e-employment
	1.2 To provide new employment opportunities and reduce brain drain	1.2.1 Promoting e-employment to allow the most skilled workers to work in their societies, and to increase employment opportunities for women ^{a/}	LT	Number of successful e-employment initiatives

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} See the WSIS Plan of Action, WSIS-03/GENEVA/DOC/5-E, 12 December 2003.

AREA 8. CULTURAL AND LINGUISTIC CONTENT

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To preserve the rich and varied cultural heritage of the region	1.1 To increase digital Arab content, especially those related to cultural heritage of the region	1.1.1 Developing guidelines and methodologies for preserving, promoting and archiving digital content ^{a/} in public and private institutions especially those dedicated to cultural and linguistic studies	ST	Percentage increase of digital Arab content
		1.1.2 Publishing online Arabic references	ST	
		1.1.3 Promoting the construction of portals and web sites in the areas of history and cultural heritage, including modern intellectual contributions from the region	ST	Number of Web sites dedicated to Arab history and cultural heritage
2. To create favourable conditions for the production, processing, dissemination and protection of digital Arabic content	2.1 To increase regional support for digital Arabic content initiatives	2.1.1 Raising awareness on the need for and benefits of local Arabic content to promote socio-economic developments	ST	Number of seminars/workshops on digital Arabic content
		2.1.2 Establishing a regional Arab Content Group (ACG) and setting up supporting subcommittees and Web sites	ST	Number of studies and papers published by a regional Arabic Content Group

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
3. To build a sustainable digital Arabic content industry that produces content and applications suited to local needs	3.1 To implement the infrastructure needed for the digital Arabic content industry	3.1.1 Implementing and maintaining Arabic domain name on the Internet to provide ubiquitous access to online localised content	ST	A functioning Arabic Domain Name System (ADNS) acknowledged by the Internet Corporation for Assigned Names and Numbers (ICANN)
		3.1.2 Identifying potential regional trusted sources for the production of digital Arabic content and applications, and providing them with guidance and support	ST	Number of regional sources for production of Arabic content in the region
	3.2 To augment R and D in digital Arabic content	3.2.1 Establishing a network of research centres / institutions to adopt and set Arabic digital linguistic standards and technical specifications ^{a/} .	MT	Well defined Arabic digital linguistic standards
		3.2.2 Promoting R and D in automatic Arab language processing and collaboration	MT	Number of new applications for Arabic language processing and collaboration

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} Source “Towards an Arab Information Society: A Framework for Collaboration Action”, The Pan-Arab Regional Conference on WSIS, Arab Republic of Egypt, Cairo, 16 th-18th of June 2003.

AREA 9. MEDIA

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To provide an adequate environment for integrating the media with the information society	1.1 To pave the way for the media to play an active role in the sustainable development of the information society	1.1.1 Building the capabilities for using innovative media systems, such as e-radio, e-television, and e-press	ST	Number of media institutions using innovative systems
		1.1.2 Promoting joint use of traditional means and ICT in moving towards digital content delivery	ST	Number of media institutions migrating towards digital content
		1.1.3 Preserving the audiovisual heritage for the region ^{a/} in digital format.	ST	
		1.1.4 Devising appropriate laws to enable the use of innovative systems in producing and delivering media	MT	Number of countries with laws that support the use of innovative systems to produce and deliver media
2. To harness the media to support and promote the development of the information society	2.1 To ensure dissemination of ICT information to reach wide audiences and to contribute to plurality of information	2.1.1 Using traditional media to create awareness on ICT and its role in socio-economic development	ST	Number of media institutions with programmes on creating ICT awareness as well as maintaining the plurality and free flow of information
		2.1.2 Taking appropriate measures to encouraging and maintaining the plurality and free flow of information, while increasing citizen participation	ST	

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
		2.1.3 Ensuring that the people of the region have access to traditional and new forms of media	MT	Number of countries with increased penetration rate for traditional and new forms of media

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

a/ Source “Towards an Arab Information Society: A Framework for Collaboration Action”, The Pan-Arab Regional Conference on WSIS, Arab Republic of Egypt, Cairo, 16 th-18th of June 2003.

AREA 10. INTERNATIONAL AND REGIONAL COOPERATION

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
1. To establish a multi-stakeholder dialogue with international and region organizations at regional and local levels	1.1 To involve community at large in the process of building the information society, in collaboration with international and regional organizations	1.1.1 Developing a framework and a mechanism to encourage dialogue among multi-stakeholders in the promotion of ICTs at regional and local levels.	MT	Number of programmes and projects resulting from the multi-stakeholder dialogue
		1.1.2 Conducting an annual regional meeting on building the information society involving all stakeholders, especially with international and regional organizations	MT	
2. To promote private and public partnership (PPP) or multi-sector partnership (MSP)	2.1 To foster PPP and MSP in the region	2.1.1 Establishing functioning PPPs or MSPs as showcases	ST	Number of functioning PPPs or MSPs
		2.1.2 Promoting the development of new institutional forms such as incubator schemes, national and regional venture capital investments, Government investment funds, including micro finance for SMEs	MT	Number of new institutional forms grouped by country

Objectives	Expected accomplishments	Strategic actions	Time frame	Indicators of achievement
3. To set up an Arab fund for ICT development and integration	3.1 To provide funding for regional initiatives	3.1.1 Establishing an Arab fund for ICT the development and integration ^{a/} under the supervision of a consortium of multilateral organizations	ST	Amount of money allotted to the Arab Fund

Notes: ST (Short Term) till end of 2007, MT (Medium Term) till end of 2010, LT (Long Term) till end of 2015.

^{a/} Source “Towards an Arab Information Society: A Framework for Collaboration Action”, The Pan-Arab Regional Conference on WSIS, Arab Republic of Egypt, Cairo, 16 th-18th of June 2003.

III. PROGRAMMES

A. INTRODUCTION

In an attempt to build a regional information society, this part of the Regional Plan of Action (RPoA) elaborates the main functionalities of a number of programmes that are aimed at triggering partnerships and inducing interactive participation from a broad base of stakeholders. Most of these programmes are not necessarily derived from new concepts, and some, such as empowerment through community access, are already implemented in certain countries. The proposed programmes are recommended because they meet regional requirements and present the potential of harnessing information and communication technology (ICT) for socio-economic development.

The programmes are envisaged as a means for identifying and developing a number of regional projects; the latter, in turn, will instigate fruitful partnerships and secure the necessary resources²¹ to proceed with implementation. This process will create a structured framework and produce the desired impetus to migrate towards the information and knowledge society in the region.

Intrinsic to the RPoA is the notion of maintaining a flexible and modular structure that allows it to continuously evolve in order to meet the needs of the region and to cater for new opportunities introduced by the ever-changing ICT landscape. To this end, this part will be structured in an open-ended format so as to allow future addition. Furthermore, each of the following sections will be dedicated to present a programme in a concise and comprehensive format with a view to promote dialogue, reach common grounds, and enhance regional synergies.

With the above in mind, each programme will start with a conceptual overview of its major components; this introduction is useful for understanding the rationale for promoting a given programme. Next, the programme is mapped to the areas presented in the strategic framework of the Regional Plan of Action; this exercise facilitates the forging of qualitative relationships between strategic framework components and their counterparts within the programmes in a manner that identifies parent(s) for each programme rather than establishing exclusive relationships. The core programme description is summarized in an outline that includes the programme's main objective, challenges, implementation strategy, expected accomplishments, and indicators of achievements.

²¹ The resources could be in-kind contributions, human or financing resources.

B. PROGRAMMES DETAILS

The list of programmes presented hereafter is not an exhaustive one; future programmes could be added once they satisfy the following criteria:

1. A programme must be presented in a clear and concise format, such as the one used in this RPoA, based on result-based management (RBM) paradigm. This criterion enables to adopt a template that enables organizations to behave proactively and not reactively, while stressing the results to be attained and using indicators to track progress.
2. A programme must have a coordinating agency that advocates the objective and expected accomplishments of the programme among stakeholders, supervises the efforts for getting projects that best serve this programme, and coordinates among the various project champions. The coordinating agency must be an impartial broker to this development process; typical agency could be in the form of a NGOs, international or regional organizations. It is expected that the efforts of these agencies will be coordinated by a secretariat that provides technical assistance aimed at maintaining the quality of work.
3. A programme must also have high impact on a number of areas that are identified in the RPoA strategic framework. In other words, the programme must fulfil some of the objectives and expected accomplishment for these areas. The programme may well serve other areas by producing a number of actions that generate positive spill-over aimed at partially solving relevant issues.

In the following pages, an elaboration of the current programmes that have satisfied the above criteria is provided. The order in which these programmes are presented does not reflect priorities, which may be indicated at the project level. The current programmes are:

- ICT for economic development
- Developing e-government services
- Empowering Arab NGOs in the information society
- Developing telecommunications infrastructure
- Developing the ICT sector
- Women empowerment in the information society
- Information Society measurements
- Promoting digital Arabic content
- ICT in education and scientific research
- Increasing community access with emphasises on the marginalized and disabled.

Programme 1. ICT for economic development

ICT play a vital role in supporting economic development, not only do these technologies support productivity and innovation across sectors they are also critical enablers of trade development itself, as they help correct, improve and make more relevant the very processes with which trade is conducted²².

ICT is a tool that extends beyond basic infrastructure elements and builds, on top of the physical infrastructure, an additional layer that provide end-to-end transactional services aimed at supporting economic development through simplifying, hosting, and integrating activities at multi-sectoral levels; thus, electronically smoothing and coordinating global supply chains between a wide range of services and products on the one hand, and a broad market on the other.

(a) Mapping to strategic framework

In the context of the above conceptual overview, this programme best serves three areas, mainly by developing policies, strategies and an enabling environment (area 1 and 6) for supporting economic growth through the use of ICT and by fostering international and regional cooperation (area 10) for smoothening and coordinating ICT turnkey solutions. ICT infrastructures and ICT applications are also seriously affected by this programme as well as building confidence, trust and security to conduct electronic transaction over the Internet (refer to table 1).

On the low impact level, there are areas 3, 4, 8 and 9 that may witness several achievements leading to independent operational successes not necessary belonging to an overall strategy dedicated to fully accomplish the goals associated with them.

TABLE 1. MAPPING PROGRAMME 1 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies	X		
Area 2. ICT infrastructure		X	
Area 3. Access to information and knowledge			X
Area 4. Capacity building			X
Area 5. Building confidence, trust and security		X	
Area 6. Enabling environment	X		
Area 7. ICT applications		X	
Area 8. Cultural, linguistic and local content			X
Area 9. Media			X
Area 10. International and regional cooperation	X		

Notes: High impact level refers to directly serving the major goals of a given area;
 Medium impact level refers to achieving positive benefits for supporting a given area;
 Low impact level refers to producing indirect activities for advancing a given area.

²² E/ESCWA/ICTD/2004/WG.1/5, "The Dube tradeport cyberport: ICT and logistics integration for economic development", April 2004

(b) Outline

Objective: To harness ICT to enable economic growth and encourage trade within the region and between the region and other regions of the world.

Challenges: Huge trade deficits continue to be major challenges for economic development in the region. Intra-regional trade amongst ESCWA member countries and extra-regional trade with outside markets remain one of the lowest in the world. Moreover, total bilateral trade for ESCWA member countries has steadily declined in the period between 1980 and 1990²³.

Several ESCWA member countries expressed interest in creating national trade and transport facilitation committees in order to put in place a framework for consultation and cooperation between the public and private sector for the advancement of a trade facilitation agenda. The Greater Arab Free Trade Area (GAFTA) constitutes the most recent and until now the most significant step taken by the Arab countries to achieve a significant level of economic integration. Other regional initiatives are the Integrated Transport System in the Arab Mashreq (ITSAM) and the trade platform Tejari.com. The latter is in the process of franchising its operations in the region.

With the above in mind, the programme recognizes ICT as an enabler for facilitating all processes across trade transaction's value chain and for creating efficiency benefits.

Strategy: Recognizing that trade is a significant component of economic development, this programme adopts a gradual implementation approach to establish a trade and transport logistics ICT enabled regional facility, with a view to support and advance GAFTA and ITSAM agreements and creating regional trade integration. Similarly, this programme will provide a gateway for connecting the region to global markets and vice versa allow global markets to tap into the wealth of the region.

Surveys, studies, regional meetings, knowledge networking and advisory services will contribute to implementing this programme and identifying a number of projects for the region. Pilot projects will be launched in close collaboration with stakeholders and by capitalizing on public and private partnerships.

²³ E/ESCWA/ICTD/2004/WG.1/5, "The Dube tradeport cyberport: ICT and logistics integration for economic development", April 2004.

Expected accomplishments	Indicators of achievement
(1) Developed a conducive environment for interregional trade of ESCWA member countries;	<p>(1.a) Increased number of countries with free trade policies; such as non tariff barriers and abolishment of quota restriction on imports;</p> <p>(1.b) Reduced complexity of border formality procedures and development of logistics infrastructure;</p> <p>(1.c) Increased awareness of international standards and purchasing requirements as well as technology transfers and competence building;</p>
(2) Increased exports of national and regional producers to regional and international markets.	<p>(2.a) Increased awareness of Arab products, services and capabilities as well as direct connectivity with international markets;</p> <p>(2.b) Increased number of sustainable cyber hub projects in the region;</p> <p>(2.c) Reduced trade deficit.</p>

Programme 2. Developing e-government services

E-government strives for better delivery of Government services to citizens, for improved interaction with business and industry, for citizen empowerment through access to information, and for more efficient Government management. As a result, e-government direct impact on the economy and society can be increased transparency, less corruption, greater convenience, revenue growth, and/or cost reductions.

This programme is dedicated to developing e-government services with an emphasis on supporting Government decision makers in taking appropriate actions to contribute to socio-economic development of their countries. As such, e-government is a tool that enhances the economic competitiveness of businesses and empowers citizens.

(a) Mapping to strategic framework

This programme aims at building the capabilities of the public sector, formulating policies and strategies, and developing ICT applications to support decision making process as well as increase transparency of government services. As such, this programme intersects, on a high impact level, with three areas namely policies and strategies (area 1), capacity building (area 4) and ICT applications (area 7). This programme also increases access to information, provides an enabling environment and builds confidence and trust for using e-government applications, thus serving areas 3,5,and 6 with a medium level impact. The remaining areas have indirect advantages from this programme (refer to table 2).

TABLE 2. MAPPING PROGRAMME 2 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies	X		
Area 2. ICT infrastructure			X
Area 3. Access to information and knowledge		X	
Area 4. Capacity building	X		
Area 5. Building confidence, trust and security		X	
Area 6. Enabling environment		X	
Area 7. ICT applications	X		
Area 8. Cultural, linguistic and local content			X
Area 9. Media			X
Area 10. International and regional cooperation			X

Notes: High impact level refers to directly serving the major goals of a given area;
 Medium impact level refers to achieving positive benefits for supporting a given area;
 Low impact level refers to producing indirect activities for advancing a given area.

(b) Outline

Objective: To improve government efficiency, effectiveness, transparency and accountability through the uses of e-government tools in projects focusing on improving delivery of services to citizens and businesses, especially in socio-economic fields.

Challenges: Without substantial efforts from public and private sectors, there is a risk that this programme will only deliver products and services, but will not contribute to deliver efficiency savings while improving the delivery of e-government services around the needs of citizens and businesses. Challenges that could impede progress of this programme are mostly manifested in the form of complexities due to political, cultural, organizational, and personal factors. Other impediments may be related to legal structure and lack of awareness of the benefits and opportunities offered by e-government services.

Strategy: The strategy aims at formulating a set of policies for harnessing ICT for improving government services, in order to make it easier for people to find what they want from government and to enhance government decision support capabilities in socio-economic fields. The programme will also benefit from existing endeavours as well as experiences acquired in the region to improve government efficiency, effectiveness, transparency and accountability.

In all phases of the programme, the participation of the government representatives ensures a pragmatic approach to meet the objective of this programme and to take part in the planning and development process of relevant projects. In addition, the citizen and the business sector have particular interests and needs; so setting up appropriate applications would underpin this programme.

Cooperation and collaboration with private sector, international and regional organisations, as well as business associations and civil societies will help in the implementation of this programme.

Expected accomplishments	Indicators of achievement
(1) To increase number of e-government services as well as their transparency and accountability;	(1.a) Increased number of government services that are provided online.
(2) To enhance government processes and optimise resources allocation.	(2.a) Increased number of Ministries that have automated their core processes; (2.b) Increase number of government organizations that are interconnected to exchange information with a view to optimise recourses allocation; (2.c) Increased number of government implemented decision support systems in socio-economic fields.

Programme 3. Empowering Arab NGOs in the information society

“Non-Governmental Organizations (NGOs), in a widest and loosest sense, are organizations that do not -totally- belong to government²⁴ and have no profit motive. They encompass traditional advocacy and service-delivery organizations working in the fields of development, the environment, human rights, and humanitarian relief, as well as one-woman bed-sit organizations, all-volunteer groups, trade unions, religious institutions, and cultural associations”²⁵. As such, NGOs form an important functional component of the social network underlying the civil society and is part of the extended government framework.

As the civil society²⁶ evolves globally towards the Information society, it is essential that Arab NGOs establish an effective operation in the parallel virtual-world to support, or supplement, its real-world operation. A virtually operating Arab NGOs must dynamically link their basic goals with the means needed to achieve them. As a key stakeholder with a prominent role to play in the IS, the commitment and involvement of civil society is important in creating an equitable IS, and in implementing ICT-related initiatives for development.²⁷

Building a virtual community in the form an information network, or a computer-supported social network (CSSN), on the Web is the way to empower Arab NGOs to fulfil their mission. The virtual community of Arab NGOs allows the actual net of Arab NGOs to develop the cooperation, outsourcing, and experience history it mostly lacks. In the framework of virtual community, NGOs function as un-calibrated sensory neurons within their beneficiary groups, and indeed communities, as they sense, measure, and respond to stimuli provided by the communities they serve. The virtual community may then be thought of as a neural network. Like a neural network, the strength of this community is not dependent on the strength of its individual members, but rather on the strength of their mutual interaction.

²⁴ As most of the important functions of government [education, welfare, economic development, *etc.*] are no longer the sole domain of official government, government may be thought of as an alliance involving official bureaus and agencies, as well as profit, non-profit, consumer, and interest [including religious] groups and foundations.

²⁵ Hesham A. Auda, NGOs, The Civil Society and Information Networks – A Social Networks Perspective 2003.

²⁶ The notion of civil society is meant to represent a modern phenomenon characterized with an evolutionary, as opposed to a revolutionary, globalization movement that transcends towns, states, and countries. It has the effect of transforming our social systems from ones bound up in hierarchically arranged, relatively homogeneous, densely knit, bounded groups to social networks.

²⁷ WSIS Plan of Action. Document WSIS-03/GENEVA/DOC/5-E.

(a) Mapping to strategic framework

Empowering Arab NGOs mostly involves regional cooperation ICT infrastructure, capacity building, and setting up an enabling environment; consequently, this programme best serves areas 2,4,6, and 10 as illustrated in the table 3. It also tackles on a medium the area on ICT applications. The remaining areas are served with a lower level of impact.

TABLE 3. MAPPING PROGRAMME 3 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies			X
Area 2. ICT infrastructure	X		
Area 3. Access to information and knowledge			X
Area 4. Capacity building	X		
Area 5. Building confidence, trust and security			X
Area 6. Enabling environment	X		
Area 7. ICT applications		X	
Area 8. Cultural, linguistic and local content			X
Area 9. Media			X
Area 10. International and regional cooperation	X		

Notes: High impact level refers to directly serving the major goals of a given area
Medium impact level refers to achieving positive benefits for supporting a given area
Low impact level refers to producing indirect activities for advancing a given area

(b) Outline

Objective: To harness the potential of ICT to promote the development goals of the Millennium Declaration (MD) by empowering Arab NGOs to effectively operate within the realm of the IS.

Challenges: Volunteerism is an Arab tradition. Yet in today's Arab society and political systems, Arab NGOs face a formidable task in re-establishing their presence as a corner stone for development. NGOs operate within political systems that have long viewed activism and advocacy as threats and destabilizing acts, and treated NGOs as outcast rather than partners, and have therefore sought to limit and/or control their operation and connection with people inside and similar organizations outside. Furthermore, as a result of many years of neglect, NGOs now get to restart their initiative hampered with their legal status, inadequate organizational structure, and lack of material and human resources. The most serious challenge facing Arab NGOs though is perhaps their inability to call on each other to provide assistance, sources, and support where and when it is most needed.

Strategy: This programme relies on reconnecting NGOs in a loose virtual organization to achieve its objective. In this respect, it is essential that Arab NGOs are

made aware of the necessity to build a virtual organization that transcends towns, states, and countries, to take advantage of the opportunities provided by information networks, and learn to avoid the risks of communicating and connecting over geographical and social barriers.

As such, this program entails many of the characteristics associated with capacity building, empowerment, and other programmes. As has already been pointed out that the strength of the NGOs’ virtual community is not dependent on the strength of its individual members, but rather on the strength of their mutual interaction. Hence, throughout the life cycle of this programme, increased connectivity and interaction, not only among Arab NGOs but also between NGOs and their communities, will be the main factor for measuring success and for instigating partnerships.

Expected accomplishments	Indicators of achievement
(1) Increased connectivity and interaction-cooperation among Arab NGOs;	(1.a) Increased number of countries involved; (1.b) Increased number of NGOs connected; (1.c) Increased degree of interaction-cooperation among NGOs in the region and between NGOs and local communities.
(2) Improved performance of the NGOs;	(2.a) Increased number and scope of ICT services, such as e-health, e-government, and e-learning, provided by NGOs; (2.b) Increased participation of communities in surveys and improved dissemination of outcomes locally and regionally;
(3) Improved socio-economic development.	(3.a) MD indicators.

Programme 4. Developing telecommunications infrastructure

The development and integration of telecommunications infrastructure in the region enables the migration towards the information society by providing an affordable and equitable access to ICT services. Reducing the digital divide by reaching a wider proportion of the population, improving employment by creating new jobs, and increasing the competitiveness of various economic sectors by increasing access to new markets and fostering collaboration are among the major benefits emanating from this programme.

Telecommunication infrastructure entails a large range of components and services. To name a few, it includes fixed lines, mobile telephony, satellite communications, Internet services, and also issues related to the liberalization and deregulation of the telecommunication sector. With the evolution of Internet access technologies and of Internet hosting capabilities in the region, the opportunity to develop an integrated digital regional backbone is becoming more lucrative, especially that the regional Internet traffic is increasing; similarly, a viable agenda for reforming telecommunication sectors is vital for developing and integrating telecommunications in the region.

(a) Mapping to strategic framework

This programme mainly fulfils the goals of the telecommunications infrastructure area as well as the ones for international and regional cooperation; thus tackling structural problems, telecommunication sector deregulation and liberalization issues, teledensity and Internet dissemination, as well as creating a mechanism for tackling impediments facing the development of a regional integrated backbone. This programme also has a medium impact on several other areas, which may hinder the implementation process if they are not properly served (refer to table 4). Low impact level areas are also affected by this programme but to a much lesser degree than the others.

TABLE 4 . MAPPING PROGRAMME 4 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies		X	
Area 2. ICT infrastructure	X		
Area 3. Access to information and knowledge		X	
Area 4. Capacity building			X
Area 5. Building confidence, trust and security			X
Area 6. Enabling environment		X	
Area 7. ICT applications			X
Area 8. Cultural, linguistic and local content			X
Area 9. Media			X
Area 10. International and regional cooperation	X		

Notes: High impact level refers to directly serving the major goals of a given area;
 Medium impact level refers to achieving positive benefits for supporting given area;
 Low impact level refers to producing indirect activities for advancing a given area.

(b) Outline

Objective: To develop an integrated multi-service regional telecommunications infrastructure in a cost-effective way and propagate the cost-advantage to consumers, thus increasing penetration rates of ICT services.

Challenges: Even though ESCWA member countries are striving to upgrade their ICT infrastructure, the overall status is still lagging world averages. The targets of achieving similar ICT penetration levels entail significant investments and daring decisions, involving smart partnerships and innovative financing schemes. Many challenges exist that include the lack of adequate finance to bridge the digital divide, the lack of sizable regional projects that can attract capital and create employment, the absence of a clear reform agenda coupled with the redundancy of major ICT assets that are under utilized in the region. The major challenge lies in the lack of long-term competitive advantages for incumbent operators to confront open markets.

Strategy: Two major directions underpin the strategy of this programme; the first focuses on increasing reform and liberalization of the telecommunication sector, and the second aims at increasing integration amongst countries of the region in order to achieve economies of scale and better utilize shareable resources and experiences.

Cooperation with the Arab telecommunications and information council of ministers will be at the forefront to propose a strategic plan and a viable agenda for implementing this programme. Expertise from countries considered as reform-pioneers as well as from private sector will be seized in order to benefit from the opportunities leading to sustainable business operations and to keep up with ICT innovations.

A top-down approach to reach an inter-governmental agreement and solicit the interest and commitment of major stakeholders will be based on the early involvement of major stakeholders and the formulation of attractive and realistic plans. Additionally, a bottom up approach will be used to leverage the success of prevailing reform and modernization endeavours as well as adopted current bilateral and multilateral agreements in implementing integrated infrastructure in the region. The latter approach will support existing networks with the aim to integrate them with this programme and develop other sub-regional networks that constitute the building blocks of the telecommunication infrastructure in the region.

Expected accomplishments	Indicators of achievement
(1) Committed partnership for integrating telecommunication infrastructure in the region;	(1.a) Inter-governmental agreements for adopting this programme; (1.b) Increased number of partners subscribing for this programme; (1.c) Increased number of regional ICT infrastructure projects, such as the development of a digital regional backbone;
(2) Increased access to the Internet and to voice communications	(2.a) Increased penetration rates of ICT services, such as increased internet penetration and teledensity rates; (2.b) Decreased tariffs for regional voice and data communications.

Programme 5. Developing the ICT sector

In developed and developing countries moving towards the information society has been accompanied with the creation of an ICT sector. The use of technologies without having a share in its generation and production, could lead to a negative impact on the accumulative economic growth, as it is the case in Arab economies²⁸. This accumulative impact was -10% for the Arab world, compared with +70% for Germany for the period 1960-1992. This situation would financially result in hindering the move of Arab States towards the information society.

This programme aims at developing the ICT sector in the region. This sector includes software (systems and applications), services (product services, professional and outsourcing services), and hardware (computer systems, networking, handsets, and semi-conductors).

This programme will achieve its objectives by implementing a number of regional projects; such as facilitating partnerships among stakeholders in the ICT sector through the establishment of regional networks and clusters, encouraging the establishment of ICT incubators in member countries, and producing a guide of recommended directives for member countries with the view to creating favourable legislative environment for the development of the ICT sector.

(a) Mapping to strategic framework

The ICT sector, when viewed with its upper stream industry i.e. electronics, represents the largest economic sector worldwide. As such, this programme complements the other programmes in serving the strategic framework for building the information society by having high level impact on a number of areas, namely areas 3,4,6,and 7 (refer to table 5). Spill over effects to other areas generate medium level impact on ICT infrastructure, local content, and international and regional cooperation. Areas 1, 5, and 9 are affected with low level of impact.

²⁸ World Bank Institute, Technical Progress's Contribution to East Asian Growth

TABLE 5. MAPPING PROGRAMME 5 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies			X
Area 2. ICT infrastructure		X	
Area 3. Access to information and knowledge	X		
Area 4. Capacity building	X		
Area 5. Building confidence, trust and security			X
Area 6. Enabling environment	X		
Area 7. ICT applications	X		
Area 8. Cultural, linguistic and local content		X	
Area 9. Media			X
Area 10. International and regional cooperation		X	

Notes: High impact level refers to directly serving the major goals of a given area
Medium impact level refers to achieving positive benefits for supporting a given area
Low impact level refers to producing indirect activities for advancing a given area

(b) Outline

Objective: To create regional cooperation between stakeholders of the ICT sector, to establish a mechanism for the creation of innovative companies of this sector, and to promote a favourable environment for the growth of this important sector for the information society.

Challenges: The economy of the region suffers from a weak ICT sector. There are almost no ICT products produced in the region. This sector has an impact on the productivity and competitiveness of all other sectors of the economy. It has also an impact on economic growth, job creation, and economic diversity, all of which are serious challenges for Arab economies. ICT sector, particularly the software sector, is not recognized as an industry in the region, and the whole sector is not yet classified according to United Nations International Standard Industrial Classification (ISIC). Industry and trade directories in the Arab states do not promote it yet as a sector. There are no legislative rules or regulations in most Arab states to create a favourable environment for the growth of the ICT sector.

Strategy: Analytical studies, expert group meetings, capacity building and advisory services are important to develop the ICT sector in the region. Special emphasis to implement public and private partnerships will be a cornerstone for advancing this programme.

Additionally, the strategy aims at tackling a number of frontiers in dealing with the above-mentioned challenges. The first is based on fostering regional collaboration and partnerships. The second is based on increasing the development of new institution forms and forming regional clusters. The third consists on enhancing the current legislative environment for the promotion of the ICT sector.

Expected accomplishments	Indicators of achievement
(1) Improved access among stakeholders of the ICT sector with a view to promote collaboration and partnership on the regional level;	(1.a) Number of regional Web enabled databases containing essential information on the stakeholders of the ICT sector; (1.b) Number of entries in each Web enabled database;
(2) Increased dissemination of incubators in the region and the formation of regional clusters;	(2.a) Number of incubators schemes created in the region as a result of this programme; (2.b) Number of ICT companies created from each incubator; (2.c) Number of established regional clusters;
(3) Published guide on Directives for enabling the development of the ICT sector into an industry (legislations, organization, management);	(3.a) Number of member countries devising and adopting laws, rules and regulations for fostering the development of the ICT industry, as a result of this programme;
(4) Promoting local product development in the ICT sector.	(4.a) Number of participating stakeholders; (4.b) Number of new products developed as a result of this project; (4.c) Number of newly established ICT firms as well as increase in ICT labour force per country.

Programme 6. Women empowerment in the information society

Women empowerment has been recognized as the central issue in determining the status of women. It is envisaged as a means for promoting gender equality, increasing women's own opportunities, productivity and effectiveness as well as to enhance their employability.

The underlying causes of gender inequality are connected to social and economic structure, which is based on informal and formal norms, and practices. It has also become a known fact that gender inequality contributes to poverty, slows economic growth and reduces human well-being.

There are two main aspects for empowering women, namely economic and social empowerments. The former deals with issues related to poverty reduction and access to productive resources. The latter manifests itself in various forms; the most obvious being social stereotyping, political representation, access to education, health, shelter, and sanitation. Both aspects are important for building a regional information society, because the success of this society is contingent on the active participation and involvement of both men and women.

(a) Mapping to strategic framework

With the above in mind, this programme mainly focuses on enabling environment and capacity building of woman, thus having two dominant tracks as illustrated in table 6. The programme also aims at providing relevant policies, strategies, digital content and ICT applications as well as increasing access to information and knowledge in order to empower women to actively participate in the information society; these are the medium impact level tracks, namely tracks 1,3,7,8 and 10. The other tracks are on a low impact level with this programme.

TABLE 6. MAPPING PROGRAMME 6 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies		X	
Area 2. ICT infrastructure			X
Area 3. Access to information and knowledge		X	
Area 4. Capacity building	X		
Area 5. Building confidence, trust and security			X
Area 6. Enabling environment	X		
Area 7. ICT applications		X	
Area 8. Cultural, linguistic and local content		X	
Area 9. Media			X
Area 10. International and regional cooperation		X	

Notes: High impact level refers to directly serving the major goals of a given track;
 Medium impact level refers to achieving positive benefits for supporting a given track;
 Low impact level refers to producing indirect activities for advancing a given track.

(b) Outline

Objective: To promote gender equality and empower Arab women through the various uses of ICT to fulfil a proactive role in developing a sustainable information society.

Challenges: Although progress to solve gender inequality in the region has been recorded over the past years, the gender gap remains a challenge throughout the Arab world and gender discrimination is still common practice.

In 2003, the total Arab women population was approximately estimated at 153 million, constituting 50 per cent of total Arab population and forming the majority of the population aged above 60 years. However, gender-based inequality and discrimination undermine women's opportunities and their ability to fully exercise their basic human rights. In 2003, 44 million adult women are still illiterate and Arab women, compared to 14.5 in Asia and 15.1 in Sub Saharan Africa, hold only 5.8 per cent of national parliament seats. In 2001, unemployment rate of women was estimated at 17.1 per cent as compared to that of men, at 10.6 per cent²⁹.

Strategy: Building on the recommendations reached during the "Regional seminar on women and ICT" which was held in Cairo on December 2003³⁰, the strategy mainly focuses on building the ICT capabilities of women, improving their work opportunities in the information society, and increasing their participation in the decision making process of building the information society.

This programme will seek women's advancement, through the use of ICT, in different socio-economic spheres. It will collaborate with current women's movement and widespread network of NGOs that have strong grass-roots presence and deep insight into women's concerns in order to mainstream gender perspective in the development process as catalyst, participants, and recipients

Conducting analytical studies, formulating policies, and devising applicable strategies will contribute to the advancement of the above-set objective. Cooperation with local, regional and international agencies will aid in harnessing ICT to best serve women as well as in implementing necessary implementation and monitoring mechanisms.

²⁹ E/ESCWA/SDD/2004/Booklet.1, "Where do Arab women stand in the development process? A gender-based statistical analysis", January 2004

³⁰ "Recommendations", Regional Seminar on Women and Information and Communication Technology, ITU telecommunication development bureau - Arab regional office, Cairo, Egypt 17-19 December 2003.

Expected accomplishments	Indicators of achievement
(1) Increased awareness on the potentials offered by ICT to empower women;	(1.a) Increased number of countries adopting measures of positive discrimination in favour of women in national policies; (1.b) Increased number of countries and NGOs implementing actions for harnessing ICT to empower women;
(2) Increased confidence, trust, participation, and role of women in the process of building the information society;	(2.a) Increased percentage of women participating in decision making related to building the information society; (2.b) A regional body to promote and advance empowerment of women through the use of ICT;
(3) Increased social and economic empowerment of women through the use of ICT.	(3.a) Increased number of women ICT literacy; (3.b) Increased percentage of women employed by sector.

Programme 7. Information society measurements

Building an information society in which citizens of the region can equally access and use information resources for sustainable economic and social development is a multi-stakeholder process involving multidimensional aspects. A major component of this process is to measure the readiness, intensity, impact, and outcome of the information society in order to evaluate and monitor its progression and provide a comparative analysis of the level of maturity achieved in the region.

There are a large number of available ICT measurements in the form of indicators, indexes, and benchmarking data. Some of these measurements will lose their relevance with time as the information society evolves and as technology is further developed. In addition, measuring the information society continuously requires collecting and maintaining data in an accurate and timely manner.

(a) Mapping to strategic framework

This programme is mainly related to area 1 of the strategic framework, as indicators provide an informative, timely, and constructive approach to the formulation of policies, which help build an information society. It also affects, on a medium level, areas 3, 4, 6, and 10 as illustrated in table 7. To a lesser degree, all remaining tracks are also affected by information society indicators.

TABLE 7. MAPPING PROGRAMME 7 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies	X		
Area 2. ICT infrastructure			X
Area 3. Access to information and knowledge		X	
Area 4. Capacity building		X	
Area 5. Building confidence, trust and security			X
Area 6. Enabling environment		X	
Area 7. ICT applications			X
Area 8. Cultural, linguistic and local content			X
Area 9. Media			X
Area 10. International and regional cooperation		X	

Notes: High impact level refers to directly serving the major goals of a given area;
 Medium impact level refers to achieving positive benefits for supporting a given area;
 Low impact level refers to producing indirect activities for advancing a given area.

(b) Outline

Objective: To devise a comprehensive set of indicators with a view to evaluate and monitor the development of the information society in the region and to measure progress in the use of ICT to achieve the United Nations Millennium Development Goals, and act as motivation to enhance action in the spirit of the WSIS.

Challenges: The large number of available measurements for the ICT sector reveals the embedded complexity in determining unified set of measurements for the region, while also attempting to fit into the broader issues for measuring the information society. Another challenge is related to the split of indicators on three levels, namely global, regional, and national; this hierarchy requires close examination of the characteristics needed for each level in order to construct proper indicators for the region. The information society measurements must reflect the specificities of the region and provide comparative indicators with other regions. There are also challenges associated in obtaining data from official country sources and afterwards in managing and maintaining them, whilst also enabling international cooperation.

Strategy: This programme has the advantage of capitalizing on the efforts already accomplished by ESCWA in exploring possible modalities to collect and manipulate data as well as to present them in a form that is easy to manipulate and analyse. Research, studies, meetings, and advisory services will contribute to the advancement of this programme. For greater efficiency and effectiveness, partnerships will be forged with the United Nations Regional Commissions who have also embarked on a similar endeavour as well as other relevant United Nations agencies and national government organs such as national statistical offices. The programme will provide the means to continually develop and maintain a comprehensive set of comparative information society indicators and to launch a mechanism to manage and ensure accurate, timely and sustainable data collection process at intervals suitable for decision makers and other stakeholders.

Expected accomplishments	Indicators of achievement
(1) Improved regional capabilities to develop information society measurements;	(1.a) Increased number of countries that can produce official data for measuring the information society; (1.b) Increased number of comparative ICT indicators in line with global recommended actions from WSIS Geneva phase. (1.c) A regional mechanism to consolidate, compile, and publicly publish information society indicators data;
(2) Increased ICT tools for measuring the information society.	(2.a) Increased number of applications that facilitate and streamline the measurement and collation of information society indicators.

Programme 8. Promoting digital Arabic content (DAC)

Digital Arabic content preserves the common language, facilitates its evolution and promotes cultural diversity while sustaining socio-economic development. It is an industry that combines creativity, innovation and application with new models of production and distribution aimed at delivering relevant content to consumers; typical applications are digital game, digital video and audio, mobile application and services, content processing software, digital archiving, and e-learning materials.

Promoting digital Arabic content entails the development of an entire environment that takes into account policy and administrative arrangements, standards, new applications, quality of published data, and research and development.

(a) Mapping to strategic framework

Table 8 maps this programme to the RPOA's strategic framework and identifies three dominant areas, namely areas 3, 7 and 8. Promoting Digital Arabic content has a number of supplementary benefits that are manifested by moderately serving other areas such as providing an enabling environment, building the capabilities of human resources, and fostering international and regional cooperation, which are respectively areas 4,6, 9 and 10. Due to the fact that the areas are weaved into one another, the programme also produces positive spillovers to low-impact level areas in the form of activities or small projects with a view to foster and maintain cultural and social variety.

TABLE 8. MAPPING PROGRAMME 8 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies			X
Area 2. ICT infrastructure			X
Area 3. Access to information and knowledge	X		
Area 4. Capacity building		X	
Area 5. Building confidence, trust and security			X
Area 6. Enabling environment		X	
Area 7. ICT applications	X		
Area 8. Cultural, linguistic and local content	X		
Area 9. Media		X	
Area 10. International and regional cooperation		X	

Notes: High impact level refers to directly serving the major goals of a given area;
 Medium impact level refers to achieving positive benefits for supporting a given area;
 Low impact level refers to producing indirect activities for advancing a given area.

(b) Outline

Objective: To build a sustainable digital Arabic content industry that produces content and applications suited to local needs and aimed at preserving the rich and varied cultural heritage of the region.

Challenges: The digital content, an emerging industry in the digital age, is forecasted to grow to more than USD 434 billion by 2006. In this industry, the English language continues to be the dominant language with a 68.4 percent share. Digital Arabic content, on the other hand, is still at an embryonic stage with on-line Arabic language users constituting less than 1 percent of total on-line users in the world³¹.

In respect to the above, the digital Arabic content, particularly on the Internet is weak. No national or regional industry exists to develop this content. In June 2003, a meeting, aimed at promoting the digital Arabic content and at identifying strategies as well as implementation frameworks for the region, was organised by ESCWA³². One of its important outcomes was the launching of the “Arab Content Initiative” by ESCWA in the fourth quarter of 2003. Additionally, in the beginning of the second quarter of 2003, an “Arab Domain Names Task Force” (ADNTF) was formed under the auspices of ESCWA; one of its main objectives was to help define standards for ADNS through the development of a “Request For Comments” (RFC) document to obtain regional and global recognition; a typical project would be to launch a regional registry or a business model to commercialise the Arab domain names registration service.

The challenge remains to translate the above two endeavours into concrete actions and further develop the digital Arabic content.

Strategy: This programme will be dedicated to facilitate the formulation of policies and enhancing regional synergies to develop a sustainable digital Arabic content industry that produces content and applications suited to local needs. It will support existing endeavours, undertake research and development, and invest in new institutional forms, such as incubation schemes and technopoles.

Analytical studies, capacity building, and advisory services are fundamental to promote the digital Arabic industry and cultivate professional talents in the region. In addition, partnership with the private sector is vital to fulfil this programme.

³¹ E/ESCWA/GRID/2003/41, “Annual Review of Development in Globalisation and Regional Integration in the Countries of ESCWA Region”, December 2003.

³² ESCWA organized an expert group meeting to follow up on the WSIS Western Asia regional preparatory conference held in Beirut on February 2003.

Expected accomplishments	Indicators of achievement
(1) Improved enabling environment and implement the infrastructure needed for the production, processing, dissemination and protection of digital Arabic content;	(1.a) Set up a regional mechanism for supporting digital Arabic content initiatives; (1.b) Well defined Arabic ICT terminology (1.c) Functioning Arabic Domain Name System (ADNS) (1.d) Increased number of new applications for Arab language processing and collaboration;
(2) Increased digital Arab content, especially those related to cultural heritage of the region.	(2.a) Increased number of regional trusted sources for producing digital Arabic content; (2.b) Increased number of web sites dedicated to Arab history, cultural heritage, and linguistic studies.

Programme 9. ICT in education and scientific research

In the context of socio-economic development process, globalisation and the shift towards building an information society and a knowledge economy, traditional educational practices are no longer sufficient to provide citizens and the workforce with all the necessary skills for economic survival in today's world.

In this respect, ICT in education and scientific research is transforming access to knowledge, process of learning, and delivery of information. This does not necessarily entail the abolishment of traditional practices, but rather a merging of conventional teaching/learning and research approaches with new ones that facilitate education and scientific research anytime, anyplace and on a just-in-time basis while addressing individual and institutional needs.

New educational methods for solving problems and using appropriate tools for learning, collaborating, and communicating are essential to develop the human resources needed to build the information society. Additionally, lifelong learning coupled with accredited and certified training attached to defined skills, jobs and career paths are providing competitive advantages to labour as well as institutions. Within this new context of learning, the learner has become a continuous consumer of knowledge seeking autonomy and innovations in educational systems.

(a) Mapping to strategic framework

As illustrated in table 9, this programme has two dominant areas, namely capacity building and ICT applications. Indeed, this programme aims at building capabilities of human resources including policy-makers, decision makers, and teachers and at examining the overall proficiency and success in adopting ICT applications in education and scientific research as well as encouraging their dissemination. This programme also promotes, with a medium impact level, the dissemination of ICT infrastructure and media, access to information and knowledge, and the establishment of an enabling environment for ICT in education and scientific research. The remaining areas are characterised with low impact level.

TABLE 9. MAPPING PROGRAMME 9 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies			X
Area 2. ICT infrastructure		X	
Area 3. Access to information and knowledge		X	
Area 4. Capacity building	X		
Area 5. Building confidence, trust and security			X
Area 6. Enabling environment		X	
Area 7. ICT applications	X		
Area 8. Cultural, linguistic and local content			X
Area 9. Media		X	
Area 10. International and regional cooperation			X

Notes: High impact level refers to directly serving the major goals of a given area;
Medium impact level refers to achieving positive benefits for supporting a given area;
Low impact level refers to producing indirect activities for advancing a given area.

(b) Outline

Objective: To enable individuals and institutions to make use of ICT in education and scientific research for achieving socio-economic development with particular emphasis on nurturing life management skills and increasing labour force competencies.

Challenges: Leaders in the e-learning movement and policymakers in education are not collaborating enough to shape e-learning practices and to promote ICT in scientific research, thereby worsening the participation of their countries in the global knowledge-based economy; let alone the high illiteracy rate across the region, particularly among women.

The main challenges for e-learning is to overcome the resistance against the transformation of existing education infrastructure and to increase human intellectual capital, especially the knowledge workforce of the region. Unemployment, estimated to vary from 10 to 19 percent in the region, and underemployment pose a need for fundamental changes in order to develop new appropriate skills that meet the needs of the 21st century labour market demands³³.

Strategy: The strategy will concentrate on the broader educational reform to disseminate e-learning for socio-economic development, with a view to increase the competitiveness of institutions and to improve the life management skills of citizens. Enhancing policy makers and teachers' capabilities through in-depth analysis of e-learning systems and then providing technical assistance services during the execution

³³ E/ESCWA/ICTD/2004/WG.1/4, "ICT for poverty reduction and employment creation in Western Asia - A strategic plan", April 2004

phase are two main components for implementing this programme. Research and analytical studies, meetings, and capacity building through workshops and advisory services will also contribute to promote ICT in education and scientific research. The programme will focus on developing informed, responsible, and contributing citizens. Partnerships will be forged with major stakeholders including strategic regional and international partners such as UNESCO.

Expected accomplishments	Indicators of achievement
(1) Improved mechanism to allocate more resources and streamline processes for implementing ICT in education and scientific research projects;	<p>(1.a) Improved policies that facilitate and attract projects for ICT in education and scientific research;</p> <p>(1.b) Increased allotment of resources for implementing e-learning projects, especially in vocational training institutions;</p> <p>(1.c) Increased number of teachers equipped with the skills to use ICT in education and scientific research.</p>
(2) Increased ICT applications and services in education and scientific research projects, especially those designed to develop life management skills and labour force competencies.	<p>(2.a) Increased number of e-learning services such as virtual, distance, and lifelong learning services especially for pre-university and vocational training educational systems;</p> <p>(2.b) Increased number of networks among research and development activities in the region as well as with other regions;</p> <p>(2.c) Increased number of individuals benefiting from this programme by improving their human welfare;</p> <p>(2.d) Increased number of institutions benefiting from this programme by increasing their human resources intellectual capital.</p>

Programme 10. Increasing community access with emphasis on the marginalized and disabled

Empowerment through community access has proven to be an effective mechanism for supporting economic development and reducing the digital divide. This programme will act as the vehicle for launching a number of services based on formal and informal ICT-based training, and will expand to offer a number of thematic applications in the areas of e-health, e-commerce, e-government, and e-learning.

In fact, ICT could well serve marginalized communities. For instance, ICT, with proper adaptations, could become an equalizer of abilities and assist the disabled to integrate or re-integrate into the main stream of life and actively participate in building the information society. In fact, ICT provide great opportunities to enhance the quality of life of disabled; visual disabilities may be compensated with screen readers that redirect content to speech or Braille output; hearing disabilities may require subtitle for audio content or may benefit from sign language on Web sites; cognitive or neurological disabilities may need Web sites with no distracting objects and reliable navigation; and physical disabilities may need special support for keyboard and mouse usages.

This programme will identify, adapt, and implement ICT-based applications to empower the disabled and serve marginalized communities by acting as central point for personal and entrepreneurial skill development, employment creation, lifelong learning and community development. Different access models will be adopted to meet the needs of local communities, such as ICT community centres and Internet Kiosks.

(a) Mapping to strategic framework

The mapping of this programme to the areas identified in the RPoA strategic framework reflects in a qualitative mode the high impact that this programme has on capacity building and access to information and knowledge; thus having two dominant areas as illustrated in table 10. The programme also aims at providing relevant policies, strategies, digital content and ICT applications as well as contributing to an enabling environment and seeking international/regional cooperation in order to empower marginalized communities to actively participate in the information society; these are the medium impact level areas, namely areas 1,6,7, 8 and 10. This programme does not directly fulfil the goals of low-impact level areas, however important they may be, but rather act as a derivative programme that generates a number of actions aimed at partially solving issues related to areas 2, 5 and 9.

TABLE 10. MAPPING PROGRAMME 10 TO STRATEGIC FRAMEWORK

Strategic Framework Areas	Impact Level		
	High	Medium	Low
Area 1. Policies and strategies		X	
Area 2. ICT infrastructure			X
Area 3. Access to information and knowledge	X		
Area 4. Capacity building	X		
Area 5. Building confidence, trust and security			X
Area 6. Enabling environment		X	
Area 7. ICT applications		X	
Area 8. Cultural, linguistic and local content		X	
Area 9. Media			X
Area 10. International and regional cooperation		X	

Notes: High impact level refers to directly serving the major goals of a given area;
Medium impact level refers to achieving positive benefits for supporting a given area;
Low impact level refers to producing indirect activities for advancing a given area.

(b) Outline

Objective: To empower the marginalized and disabled and stimulate further socio-economic integration of remote communities through the various use of ICT with a view to increase employability/social inclusion.

Challenges: The region suffers from a widening digital divide. In most Arab countries, rural and remote areas are mostly deprived from proper ICT infrastructures; citizens in these areas do not even have access to a telephone in their homes let alone the Internet. In some countries, illiteracy and poverty are the main hurdles for socio-economic development. Empowerment through ICT is contingent on developing a culture for accessing information and seeking knowledge. Capacity building and resource allocation at the community level are essential for nurturing and supporting the development of this programme in a sustainable manner.

Main challenges include the following: (a) the lack of policies and strategies to harness ICT for the disabled and to serve marginalized communities, (b) the cost of hardware and software, (c) the cost and effort of maintaining ICT equipment; (d) the need for training; (e) the lack of digital Arabic content and Arabized versions of ICT applications; (f) the absence of ICT telecommunications infrastructure in some areas; and (g) the high cost of telecommunications services in other areas.

Strategy: This programme relies on the collaboration of Government and community representatives to achieve its objective. In this respect, awareness creation on the necessity to reach sustainable development at the community level and capacity building of human resources including decision makers are essential to advance this programme. Throughout the life cycle of this programme, sustainable operation of community access will be a main factor for measuring success and for instigating

partnerships among local NGOs, regional organizations, and public and private sectors.

Building on the accumulated experiences from similar endeavours in the region, the adopted strategy will disseminate best practices in the region, with a view to customize ICT-based applications to meet the needs of marginalized communities and offer whenever possible guidance and counselling services as well as on building the ICT capabilities of the disabled by improving their work opportunities and increasing their participation in the decision making process of building the information society. Different access models will be adopted to best serve the characteristics of each community, be it rural or urban, in different socio-economic spheres. Empowerment through access to vital information and wealth creation through added value ICT-based services will be typical applications for launching pilot projects in the region and establishing links among communities, government representatives, and the private sector.

The programme will include analytical studies and the formulation of necessary policies/strategies that are needed to meet the above-set objective. Cooperation with regional and international specialized agencies will aid in developing innovative methods for increasing access to information and knowledge. Additionally, ICT-based systems to ensure efficient monitoring and review impact assessment will be pursued along with necessary implementation mechanisms.

Expected accomplishments	Indicators of achievement
(1) Increased involvement of Government and local communities in implementing ICT community access projects;	(1.a) Increased number of member of countries implementing strategies and plans of action for empowering individuals, especially the disabled, and for supporting the development of marginalized communities; (1.b) Increased number of sustainable ICT community access projects in the region;
(2) Reduced digital divide for the disabled in the region;	(2.a) Increased number of community access points in marginalized communities; that are specifically geared to teach people with disabilities and are equipped with “assistive” ICT solutions; (2.b) Increased number of ICT literacy, especially for the disabled.
(3) Improved socio-economic development of marginalized communities and development of life management skills including decision-making and problem solving.	(3.a) Increased number of ICT-based services, such as e-health, e-commerce, e-government, and e-learning; (3.b) Number of individuals from marginalized communities who have increased their welfare as a result of this programme; (3.c) Increased percentage of disabled employed by sector.

IV. PROJECTS

A. INTRODUCTION

The previous chapters cover the RPoA strategic framework and propose regional partnership programmes. This chapter is dedicated to the development of the RPoA into regional projects for building the information society. The proposed projects are regional in their scope and scale; in addition most of them have national components with sometimes specific pilot projects in selected ESCWA member countries.

The RPoA is built in a top-down fashion focusing on the information society thrust areas and partnership programmes. Projects, on the other hand, constitute the building blocks for developing an integrated information society in the region; starting with problem definitions and aligning intended results within the context of the RPoA strategic framework, projects establish a balance between bottom up and top down approaches by delivering attainable solutions for solving short-term and long-term problems associated with the process of building the information society.

This chapter starts by highlighting the importance of including regional projects in the RPoA. It then provides criteria for attaining the maturity needed to ensure a good start for project implementation and facilitate the participation of parties interested in proposing and/or implementing projects aimed at building the information society in the region. The last two sections of the chapter present a list of proposed projects for each of the programmes recommended in chapter 3, and review the efforts completed by the Taskforce for the Realization of the Arab Telecommunications and Information Strategy and the resulting list of regional priority projects for Arab Governments that the Taskforce has recommended for inclusion in the RPoA.

B. PROJECTS AND THE RPOA: ACTIONS THAT TRANSLATE INTO RESULTS

It is often noted that large-scale endeavours carried out at the regional level are hindered by several challenges. These challenges arise mainly from issues related to the holistic nature of these endeavours and the resource related complexities encountered during implementation. Proposing projects within the RPoA offers many potential advantages including improved two-way communication between the stakeholders, as well as horizontal communication amongst several project initiators during the process of building the information society. Engaging stakeholder in adopting and implementing regional projects will set forth an incremental process that builds upon the results of completed projects and pave the way for other more elaborate projects with higher visibility components and more direct impact on society as a whole.

Including projects in the RPoA offers the following potential benefits:

- Added on-the-ground activities leading to tangible results;
- Increased bottom-up articulation of development needs;

- Improved information flows through more developed collaborative networks;
- Better advocacy to policy and support to the RPoA;
- Broader scope and large scale for solidarity building by serving different needs and goals;
- More sense of appropriation from stakeholders;
- Enhanced partnerships with beneficiaries.

C. PROJECT CYCLE: FROM CONCEPTUALISATION TO IMPLEMENTATION

This section provides a description of a typical project development cycle that includes drafting project concept papers, producing project documents, identifying funding agencies and potential partners, and starting implementation.

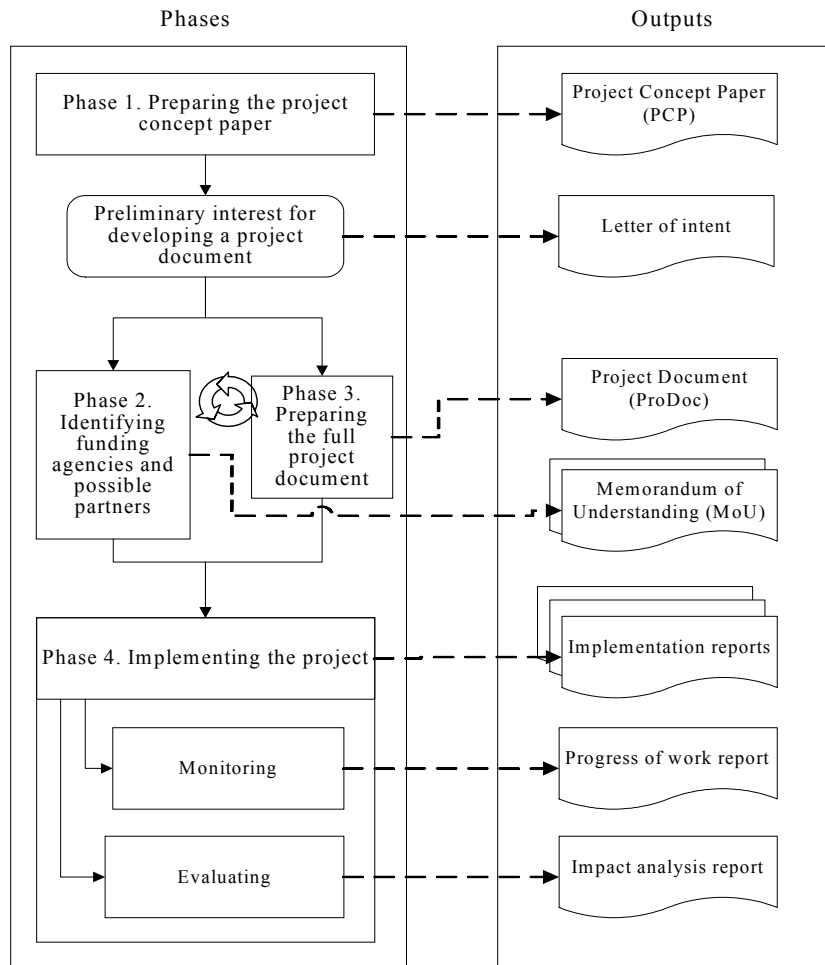
The objective of this section is to identify the criteria for reaching the maturity needed to achieve successful project implementation and to facilitate the participation of parties interested in proposing and/or implementing projects aimed at building the information society in the region. The amalgamation of these criteria form one of the distinctive characteristics pertaining to the RPoA³⁴, namely “implementation upon maturity”; the criteria are:

- Clear and complete project concept paper produced using a template that would streamline the exchange of information and perception of the project objectives;
- Conducive environment provided to solicit collaboration and cooperation from stakeholders;
- A leading agency/champion identified for the project;
- Comprehensive project document produced using result-based management paradigm;
- Partnership subscription completed based on the added value that each partner could contribute to the project;
- Necessary funds committed and required resources allotted;
- Partnership model agreed upon including execution and monitoring mechanisms.

The four phases constituting a project cycle along with their associated outputs are illustrated in figure II.

³⁴ Refer to chapter 1 for a complete list of the distinct characteristics of the RPoA.

Figure II. Project development phases



Source: ICTD, ESCWA

An overview of the four phases is provided as a guideline to encourage contribution from stakeholders and further develop added value regional projects.

1. Preparing project concept paper

At the concept phase, the leading agency would address a topic of interest based on its mandate and scope of action. The topics of interest would coincide with one or more areas and partnership programmes as described by the RPoA strategic framework. In doing so, the agency should focus on the regional nature of the problems and propose projects that create value and progress towards sustainable information society development. As this phase, a project concept paper is prepared based on a pre-determined template (refer to annex B), and submitted to initiate a call for partnership.

2. Identifying funding agencies and possible partners

Once the project concept paper is developed, potential partners and funding agencies can be approached. There are several models for cooperation within any newly founded partnership, and different stakeholders will address similar issues differently within the scope of their mandate and strategic development goals. The size of some projects summons the need to embark on multi-stakeholder partnerships that involve the public sector, the private sector, non-governmental organizations (NGO) and other international agencies combining their strengths in various areas to achieve the desired objectives. Specific partnership models like the Public-Private Partnership (PPP) model can be adopted to build on the individual strengths of the two sectors.

Partner selection should be done with empowerment and inclusion in mind. In order to develop sustainable environments for growth and development, multi-stakeholder partnerships should include partners that can retain transferred know-how and possibly construct self-funding operational models. The availability of different resources within any given project is primordial to its continuity and sustainability beyond the time-bound definitions of a project document, resource contribution can take many forms including in-kind contributions, financial contributions, and human resources.

Funding agencies that have adopted a given project document will look for transparency and accountability in meeting the desired objectives. It is important to address budget constraints and account for hidden costs within very stringent rules. This will ensure that funding agencies understand the nature of the project partnership. They will require well-defined indicators of achievement and progress milestones, all of this within the guidelines of result-based management methodology. Funding agencies, on the other hand, should indicate the proper channel through which extra-budgetary spending will be considered, and would impose their methodology for selecting projects as well as monitoring and evaluating progress of work.

As partnerships are forged and financing secured, it is necessary to join the stakeholders in a Memorandum of Understanding (MoU) that clearly defines roles, responsibilities and contributions. The MoU may diverge from the findings of the project concept paper document focusing attention on a specific subset of objectives as dictated by partnership specifics.

3. Preparing the full project document

Having identified potential partners within the call for partnership, and received initial approval to proceed with elaborating the concept paper. The lead agency would explode the concept paper into a full-scale project document that drills down into the ideas presented earlier. The document would also contain implementation and monitoring mechanisms, assigning roles and responsibilities to the different partners. Budget details and activity costs should be clear at this level, enabling the management team to set review points and report on progress. Reference to partners includes, lead agencies, beneficiaries, supporting agencies, funding agencies and the

project management team. These partners should achieve high consensus on vision, goals, milestones, management process and financial requirements. The choice of partners should be based on their ability to add value to the project and to induce sustainability. It is well worth noting that the floor remains open for new partners and funding agencies to subscribe to the process described above. This phase could also be launched in parallel with the previous phase.

Projects will be adopted for execution based on the attained level of maturity, which is a direct product of the level of commitment expressed by the partners and the perceived impact on the beneficiaries. Perception of the maturity level will differ between partners and projects, based on the beneficiaries and the impacts. Partners in the private sector could rate project maturity based on the forecasted market development goals, and what impact the project will have on expanding business possibilities and good return on investment (ROI) rates. NGOs will address maturity from a development perspective and adopt the projects with the highest impact on their areas of interest.

Technical assistance should be sought in the formulation of project documents from experts that could add value to developing these documents and pushing them forward along the maturity track.

4. Implementing the project

Once the project reaches the required maturity level (refer to criteria discussed in section C of this chapter), the next phase is to start project implementation, whereby the array of efforts and documents are transformed into tangible results.

The implementation phase must be built on a continuous feedback model that indicates conformance to the proposed budget and the progress milestones. The project document had specified indicators of achievement as the feedback channel supplying information about the impact the project has had on its beneficiaries. Producing periodic implementation/progress reports to the stakeholders and the funding agencies to measure and quantify progress allows all concerned parties to monitor the project and deal with implementation challenges in the best way possible.

During implementation, it is vital to ensure that activities are developed so that appropriate local ownership is built and enhanced from the beginning in order to mainstream ownership and assure sustainable operations.

Upon completion of the project, an impact analysis report will be prepared by the leading agency and distributed to the stakeholder and funding agencies. This report will contain initial impact findings and issues; it will present the successes and the best ways to achieve them; it will also highlight the challenges, how they were addressed and the best way to attenuate their effect on the desired impact.

D. PROPOSED PROJECTS FOR THE RPOA PROGRAMMES

In June 2004, ESCWA held a round table on "Strategies and Plans of Action for Building the Information Society in Western Asia" at the United Nations House in Beirut, Lebanon. A panel of ICT experts from ESCWA member countries attended the round table. The participants agreed on the strategic programme framework for the RPOA and recommended a number of partnership programmes. Proposed projects for each of the partnership programmes were discussed and project concept papers were prepared for the projects for which champions or leading agencies were identified.

This list of projects, presented in annex C along side the programmes under which they are categorized, is in no way exhaustive; rather it is based upon the collection of works carried out by designated leading agencies. It is envisaged that more projects will be added to this list; especially projects that would show reasonable ROI rates, thereby appealing more to funding agencies and the private sectors.

E. PROJECTS RECOMMENDED BY THE TASKFORCE ON REALIZATION OF THE ARAB TELECOMMUNICATIONS AND INFORMATION STRATEGY

In their 14th session held on January 2004³⁵, the executive office of the Arab Telecommunications and Information Council of Ministers agreed to establish a Taskforce for the Realization of the Arab Telecommunications and Information Strategy, hereafter referred to as Taskforce. The latter, led by the representative from Saudi Arabia with experts from member countries within the executive office as well as experts from other member countries, worked to formalize a number of regional projects granting priority to projects in building the infrastructure, human capacity building, enabling environment, and e-commerce.

Building upon the recommendations and results reached through previously adopted declarations, mainly the Arab information and communication technology strategy³⁶ and the global Plan of Action (PoA)³⁷ resulting from the Geneva phase of the WSIS, the Taskforce formed two virtual committees; the first worked on setting the criteria against which projects will be selected, while the second surveyed projects in the region within the framework of a pre-approved identification template.

This list of projects and project proposals underwent a long classification process that culminated in the meeting convened between the 27th and the 29th of September 2004. As a result, a final selection was made taking into consideration the scoring process and the priorities set by the Arab Telecommunications and Information Council of Ministers. It was agreed that a pre-determined model feasibility study would be completed for each of the projects in the final selection. The proposed projects, listed in table 10, and presented to the Second Regional Conference for the WSIS, which was held in Damascus on the 22nd and the 23rd of November

³⁵ Source: <http://www.atim.org.eg>.

³⁶ League of Arab States, resolution number 214, 28/3/2001. <http://www.atim.org.eg>.

³⁷ Document WSIS-03/GENEVA/DOC/5-E

2004, are included in the RPoA. Arab Governments are urged to cooperate in advancing the implementation of these projects.

The list of projects propose by the Taskforce (as illustrated in table 11) may also expand in the future to include newly recommended projects by the Arab Telecommunications and Information Council of Ministers.

TABLE 11. LIST OF PROJECTS PROPOSED BY THE TASKFORCE

Project title	Leading country	Participating country
Establishing a Digital Arabic Library	Sudan	Egypt and Tunis
Connecting Arab Documentation Centres	Egypt	Sudan and Tunis
Developing an Arabic Search Engine	Saudi Arabia	-
Total Access Points	Saudi Arabia	-
PC for Every Home	Egypt	Syrian Arab Republic and Sudan
Information Technology Clubs	Egypt	Syrian Arab Republic and Sudan

Source: Report and recommendations of the third meeting of Arab Telecommunications and Information Strategy Formalization Taskforce (Cairo: 27-29, September 2004), G 15-08/ 03(04/09)/02 – T(0440)

V. BUILDING PARTNERSHIPS IN ICT

A. INTRODUCTION

The fast growth and development of the ICT sector has resulted in a high rate of start-up businesses in developed countries. Developed countries have managed to breed a constant flow of new high-impact firms, the kind that creates value and stimulate growth by bringing new ideas to the market, through new technologies, new business methods, or simply new and better ways of performing new tasks. Such firms do not just emerge as a natural by-product of free-market institutions. Nor are they the result of any single factor. In all instances, they are the result of a multifaceted system for nurturing high-impact partnerships and entrepreneurship³⁸.

In this region, such approach has been missing so far. Reform in such circumstances focuses on macro-economic issues such as finance and trade, institution building and the creation of good banking systems, reasonable interest and exchange rates and stable tax structures. Privatisation, deregulation and investment in infrastructure and basic education are also expected. However, in today's knowledge-based economy, partnerships, entrepreneurs and venture capital should be added to the list.

It is important to note that venture capital will do no good without ventures to support. Micro-enterprises are not sufficient either, as they tend to involve cottage industries that add little to the economy in terms of productivity or growth. National mechanisms to feed and sustain these ventures should be put in place. Attracting outsourced work is also not sufficient for prosperity in the long term, as it has a disturbing tendency to migrate to still lower-cost locales. Only when a nation is the initiator, a breed of new firms and partnerships based on new ideas, that unique values are added and real opportunities are created.

B. GUIDING PRINCIPLES

The following guiding principles for partnerships are proposed³⁹:

- 1- Partnerships should be specific commitments by various partners intended to contribute to, and reinforce the implementation of a specific objective, or set of objectives;
- 2- Partnerships are voluntary and self-organizing; they are based on mutual agreed objectives and shared responsibility of the partners involved;
- 3- Partnerships should adopt a multi-stakeholder approach and involve a range of actors in any given area of work; partners usually involve governments, regional groups, local authorities, non-governmental /civil society organizations, international institutions and the private sector;

³⁸ Schramm, Carl J., Building Entrepreneurial Economies, Foreign Affairs, July/August 2004

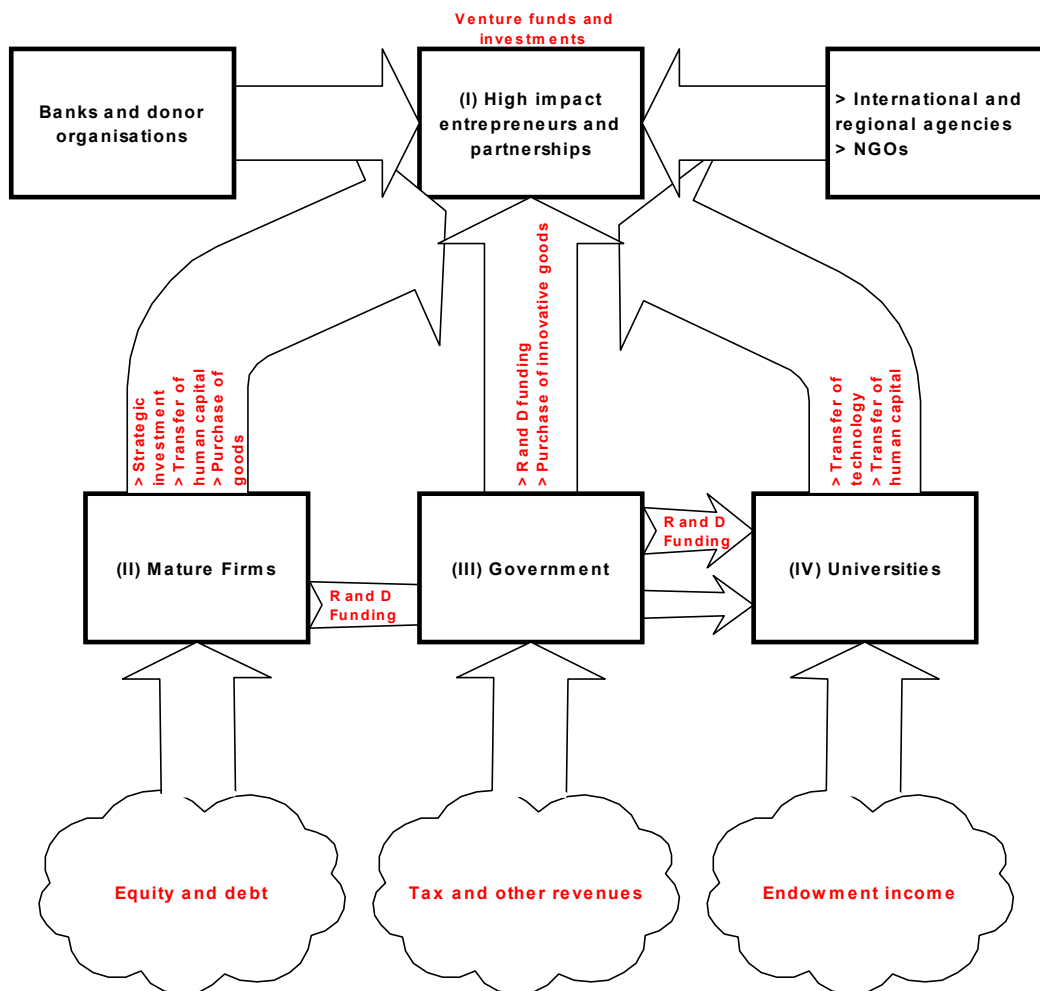
³⁹ WSIS call for partnerships (Geneva 2003 – Tunis 2005)

- 4- Each partnership should define its intended outcome and benefits; it should have clear objectives and set specific measurable targets and time frames for achievements;
- 5- Available and/or expected sources of funding should be identified; at least the initial funding (seed money) should be assured at the time of launching the partnership.

C. A MODEL FOR ESTABLISHING PARTNERSHIP AND PROMOTING ENTREPRENEURSHIP

Traditionally, partnership and entrepreneurial systems include four sectors of the economy: high-impact entrepreneurs, large mature national, regional and international firms, governments and universities. For developing countries, it may be practical to modify the model to include banks and donors, on the one side, and international and regional agencies on the other (see Figure III)

Figure III. The modified four-sector model



Source: Schramm, Carl J., Building Entrepreneurial Economies, Foreign Affairs, July/August 2004

The modified four-sector model provides a useful framework for guiding policies to promote partnerships and entrepreneurship in the region.

With respect to the first sector, countries must establish certain underlying conditions that allow the partnership and entrepreneurial process to flourish, favourable business policies and regulations, as well as access to investment and human capital. In many countries in the region, starting a business or partnership is fraught with expensive and time-consuming red tape. A source of capital for new firms or partnerships is another important factor in the first sector.

The second sector includes mature national and regional firms. They usually stress the privatisation of state-owned companies and the freeing up of local business environments to help existing firms. However, more should be done to induce a real symbiosis and partnerships between established firms and the newly small technology oriented entrepreneurs. The private sector is also encouraged to contribute to universities' R and D to drive commercial ICT innovations.

In the third sector, the government should do as much as possible to invest in infrastructure that supports partnership and entrepreneurship. Another investment by governments is in subsidizing laboratories and testing facilities for shared use, which young technology firms often need but cannot afford on their own. Incubators are one form of providing shared facilities. This will also encourage clustering of entrepreneurs around universities in certain cities, thereby gaining a dense network of peers for partnering and inventorying.

The fourth sector highlights investment in education, both in primary and higher education. In many countries of the region, governments are the main investors in education. The links of the fourth sector to other sectors also include research and development activities that could provide avenues for partnership.

High impact entrepreneurship and partnership will thrive most in countries that pay proper attention to all sectors of the model. The inclusion of banks and donors, and also international and regional organization will not affect the paradigm. It will rather provide additional possibilities for exploration.

Box 1. Entrepreneurship examples from the US

In 2003, approximately 11 of every 100 working adults in USA were engaged in entrepreneurial activity, either starting a business or playing a lead role in one less than three and a half years old.

The US is also unusual in that many of its big, strategically important corporations were created very recently. Dell and Cisco Systems, for example, were started in 1985 and 1984, respectively. New firms have been national leaders in creating wealth and raising living standards.

Compare the birth of two industries: nuclear power and software. Innovation in the first was driven mainly by big companies such as Westinghouse Electric. By contrast, there was no software industry in the early days of computing. Computer programs were either custom written or sold along the hardware; writing and selling programmes separately was not seen as a viable business strategy.

Source: Global Entrepreneurship Monitor (GEM)

In the four-sector model the cultural factors are not given enough weight. However, they could be taken into consideration, to a certain degree, on a project by project basis. Developing countries should not worry too much about cultural intangibles. It was found, in practice, that culture can change as incentives and conditions change. Encouraging partnership and entrepreneurship may do countries more good in terms of long-term growth and gains in productivity. Partnership and entrepreneurship coupled with innovative means of financing will create the agents of change and may prove to be important forces for regional stability.

D. MODES OF PARTNERSHIPS

Partnerships could take several shapes and forms; the most common form is national partnerships. However, more and more bilateral, regional and global partnerships are being encouraged amongst countries and private sector enterprises. For many developing countries partnerships involving international agencies and NGOs are also becoming widely recognized and encouraged. Partnerships could also be categorized according to types of stakeholders. The most talked about form these days is PPP. However, there are also public-public and public-international, and combinations of all. In all such partnerships, national or regional barriers should be removed.

Box 2 . Iraqi Networking Academies Partnership

After more than two decades of wars, sanction and restriction on acquiring information and communication technology (ICT), it is now imperative that ICT is fully utilized as soon as possible for communication, management, information, research and in the teaching/learning process. There is need to establish an electronic highway in Iraqi higher education institutions, which will break the isolation of universities and technical institutions.

In this context, ESCWA is presently executing a project in partnership with Cisco Systems and four well established Iraqi universities. More than 40 networking academies are being established in several cities and towns in Iraq to deliver networking technology training to university students and IT professionals to prepare them for the new tasks ahead in reconstructing new Iraq.

Source: Iraq Task Force, ESCWA, 2004

Partnership is different from traditional cooperation. It requires, a vision and a business model prior to stakeholders' agreement. It also requires well-defined targets and deliverables. One of the main considerations for successful partnerships is financing. Attracting investors and donors is an essential process that should not be undermined. The following points should be considered:

- Sources for financing (national, regional, FDI);
- The role of banks;
- Venture capitals if the partnership is for a venture type project;
- Return on investments calculations;
- Marketing (promoting) ideas and projects;
- Incubation for an initial period;
- The expected role of government(s);
- The legislative, regulatory and investment environments.

E. PARTNERSHIP IN THE CONTEXT OF THE WSIS PROCESS

The WSIS devoted a considerable portion of its discussions to issues related to partnership and financing of ICT projects, particularly for developing countries and countries with economies in transition. In the Geneva Declaration⁴⁰, global partnerships were stressed in the context for development for the attainment of a more peaceful, just and prosperous world. Partnership and cooperation among governments and other stakeholders, i.e. the private sector, civil society and international organizations was also recognized in the Declaration. Furthermore, partnerships, in particular between and among developed and developing countries, including countries with economies in transition, in research and development, technology transfer, manufacturing and utilization of ICT products and services are crucial for promoting capacity building and global participation in the Information Society. The manufacture of ICTs presents a significant opportunity for creation of wealth to all stakeholders.

In the global Plan of Action, a structured dialogue involving all relevant stakeholders, including through public/private partnerships, is recommended at the national level in devising e-strategies for the Information Society and for the exchange of best practices. Each country is encouraged to establish at least one functioning PPP or MSP, by 2005 as a showcase for future action⁴¹. It also recommended the identification of mechanisms, at the national, regional and international levels, for the initiation and promotion of partnerships among stakeholders of the Information Society. Through the adoption of an enabling environment, and based on widely available Internet access, governments should seek to stimulate private sector investment, foster new applications, content development and public-private partnerships. Public-private partnerships in the RPoA seek to maximize the use of ICTs as an instrument to improve production (quantity and quality). PPP should also foster the creation of varied local and national content, including that available in the language of users, and give recognition and support to ICT-based work in all artistic

⁴⁰ Source: WSIS-03/GENEVA/DOC/4-E

⁴¹ Source: WSIS-03/GENEVA/DOC/5-E

fields. Governments, through public-private partnerships, should also promote technologies and research and development programmes in such areas as translation, iconographies, voice-assisted services and the development of necessary hardware and a variety of software models, including proprietary, open source software and free software, such as standard character sets, language codes, electronic dictionaries, terminology and thesauri, multilingual search engines, machine translation tools, internationalized domain names, content referencing as well as general and application software. Media professionals in developed countries should be encouraged to establish partnerships and networks with the media in developed countries, especially in the field of training.

F. REGIONAL STATUS OF PARTNERSHIPS

Partnerships are heavily influenced by cultural, behavioral and historical values of the region and its countries. This region has very few success stories in partnerships and regional actions. It is also known to have investment patterns that tend to favor investments in secure sectors, such as estates and commercial trades. Investments in industrial projects and venture type projects, particularly in ICT, constitute a small percentage of investments as such project have relatively slow return on investment with risk factors higher than other economic sectors. In recent years, there have been attempts amongst the Cooperation Council for the Arab State of the Gulf (GCC) countries for business and industrial partnerships, but these attempts have not yet contributed enough to the region, and none of them have been in ICT.

In general, investors are attracted to invest outside the region due to political instability and lack of favourable environments and legislations that offer confidence to investors. In recent years, a number of countries in the region, namely Egypt, Jordan and UAE have taken steps to encourage investments and partnerships in ICT projects. ICT projects in Egypt attracted international companies, such as Microsoft and Cisco Systems, in addition to national players as partners in multimillion-dollar projects that disseminated ICT throughout the social sectors of the population. Projects such as Free Internet Access and a PC per Home are two such examples. In Jordan, the Government played the role of a facilitator in encouraging partnerships between its software development sector and international companies. The result has been a multifold increase of software products export from Jordan to the developed countries. Jordan has also been successful in partnership projects with UN agencies and the World Bank.

Partnerships in Dubai took a different form. The Government of Dubai was able to successfully implement e-government applications by establishing partnerships amongst government institutions. It was also able to host international and regional companies specialized in ICT or media technology in artificial towns created to offer tax-free havens in Dubai Internet City and Dubai Media City respectively.

Partnerships with international United Nations agencies, the World Bank and NGOs from a number of developed countries are also common in the region. However, in many instance measures and benchmarks of success and sustainability were not put in place for such partnerships. This is particularly the case for Yemen.

In surveying the state of partnerships, no striking examples of PPP in ICT were found at the national or regional level. The short life cycles of many partnerships that were forged in countries of the region require remedial actions. There are, however, few projects in the telecommunications sector that were mainly sponsored by governments in the region, such as Arabsat and Thuraya, have developed into success stories. In addition, the newly awarded license that Emirates Telecommunication Corporation (Etisalat) obtained to operate in Saudi Arabia could be considered as a form of regional partnership. On the funding of ICT projects, Injazat Technology Fund, a venture capital fund, is contributing to financing and developing ICT projects in the region.

In enumerating the digital challenges and opportunities of the region, one cannot help but notice that governments and private sectors alike have not yet harnessed these challenges and opportunities. Countries of the region share a common language and culture. Some of them have rich oil resources and others have rich, relatively educated, human resources. Nonetheless, not many projects have sprung up that took advantage of these values of strength. Areas for possible partnerships and investment could include, but are not limited to the following topics:

- A more integrated backbone and telecom network infrastructure with coordinated visions that enhance connectivity, affordability and knowledge sharing;
- The content industry;
- Government applications that better serve citizens and customers in the region. Best practices and success stories in government applications in one country should be easily replicated in other countries of the region, thus producing an effective multiplier effect of success. Government applications could also have a regional integration dimension. For example, facilitating movements of trade, services and human resources between countries in the region is an excellent area for partnerships bilaterally and multilaterally. The United Nations Conference on Trade and Development (UNCTAD) package that handles customs operations, Automated System for Customs Data (ASYCUDA), is a case in point;
- Other applications in areas such as e-learning, employment creation and poverty eradication.

Conflict stricken countries, such as Palestine and Iraq, as well as the least developing country in the region, Yemen, deserve special attention when it comes to partnerships and investment schemes. In the case of Iraq, for example, the United Nations DG has set up the Iraq Trust Fund for supporting reconstruction projects in Iraq. Many of these projects have substantial ICT components that may be addressed through a variety of partnerships between the government, the United Nations agencies, the NGOs and the private sector.

Partnerships should also be deployed as a modality for executing projects that aim towards the achievement the United Nations MDG, the empowerment of women and the bridging of the knowledge divide between the rural and urban communities. In many large cities in countries of the region, there exists an economic, and thus a

knowledge divide, between different levels of the social strata, between the haves and have nots. Projects that address such issues should also be encouraged for partnerships and investment.

G. PROPOSED MODALITY FOR RPOA PARTNERSHIPS

The RPoA is conceived and structured in a manner that highlights and builds upon partnerships with a multitude of development agencies, NGOs and private enterprises, with a view to building a sustainable information society. Programmes and projects at the core of the RPoA are specifically designed to foster and catalyse partnerships in ESCWA member countries and induce interactive participation of a broad spectrum of stakeholders. The present RPoA modular design is endowed with flexibility and possibilities for extending the substance and scope of its components through addition and reformulation of selected modules when need arises. As such, the RPoA is capable of evolving in order to assimilate future regional and national needs and particularities, and providing mechanisms for national, regional and sub-regional partnerships. Needless to say, the RPoA will need to be invested with effective operational modalities; this is provided to a large extent through a regional ICT Partnership Initiative, information on which is presented below.

1. *The suggested modality*

Once programmes and projects have been agreed upon, it is of utmost importance to develop a permanent mechanism for triggering the formation of partnerships and seeking the required funds through a robust and comprehensive approach that is both systematic and focused.

Generally, all projects start with an idea or an articulated concept and gradually mature into a solid project proposal, as has been described in chapter 4. A project cannot reach maturity on its own, especially in the case of regional projects or MSP or PPP projects. Hence, many project ideas will not materialize and, accordingly, never be launched before such maturity is reached. The phase, before partners' commitment is secured, is the most difficult phase as it entails the greatest effort and requires will and persistence. This phase mainly requires vision, leadership, strategic relations as well as seed finance. Without such basic prerequisites, no project will ever get started. Hence, building partnerships is a distinct task and requires expertise and robustness in carrying out its functions.

2. *ICT Partnership Initiative*

According to the Damascus call for partnership⁴², and amongst other mandates, ESCWA, together with other key regional organizations, are required to:

- Follow-up on the implementation of the RPoA;

⁴² Damascus Call: towards Partnership For Building The Arab Information Society, December 2004, <http://www.escwa.org.lb/wsis/conference2/outcome.html>

- Intensify cooperation with other regional organizations;
- Provide consultative services to member countries in the areas related to the implementation of the RPoA;
- Formulate a mechanism for partnership through an interactive Internet website, for activating partnership and creating an effective space of interaction amongst stakeholders, in order to attract new partners and support continuous dialogue and timely progress reporting and evaluation for effective implementation of the programmes and projects of the RPoA.

In light of the above, it is of utmost importance to establish a permanent mechanism for triggering the formation of such partnerships in a coherent fashion through aggregating vision, leadership, finance, strategic relations and project management expertise. The launching of a regional partnership initiative is essential to achieve the following objectives:

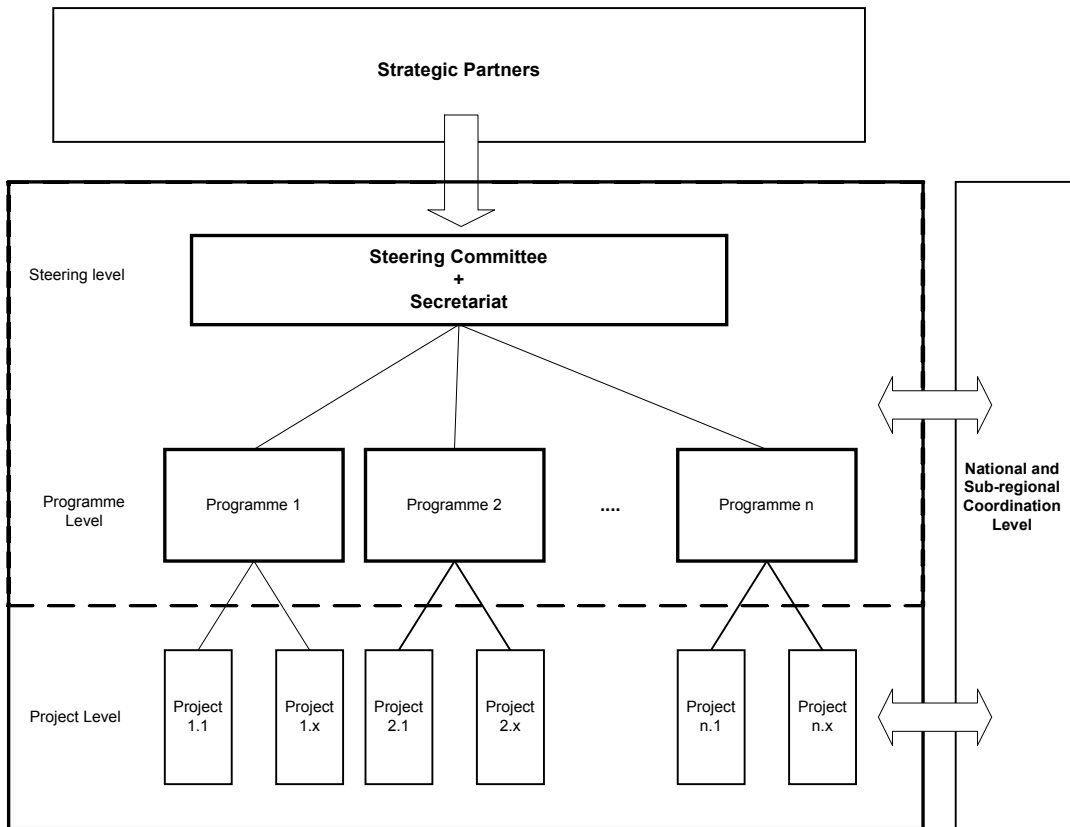
- Implementing the RPoA at large;
- Activating ICT partnerships;
- Providing a framework and a process through which project maturity is achieved;
- Mediating and catalysing the process amongst stakeholders;
- Seeking finance for projects earmarked by Governments as well as by major stakeholders.

Organizationally, the initiative can be in the form of a virtual consortium representing some initial key strategic partners, with the door kept open for more strategic partners to join in; eventually, evolving into a multilateral consortium of major stakeholder. This consortium needs to be very autonomous; thus having its own steering committee, programmes and a dedicated secretariat. The consortium is envisaged to perform the following set of core activities:

- Develop a strategy document for every programme;
- Conduct a country status review for every programmes;
- Select programme management coordinators;
- Identify potential partners from different categories;
- Present and promote the different projects in major events and with donors;
- Negotiate the required agreements until the project reaches the formation stage and the project management team is appointed;
- Monitor the operations of the programme management teams;
- Provide evaluation, feedback and reporting to strategic partners.

The proposed modality incorporates the mechanism to reach project maturity, and to periodically monitor progress of work, evaluate results, share failures and successes, and build a knowledge repository. Figure IV provides an illustration of the proposed mechanism.

Figure IV. The ICT Partnership Initiative



Source: ICTD, ESCWA

Following is a brief overview of the different components of the mechanism:

a. The Steering Committee

This initiative will be directed at a very high level through a Steering Committee (SC), acting in the capacity of a board of directors, providing vision, setting directions, articulating policies, designing maturity frameworks, and introducing alterations to the plan, whenever required.

b. The Secretariat

The steering committee will be assisted through a Secretariat, which will be responsible for the management activities, coordination between the different programmes and monitoring of administration progress on a periodic level.

Secretariat's activities will include the preparation and drafting of all paper work including reports to key stakeholders, requests for resources, approval of disbursements, and correspondence with different parties. This secretariat will consist of a small group of administrative and project management staff.

c. The Programmes

For every programme, there should be consultative team. The latter consists of a programme coordinator, an expert in the field and a research assistant. Additionally, the consultative team will focus on the details of the projects under its programme, thus giving more attention to the project formulation and promotion as well as partnerships development. During the lifetime of a project, this team will also work on creating synergy among established projects and new ideas or project proposals when they emerge; and hence will try to avoid duplication and inefficiencies. Progress and evaluation reports will be periodically submitted to the Steering Committee.

d. National and Sub-regional Coordination

For the whole initiative to succeed, there should be national and sub-regional coordination with each and every member country or clusters of countries. This is required for interfacing between the different programmes and a given country or a sub-region. This coordination is essential for validating project ideas, for monitoring progress on the ground and for liaison between project management teams and the different players on a country/sub-region level, be they governments, private sector, or NGOs.

e. Online partnership space

In addition to the human expertise involved, and the framework that is going to be instigated through the initiative, the initiative will rely heavily on an online forum to present and solicit feedback and comments about programmes, project proposals and funding opportunities. This forum can be called "ICT Partnerships Online" (IPO) to deliver the following functions:

- Online subscription of stakeholders to update/add programmes and projects to RPoA;
- Identification of partners and funding agencies for projects;
- Creation of partnership networks that bring together Governments, universities, mature firms, banks, donors, NGOs, and international/regional organizations;
- Digital platform for developing comprehensive project documents, completing partnership subscription to projects, and securing necessary funds, until attaining the maturity level⁴³ needed to start implementation;

⁴³ The maturity level of the project is reached after the following steps are taken:

1. The preparation of a detailed project document with SWOT analysis;

- A medium for project management teams and stakeholders to exchange information on progress of work and achieved results, as well as to share successes and failures;
- Development of knowledge management repository to foster the continuous creation, accumulation, use and re-use of organizational and personal knowledge.

The ICT Partnerships Online (IPO) can also host articles, reports, or studies related to various themes related to programmes and projects. Upon attaining maturity level, each project will become an independent entity, which is encouraged to use IPO, as a communication tool, to provide guidance and feedback to governments and stakeholders, as well as to exchange information and build the knowledge management repository. The partnership network will allow project stakeholders to mitigate the risk of getting into financial problems when exclusive partnerships with current donors suddenly end. Similarly, the knowledge management repository will empower project management teams with information to avoid duplication of efforts as well as with the tools to reduce inefficiencies at work.

At the beginning, incentives must be devised in order to increase participation to the partnership network; for example, providing advertisement space on the Web Site, sending a monthly electronic bulletin on projects, achieved results, and brief announcement about new participants⁴⁴. As more and more stakeholders contribute to the ICT Partnerships Online (IPO), the latter will become richer in content and more valuable to attract strategic partners and funding agencies. The proposed IPO must have the necessary funds to become autonomous and self sustainable. Securing seed money at the time of launching the initiative is vital to cover expenses for setting up the Web Site, online forum, partnership network, and knowledge database. But more importantly, marketing expenses, operational charges, management and consulting fees must also be taken into consideration while provisioning the seed fund. Once these funds are available, launching an ICT Partnerships Online for promoting and networking interested partners and investors in the implementation of the proposed projects will be more activated.

The business model for the IPO will eventually progress to charge same fees for added value services, as part of the shift away from relying on development aid towards more sustainable operations based on cooperation and partnership.

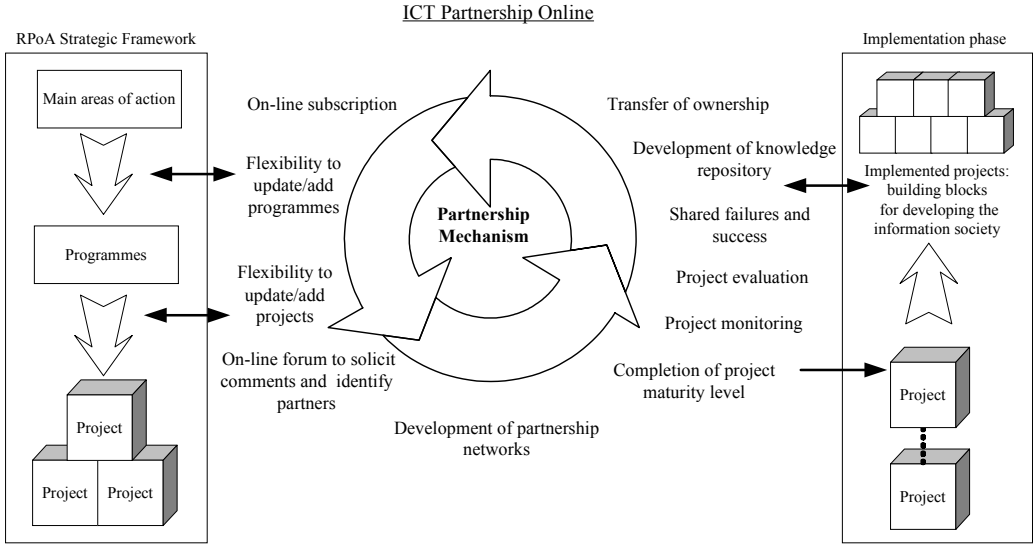
Figure V provides an illustration of the proposed online space for ICT partnerships. As depicted on the far left of the diagramme, the list of programmes and projects of the RPoA will be constantly updated and appended through online subscription services and an online forum. With proper initial incentives, this process

-
2. A promotion campaign and pledging for funds;
 3. Commitment of one or more parties to the project and the creation of a partnership;
 4. Provision of seed money for a pilot implementation phase or an initial phase of the project;
 5. Designation of a project manager.

⁴⁴ It would be ideal to secure some seed money to contribute to programme and project development.

will have a multiplier effect as the IPO will attract funding agencies, develop its partnership networks, and establish online "communities of practice"⁴⁵ to address specific matters by domain experts in the respective ESCWA member countries involved in a given programme or project. IPO will act as catalyst to galvanize partnership formation and increase the chances for successful project implementations, thus contributing to the development of the information society in the region.

Figure V. Online Partnerships Space



Source: ICTD, ESCWA

⁴⁵ Government, private sector, universities, regional and international organizations could have representation in such online communities.

Annex A

RESULT-BASED MANAGEMENT SYSTEM (RBM)

The results-based management system (RBM) was introduced in 1998 in UNDP⁴⁶. Since then, it was extensively used by most United Nations organizations to align their planning, reporting, monitoring, evaluation and performance assessment systems to results.

RBM represents a powerful system that improves strategic planning, enables better justification and allocation of resources, provides ongoing monitoring and assessment of performance, and places high emphasis on achieving results with a view to fulfil development goals. It is intended to assist United Nations practitioners, programme stakeholders and national policy-makers in planning, monitoring, reporting and assessing results. RBM entails four key steps⁴⁷:

1. Defining strategic goals that provide a focus for action;
2. Specifying expected results that contribute to these goals and aligning programmes, processes and resources behind them;
3. Engaging in ongoing monitoring and assessment of performance and integrating lessons learned into future planning;
4. Improving accountability based on continuous feedback to improve performance.

With the above in mind, RBM aims at linking performance to resources, identifying constraints, optimising resource allocation, and improving monitoring. It strives at assisting manager and policy makers to become more focused and achieve better results by answering these questions:

- Why the organization is measuring its strategic goals;
- What the organization needs to measure;
- How the organization should go about implementing measurement.

The main advantage of RBM is that it enables organizations to become a focused development agency rather than one that is just consumed by the process of transferring resources. This focus, by stressing more on the results attained and the use of indicators to track progress, induces the organization to act proactively and not reactively. This paradigm change in organization management culture is illustrated in figure I.

⁴⁶ <http://www.undp.org/eo/rbm/>

⁴⁷ Ibid

Figure I. RBM system change in management culture

FROM		TO	
Entitlements	⇒	Results	
Control	⇒	Delegation	
Inputs	⇒	Outputs/Outcomes	
<i>Ex ante</i>	⇒	<i>Ex post</i>	
Bureaucratic	⇒	Speed	
Risk averse	⇒	Opportunity driven	
Introvert	⇒	Partnerships	

Source: RBM in UNDP: overview and general principles

THE LOGICAL FRAMEWORK IN RBM

The logical framework is the cornerstone of results-based management as it provides the basis for the formulation of the programme as well as for performance measurement. A logical framework is a programme planning and management tool for RBM; it facilitates common understanding of expectations, delineates results at different hierarchical levels based on cause-effect logic, establishes indicators and sources of data, identifies risks/assumptions supporting or threatening performance, and is basis for monitoring and evaluation (refer to table 12).

The logical framework requires programme planners to link the components of a programme in a strictly hierarchical and logical way following the programme narrative illustrated in the table below. The main concept underlying the logical framework is means and ends.

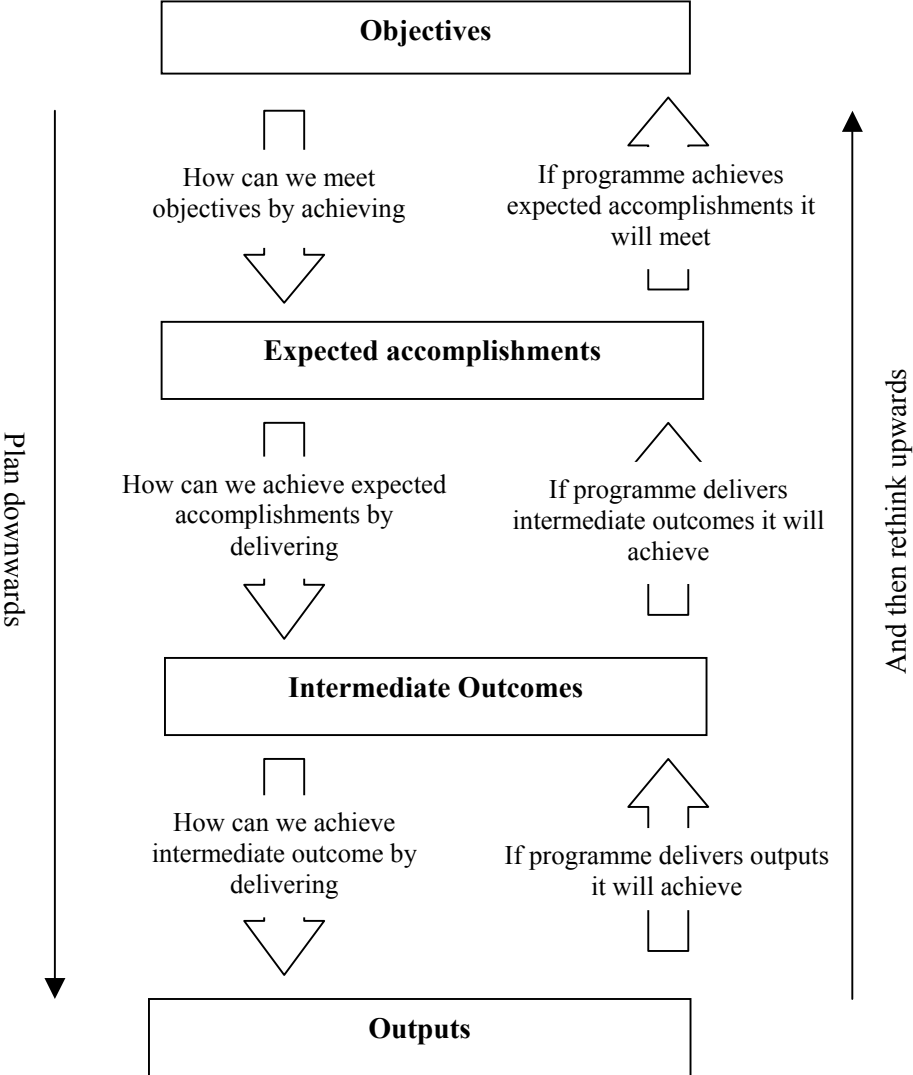
Table. Logical framework programme narrative

Objectives	<p>Objectives are overall desired achievements involving a process of change and aimed at meeting certain needs of identified end-users, within a given period of time.</p> <p>Objectives describes “what does this programme intend to achieve? (not what it intend to do)”</p>
External factors (Challenges)	<p>External factors are events and/or conditions that are beyond the control of those responsible for activities but have an influence on the success or failure of the outputs. They may be anticipated in the form of assumptions or they may be anticipated.</p> <p>External factors describe “what are the external challenges that may influence the success of the outputs?”</p>
Strategy	<p>Strategy underpins and defines the implementation plan or method that serves an important function in achieving evolutionary success for the programme.</p> <p>Strategy describes “How are we getting there?”</p>
Expected Accomplishments (Results)	<p>Expected accomplishments are a desired outcome involving benefit to end-users, expressed quantitatively or qualitatively. They are the direct consequence or effect of the generation of outputs and lead to fulfilment of a certain objective.</p> <p>Expected accomplishments describe “what should happen in order to meet the objectives of the programme?”</p>
Intermediate outcomes	<p>Intermediate outcomes are time-bound deliverables and are largely accountable for their delivery provided that the external factors hold and risks do not materialize.</p> <p>Intermediate outcomes describe “what are the deliverables through which the expected accomplishments will be achieved?”</p>
Outputs (Activities)	<p>Outputs are the final products or services delivered by a programme or sub-programme to end-users, such as expert group meetings, studies, training, and advisory services.</p> <p>Outputs describe “what are the products and services delivered to the target beneficiaries?”</p>
Indicators of achievements	<p>Indicators of achievements are used to measure to what extent the objective and/or expected accomplishments have been achieved. Indicators of achievements correspond either directly or indirectly to the objective or the expected accomplishments.</p> <p>Indicators of achievements describe “what will show us that the expected accomplishments have indeed occurred?”</p>

There are two readings involved in the process of developing and fine tuning the logical framework in RBM. The first is a reading of the framework from the top down, that is, from objectives to outputs, with each lower-level answering the question “how?” (Refer to figure II). The second method requires reading the framework from

the bottom up, from outputs to objectives, where each level provides an answer to questions like “why?”, “for what purpose?”, “so what?”.

Figure II. The logical framework



Annex B

GUIDELINES FOR DEVELOPING PROJECT CONCEPT PAPER AND PROJECT DOCUMENTS

Annex B provides a guideline for developing project concept paper and project document. The purpose is to suggest a template that would streamline the exchange of information and perception of projects documents.

1. Preparing the project concept paper

The project concept paper (PCP) is a concise presentation of a project, addressed to high-level management meetings, providing the basis for project selection for subsequent consideration by relevant organizations or programme managers. This phase is essential for project concept validation and budget estimation; it also serves as a starting point for relevant entities to prepare detailed project documents. Box 1 gives a brief outline of a PCP.

Box 1. Concept paper structure

The following provides an outline of the different sections constituting the project concept paper:

Concept paper header:

- Project identification panel: This section contains the project title, lead organization, potential partners, primary objectives, beneficiaries, budget estimate, potential funding agencies, projected starting date, and duration.
- Executive summary: This section provides a summary of the project and must not exceed half a page, as its primary objective is to provide a glance of the project objectives, achievements, and implementation strategy.

Concept paper body:

- Objectives: In this section of the document sought objectives will be described within the scope of the project. An objective is an overall intended goal of the project. The project will contribute to achieving the objectives through the expected accomplishments. The objectives are short and concise.
- Background and justifications: Taking into consideration that concept papers are addressed to entities and individuals inside and outside the organization, care should be given to address issues from a regional perspective. Mapping to the Millennium Development Goals (MDG) may help enrich this section. Justification deals with describing the problem or area of concern and developing the rationale for presenting this proposal as a solution, or component of a solution, to this problem.
- Project description: This section contains the detailed explanation of the project, its various phases, implementation strategy and potential partnerships. It also details the forecasted direct impact of undertaken actions.

Box 1. (Continued)

- Expected accomplishments and indicators of achievement: Expected accomplishments are determined by asking the question: what happens after the activities are implemented, and what are the results within a sustainable framework? Indicators of achievement are measures used to determine to what extent the stated expectations have been achieved. These should provide a well-defined unit of measurement with a target value. Indicators must be measurable, valid, relevant and verifiable.
- Activities: An activity represents either a major output (workshop, manual or seminar) or a set of related outputs that result as a distinct product, which has implications for the project's impact. It is derived from the logic of activities/strategies that explain how the project intends to achieve its' expected accomplishment, for example, design, development and establishment of a network. It is wise to inject the details of the activities with their strategic objectives in order to mark the path for progress and identify partnerships. The activities should include a monitoring and evaluation item.
- Budget and timeline: The project budget should be presented as a one-to-one mapping to activities, detailing (where needed) sub-activities and related costs. Time-line representation would indicate major milestones and activity durations (start and end).

Source: <http://www.un.org/esa/devaccount/>

2. Drafting the project document

After presenting the concept paper and obtaining initial approval, project champions should embark on developing the content of the concept paper into a full scale project document (ProDoc) that addresses, in detail, the different components of the project (refer to box 2). The ProDoc must clearly convey the positive impacts on beneficiaries, measurability of success and the sustainability of the overall project. Combined, these factors form the backbone of decisions made by potential partners and funding agencies.

Box 2. Project document sections

A project document should serve multiple purposes. It should be a management tool for the implementing entities, programme managers and budget divisions, a communication tool with stakeholders, a tool on which monitoring and evaluation is based, and be the basis for project implementation and fund allocation. The following provides an outline of the different sections constituting a project document:

Box 2. (Continued)

- **Background information:** This section will be based on the background as per the project concept paper. It may further elaborate and demonstrate how the project fits into the normative and analytical function of a given organization/sub programme as well as how it relates to intergovernmental bodies and the MDG (see <http://www.un.org/millenniumgoals/>).
- **Problem analysis:** Analysing the problem could be done by combining one or more of the following techniques:
 - **User analysis:** This is based on identifying the users, describing the problems they are facing, identifying their interests and pin-pointing their weaknesses.
 - **Problem Tree:** Is a typical cause-effect relationship diagram between problem conditions.
- **Objective Tree:** The objective tree illustrates potential objectives, which can be derived from the problem conditions. The tree is created by transforming the problems into objectives describing future conditions that are desirable and realistically achievable.
- **Objectives, accomplishments and strategy:** This section links the objective to the expected accomplishments, indicators of achievement and results/components and shows how they contribute towards a successful implementation. It will also explain the adopted strategy for achieving the expected accomplishments and what the major results/components are, and the activities that contribute to the expected accomplishment.
- **Monitoring and evaluation:** Having identified the indicators of achievement in the previous section, this section goes into the details of how they will be obtained, along with other project monitoring efforts like self monitoring reports and external monitoring. Some funds should be forecasted for these activities within the budget of the project.
- **External factors:** These are risks, beyond the control of project management, that may bear negative consequence on project execution. This section will assess the risks based on relevance and the probability of occurrence. Some of the risks will constitute pre-conditions for the start of some activities; others may affect activities during execution, while others may alter achievement on some of the desired objectives.
- **Implementation arrangements:** This section details the assignment of responsibilities amongst the different entities (owners, partners, funding agencies, beneficiaries). It also defines how the different actors will collaborate to achieve the project's objective.
- **Annexes:** This section will include all tables and supporting material that are important for the proposed project.

Source: <http://www.un.org/esa/devaccount/>

Annex C

LIST OF PROJECTS PROPOSED IN THE RPOA

Annex C presents a list of regional projects for each programme recommended in chapter 3 (refer to table 13). This list is an evolving list that will be adjusted as changes on existing projects are made and as new projects are added.

All the projects proposed in the RPOA are regional and most of them have national components with some cases having specific pilot projects in selected ESCWA member countries. The six regional projects recommended by the Taskforce for the Realization of the Arab Telecommunications and Information Strategy are also associated to relevant programmes and are flagged as most important projects for Arab Governments.

TABLE . LIST OF PROJECTS PROPOSED BY RPOA

Programmes	Projects
1. ICT for economic development	1.1 CyberPort for trade and transport 1.2 CyberHaven for regional tourism development 1.3 Connecting Arab ATM networks 1.4 ICT Hub for SMEs
2. Developing e-government services	2.1 Enhancing government decision support capabilities in the socio-economic fields 2.2 Regional e-government portal
3. Empowering Arab NGO's in the information society	3.1 Arab NGO's information network 3.2 Arab civil society academy for capacity building
4. Developing telecommunications infrastructure	4.1 Towards an integrated regional telecommunications network 4.2 Enhanced broadband access through pilot national applications
5. Developing the ICT sector	5.1. Legislation model for an ICT enabling environment 5.2 Establishment of ICT incubators 5.3 Partnership space for incubating telecommunications projects
6. Women empowerment in the information society	6.1 Women empowerment through ICT 6.2 Promoting the rights of women and children through the use of ICT 6.3 Enhancing Arab women's role in development and decision making through the use of ICT 6.4 Gender evaluation methodology for ICT initiatives (GEM)

Programmes	Projects
7. Information society measurements	7.1 Core ICT indicators 7.2 ICT indicators database 7.3 Capacity building for information society measurement
8. Promoting digital Arabic content (DAC)	8.1 Establishing a Digital Arabic Library* 8.2 Connecting Arab Documentation Centres* 8.3 Developing an Arabic Search Engine* 8.4 Arabized ICT e-glossary 8.5 Arabic domain name system (ADNS) 8.6 Arab region network for document cataloguing and processing 8.7 Memory of the Arab World
9. ICT in education and scientific research	9.1 Regional Hub for capacity building in open source software for education and research 9.2 IT Teacher training framework 9.3 Regional scheme for deployment of technical computing software 9.4 Lifelong learning for socio-economic development. 9.5 Networking academies 9.6 Learning object repository in Arabic (LORA)
10. Increasing community access with emphasis on the marginalized and disabled	10.1 Empowerment through community access: Total Access points* 10.2 PC for Every Home* 10.3 Information Technology Clubs* 10.3 Empowerment of the visually disabled through ICT 10.4 Market information systems for agriculture and fishing businesses

Notes: These projects have been earmarked by Arab Ministers of Telecommunications and Information Technology as most important.