

**Regional Perspectives on Education Reform
in the Arab Countries**

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Introduction

Educational reform in the Arab states has become a priority. Ruling elites, civil society, private sector and families are suffering from the high rates of illiteracy, lack of skills and bad quality of pupils and students. The region has launched various initiatives to deal with some burning issues.

In this chapter, we start outlining the results of the Education for All (EFA) Global Monitoring Report 2003/2004, with special consideration to the case study countries Jordan, Yemen, Morocco and Egypt, as well as regional meetings on education reforms. These meetings may serve the purpose of creating the terms of reference for policy measures and society actors alike. Another function they may serve is to frame the progress towards education reform, because they give benchmarks with which other Arab states can compare each other. They also highlight major areas of concern and identify priorities for action.

The second part focuses on specific topics (burning issues) in the education sector seen from the point of view of various experts working in the field as well as multinational organizations. The specific topics are: creating a knowledge society, gender, higher education, linking education with the labour market, and ICT development.

I. The EFA Global Monitoring Report (GMR) and Arab Regional Meetings

I.1. EFA Global Monitoring Report (GMR) 2003/2004

The GMR states that the Arab countries have made significant progress at all levels of education, but enrolment is still far from being universal and large gender disparities remain, especially in primary education and adult literacy. Despite legally-guaranteed free education, primary school fees continue to be charged in several Arab countries –Egypt and Yemen among them – according to a World Bank survey (2002).

Main observations of the GMR (with special consideration of the case study countries):

- Early childhood care and education is still a luxury for nearly all children, especially in Yemen, Algeria, Syria, where enrolment rate was between 5-10%. The enrolment rate in half of the countries was below 7.9% in 1990, but improved to 15,8% in 2000. The figure is above 50% in Morocco. However, substantial gender disparities are found in Morocco, where fewer than 6 girls are enrolled for every 10 boys.
- Great progress is made in universal primary education, but gender disparities remain: Though enrolment grew by 17% between 1990 and 2000, the net enrolment ratio (81%) was below the 84% world average and one of the lowest for all the EFA regions. Nearly 60% of out-of-school children are girls; the largest gender disparities are to be found in Djibouti and Yemen. Gender gaps in favour of girls are significant in Morocco and Egypt: Once girls have access to school, they do as well or better than boys.
- Participation in secondary and tertiary education has seen much improvement over the last decade: The median gross enrolment ratio (GER) rose from 49% in 1990 to almost 70% in 2000. But in some countries (e.g. Morocco), the GER is less than 50%. Gender disparities in favour of boys remain in Morocco where they are more pronounced than in primary education. GER in tertiary education rose from below 12% in 1990 to below 22% in 2000 in half of the countries. Here, gender disparities vary widely in the region.
- The right to education is a concern for adult women: The Arab states have some of the world's lowest adult literacy rates, with only 60% of the region's population of 15 and over are able to read and to write in 2000 (world average: 80%). Jordan had the lowest

illiteracy rate (12%), high rates were to be found in Yemen (76%) and Morocco (65%). About two third of the illiterates are women.

- Countries that have already achieved gender parity:
 - Primary education: (8 out of 20 countries with data): e.g. Jordan
 - Secondary education (3 out of 18 with data): e.g. Jordan
- Countries' gender parity prospects:
 - Countries likely to achieve it in 2005 (3 with data): e.g. Egypt
 - Countries that may not achieve parity by 2015 either at primary, secondary or both levels (7 with data): e.g. Morocco

Relevant Policy Implications:

- Eliminating gender disparities in primary and secondary education will involve understanding what holds girls and boys back so that policies can be designed to overcome these obstacles and improve access to and participation in education. The school environment requires equal attention.
- Some Arab countries will need to allocate more of their own resources and use them more effectively if they are to eliminate gender disparities while achieving all the other EFA goals. The Arab region receives 16% of the total bilateral aid to education. Yet overall bilateral and multilateral aid to education fell between 1998/99 and 2000/01, though it increased for basic education.

For public expenditures on education see table 1, for selected education indicators per country and region see table 2 below.

Table 1: Public Expenditures on Education by Selected Arab Countries, 2004

Country	Public expenditure on education as % of GDP	as % of total government expenditure
Morocco	5,1	?
Egypt	?	?
Jordan	4,6	20,6
Yemen	10,0	32,8

Source: UNESCO Institute for Statistics, country profiles, 2004

Table 2: Literacy rates – 15 to 24 years old, 2004

Country	Male	Female
Morocco	77.4	61.3
Egypt	79.0	66.9
Jordan	99.3	85.9
Yemen	84.3	50.9

Source: UNESCO Institute for Statistics, country profiles, 2004

Table 3: The Arab States: Selected education indicators, 2000

Country	Adult literacy Rate % Total GPI	Pre-primary Education GER% & GPI Total	Primary Education NER % & GPI Total	Secondary Education GER% & GPI in Total GER	Tertiary Education GER % & GPI Total	Total Public Expenditure on Education as % of GNP	EFA Develop't Exdex EDI
Egypt	55,3 0,66	12,5 0,95	92,6 0,93	85,7 0,94	? ?	?	0,83
Jordan	89,8 0,89	30,6 0,91	93,6 1,00	87,7 1,03	28,6 1,14	5,0	0,94
Morocco	48,8 0,58	53,4 0,57	78,0 0,87	39,3 0,80	10,3 0,80	5,6	0,71
Yemen	46,4 0,37	0,4 0,92	67,1 0,63	? ?	? ?	10,6	
Arab States	60,1 0,67	15,8 0,99	80,9 0,89	69,5 1,03	22,1 1,13		
Developing Countries	73,6 0,82	30,9 0,99	82,1 0,92	59,9 1,01	10,4 0,73	4,1	
World	79,7 0,87	46,7 1,01	83,8 0,93	77,5 1,06	22,9 1,04	4,5	

Source: EFA Global Monitoring Report, 2003

GPI: Gender parity index: Ratio of female to male value of a given indicator. If a GPI equals 1, this indicates parity between sexes; a GPI that varies between 0 and 1 means a disparity in favour of boys; a GPI > 1 indicates a disparity in favour of girls.

GER: Gross enrolment ratio: Number of pupils enrolled in a given level of education, regardless of age, expressed as a percentage of the population in the relevant official age group.

NER: Net enrolment ratio: Number of pupils in the official age group for a given level of education enrolled in that level expressed as a percentage of the total population of that age-group.

EDI: EFA Development Index: Is a new composite index that incorporates indicators for the four most quantifiable EFA goals: UPE, adult literacy, gender parity and quality of education. The EDUI for a country is the arithmetical mean of the observed values of indicators for each of the EFA goals. The value can vary from 0 to 1. The higher it is, the closer a country is to the goal and the greater its EFA achievement.

I.2. Arab Regional CONFINTEA Mid-Decade Review, Hammamet, July 2003

The Arab Region officially launched the United Nations Literacy Decade in Tunisia, during the Arab Regional CONFINTEA Mid-Decade Review held in Hammamet in Tunis, 15-18 July. Seventeen (17) Arab countries were present in addition to members of the Arab Network for Adult Education & Literacy and other NGOs and civil society members.

When the Arab countries met, the international scene was already influenced by one cardinal principle, namely that literacy is a human right and that basic education is the key learning tool to eradicate illiteracy. The Arab Region, which has a literacy rate of 60.1% – 71.7% for men and 47.8% for women, found it imperative to improve the situation in this sector, which is crucial to improve the region's overall human development performance. Action since then has focused on appropriate strategies to address the seriousness of the situation. Two global initiatives have framed international efforts to diagnose the problem, find solutions and design action plans. These two initiatives are Education for All (EFA) whose goal is to increase literacy rates by 50% by the year 2015 and the Millennium Development Goals. Both have provided an overall target for development within a context of poverty reduction.

Among the main areas of action to eradicate illiteracy and improve education sector performance, three strategies have dominated development policy in the region. These strategies are:

Strategies:

- Capacity Building: Improving the training of literacy facilitators, including the planning and management of programmes, research and documentation, material production and curriculum design;
- Policy change: adjusting the national policy environment to link literacy promotion with strategies of poverty reduction and programmes in agriculture, health, HIV/AIDS prevention and other social concerns;
- Monitoring and evaluation: identifying better literacy indicators that are necessary to show what progress has been made during the decade.

I.3. Arab Report of Non-Governmental Organizations and Civil Society within the Framework of CONFINTEA V Mid-Term Review (Hamburg + 6), July 2003

An extensive survey conducted by the Arab Network of Literacy and Adult Education (ANLAE) has outlined the main features of NGOs' and civil societies' participation in **adult education** in the Arab region. These features manifest some weaknesses in the interface of civil society with the policy process of educational reform albeit it civil society has been showing some successful engagement and initiative to meet the goals of illiteracy eradication and especially of gender parity.

Summary of the results that point to weak NGO interface with official institutions:

- Official institutions in the Arab countries design their adult education policies without real participation of NGOs (50% of the NGOs surveyed stated that they do not participate, 35% do so to a certain extent, and 15% answered positively without reservations). However, NGOs take advantage of the facilities provided by official institutions.
- While official institutions still apply formal adult education regardless of demographic or socio-cultural differences, NGOs started to offer programs that meet the individuals' needs and social requirements.
- Adult education studies & research have been conducted by only a few countries.
- Connecting NGO literacy programs to existing development programs remains difficult.

Summary of the results that manifest the potential & justify more NGO involvement:

- Women are the target group of NGO adult education programs. More NGOs than official entities relate adult education to the environment, health and population.
- Only a few NGOs are concerned with the most needy groups; nevertheless, NGOs play a vital role in offering more adult education opportunities for all.
- Statistics of some countries show a quantitative progress in the number of illiterate learners, classes and education centers.
- Examples of Arab NGO programs and experiences in Egypt and Yemen:
 - Egypt: Support and development of women's and children's capacities and skills through education resources and technology project, with the Association of Women and Society
 - Yemen: Literacy project and its relationship with giving credits in Abin, with the Federation of the Women of Yemen, Abin office

Weak Interconnectedness regionally and internationally:

- Both official institutions and NGOs use mass media and ICTs for adult education. That is a good start. However, while 91% of Arab NGOs surveyed are members of local networks, 35% are members of regional networks, and 28% are members of international networks.

Future perspectives: Coordination & cooperation

- Promote coordination and cooperation, particularly data exchange, among NGOs as well as between ANLAE and official Arab bodies in the areas of planning, policy design, follow-up, monitoring and evaluation, and scientific research.
- Integrate informal education centers and official Arab institutions and promote integration between different education methods.

Future perspectives: Programs, concepts, & approaches

- Encourage NGOs to adopt new concepts related to adult education, and elaborate adequate programs for groups with special needs.
- Include population, health and environment issues in adult education programs, and link such issues to the sources of income of people to improve their standards of living.
- Prepare new plans and programs adapted to different geographic and social conditions, which include practical and theoretical studies and promote rights and duties of citizens.
- Prepare enriching courses to bridge the gap between post-literacy and preparatory education.
- Prepare diversified programs to meet the changing labour market requirements and establish small enterprises for literacy program students.
- Develop information and capacities of leaders that work in NGOs.
- Prepare a database for NGOs in cooperation with ANLAE and other research centers.
- Make NGOs supervise women and health clubs in communities so that they include literacy and adult education activities through the exchange of work between NGOs from the same region.
- Find new channels to finance and subsidize activities (e.g. sponsorship system for illiterates, incentives such as granting credits for small enterprises as long as they regularly attend adult education classes, finding a convenient job).
- Establish a fund for girls' follow-up studies within each organization.
- Offer training for all teachers, supervisors and directors.
- Benefit from best practice examples.
- Use media and launch information campaigns to raise awareness and mobilize society.

I.4. Arab Regional Conference on Education for All: What's Next? Beirut, January 2004

UNESCO held a number of meetings since Dakar 2000, aiming at assisting the Member States in the preparation of their EFA plan through capacity building and technical and financial assistance. The purpose of the meetings was to review the EFA plans and develop strategies for the future.

The ministerial meeting in Beirut, 20-23 January 2004, reaffirmed the commitment to the principles of action adopted by the World Education Forum held in Dakar in April 2000 (see annex 1), and the Cairo Conference in 2000. Future orientations were summarized as follows (for a detailed version see annex 2):

1) At the state level

- The MoE establishes partnerships, activates the role of the EFA National Forum and establishes the technical branch of the National Forum which coordinates, provides data and indicators, and prepares reports.
- Each country completes the final EFA national plan by May 2004.
- The MoE develops a clearly defined project to ensure its implementation.
- Decision-making is based on updated, reliable knowledge and information; all parties develop indicators to be used in the qualitative diagnosis of the education reality.
- Each EFA national plan describes required and available financial resources, and expected gaps.
- The mass media is to be mobilized to disseminate the vision on EFA, in particular the role of parents and civil society.

2) At the regional level

- UNESCO Office in Beirut sets a clear action plan based on the Arab States needs.
- The Office intensifies the specialized qualitative training.
- The Office periodically monitors the Arab States and provides feedback.
- The Office ensures documentation of pilot programmes and experiences.
- The Office provides technical assistance and coordinates data collection.
- The Office disseminates the culture and criteria of quality education.
- The Office seeks to attract additional financial resources.
- The Office activates its website in Arabic, which includes national plans, related reports, indicators, research, training materials, pilot and alternative experiences.

3) At the activities level: Priority domains for in-depth studies:

- Quality education criteria and indicators.
- Studies on the internal efficiency of basic education, on repetition and class congestion.
- Mechanisms of civil society's and national organizations' participation in the EFA process.
- Prepare reference documents on: IT use in education and ensure its dissemination; information used to disseminate EFA goals; the means to support both those with special needs and talented persons.
- Capacity building of national cadres responsible for EFA goals.

The ministerial meeting stressed the potential for regional cooperation in:

- Successful and pilot experiences
- Literacy programmes integrated with vocational training

- Distance training, educational programs in industry, joint Arab websites
- Methods for evaluation
- Training of journalists
- Decentralization and civil society participation

Priority projects in Jordan, Egypt and Yemen:

- Jordan: introduction of IT in schools and universalising the experience of discovery schools
- Egypt: establishment of an IT infrastructure in primary education
- Yemen: Training for teachers with no university degrees on new teaching methods

I.5. Arab Summit in Tunis, May 2004

During the Arab Summit held in Tunis, May 22-23, 2004, participants focused on quality education and stressed the need to emphasize the paradigm shift towards a commitment to development and education reform in the Arab world.

I.6. Regional Conference on EFA: Arab Vision for the Future, Cairo, June 2004

The meeting held in Cairo 1-3 June 2004, defined the Arab Vision for the Future as an Arab States' commitment to enhance humanitarian values for all and to break the cycle of poverty through learning and education for all. The meeting highlighted the following objectives:

- Emphasize the paradigm shift in quality education
- Establish and reinforce standards for quality
- Share selected best practices
- Identify centres of excellence in the region
- Build networks and partnerships for the enhancement of self-reliant quality education.

Related to educational reform, the meeting identified a need for putting realistic policies to meet the requirements of the 21st century in areas such as dialogue among civilizations and inter-religious dialogue, empowering women, reinforcing community participation and dialogue with minorities based on democracy and universal rights. As an outcome of the conference, the participants adopted the **Cairo Declaration 2004**. It declared the commitment of the Arab States to the EFA goals and highlighted the role of teacher training, curriculum development, evaluation, early childhood development, ICT in education, inclusive education and community participation. It also stressed the commitment of the Arab States to adopt Quality Education Standards at all levels through networking and creation of centers of excellence.

I.7. Fifth Meeting of the Working Group on EFA for All, Paris, 20-21 July 2004

The main message of the 5th Working Group was more convergence and integration between current global initiatives. The meeting considered ways of improving the timeliness and quality of statistics, enhancing external funding for EFA and particularly the Fast Track Initiative (FTI) and the harmonization of the FTI shape, strengthening civil society engagement (through a tripartite collaboration between government, donors and civil society) and promoting partnerships with the private sector on EFA. The key for building joint efforts with the private sector lies in sharing common goals. The business community need to be considered as ally from the early stages of planning.

With regard to achieving the Millennium Development Goals, the Working Group considered adult literacy as crucial and emphasized post-primary education as necessary to ensure useable skills. Transparency in schooling (effective costs, educational contents etc.) will increase parents' engagement with their children's education.

II. Special Topics

In this section, we focus on five special areas that require attention on the regional level. These areas are training for better educational quality, higher education, linking education to the market, gender parity, and the development of a knowledge economy and a knowledge society.

II. 1. Challenges in Education and Training¹

Knowledge is essentially transmitted through education, training, and lifelong learning. Hence, an effective education and training system is the basis of progress. However, the educational system and training in the Arab states suffers from two grave challenges, one relates to language and the other to the internal inefficiencies of education which cause a diminishing rate of return on education. Both such challenges pose a severe limitation on the ability of education and training to be the basis of human development and progress.

Linguistic Issues

The Arabization of education is being carried out under conditions that handicap an entire age group. Because some countries did not choose language of reference, particularly for the scientific and technical disciplines, they now have a weak and incongruous system. Pupils often do not master correct Arabic or a foreign language (French in the Maghreb and in Lebanon, English in other MENA countries). This is largely due to a lack of harmonization in teaching Arabic, a lack of translations of reference works, especially scientific ones, into Arabic, and poor organization of what could be a bilingual capacity. In Egypt, Jordan, and Morocco, the schools in which the teaching is in Arabic are separate from those in which teaching takes places in a foreign language. And studies have demonstrated that only children of the elite master a foreign language and can pursue their studies in Europe and in North America.

Indeed, the language issue may raise yet another developmental problem, namely that of social integration and nation-building. Bilingual Arabs often lead social, economic and professional lives that are alienated from the critical mass in their respective societies. This constrains their ability to relate to the problems of disparate local populations in remote areas of the countryside for instance, leading to delayed trickle down effects of progress in the cities and, in some cases, to differences in world views and futuristic visions.

Internal Inefficiencies & the Diminishing Rate of Return on Education

Education systems of MENA aim at mobility and social integration, not at meeting the needs of the economy. Despite state spending of approximately 7% of GDP on education, gross schooling rates are 39% at the secondary level. In the Egyptian report in this study, the authors call attention to the diminishing rate of return on education. This draws attention to a number of issues:

- The qualification is often sanctioned by a general diploma, which is based on a system in which the number of years of schooling counts more than the development of specific competencies.
- Professional education and the validation of professional achievements are rare.
- The education system is inefficient. Students repeat classes at high rates at the primary and secondary levels. The first university cycles have high failure rates. Failure at school creates the conditions of further social exclusion.
- Classical subjects predominate to the detriment of scientific and technological disciplines. There are too few short universities degrees (e.g. 2-year programs).

¹ Source of reference is Aubert, Jean-Eric & Reiffers, Jean-Louis (ed.), Knowledge Economies in the Middle East and North Africa. (WBI Learning Resources Series). The World Bank, Washington D.C., 2003.

- Educational institutions are largely isolated from the rest of society, are not systematically evaluated for performance, and do not address the market and its needs.
- The private sector is underrepresented in educational institutions.
- Quality of education suffers due to budget constraints: teachers' salaries are decreasing in real terms and multimedia facilities are under-equipped.

II.2. Higher Education²

Enrolment in the first university degree programmes in Arab countries is quite high at the expense of a much lower share of shorter higher education programmes, normally taking the form of "technical institutes". Higher education in Arab countries is thus, in essence, *university* education. Since higher education below the first university grade is associated with the training of intermediate technical workers- much in demand in the world of production but scarce in Arab countries- the exaggerated emphasis on university-type higher education (where social sciences and humanities predominate) becomes evident.

The prevalence of poverty in Arab countries constantly increases the selectivity of higher education in favour of the affluent. In this way, higher education is gradually being transformed into a mechanism to perpetuate social inequality in Arab countries. This means, *inter alia*, that one of the main future tasks of higher education development in Arab countries should be to restore momentum to the expansion of higher education among all strata of society, if social disparities are not to increase.

Perhaps the two most striking characteristics of higher education graduates in Arab countries are limited knowledge attainment and weak analytical and innovative capabilities.

Four synergistic strategic directions need to be urgently adopted in a serious program to radically reform higher education in Arab countries:

- **Liberating higher education institutions from the domination of both government and the profit motive.** Independent boards of directors must be set up on the basis of quadripartite representation (government, business sector, civil society and academicians). This direction needs to be complemented by encouraging the development of non-profit seeking institutions of higher education. State responsibility to increase government and societal funding for higher education and to raise efficiency of the utilisation of the resources of higher education institutions should be enhanced.
- **Upgrading quality**, e.g. to reduce the intake of existing higher education institutions, particularly in humanities and social science branches where graduates suffer high unemployment, and at the same time improve teaching and research capacities and equipment. Another method is to reinstate competition as an essential factor for filling posts on the faculty and formulate effective programmes for lifelong promotion of faculty capabilities. Another method would be to establish strict systems for accreditation of higher education programmes and ensure implementation thereof.
- **Building a diversified and flexible higher education system.** Diversity in higher education aims at preparing individuals who are capable of learning and of effectively participating in the market, emphasising the importance of recurrent lifelong education in collaboration with the state, business sector and civil society. Also in the framework of diversity, higher education means that R&D centres would be built on the basis of inter-disciplinarity and with active involvement of the three sectors of society. As for the institutional level, flexibility means that an institution's structure, programmes and

² Based on a study conducted by Fergany, Nader (2001): Higher Education in Arab Countries. Human Development and Labour Market Requirements. Document available at: http://www.almishkat.org/engdoc01/higher_education_in_arab_countries/higher_education_in_arab_countries.htm

contents must submit to continuing review by its board of directors to ensure quick response to global and local requirements. This is but one of the virtues of quadripartite representation on the boards of higher education institutions.

- **Strengthening Arab co-operation:** Higher education is perhaps the most important field for Arab co-operation. Among the fields designated as priority areas for Arab co-operation are graduate studies and research and publishing.

II.3. Linking Education with the Labour Market³

The problematic linkages between education and the labour market in the Arab region can be summarized on four levels: one is that of higher education, the other is vocational training, the third is life long learning and the fourth is the level of the market, in turn a symptom of the weak vigour of economic growth and competitiveness in most Arab states.

Higher Education

While there are some very high-quality technical universities in Arab countries, the global and local economic environments demand many more specialists and workers in science and technology than are currently being trained. In fact, in many Arab states, too few students are being trained at higher levels in science and technology disciplines while there is an over supply of humanities and social science graduates. This imbalance results in chronic unemployment among the educated. Moreover, there is little capacity to train semi-skilled workers and technicians needed in Arab countries. Increased vertical differentiation of institutions of higher education is also vital to better meet the labour requirements. In addition to providing the theoretical training, Arab countries must be able to train graduates in two-year and other shorter-length programs of study, whose skills match the needs of the market for semi-skilled labour.

Equally important are new forms of teaching and learning, capacity building of the teaching staff and ministries, and a new administrative culture in educational institutions. Educational institutions must work closely and cooperatively with employers and should be directly linked to the workplaces of employers. Internship programs for students may serve as a feedback loop to educational institutions. Joint advisory boards, composed of higher education institutions and industry officials, can offer inputs to institutions on curriculum development and revision. The practitioner-faculty is another possible means of linking the private sector to educational institutions, particularly in technical colleges, as well as project-based applied research and development activities supported by firms in higher education.

In this sense, a fundamental shift in the organizational and structural underpinnings of education systems are required; a shift from systems originally organized to facilitate expansion and focused on administration and control of educational inputs, to systems with an explicit emphasis on improving quality, increasing performance, and assuring the on-going relevance of system output. Hence, strengthening capacities for data collection, systems monitoring and evaluation, and policy analysis is one major aspect to assure success in addition to more decentralized modes of planning and a well-established accreditation system for colleges and universities.

³ This chapter is based on: Cassidy, Thomas J. Jr., Education in the Arab States: Preparing to Compete in the Global Economy. In: Peter Cornelius and Klaus Schwab (eds.): **Arab World Competitiveness Report 2002-2003**. Oxford University Press, New York, 2003, pp. 218-234. Available at: <http://www.weforum.org/site/homepublic.nsf/Content/Global+Competitiveness+Programme%5CRegional+Competitiveness+Reports%5CArab+World+Competitiveness+Report+2002-2003>

Vocational Training

Vocational training suffers from a bad image (low status) and lacks links to other forms of training. Vocational training is often very centralized, rigid, and is poorly adapted to actual market conditions. This is partially why vocational training and lifelong learning is not prominent.

In recent years, however, efforts have been made to improve the situation. Egypt tried the German system of dual learning with success, but limited impact on the vocational training sector as a whole; the vocational system of education still suffers from lack of industrial technicians and market jobs are often not available for many apprentices. This dual training system needs to be enlarged to have an impact. Furthermore, in Egypt, diversification of technical and vocational education is under way, and some courses via the Technical Secondary School also lead to postsecondary technical training. Nevertheless, these efforts are still too fragmented and isolated; their social and economic value is uncertain, because they are poorly evaluated.

Life Long Learning

MENA countries are still far from offering an effective framework for lifelong learning. It requires awareness raising, professional and social incentives, a diversified and easily accessible network of supply structures that eliminate the separation of schools and firms, and professional and social recognition of the efforts made.⁴

Market Weakness

Growth in most MENA economies is insufficient to meet the growing labor supply, and the regions' economies are not yet sufficiently diversified to offer jobs to all graduates. Although sectors like ICT lack the necessary workers, training/employment mismatches make it difficult to absorb the unemployed.

In general, unemployment of young educated people has increased sharply. Additionally, many employers, mainly in the informal sector which is producing most jobs in Arab markets, prefer to hire unqualified workers and relatives who accept hard working conditions and low salaries. The same is apparent in the domestic industrial sector especially of SMEs.

II.4. Gender

Arab States Regional Report of the UNESCO Institute for Statistics⁵ presented the results of a survey on education in 19 countries – among them Egypt, Jordan, Morocco, and Yemen, covering the 1999/2000 school year. One of the findings are that some eight million primary school-age children remain out-of-school in the Arab States and five million of them are girls. However, it finds that when given the opportunity to go to school, girls tend to repeat less than boys and to complete their primary and secondary schooling more often.

A positive sign is the significant decline of the gender gap in estimated net enrolment ratios of primary school age in the MENA region, which nearly halved (1990: 17%; 1999: 9%). (EFA 2000 Assessment)

The most recent Global Monitoring Report 2003/2004 states progress and weak points regarding the 5th EFA goal (eliminating gender disparities)⁶:

⁴ This paragraph is based on the World Bank report: Aubert, Jean-Eric & Reiffers, Jean-Louis (ed.), Knowledge Economies in the Middle East and North Africa. (WBI Learning Resources Series). The World Bank, Washington D.C., 2003.

⁵ See Regional Overviews: The Arab States, http://www.unesco.org/education/efa_report/zoom_regions_pdf/arabstat.pdf

⁶ Chapter II of the GMR 2003/2004: Towards EFA: Assessing Progress: http://www.unesco.org/education/efa_report/chapter2.pdf

- Large gender disparities remain, especially in primary education and adult literacy.
- Early childhood care and education: substantial gender disparities are found in Morocco, where fewer than 6 girls are enrolled for every 10 boys.
- Universal primary education: Nearly 60% of out-of-school children are girls; the largest gender disparities are to be found in Djibouti and Yemen. Gender gaps in favour of girls are significant in Morocco and Egypt:
- Once girls have access to school, they do as well or better than boys, e.g. girls are less likely to repeat grades than boys in primary school. Regionally only six percent of girls repeated a year, as against nine percent of boys, although these figures mask big differences between countries. Jordan, for example, had the lowest overall rate of repetition (1%), and Tunisia the highest (16%).
- Participation in secondary and tertiary education: Gender disparities in favour of boys remain in e.g. Morocco where they are more pronounced than in primary education. 60% of the population of secondary school age (approx. 12-18 years), were enrolled in the survey year. Of this total 47% were girls. These figures masked substantial differences between countries. The report found that proportionally more girls than boys of secondary school- age were enrolled at this level. For example, 78% of girls in this age group were enrolled, compared to 73% of boys in the same category in Jordan.
- Gender disparities vary widely in the region in tertiary education. During the survey year, some five million students were enrolled in tertiary courses, of whom just over two million, or nearly 40%, were women. Women's participation in tertiary education was markedly less than that of men in e.g. Morocco.
- A large proportion of the teaching staff throughout the region are women. They account for three-quarters of teachers at pre-primary level and 52% of primary teachers. Their numbers fall considerably at the tertiary level: data were not available for the survey years, but in 1998/99, they made up only 25% of the tertiary teaching force.
- The right to education is a concern for adult women: The Arab states have some of the world's lowest adult literacy rates, with only 60% of the region's population of 15 and over are able to read and to write in 2000 (world average: 80%). About two third of the illiterates are women.
- Countries that have already achieved gender parity:
 - Primary education: (8 out of 20 countries with data): e.g. Jordan
 - Secondary education (3 out of 18 with data): e.g. Jordan
- Gender parity prospects:
 - Countries likely to achieve it in 2005 (3 with data): e.g. Egypt
 - Countries that may not achieve parity by 2015 either at primary, secondary or both levels (7 with data): e.g. Morocco
- Relevant Policy Implications: Eliminating gender disparities in primary and secondary education will involve understanding what holds girls and boys back so that policies can be designed to overcome these obstacles and improve access to and participation in education. The school environment requires equal attention.

For an overview of Gender disparities in education see table 3.

Table 4: Gender Parity Index (GPI) of Selected Arab Countries

COUNTRY	ADULT LITERACY GPI	PRE-PRIMARY EDUCATION GPI	PRIMARY EDUCATION GPI	SECON-DARY EDUCATION GPI IN GER	TERTIARY EDUCATION GPI
Egypt	0,66	0,95	0,93	0,94	?
Jordan	0,89	0,91	1,00	1,03	1,14
Morocco	0,58	0,57	0,87	0,80	0,80
Yemen	0,37	0,92	0,63	?	?
Arab States	0,67	0,99	0,89	1,03	1,13
Developing Countries	0,82	0,99	0,92	1,01	0,73
World	0,87	1,01	0,93	1,06	1,04

Source: EFA Global Monitoring Report, 2003.

GPI: Gender parity index: Ratio of female to male value of a given indicator. If a GPI equals 1, this indicates parity between sexes; a GPI that varies between 0 and 1 means a disparity in favour of boys; a GPI > 1 indicates a disparity in favour of girls.

A UNESCO-document, published in 2003 and titled "Education For All: Guidelines for Gender Equality in Education", sets the following milestones:

- Until 2002: information base and knowledge building to set strategies.
- Until 2005 abolish differences in primary and secondary education.
- Until 2015 gender equality.

In order to achieve these milestones, the document calls for analysis and strategies as listed below:

1. Analysis

- Needed in three areas, namely enrolment, quality and management.
- As to enrolment, information and analysis is needed for rates of enrolment, number of schools and regional distribution, which phases see the most drop outs or are most difficult to enter.
- As to quality, information and analysis are needed for building and infrastructure, curriculum, in-class teaching methods, extra-curricular activities, gender sensitive teacher training, evaluation of gender performance.
- As to management, information and analysis are needed for number of females in management positions, incentives for females to get there, resources for programs to increase female participation in management positions, societal mobilization

2. Strategies

- Setting goals and finding suitable strategies after looking around for best practices. For example, if the goal is to close the gap between boys and girls, then a strategy could be to provide scholarships, to improve road infrastructure to school, to work on equality sensitive societal values. If the goal is to reduce drop out rates, then possible strategies could be to improve the link between school and house or between curriculum and the economic reality of girls.

The **World Bank Group** published a sector report in August 2003 titled "**Gender in MENA**"⁷. The report presents information on the progress on selected gender indicators, difficulties, and the World Bank's gender strategy in MENA. The report states, that, on the one hand, significant advances have been made on social gender indicators. Government

⁷ The World Bank Group Sector Brief "Gender in MENA", August 2003, available at: <http://Inweb18.worldbank.org/mna/mena.nsf/Sectors/MNSED/D796757164A5B06285256DA300450733?OpenDocument>

commitments and achievements in female education and health (also) are more far-reaching than widely assumed. On the other hand, progress on gender empowerment indicators (such as economic and political participation) have lagged behind. Progress in female education and lowering fertility rates has not been translated to the MENA labour market. In fact, women's participation in the labour force (despite an increase of its rate by 50% over the last decades) remains quite low. This low participation results in a significant loss of per capita growth. Women's share of seats in national parliaments is the most common country-level indicator of their political empowerment, and the only indicator that is used to track progress toward the Millennium Development Goal of gender equality and empowerment of women. Compared with other regions of the world, women in MENA have the smallest share of seats in national parliaments, at 6%. But the picture is better than 16 years ago; the number of countries with women parliamentarians has risen from 3 in 1987 to 11 in 2003. At the same time, women's political participation at the local level has become more dynamic.

The World Bank's gender work in MENA rests on 4 pillars:

- **Research and Strategy:** The strategy focuses on awareness rising of the gender impact on economic development and effectiveness. In this regard, the MNA Regional Gender Report "Women in the Public Sphere" is being put forward simultaneously with the four regional reports on trade, governance, and employment. The MNA Regional Strategy identifies Gender as one of the five strategic priority areas (along with water, education, public sector management, and private sector development).
- **Policy Advice**
- **Capacity Building on Gender** consists of gender events organized for Bank staff, clients and partners, and a Distance Learning Activity Gender Course. The focus has been on gender mainstreaming, gender monitoring and evaluation, and gender & law.
- **Partnerships:** (1) MNA Consultative Council on Gender (established in 1999; it is an external group of regional civil society representatives and experts on gender issues), that contributes to building gender capacity among MNA staff; (2) the Regional Gender and Development Network, which seeks to reach out to policy-makers, researchers and activists to promote gender policies in partnership with UNDP and AGFUND.

Table 5: MNA Progress from 1970-2000

SECTOR	1970		2000	
	FEMALE & MALE		FEMALE & MALE	
Adult illiteracy rates in %	83,4	56,3	47,5	25,6
Primary enrolment in %	52,3	87,3	90,5	98,4
Secondary enrolment in %	14,8	31,9	74,4	77,3
Life expectancy in years	53,2	51,5	69,3	66,4
LFPR in %	22,5	77,5	27,7	72,3

Source: The World Bank Group Sector Brief "Gender in MENA", August 2003.

According to the World Bank Gender Report 2003⁸, women remain a largely untapped

⁸ The World Bank Gender Report: Gender and Development in the Middle East and North Africa: Women and the Public Sphere, by Nadereh Chamliou (2003). The report approaches gender equality by framing it in terms of

resource in the region despite generous public spending over the last few decades on health and education. In 2000, average spending on education was 5.3 percent of GDP-the highest in the world-and 2.9 percent on health care. Yet gains in health and education have not translated into commensurate gains in employment. Women's portion of the labor force in MENA has increased rapidly during the last three decades-from less than 23 percent in 1970 to 32 percent in 2000-but it still ranks among the lowest in the world.

The Bank's analysis shows that if female labor force participation were increased in accordance with education levels and age structure, household earnings could rise by as much as 25 percent. The report lays out a plan of action for improving women's access to opportunity and economic security in the region. The four broad areas of the policy recommendations are a review of the legislative environment, the provision of supportive infrastructure, continued attention to education, and reform of labor laws and regulations.

II.5. Knowledge Society⁹

There is a growing awareness that the knowledge revolution offers new opportunities for growth resulting from the availability of ICT and from the advent of a new form of global economic development rooted in the concept of knowledge economy, which is based on the creation, acquisition, distribution, and use of knowledge.

The knowledge revolution presents MENA countries with challenges and opportunities. They need to take advantage of this new source of growth and employment. To date, related investments in education, information infrastructure, research and development (R&D), and innovation have been insufficient in most MENA countries. Moreover, inadequate economic and institutional frameworks prevent these investments from yielding desired results. Hence, action is needed to advance structural reform and to intensify and adapt knowledge-related investments.

The **pillars of the knowledge economy** are: (1) an **educated, creative, and skilled population**; (2) a well-developed **information and communication infrastructure**; (3) an **economic and institutional regime** that encourages efficient use of knowledge and the flourishing of entrepreneurship; and (4) an **effective innovation system** with dynamic interaction between the world of science and technology and the world of business.

Knowledge Society and Education

While considerable efforts have been made in education, measured as a share of GDP (> 5%), the quality of education needs to be improved at all levels to train the labour force to meet the region's economic needs. At present, the job market does not provide the educated population with appropriate employment opportunities, and this has led to high unemployment among diploma holders and to a significant brain drain. Education is still based on traditional methods which do not stimulate creativity. Arabization of education would help raise the population's basic literacy levels and strengthen its identity, but early learning of other major international languages is also essential for global trade and for scientific and other exchanges. Furthermore, systems of lifelong learning with adequate curricula also need to be put in place. Finally, the problematic status of women (lower access to education, exclusion from labour force and retention from political life) deprives these societies of a source of dynamism, creativity, and knowledge.

economic necessity.

⁹ Source of reference is Aubert, Jean-Eric & Reiffers, Jean-Louis (ed.), Knowledge Economies in the Middle East and North Africa. (WBI Learning Resources Series). The World Bank, Washington D.C., 2003, if not otherwise stated.

Knowledge Society and ICT Challenges: Environment, Readiness and Usage

The region, as a whole, has made progress in the access to and use of ICT. However, teledensity levels remain below 10% in most countries. The penetration of personal computers is considered to be the main cause of the gap in ICT markets. The Arab region, with 5% of world population, represents less than 1% of the world internet population. With the growth of e-commerce over the past few years, the internet has become the most advanced commercial tool. In the Arab world, however, the e-commerce market is estimated at US\$ 3 billion, which counts for only 0.2% of world market. It is expected to grow to US\$ 5 billion in 2005 (see table 5).

A number of MENA countries have recently adopted telecommunications measures that follow global good policy practices. However, reforms are often incomplete. Rapid growth in mobile phones has compensated for the relative under equipment in fixed lines, but it also slowed down the establishment of the infrastructure needed for the internet. In addition, MENA countries need to develop Arabic content for ICT applications and to ensure that the general population has the skills necessary to use ICT effectively.

The traditional digital divide barrier of lower income per capita does not appear to be the major impediment for ICT development in that region. Bridging the divide in the Arab world requires a multifaceted intervention by key stakeholders.

Three layers are examined, that underline ICT development: **environment, readiness, and usage**. In this section, these layers of ICT development and challenges of the Arab region with special consideration of the case study countries are presented.

Table 6: Selected ICT indicators in the Arab World, 2001¹⁰

COUNTRY	INTERNET HOSTS PER 10,000 INHABITANTS	INTERNET USERS PER 10,000 INHABITANTS	ESTIMATED PCS PER 100 INHABITANTS
Egypt	0.3	92.9	1.5
Jordan	4.2	409.1	3.3
Kuwait	17.4	1,014.7	13.2
Lebanon	19.9	858.0	5.6
Morocco	0.8	131.5	1.3
Oman	17.8	457.5	3.2
Saudi Arabia	5.1	134.4	6.3
Syrian AR	0.01	36.1	1.6
U.A.E.	288.5	3,392.4	15.8

Source: ITU 2002, cited in: Dutta, Soumitra et.al. Challenges for Information and Communication Technology Development in the Arab World. in Peter Cornelius and Klaus Schwab (eds.): **Arab World Competitiveness Report 2002-2003**. Oxford University Press, New York, 2003, pp. 188.

Environment: This encompasses the level of political leadership, regulatory openness, innovation, capability, IT skills within the population, and the cost and availability of access. The three dimensions considered are: market, regulation, and infrastructure.

Egypt has defined a comprehensive ICT national plan. In September 1999, the government announced that the development of the information and telecommunication technology industry was a national priority. This led to the creation of a separate Ministry for

¹⁰ For a more detailed version of ICT indicators in Egypt, Jordan, Morocco and Yemen see annex 4.

Communications and Information Technology in October 1999. Realizing how a strong ICT sector could contribute to economic growth, the Ministry has set the long-term objective of creating an export-driven, private-sector led ICT market. A 3-year national plan for the development of the ICT industry has been designed, in close collaboration with the private sector and industry experts.

Jordan also embarked on an ambitious plan to make full use of the ICT potential. In 1999, King Abdullah launched the REACH initiative to bolster the country's ICT sector and maximize its ability to compete in local, regional, and global markets.

At the regional level, regional cooperation could be considered for:

- Setting up multipurpose information and telecommunication centers
- Establishing technology incubation schemes and providing support for start-up enterprises
- Building networks of partner institutions

A project has been proposed by **UNDP** to address the ICT agenda on regional level. The project, called Information and Communication Technology for Development in the Arab Region (**ICTDAR**), would form a number of bilateral and multilateral joint ventures for the purpose of assistance. The aim of ICTDAR is to bring IT to less developed areas in member countries, introduce enhanced IT education, helping small companies improve their IT systems, assisting in widening the application of member countries' e-government.

As to the market environment, domestic long distance (DLD) and international long distance (ILD) telecommunications are monopolies in the Arab region (except Kuwait for the latter). The mobile market has been partially liberalized in most markets, except for Oman, Saudi Arabia and U.A.E. (for detailed information see table 7.). Morocco's communications market is undergoing a major liberalization drive. L'Agence Nationale des Reglementations de Télécommunications (ANRT), Morocco's telecommunications sector regulator, is in the process of a second fixed license – including data and international gateway components. This would place Morocco as one of the first Arab countries to have two fixed line operators. However, the liberalization of the mobile sector and the monopoly for fixed line telephony create a situation where mobile phones substitute fixed lines, as high growth rates in mobile penetration suggest¹¹.

Table 7: Level of Competition in the Telecommunications Market, 2001

COUNTRY	LOCAL VOICE	DLD VOICE	ILD VOICE	MOBILE	DATA	INTERNET
Egypt	M	M	M	D	C	C
Jordan	M	M	M	P	C	C
Morocco	M	M	M	C	C	C

M=Monopoly, D=Duopoly, P=Partial Competition, C=Competition

Source: ITU 2001, cited in: Dutta, Soumitra et.al. Challenges for Information and Communication Technology Development in the Arab World. in Peter Cornelius and Klaus Schwab (eds.): **Arab World Competitiveness Report 2002-2003**. Oxford University Press, New York, 2003, p. 194.

Readiness: It describes the ability of a country's economic stakeholders –individuals, businesses and governments– to capitalize on the opportunities that a strong environment brings. It requires appropriate access to ICT devices, be it PC, DTV or a mobile device, plus the skill and the desire to use it.

¹¹ See Shaping the Future Mobile Information Society: The Case of Morocco. Document SMIS/08, 25 February 2004. ITU/MIC Workshop in Seoul, 4-5 March 2004 on: Shaping the Future Mobile Information Society, pp. 26-28.

The lower the costs, the higher the internet penetration. The main elements of costs are PC acquisition and connection charges. According to ITU, Egypt, Morocco and Syria have the highest import duties and sales taxes on PCs (Egypt: 15%, Morocco: 15%, Syria: 15%, Jordan: 13%; the lowest are Kuwait and U.A.E. with 4%)

A second enabler of ICT readiness is an adequate infrastructure. Syria, Egypt, Oman and Morocco have less than 50 residential lines per 100 households, However, the residential main line and above all the cellular line penetration has grown substantially.

Bandwidth per account indicates the internet capacity per account and, hence, the quality of access. The bandwidth per account in Egypt (3.75 kbps), Jordan (2.12 kbps) and Morocco (3.52 kbps) lies above average in the Arab region.

Table 8: Penetration of Residential Main Lines and Cellular Lines, 2001

COUNTRY	GROWTH OF RESIDENTIAL MAIN LINES PER 100 HOUSEHOLDS (1995-2000) IN %	GROWTH OF CELLULAR SUBSCRIBERS PER 100 INHABITANTS (1997-2000) IN %	PENETRATION OF RESIDENTIAL MAIN LINES PER 100 HOUSEHOLDS	PENETRATION OF CELLULAR SUBSCRIBERS PER 100 INHABITANTS
Kuwait	-2	28	130	25
U.A.E.	2	62	101	72
Jordan	13	96	56	14
Egypt	15	170*	32	4
Morocco	2	213	21	16

* Data for Egypt 1999-2000 only, as data prior to 1999 are not available.

Source: ITU 2000, cited in: Dutta, Soumitra et.al. Challenges for Information and Communication Technology Development in the Arab World. in Peter Cornelius and Klaus Schwab (eds.): **Arab World Competitiveness Report 2002-2003**. Oxford University Press, New York, 2003, p. 197.

The biggest obstacle to achieving government readiness will be interdepartmental coordination. Hence, policies must ensure that lines of accountability are clearly defined.

Usage: It describes the uptake of online services, and the volume and sophistication of use. For individuals, the sophistication of use ranges from surfing and emailing through to publication of their own web pages. For business and government, basic use is the publication of a website, more sophisticated use is characterised by the integration of other business processes online.

In Egypt, the Ministry of Communications and Information Technology concentrated on the development of human resources necessary for the ICT sectors. A professional development program was initiated with the aim of training 5.000 professionals per year. The ministry plans to open a national information technology institute through which it will plan and prioritise the training programs for the development of IT skills. It also seeks to set up technological universities, send young professionals abroad for training, and develop an ICT curriculum in Egyptian faculties.

Jordan is also active in developing its human resources in the ICT sector. Within the REACH initiative, the government has the following agenda:

- a) Initiating a training program by IT industries to benefit IT students
- b) helping universities focus on critical IT skills for all students

- c) Strengthening the links between IT industries and universities
- d) Promoting collaboration with overseas universities
- e) Establishing a “center of excellence” training institute for the software industry

Many IT companies choose Egypt and Jordan as their regional headquarters, mainly because of these countries' human capital.

To tackle the digital divide by taking positive actions among population groups less likely to use the internet, Jordan initiated a project called ***IT Community Centers (JITCC) initiative*** launched in 1999 to harness the power of IT to support a sustainable development strategy. The objective is to install 60 JITCCs using a three-phase approach. A network of JITCCs will serve as a platform for enhancing technological literacy, sustainable livelihoods, and equity and human development among the remote poor, and information deprived segments of Jordan's population.

The lack of online **content in Arabic** is another factor deterring ICT usage in the Arab world. The share of Arabic content on the internet remains as low as 1%. Hence, many Arab countries have undertaken initiatives to widen the Arabic web-user base by developing new portals with Arabic content (e.g. BBCarabic.com in cooperation with Microsoft Middle East's cooperation). The Arabization software industry is a promising value-added activity that will indirectly stimulate ICT development in the Arab world and create employment for Arab IT skilled labor. The potential of the software Arabization industry lies in Egypt, which hosts IBM Arabic software offices and exports almost 80% of its software to the Arab world. A five-year plan to promote the software industry in Egypt aims at growing the existing software market (from an estimated US\$ 50 million to a market of US\$ 2 billion); it has received backing from international and local software industries.

Economic, Institutional and Innovative Partnerships

Effective interaction between institutions of science and education and the business world is essential to a dynamic innovation climate. MENA countries have good research institutes in certain fields. Too often, however, R&D institutions are constrained by rigid regulations, lack of budget autonomy, and lack of incentives to collaborate with industry. Both, government reform and private sector contribution are required to overcome the impediments. Strategies need to be defined for building on the region's comparative advantages that address the region's needs such as water. Additionally, it is important to tap into the global knowledge and technology through appropriate trade, licensing, and technology-import policies as well as through efficient links to highly qualified expatriates from MENA countries in advanced economies, of which there are more than a million.

The MENA region's readiness for the knowledge economy is low. The region suffers from a large public sector, over-regulation, bureaucracy, and control of information. However, there are important differences within the region. Jordan and the U.A.E. are somewhat on the forefront, and some countries like Egypt have already used e-government to promote transparency and availability of information.

The MENA countries' readiness for the knowledge economy (according to the four pillars mentioned above) indicates that the MENA countries' overall knowledge economy position is not in line with their level of economic development. The low ranking in comparison to other regions (only South Asia and Sub-Saharan Africa rank lower) is mainly explained by weakness in the MENA region's incentive and institutional framework. In the other three pillars (education, innovation and ICT infrastructure), the region is close to the global average. But the performance of the single pillars varies within the region.

To move toward knowledge based development, rulers and leaders as well as communities need to propose a vision of a new form of development, with freedom in a central place, and take action to promote efficient policies. Strategies need to address the four basic pillars, and

concrete, visible achievements help build trust. The push toward knowledge-based development could be facilitated by establishing powerful interministerial agencies able to set priorities and engage in budget arbitration.

MENA Cooperation for a Knowledge Society

Cooperation among the MENA countries is crucial for activating change and progress. The promotion of a common vision with concrete programs that mobilize institutions is crucial for regional integration. Trade and commercial exchange can certainly be increased and cooperation can be developed in science, education, and culture, using new technological opportunities such as open and virtual universities. In education, there are jointly developed and coordinated programs (Arab League Education, Science and Culture Organization) and initiatives such as the Kuwait-based Arab Open University.

The **Pan Arab Regional Conference** on the World Summit on the Information Society (WSIS) was organized by the Egyptian Ministry for Communication and Information Technology (MCIT) in cooperation with the League of Arab States in June 2003. This event was an opportunity to reach a consensus on a regional plan of action for building the Arab Information Society. One of the outcomes of the conference was a document titled **"Towards an Arab Information Society: Common Action Plan for Collaborative Work"**¹² (for a summary see annex 3). Participants stressed that regional integration and mobilization of Arab resources is the only way to move to a knowledge economy and to build the infrastructure necessary to spread Arab information applications. In the document, participants emphasized the pivotal role of knowledge in formulating the new human society "society of knowledge economy", recognizing ICTs as essential in reaching this goal. Further, the participant Arab States emphasized the need to achieve a balance between traditional and knowledge economies, as well as the need to build a strong industry for Arabic content in order to build a sustainable society of information and knowledge.

The document detailed implementation of actions and projects listed in a strategy and action plan. The action plan gave particular consideration to regional integration and included the following dimensions: (1) Infrastructure development; (2) Human capital development; (3) e-Government (including regional networks and links); (4) Arabic content industry (Arabic language is considered a main approach to achieving Arab integration in the field of information and to the preservation of national identity and cultural particularity); (5) e-commerce; (6) Scientific research; (7) Community partnerships (among public institutions, civil society organizations, the private sector and multinationals); (8) Regional cooperation activating the role of Arab specialized organizations under the supervision of the League of Arab States to develop cooperation in ICT and activating the Arab Business Forum for ICT established by the Arab Summit in Amman 2001.

MENA Cooperation with the International Community

The international community could offer support in capacity building. However, capacity building does not happen through direct transfer of knowledge from donors to receivers but a true learning process is based on principles such as ownership of initiatives by local actors (civil society, not the government alone) and the systematic implication of local consultants in the implementation of new measures. Additionally, failures should be seen as learning opportunities.

¹² Full documents in English and Arabic are available at: http://www.itu.int/wsis/documents/doc_multi.asp?lang=en&id=653%7C654.

Examples from Jordan, Morocco and Egypt

Jordan

Jordan has formulated and initiated at the highest levels a strategy with a nationwide perspective for a knowledge economy with a strong involvement of the public and private sectors. High level commissions and regulatory authorities were created to advise and monitor progress. The **Information Technology Association of Jordan (INTAJ)** represents and promotes domestic software and IT services industry in the global market. Initiatives addressing the four basic knowledge economy pillars were undertaken to improve the investment climate, to develop technological-industrial zones, to reform education, and to establish a large network of IT community centers. As a result, new enterprises and jobs have been created.

One initiative is the **Jordan IT Community Centers (JITTC)**, created to bridge the divide in local communities, to develop the use of ICT for social development, and to enhance the role of rural communities in economic development. Another example is the **Economic Opportunities for Jordanian Youth (INJAZ)** initiative, funded by USAID and supported by a national media campaign. INJAZ works with the private sector to boost Jordan's competitiveness by directing its labor force into training and educational programs adapted to market demands as it also works to reduce social and economic marginalization. The **REACH initiative** (Regulatory Framework, Estate Infrastructure, Advancement Program, Human Resource Development) developed an export-oriented IT services sector.

Morocco

Morocco's Al-Akawayn University in Ifrane has undertaken an initiative to advance the country's knowledge economy agenda. After conducting micro- and macroeconomic and socio-cultural analyses of the current situation, including strengths and weaknesses of economy and society, the university is starting to work with local authorities and other partners to bring change through a back-and-forth process between experiment and conceptual framework. The experience is expected to have a demonstration effect on broader communities. Topics of importance for change include governance, local development, training of potential leaders, R&D, and strategic alliances at the local and global levels. In these areas, key actors are identified and mechanisms are put in place to carry out concrete projects, with a view to replicate successful experiments to central and local administrations, enterprises, professional associations, universities, and NGOs.

The development of ICTs is considered a priority by the Moroccan Government. Since 2001, government and private business gathered to define an e-Morocco strategy. The first objective is to connect households to fixed telephone lines, to allow an easy access to basic telephone services, especially to the internet, the utilisation of which is still very limited. Affordability, efficiency and transparency in billing is of particular importance. The need for mobility is addressed by mobile phones. For the moment it seems that fixed networks will be dedicated more to internet and data services, while voice communications will be the focus of mobile services. However, the utility of mobile for data transmission could be a viable opportunity in a country where the fixed lines penetration is less than one fourth of mobile phone penetration. The year 2004 has been declared internet year, and the action of the policy maker will concentrate on the development of internet content and applications, with the government at the forefront to introduce and utilise ICTs in the government, to allow the emergence of a networked administration, more transparent and accessible to citizens.¹³

¹³ This paragraph refers to information provided by ITU: Shaping the Future Mobile Information Society: The Case of Morocco. Document SMIS/08, 25 February 2004. ITU/MIC Workshop in Seoul, 4-5 March 2004 on: Shaping the Future Mobile Information Society, pp. 26-28.

Egypt

The Egyptian Government in partnership with the private sector has launched various initiatives and policy reforms with promising results to bridge the digital divide and promote a knowledge based society. Milestones of Egypt's Vision of the Information Society are presented below.¹⁴

The **Cabinet Information and Decision Support Center** (IDSC) was established by the Egyptian government in 1985 to build up Egypt's IT industry and governmental decision support infrastructure. The **National Telecommunication Regulatory Authority** (NTRA) set out to develop national telecommunications services. An integrated framework of policies and legislation was created; by the end of December 2005 Egypt is to liberalize the various telecommunication services. Meanwhile, the numbers of fixed line and mobile phone subscribers have sky rocketed; a huge leap has also taken place in the number of internet users. Egypt's largest mobile phone operator, Mobinil, announced it had reached the milestone of 3 million subscribers in 2004¹⁵.

In October 1999, a new **Ministry of Communications and Information Technology** (MCIT) was formed to facilitate Egypt's transition into the global Information Society. MCIT is in charge of preparing the National Plan for Communications and Information Technology. Concrete actions have been the development and expansion of the telecommunications infrastructure, the establishment of hundreds of information technology clubs, the expansion of the pool of IT skilled labor and the creation of national information systems and databases.

The National Plan has paved the way for the initiation of the **Egyptian Information Society Initiative (EISI)**, an innovative partnership between the public and private sectors, designed to facilitate Egypt's evolution into an Information Society. The aim is to offer every individual, business, and community the opportunity to harness the benefits of the new information era. EISI comprises seven elements: 1. E-Readiness, Equal Access for All, 2. E-Learning – Nurturing Human Capital, 3. E-Government, 4. E-Business, 5. E-Culture, 6. E-Health and 7. ICT Export Initiative.

The Egyptian Information Society Initiative's education component covers various training programs with internationally accepted certificates to create and enhance ICT skills (e.g. Basic Skills Training Program, International Computer Driver's License program, Super User Program, Communication and Networking training, Information Technology training, Vocational Education Program for Computer Technicians). The International Computer Drivers License project in cooperation with UNESCO will standardize computer training and certificates according to international standards. This pilot project may be exported to other Arab countries. In order to close the Gender gap, MCIT has created a unit focusing on ICT and gender issues. The development and provision of software and programs with Arabic content has been considered a crucial aspect to increase "ICT literacy".

Examples of successful initiatives are:

The **Free Internet Initiative** was a major step in increasing the number of Internet users from 1 million in January 2002 to 2.5 million in November 2003 through 940,000 connected households.

The **Computer for Every Home** initiative is to provide end-users with PCs at prices affordable for the average user. The number of PCs sold has reached 48,000 (November 2003). The target is to reach 100,000 PCs sold annually, since PC penetration remains low at 2.3%.

¹⁴ Information is –if not otherwise stated– cited from the MCIT homepage <http://www.mcit.gov.eg>.

¹⁵ Data on Mobinil is cited from <http://www.summitreports.com/egypt2004/infrastructure.htm>.

The **ICT Clubs model** (550 clubs in November 2003) is a public-private sector initiative to bring affordable Internet access throughout the country. The objective is to reach 1000 villages by 2005, while promoting, with the Ministry of Education, the connectivity of all schools to the Internet. Many centers are based in the deprived and rural areas. Users receive guidance through instructors available in each club as well as training for basic skills. The government provides all equipment and hardware necessary for each club's launch. IT clubs also create job opportunities for university graduates who join the Training of Trainers program.

The Smart Schools Network aims to introduce IT education and IT-aided learning in schools. The Network will build public-private partnerships to put computers in schools and develop quality computer and computer-aided education.

The **Egyptian Universities Network** aims to facilitate the electronic exchange of data between universities. The **National Telecommunications Institute** was established to provide high quality, postgraduate education and training in the field of telecommunications, and conducting research.

The **Global Campus Initiative** was launched in 1997 by the Regional Information Technology and Software Engineering Centre (RITSEC), with the aim of building a global e-learning community through utilization of distance learning tools and techniques. It involves the provision of e-learning programs and services. It has an academic program which provides two masters degrees that are accredited from Middlesex University (UK). Its Global Distance Learning Center (GDLC) provides a variety of executive courses jointly with the World Bank Institute.

The Nile Technology University is a non-profit university specializing in IT to produce graduates. Nile Tech puts strong emphasis on applied research and development, as well as on graduating the future entrepreneurs and middle managers for Egypt.

The **Information Technology Institute (ITI)** was established in 1993 by IDSC to provide specialized software development programs for new graduates and training programs and IT courses for the Egyptian government, ministries, and local decision support centers. ITI also introduces IT training materials in Arabic.

Small and Medium Enterprise Businesses is supported by Microsoft Egypt to promote the SME industry with a special focus on empowering women. The project was created by RITSEC, in partnership with the government of Egypt. The aim is to empower SME businesses through the use of ICT to enhance their productivity, increase market share and open up new markets both locally and internationally. The project will focus on IT training programs to meet SME needs through incremental approaches, starting with 250 young graduates. The project has a special focus on empowering unemployed women through IT skills training and qualifications to create new job opportunities in the SME industry.¹⁶

The United Nations Development Program, under the IT for Development Programme, is currently funding a project called the **Technology Access Community Centres (TACCS)**. Three Technology Access Community Centers have been developed in the Sharqeya governorate. The TACCs in Egypt are the first in a series of UNDP sponsored IT pilot projects which will be hosted by other countries and regions. A principal goal of the pilot project will be the development and implementation of a flexible, local approach to community development with an emphasis on non-formal education using information

¹⁶ Information of this paragraph is cited from: <http://www.microsoft.com/presspass/features/2004/Jan04/01-23UNDPPProjects.asp>

technology and human resources to increase the role of training and education in the life-long learning of all community members.¹⁷

The GDN Net MENA Regional Window is a product of the GDN Net (Global Development Network). The GDN Net aims to proactively communicate research knowledge generated in developing and transition countries to stimulate its application to policy. GDN Net has three key tasks: to enable institutes and individual researchers to communicate their knowledge; to provide researchers in the social sciences with access to resources; and to build the dissemination capacity of institutes. The developing regions' windows is one of the innovative and pioneering channels to address these tasks. The GDN Net MENA Regional Window features high quality research, researchers and organizations from MENA in a knowledge databank. It also provides support for quality research generation through access to online services and it supports research dissemination and knowledge management capacity building. Contact person Dr. Shereen Ghoneim, Smart Village, Building 144A, 3rd Floor, Cairo-Alex Desert Road, Giza, Egypt, Tel: + 202 539 24 20 Fax: + 202 539 24 22, Email: resources@gdnet.org http://www.gdnet.org/about_gdn/

For a detailed description of the activities of the Egyptian Ministry for Communication and Information Telecommunication (MCIT), see annex 6.

¹⁷ See <http://www.undp.org/info21/pilot/launch.html>

Annexes

1. World Education Forum held in Dakar in April 2000

The Consultative Forum on EFA redefined strategies and drew up the revised Framework for Action to meet the basic learning need for all by 2015. A decade after the World Conference for Education for All in Jomtien, Thailand, in 1990, the concept of EFA continues to be alive.

The EFA 2000 Assessment demonstrates that there has been significant progress in many countries. The net enrolment ratios in primary education in 1990 and 1998 in the MENA region were 74% and 76% respectively (a slight improvement). The trend in gross enrolment ratios in early childhood development programmes in the region, however, remains without progress. The number of primary school-age children in and out of school were 25 mio (in school) and 9 mio (out of school) in 1990, and 31 mio (in school) to 10 mio (out of school) in 1998. A positive sign is the significant decline of the gender gap in estimated net enrolment ratios of primary school age in the MENA region, which nearly halved (1990: 17%; 1998: 9%).

Nevertheless, the MENA as well as other regions are far from having achieved the EFA goals. This is why the World Education Forum reaffirms the commitments adopted in the past, in particular the fundamental right to education as key to sustainable development, peace and stability. Further, the Dakar Framework for Action adapted the following **six EFA goals**.

1. Improve early childhood care and education;
2. Ensure that all students complete compulsory and free primary education;
3. Ensure that all children, youth and adults acquire the necessary life skills;
4. Reduce illiteracy rate by 50%
5. Eliminate gender disparities
6. Improve the quality of education in all its aspects.

In order to achieve these goals, the participants of the World Education Forum pledged to:

- Mobilize political commitment for EFA, develop national action plans and enhance investment in basic education
- Promote EFA policies within a sustainable and well-integrated sector framework linked to poverty elimination and development strategies
- Ensure the participation of civil society in the strategies for educational development.
- Develop responsive, participatory and accountable systems of educational governance and management
- Implement integrated strategies for gender equality in education which recognize the need for changes in attitudes, values and practices.
- Implement urgency education programmes and actions to combat HIV/AIDS pandemic.
- Create safe, healthy educational environments conducive to excellence in learning, with defined levels of achievement for all.
- Enhance the status, morale and professionalism of teachers
- Harness new information and communication technologies to help achieve EFA goals.
- Systematically monitor progress towards EFA goals and strategies at the national, regional and international levels.
- Build on existing mechanisms to accelerate progress towards education for all.

- States will be requested to develop or strengthen national action plans by 2002 at the latest, as a transparent and democratic process involving all stakeholders.
- Political will and stronger national leadership are needed for the effective implementation of national plans.
- The Action Plan includes the commitments of the International community.
- The implementation of these goals and strategies require participatory mechanisms, which include all stakeholders and partners operating in transparent and accountable ways.
- Heart of EFA activity lies at the country level. National EFA Forums will be strengthened or established. All relevant ministries and national civil society organizations will be represented in these Forums. They should constitute a framework for implementation at subnational levels. Countries will prepare **National EFA Plans by 2002**.
- Regional activities to support national efforts will be based on existing regional and sub-regional organizations, networks and initiatives, augmented where necessary. Regions and sub-regions will decide on a lead EFA network that will become the Regional or Sub-regional Forum with an explicit EFA mandate. Involvement of, and coordination with, all relevant civil society and other regional and sub-regional organizations are essential. These Regional or Sub-regional EFA Forums will be linked to National EFA Forums. Their functions will be co-ordination with all relevant networks, setting and monitoring regional / sub-regional targets, advocacy, policy dialogue, the promotion of partnerships and technical co-operation, the sharing of best practices and lessons learned, monitoring and reporting for accountability and promoting resource mobilization
- UNESCO continues coordinating EFA partners. It will convene annually a high-level, small and flexible group that will serve as a lever for political commitment and resource mobilization. It will be informed by a monitoring report from the UNESCO International Institute for Educational Planning (IIEP), the UNESCO International Bureau of Education (IBE), the UNESCO Institute for Education (UIE), the UNESCO Institute for Statistics, and inputs from the Regional and Subregional EFA Forums.
- UNESCO will serve as the Secretariat. It will refocus its education programme according to the Dakar goals.

2. The Arab Regional Conference on Education for All: What´s Next? Beirut, 20-23 January 2004: Future Orientations Adopted by the Drafting Committee

Preamble

1. The participants to the Arab Regional Conference on Education for All that was held in Beirut on 20-23 January 2004 and that gathered Ministers and high-ranking representatives of Arab Ministries of Education, UN Agencies, concerned regional organizations, civil society institutions as well as experts in education;
2. Taking note of the regional report on EFA national plans presented to UNESCO Regional Office in Beirut by most Arab States, and taking part in the discussions conducted during the Conference on the different themes of Education for All;
3. Reaffirming their commitment to make the necessary efforts in order to achieve the six following EFA goals :
 - Improve early childhood care and education;
 - Ensure that all students complete compulsory and free primary education;

- Ensure that all children, youth and adults acquire the necessary life skills;
 - Reduce the illiteracy rate by 50%;
 - Eliminate gender disparities;
 - Improve the quality of Education in all its aspects.
4. Reaffirming their commitment to the principles of action and to the implementation orientations of the Arab Framework for action adopted by the Cairo Conference in 2000 as follows :
- Multiply efforts and mobilize resources in order to meet the basic learning needs of all ;
 - Adopt an expanded vision involving the different sectors of the society;
 - Provide education opportunities to all, including persons with special needs ;
 - Provide a safe and attractive environment that encourages the learner to think and express himself independently ;
 - Use new information and communication technologies to provide quality education;
 - Make decisions based on knowledge and credible information;
 - Ensure the complementarity between programmes and projects;
 - Reinforce partnerships ;
 - Enhance the follow-up efficiency.
5. Aware of the importance of efforts to achieve the EFA goals at both national and regional levels, the participants adopted the following orientations for future action:

I- At the State level

6. Each Arab State explicitly renews its high-level political choices related to education in general, and its commitment to the six EFA goals in particular. The Arab States also renew their commitment to achieving these goals with all possible means and translate their commitment into the measures stated below.
7. The concerned authorities take the necessary decisions related to the adoption of an institutional framework for the conception, implementation and follow-up of the programmes of the EFA national plan:
- a- The concerned authorities in each country complete the establishment of the EFA National Forum to include all concerned categories. The Ministry of Education activates the role of the Forum in the expanded national dialogue on the objectives, priorities and programmes. It also establishes efficient partnerships with all concerned parties as regards the conception, the implementation and the follow-up process, namely with the relevant ministries, organizations and NGOs.
 - b- The Ministry of Education completes the establishment of a permanent body concerned with EFA activities as regards the conception, implementation and follow-up of the executive programmes as well as the coordination of efforts between the different partners from both the public and private sectors. The body constitutes the technical branch of the national Forum in terms of providing data and indicators and preparing reports on the progress towards the achievement of the EFA goals.
8. The concerned authority in each country completes the preparation of the final version of the EFA national plan by May 2004, in the light of the criteria of credible plans, as follows:
- a. the objectives of the plan shall be comprehensive;
 - b. the plan shall include scheduled executive programmes;
 - c. the plan shall be in harmony with the economic and social development plan;
 - d. the plan shall stipulate the roles and responsibilities of all governmental and non-governmental concerned parties;
 - e. the plan shall be based on the quantitative and qualitative data available for the basic year 2000/2001, taking into consideration the change that is taking place;

- f. the plan shall include cost estimates and shall define financing resources;
 - g. the plan shall stipulate follow-up and evaluation mechanisms.
9. the Ministry of Education commits itself to establish a clearly defined project to ensure the implementation of the plan's various activities, in terms of legislation, financing policies, etc. It also seeks to ensure independent extra budgetary financing resources for the measures and executive programmes proposed by the strategy for educational development.
 10. all concerned parties adopt a clear method for informed decision-making based on updated, accurate and reliable knowledge and information; and develop the necessary mechanisms for the collection, analysis and deduction of relevant indicators to be used in the qualitative diagnosis of the education reality.
 11. the States seek to make the best investment in the available financial and human resources to contribute in reducing the gap between the available financing resources and those required for the implementation of the plan, This will alleviate the volume of the financial resources to be sought.
 12. Each State establishes a summary of its national plan that describes each of the EFA goals, as well as the required and the available financial resources, the expected gaps in the financing process and the means to overcome these gaps.
 13. the authority responsible for the EFA national plan seeks the mobilization of the mass media in order to ensure the dissemination of the expanded vision on EFA, as well as its concepts and principles, especially as regards early childhood, the rights of the child, the learning concepts, the reinforcement of quality education and the role of parents and civil society in the achievement of the EFA goals.

II- At the regional level

14. UNESCO Regional Bureau in Beirut and the other UNESCO Offices in the Arab region continue, in cooperation with international and regional partners, to support the States efforts in achieving the EFA goals, namely through the following.
15. The UNESCO Office in Beirut sets a clear action plan based on the diagnosis of the Arab States needs in terms of EFA, according to the States adopted national plans and in consultation with these States. It also defines the nature of the necessary technical and financial assistance as well as the mechanisms to meet these needs, in accordance with the world movement. The action plan is distributed to the concerned Arab States.
16. The Office sets an innovative approach as regards the enhancement of the national capacities responsible for the implementation of EFA national plans and intensifies the specialized qualitative training addressed to the parties directly involved in the preparation of the national plan.
17. The Office periodically monitors the Arab States movement towards the achievement of the EFA goals and provides feedback to these States and to the world forums on the efficiency of the EFA National Plans and on their mechanisms.
18. The Office ensures the documentation of the pilot qualitative programmes and experiences that proved to be efficient in the progress towards the achievement of the EFA goals in the Arab Region. It also disseminates these experiences in the Arab States, and more particularly in the States facing similar problems (girls education, literacy, training, teachers, etc...).
19. The Office continues to provide the Arab States with the necessary technical assistance as regards the establishment and use of databases in the support of the educational decision in terms of policy, planning, management and development. It also seeks, in cooperation with the other UNESCO concerned divisions, the other UNESCO Offices in the Region and the regional institutions, to unify the concepts related to the databases and indicators and to coordinate the data collection process to avoid duplication and waste of time and energy.

20. The Office seeks to disseminate the culture and criteria of quality education within the framework of EFA, including the quality verification mechanisms and tools and the investment in management, teaching, learning and quality assurance processes.
21. The Office pursues its efforts aimed at attracting additional financial resources to support the Arab States in implementing their plans. It also continues to provide the necessary technical assistance to allow these States benefit from the support of donors.
22. The Office activates its website (in Arabic) and uses it to disseminate knowledge related to EFA. This includes national plans, related reports, indicators, relevant research, training materials, pilot and alternative experiences (namely those allowing to reach the most deprived categories and categories with high skills in comparison with the available resources), and the contributions of the civil sector.
23. The Office renews its cooperation with the international and regional organizations within the framework of the Arab Regional Committee for EFA that it has established. It seeks as well to activate the role of the UN Task-Force and of the donors in supporting the EFA national plan in each of the concerned States in order to ensure the sustainability of its implementation and to provide the necessary technical and financial support to this effect.

III. At the international level

24. The participants to the Conference solicited UNESCO to work on the enhancement of the Arab presence in the EFA forums and, more particularly, in the EFA High-Level Consultative Committee and in the Dakar Follow-up Unit.
25. The participants to the Conference solicited UNESCO and its international partners to intensify their efforts at the international level to provide education for children, youth and adults in occupied areas or in emergency situations and to provide the necessary financial and technical support to this effect.
26. The participants to the Conference solicited UNESCO to protect cultural and educational institutions as well as historical sites and heritage against the aggressions of the Israeli authorities in the Occupied Territories in Palestine and against the distortion of the educational curricula in the Syrian Golan and to provide the necessary technical and financial support to this effect.
27. The participants to the Conference solicited UNESCO and the International Community to support Iraq in the reconstruction of its educational system on clear scientific and educational basis and to provide the technical and financial assistance to this effect. This assistance includes the building of national capacities in the management of the education system and educational services.

IV. At the activities level

28. The participants to the Conference defined the following domains as priority domains requiring in-depth studies and aimed at facilitating the implementation of the EFA national plans:
 - a. Set quality education criteria and indicators, such as mechanisms, tools and structures that guarantee the sustainability of quality education;
 - b. Undertake studies on the internal efficiency of basic education and on the phenomena of repetition and class congestion;
 - c. Study the mechanisms of the civil society and of national organizations participation in the EFA process;
 - d. Prepare a reference document on the use of Information Technology in education. Ensure the dissemination of the reference document in the Arab Region;
 - e. Prepare a reference document on pilot information patterns related to the dissemination of EFA goals, and more particularly on the right to Education for the most deprived categories, its advocacy, and its social support. Ensure the dissemination of the above-mentioned reference document in the Arab Region;

- f. Prepare a reference document on the means to support and develop the capacities of persons with special needs and of talented persons within the framework of formal education, and disseminate it in the Arab region;
- g. Undertake a survey of the educational needs in the areas and states that are suffering from conflicts or are in a post-conflict period.

29. The participants to the Conference defined the following domains as priority domains requiring the capacity building of the national cadres responsible for the achievement of the EFA goals:

A. At the planification, administration and follow-up levels :

1. Preparation of projects and cost estimate;
2. Management of the EFA national plan programmes and projects;
3. Follow-up of the implementation and periodical and final evaluation of the plan;
4. Administration of educational information systems ;
5. Community participation in education.

B. At the teachers, personnel and learners level :

1. Training of the administrative personnel;
2. Development of the curriculum and production of education materials;
3. Early Childhood care and protection ;
4. Adoption of new, comprehensive and continuous learners achievement evaluation methods;
5. Dealing with persons with special needs within the framework of formal education;
6. Better use of new information and communication technologies to improve the quality of education;
7. Support to deprived areas.

30. The participants to the Conference adopted the following issues as common issues to all Arab States with the view to exchange expertise and tighten the cooperation between these States:

- a. Successful experiences in terms of school care and support to tackle the phenomenon of repetition and learning difficulties;
- b. Literacy programmes integrated with vocational training ;
- c. Pilot experiences as regards the mobilization of human resources through voluntary work or social services (such as higher education students and graduates or recruits) in order to achieve the EFA goals (literacy , provision of support services to basic education, etc...);
- d. Distance training, development of educational programmes industry, and establishment of a joint Arab website for the exchange of experiences in the field of information and communication technologies in education upon the initiative of Tunisia and Egypt;
- e. Partnerships with civil society ;
- f. Development of methods for the evaluation of educational competencies in the different education stages;
- g. Training of journalists for the promotion of Education for All;
- h. Forms of decentralization and civil society participation.

31. Finally, the participants to the Conference reaffirmed the importance of high-priority projects from some Arab States, noting that the implementation of such projects could accelerate the process towards the achievement of some important goals of the EFA national plan. They also called upon the UNESCO Regional Office and the other UNESCO Offices in the Arab Region, to provide, in cooperation with their regional and international partners, financial and technical support to the Arab States in order to implement projects that include:

- a. The project of Jordan aimed at introducing information technologies in school and at universalizing the experience of discovery schools;
- b. The project of Bahrain aimed at using information and communication technologies to improve the education/ learning level in order to establish a knowledge society within the framework of His Majesty King Hamad schools of the future project;
- c. The project of Oman aimed at improving the skills of teachers graduating from community schools and at providing them with a degree equivalent to the bachelor degree in education;
- d. The project of Saudi Arabia aimed at building the capacities of early childhood leaders ;
- e. The project of Sudan aimed at training the persons concerned with school mapping at the local level within the federal system adopted by the State, in order to facilitate the implementation of EFA national plans;
- f. The project of Syria aimed at providing in-service training for teachers and assistant teachers, especially in the primary cycle of education. The objective of this project is to raise the teachers level to the level of university degree in view of the important role played by teachers in enhancing the quality of basic education;
- g. The project of Palestine aimed at establishing education technologies and teaching materials centers in order to meet the curricula needs;
- h. The project of Egypt aimed at establishing an information technology infrastructure in primary education so as to reach the target level in terms of the number of students for each computer;
- i. The project of Yemen aimed at providing training for teachers with no university degrees, especially in upper basic education and at training them on the new teaching methods to cope with the qualitative development of curricula.
- j. Other Arab States are also invited to propose priority projects aimed at supporting the achievement of EFA goals.

3. Towards an Arab Information Society: “Common Action Plan for Collaborative Work”, Cairo, June 18th, 2003

Representatives of Arab States have gathered in Cairo for the Pan-Arab Regional Conference to prepare for that summit on information society. The conference convened from 16th to 18th of June 2003, and has witnessed the participation of 19 Arab states. The conference was also attended by 9 African states as observers, and Secretary General of the International Telecommunications Union (ITU) Mr. Y. Utsumi, a number of internationally prominent figures in the field of Information and Communications Technology (ICT), in addition to representatives of international and regional organizations, business sector, and civil society.

Participants have declared their determination to take up the challenge to build an information society, and their commitment to fulfill that end within the framework of comprehensive and sustainable development. Participants have also emphasized the pivotal role of knowledge in formulating the new human society "society of knowledge economy" and which differs from all previous societies. The human element stands here as one of the main pillars on which that society relies, and represents the most important axis for information development. Building an information society requires harnessing all resources with a view to bridging the continuously expanding digital divide between the developed world and the developing one. This shall lead to the establishment of a more well fare and secure information society. ICT helps achieve that goal, and helps in illiteracy eradication, poverty and hunger alleviation, improving conditions of women, eradicating social and economic discrimination, and promoting the ability to compete to create job opportunities and an active business sector active in community development.

Participants have also stressed that regional integration and mobilization of Arab resources is the only way to move to knowledge economy and to build the infrastructure necessary to spread Arab information applications. Participants have also discussed the possible ways to achieve the aspired goals, and stressed on the importance to act on a number of axes, as follows:

Infrastructure Development:

- Establishing the regional backbone for an Arab high-capacity telecommunication network; in order to exchange information through high-capacity broad bands guaranteeing the optimum ways for linking the Arab states. The backbone would utilize the already existing fiber-optic network in a number of Arab states. Planning should start as soon as possible, to be finalized by the year 2010.
- Providing several levels of access and linking to information networks to ensure availability to low-income brackets of the society, and providing alternative ways for linking to the internet.
- Providing a minimum level of universal services of communications for all brackets, by giving the support necessary to fulfill them, in such a way as to provide access to services to 60% of Arab population by the year 2008, and to 80% by the year 2010.
- Increasing the flow of information among Arab states, and eliminating areas of bottlenecks by getting group capacities from international linking means.
- Monitoring websites disrespectful of Arab traditions and customs.
- Establishing a task force under the League of Arab States for securing Arab information networks, and protecting Arab consumers whether individuals or institutions against cyber crimes and violation of personal privacy, and information pollution exemplified in inaccurate, faked, and misleading information.
- Conducting adequate studies to evaluate the current situation of communication infrastructure in Arab states in order to identify the steps required to move to the next generation of broad band networks by the year 2005.
- Providing all Arab requirements of addresses and domain names related to the internet and supporting the trend to coordinate, plan, and manage internet resources by neutral international organizations.
- Providing personal computers (PCs) and internet at low cost, and adopting innovative ways for payment, funding, and installments.
- Expanding in community telecenters, and establishing national and regional networks to link these telecenters.

Human Capital Development:

- Optimum utilization of the potentials offered by ICT whether in media and in education for speeding up the process of illiteracy eradication.
- Expanding the introduction of ICT in curricula of schools and universities, and exchanging experiences among Arab states, in addition to focusing on pivotal concepts and developing basic skills.
- Considering the Arabic language and its electronic processing a main approach to achieving Arab integration from the field of information, and the preservation of national identity and cultural particularity, and to make use of the competitive edge offered by the unity of language in the Arab World and to establishing a strong Arab strong content industry capable of competition internationally.
- Conducting intensified training courses by specialized educational and training institutions to qualify individuals. Such a process should aim at meeting market demands in framework of the knowledge economy and the expansion in using internet for continuous self training.

- Constant monitoring of available information services and the demand, and how to activate the cultural Arabic discourse over the internet.
- Establishing knowledge banks as depositories for brain ware.

e-Government

- Conducting regional training for government managers to create awareness about the multiple aspects of e-government and the requirements for its implementation.
- Governments of Arab states should support the efforts to enhance government performance by using e-government
- Expanding in providing e-services for citizens to all sectors covered and providing services for remote areas and marginalized brackets by the year 2010.
- Promoting the participation of business sector in developing the work of government institutions in order to accelerate the transformation from traditional paper ways to electronic ones.
- Reaching unified standard forms, for unclassified governmental documents, and removing the constraints against their circulation.
- Removing or decreasing custom duties on electronic transactions in order to encourage electronic usages.

Establishing an Industry for Arabic Content

- The establishment of infrastructure should run parallel with founding a strong Arab content industry, while providing innovative and practical means for funding projects of that vital industry which stands as the basic pillar for building the information society.
- Monitoring and surveying the updated content produced in both paper and electronic forms, while urging for depositing electronic copies of this content and digitizing old sources of heritage, literary and artistic works, Arabic media production, and preservation of those sources by e-archiving.
- Paying attention to issues related to intellectual property and acceding to international agreements in this field, while ensuring removal of obstacles against providing the necessary technology for concerned authorities.
- Providing new non traditional specializations necessary to content industry, and encouraging schools and universities to contribute to content production and utilization.
- Revisiting Arab sectoral strategies in the fields of education, media, and cultural activities to ensure coordination and focus on content.

e-Commerce

- Providing an appropriate environment for the spread of e-commerce by issuing the necessary policies and legislations, promoting regional mechanisms to increase commercial exchange electronically among Arab states, and removing obstacles against flow of commercial transactions.
- Establishing regional institutions authorized to authenticate e-signature as the basis for e-commerce.
- Spreading e-commerce in parallel with improving transportation and shipping services in order to facilitate movement of goods among Arab states.
- Adopting unified legislations to protect rights of consumers and producers, and establishing mechanisms for conflict resolution.

Scientific Research

- Linking Arab research centers via a high-speed network, and turning them into centers of excellence for content industry and other products of informatics.
- Promoting the establishment of startups, building technology incubators, seeking the biggest support possible from international and regional organizations and international funding agencies, and offering appropriate ways or funding in cooperation between governments and businesses.
- Paying the utmost attention to research in processing Arabic language electronically, bioinformatics, e-learning, and security of information networks.

Community Partnership

- Encouraging diverse partnership patterns among business institutions, with public institutions, private sector and multinationals in order to accelerate the usage of ICT in Arab institutions.
- Offering civil society organizations the chance to contribute to propagating for the information society, the development of local demand, and strengthening digital solidarity.
- Offering numerous, creative alternatives for e-business resulting from the partnership between public and business sectors.
- Facilitating procedures and increasing incentives of regional and foreign investments in order to accelerate the process of establishing infrastructure and founding Arab industry of content.
- Providing and periodically updating the information essential for investment, in addition to providing such information for regional and international communities, in addition to encouraging investors and donors to refer to local partners.

Regional Cooperation

- Activating the role of Arab specialized organizations under the supervision of the League of Arab States with a view to developing Arab cooperation in the field of ICT.
- Activating the Arab Business Forum for ICT established by the Arab Summit in Amman 2001 with a view to increasing the contribution of the business sector in ICT development efforts.
- Benefiting from the experience of international and regional organizations, and most importantly the ITU, ESCWA, UNESCO, and UNDP, in order to utilize ICT for development.
- Following the best practices in light of the experiences of different countries in information development.

Conclusion

ICT, if best utilized, represents an invaluable opportunity to accelerate the efforts of comprehensive and sustainable community development in the Arab World which does not lack the resources to occupy an outstanding position on the geo-informatic landscape, and to bridge the digital divide between the Arab World and the developed one, among Arab states, and within each of them. This mission requires in the first place an effective regional cooperation at both levels of establishing infrastructure and spreading diverse applications of informatics. Governments of the Arab States are also required to propagate for information society and provide the appropriate political and legislative environment in order to increase the contribution of business sector, develop self capabilities, encourage initiatives of individuals to establish companies where intellectual creativity is the most important element. Arab States need to achieve the balance required to include both traditional economy, knowledge economy, and building a strong industry for Arabic content in order to build the society of information and knowledge.

4. ITU Arab States ICT Indicators: Egypt, Jordan, Morocco and Yemen

(see table below)

Indicators	Egypt						Jordan					Morocco					Yemen						
	National currency: Pound						National currency: Dinar					National currency: Dirham					National currency: Rial						
	Year ending 30.06.						Year ending 31.12.					Year ending 31.12.					Year ending 31.12.						
	Unit	1992	1995	1998	2001	Unit	1992	1995	1998	2001	Unit	1992	1995	1998	2001	Unit	1992	1995	1998	2001			
TELEPHONE NETWORK																							
112	7	10x3	2'028	2'716	3'972	6'688	7	278'265	317'007	510'875	668'000	10x3	654	1'128	1'393	1'191	143'382	186'659	249'515	423'162			
91			3,66	4,67	6,47	10,36		7,24	7,39	10,74	12,89		2,56	4,24	5,03	4,08	1,15	1,21	1,48	2,24			
1111c			13,1	15,9	23,9	39,7		38,9	32,4	52,4	58,3		11,4	19,2	22,5	...	4,9	5,1	6,5	10,6			
1142		%	43	67	82	99	%	65	70,6	93	94	%	88,3	95	99,5	100	%	86,5	92,8	100	100		
116	8	%	71,5	72	78	82	%	81	70	77	78	%	74	77,7	79	...	7	%	60	61,5	64	66,5	
1112	9		3'438	4'734	4'976	35'170		308	687	3'489	7'851	7	4'423	17'966	31'617	...	36	...	...	...
123	10	10x3	1'246	1'300	1'363	583		77'280	128'978	73'664	9'350	10x3	135	93	18	...	97'000	75'306	118'969	621'602			
MOBILE SERVICES																							
271			4'913	7'368	90'786	2'793'800	8	1'462	12'400	82'429	866'000	10x3	3	30	117	4'772	1'550	8'250	16'146	152'000			
2712			—	—	83'536	2'793'800		—	12'400	82'429	866'000	10x3	...	20	111	4'772	—	—	—	120'000			
911			0,01	0,01	0,15	4,33		0,04	0,29	1,73	16,71		0,01	0,11	0,42	16,36	0,01	0,05	0,1	0,81			
275	11		4'640	23'000	27'307	23'637		—	7'090	11'540	4'412	8	—	—	3'889	...	109	3'473	35'000	62'909			
OTHER SERVICES																							
255			13'638	27'332	33'068	...		...	...	...	...		...	...	...	...	...	...	...	...
28	9		—	—	—	3'057	9	—	—	—	1'826	9	—	—	612	10'000	—	—	—	250			
28c	12		—	—	—	6'150	10	—	—	—	10'603		—	—	8	—	—	—	500		
311			6'017	4'400	2'652	...		...	...	...	...		...	...	...	...	1'016	916	533	...
CAPITAL EXPENDITURE																							
81	16	10x6	980	2'412	16	10x6	1,35	9,38	104,1	188	18	10x6	2'200	2'668	1'264	...	10x6	528	1'656	7'029	8'222
BROADCASTING																							
965	20	10x3	7'600	9'600	12'800	14'900	17	530'000	670'000	785'000	918'000	19	10x3	3'757	4'096	4'466	4'862	10	10x3	3'400	4'200	4'800	5'310
965h	21	10x3	6'300	8'000	10'700	12'400	18	481'400	609'200	713'500	834'500	20	10x3	2'700	3'500	3'700	4'100						
965c				—	200	1'000							
965s	22	10x3	887	19	1'200	1'000	90'100	261'000	21	10x3	...	529	930	800						
INFORMATION TECHNOLOGY																							
422	23		...	250'000	600'000	1'000'000		...	35'000	77'000	170'000	22	...	85'000	200'000	400'000	...	...	25'000	37'000	
4211	24		—	561	2'420	1'802	20	—	19	370	2'185	23	—	229	2'045	2'454	11	—	—	20	80		

4212	Estimated Internet users	... 20'000 100'000 600'000	... 1'000 60'816 234'000	24	... 1'000 40'000 400'000	... .. 4'000 17'000
		Source: Telecom Egypt.	Source: Telecommunications Regulatory Commission.		Source: Office National des Postes et Télécommunications (ONPT).	Note: Data prior to 1990 refer to the former Yemen Arab Republic. Source: Public Telecommunication Corporation (PTC), Ministry of Communications.
	... Data not available — Zero or a quantity less than half the unit shown or not applicable	(1) Source: UN. (2) 1960,1976,1986: UN. 2000: UNCHS. Other years: ITU estimates. (3) Source: IMF. (4) Source: IMF. (5) Source: IMF. (6) Source: IMF. (7) 2002: September. (8) 1995-96: ITU estimates. (9) 1999-2001: Including data from Menatel Company and Nile Company. (10) 1983-86: Estimates. 1995-96: ITU estimates. (11) 1995: ITU estimate. (12) 1999-2000: Estimated. (13) 1996: ITU estimate. (14) 1984: Estimate. Year ending 31.12. (15) Year ending 31.12. (16) 1999: MobiNil. Classic Plan. Excluding sales tax. 2000-2001: Mobinil "Light" plan. (17) 1999: MobiNil. Classic Plan. Excluding sales tax. 2000-2001: Mobinil "Light" plan. (18) 1999: MobiNil. Classic Plan. Excluding sales tax. 2000-2001: Mobinil "Light" plan. (19) Source: ITU estimates. (20) Source: Unesco, ITU estimates. (21) ITU estimates. Eutelsat. (22) Eutelsat. (23) Source: ITU estimates. (24) Source: RIPE.	(1) Source: Until 1986: UN; From 1987: Jordan Department of Statistics. 1994: Latest census. (2) 1979: UN. 1994: Census data. 1995: TCC. Other years: ITU estimate. (3) Source: IMF. (4) Source: IMF. (5) Source: IMF. (6) Source: IMF. (7) 1983: Estimate. (8) 1997: ITU estimate. (9) 2000: Preliminary. (10) 1999-2001: Estimated. (11) 1983-84: Estimate. (12) 2001: Including 89 free local minutes. (13) 2001: Including 89 free minutes per month. (14) 1996-2000: Jordan Telekom. (15) 1999-2000: Jordan Telekom. (16) 2000: Jordan Telekom. (17) ITU estimates. (18) ITU estimates. (19) Estimates of Telecommunications Corporation. ITU estimates. (20) Source: Internet Software Consortium. Since 1999: RIPE.		(1) Source: UN; Direction de la Statistique; ITU estimate. 1994: Latest census. (2) 1982: UN. 2000 and 2001: Direction de la Statistique. Other years: ITU estimate. (3) Source: IMF. (4) Source: IMF. (5) Source: IMF. (6) Source: IMF. (7) Including public call offices and privately-operated telephone centres. (8) Service opens in 1995. (9) 2001: ARNT estimate. (10) Excluding TVA 19 %. (11) Excluding TVA 19 %. (12) Excluding TVA 19 %. (13) Excluding TVA 19 %. (14) Excluding TVA 19 %. (15) Network access cost 600 DH, technical reception costs 400 DH (if terminal has been bought in private sector), programming costs 400 DH. Excluding TVA 19 %. (16) Excluding TVA 19 %. (17) UT = 0.80 DH. Excluding TVA 19 %. (18) Investments from ONPT. (19) Source: Ministry of Communication and ITU estimate. (20) Source: 1994: Eutelsat estimate of TV households. From 1999: ONE. (21) Source: Eutelsat; ITU estimate. From 1999: Radiodiffusion Télévision Marocaine. (22) Source: ITU estimate. (23) Source: RIPE. (24) Source: 1996: ONPT.	(1) Source: UN;1994: Latest census. (2) Central Statistical Office, ITU estimate. (3) Source: IMF. (4) Source: IMF. (5) Source: IMF. (6) Source: IMF. (7) 2000: Estimate. (8) 2000: Estimate. (9) 1983-84: Estimate. (10) Source: Yemen Radio & TV Corporation, Unesco. (11) Source: Internet Software Consortium. Since 1999: RIPE.

5. Selected Arab Countries' Performance of environment, readiness and usage in ICT: Egypt, Morocco, Jordan

	ENVIRONMENT	READINESS	USAGE
Egypt	The environment exhibits mixed elements for ICT development. On the one hand, Egypt stepped ahead of other Arab countries in defining a comprehensive national ICT development plan and phasing it in. On the other hand, Egypt continues to suffer from relatively high illiteracy rates. Access to capital remains limited due to a slow-moving, state-dominated banking system and a small private sector.	PC penetration remains low at 2%. This is partly due to high import duties and sales taxes on computer hardware (15%). A vibrant export-oriented software industry is expected to set the stage for a regional role in the Arabization of internet content.	Low internet penetration rates (0,9) are attributed to high illiteracy rates and lack of internet awareness. Government's support for setting up IT "interest groups" in various regions of the country should encourage ICT uptake in the future.
Jordan	Jordan has a strong ICT agenda, backed by King Abdullah, which focuses on human resources development, in line with the country's overall economic development objectives. However, the cost of access remains relatively high in comparison to annual per capita income. PC prices remain unaffordable for most of the population.	The proliferation of internet cafés has helped improve Jordan's ICT readiness. Amman remains the regional hub in portals development (e.g. Maktoob, Arabia Online, Al Bawaba) and is a preferred location for the internet content industry.	Internet uptake in Jordan has been relatively slow as a result of high access costs (\$29 for 30 hours dial-up per month). Internet penetration is gradually increasing (4% in 2001) due to the various initiatives taken by the government in this respect (access in schools and through IT community centers).
Morocco	Morocco's poor telecommunication infrastructure is a major impediment to the country's ICT growth. There are government initiatives to promote the benefits of ICT and internet awareness, and the government has embraced the use of technology in its ministries and administrative bodies. Morocco has the best regulatory environment in the region and it ahead of other Arab markets in terms of wireless sector liberalization.	Penetration of PCs stands at a mere 1.3%, and is the lowest in the region. The problem of a limited addressable market has hindered the readiness of online banking, which compared to Arab markets, is considered rather advanced. Most banks have a website offering general information, and some offer e-banking services.	Despite strong backing for the telecommunication sector liberalization program by the World Bank, household penetration of fixed telephone lines remains low (3.9%), which results in low internet access (1.3%).

Source: Dutta, Soumitra et.al. Challenges for Information and Communication Technology Development in the Arab World. in Peter Cornelius and Klaus Schwab (eds.): **Arab World Competitiveness Report 2002-2003**. Oxford University Press, New York, 2003, pp. 190-1191.

6. Activities of the Egyptian Ministry for Communication and Information Technology

Building Digital Bridges. Egypt's Vision of the Information Society

<http://www.mcit.gov.eg>

This document outlines Egypt's vision of building the Information Society and bridging the digital divide. With **Egypt's Information Society Initiative**, the Egyptian government has developed a framework to move the country into the information era. The initiative promotes partnerships of public, private, non-profit, civil society and multilateral stakeholders and fosters the development of new models of leadership and collaboration. Private sector involvement is of strategic importance in this area not only to provide technological expertise and innovation but also to take the lead in devising market-based solutions that are socially responsible and invest the capital required to build the infrastructure to put ICT at the service of development.

The Egyptian government promotes awareness of the potential of ICT among all levels of society, developing programs to highlight and communicate throughout the country the uses and benefits of ICT. The government functions as policy maker, educator, advocator, and facilitator, since it recognizes, that illiteracy in itself can be a major challenge for bridging the digital divide. Various efforts are exerted on a national scale to eradicate illiteracy. And bridging the digital divide is not solely a technological issue; there are cultural and ethical issues that may hinder the efforts for digital inclusion. One major issue is the language barrier. Development of Arabic content is necessary for people in Egypt to use the Internet. Ensuring the **development of Local content, that is Citizen-Driven information**, the web must provide information of interest to the local population.

Policy Environment and Government structure

The Cabinet Information and Decision Support Center (IDSC) was established by the Egyptian government in 1985 to build up Egypt's IT industry and governmental decision support infrastructure. IDSC has successfully implemented many IT projects in legislative reform, public sector reform, human resources development and job creation, access to the Internet, commercial registration, natural resources management, cultural heritage preservation, urban planning, and sectoral development projects at the ministerial and governorates level. IDSC is currently focusing on decision support for the Cabinet.

In October 1999, a new Ministry of Communications and Information Technology (MCIT) was formed to facilitate Egypt's transition into the global Information Society. MCIT is in charge of preparing the National Plan for Communications and Information Technology. Concrete actions have been the development and expansion of the telecommunications infrastructure, the establishment of hundreds of information technology clubs, the expansion of the pool of IT skilled labor and the creation of national information systems and databases.

A National Plan for Communications and Information Technology has paved the way for the initiation of the **Egyptian Information Society Initiative (EISI)**. EISI comprises the following elements:

E-Readiness: Equal Access for All (see below)

E-Learning – Nurturing Human Capital (see below)

E-Government – Government Now Delivers

E- Business – A New Way of Doing Business (see below)

E-Health – Increasing Health Services Availability

E-Culture – Promoting Egyptian Culture (see below)

ICT Export Initiative – Industry Development (see below)

E-Readiness: Equal Access for All

The e-readiness initiative focuses on developing the infrastructure necessary for the implementation of the Information Society, guaranteeing universal, easy, affordable and rapid access for all citizens to ICT, and stimulating awareness of the potential uses and benefits of ICT. The initiative is carried out through public-private partnerships and aims to create an investment climate that encourages private sector investment in the deployment of infrastructure and provision of services. The initiative not only focuses on hardware and software but also emphasizes the development of flexible and innovative tools and channels, such as the currently implemented IT clubs, free Internet, and “PC for Every Home” programs that provide benefits to users, promote computer literacy, and encourage increased use of ICT by the public.

In June 2000, MCIT joined operators, vendors, and major telecommunications officials to draft the **Telecommunications Master Plan**. The goal of the plan is the modernization of the core backbone of the sector through both expanding the capacity of the network and upgrading the current circuit switching technology, and to upgrade the country’s telecommunications capabilities. The integrated high-speed network has been designed not only to make Egypt the telecommunication hub of the Middle East and Africa; it also provides the information infrastructure necessary to attract massive foreign investment to the country. Phase I has successfully been completed. Phase II of Egypt’s telecommunications master plan calls for utilization of IP and ATM on the backbone level, new broadband technologies for access (e.g. DSL/ADSL, VDSL/Ethernet to Home, Cable TV), and wireless networks and services (e.g. WiFi Hotspots, Wireless Local Loop CDMA, mobile data services). In addition, Egypt is actively trying to reduce the cost of network infrastructure and services. The ministry also designed a program to increase tele-density and tele-accessibility throughout the country.

The **National Telecommunication Regulatory Authority** (NTRA) set out to develop national telecommunications services that are compliant with international standards and to introduce new services. Additionally, an integrated framework of policies and legislation was created: Egypt has set a target date of the end of December 2005 to liberalize the various telecommunication services. In 1998, a new regulatory framework (Law No. 19 and Presidential Decree No. 101) was created to encourage private-sector participation separating telecommunications services provision (operator and service provider) from the regulatory functions. The New Telecom Act no 10 for 2003 is a major step towards the liberalization of the Egyptian Telecom sector and regulation of the market. The law rests on four main pillars: information disclosure, free competition, the provision of universal services and user protection. The government will develop collaborative partnerships with the business community to enhance security of data transmissions and protect confidential information on Egyptian networks. Data security policies will be set on a national level, and will develop security and protection systems for e-commerce and plans to include e-security issues in all national training programs.

Case studies:

Free Internet Initiative in Cairo: Started in January 2002, the Free Internet model is a Public Private Partnership between MCIT and Telecom Egypt, in cooperation with the majority of Egypt’s private Internet Service Providers (ISPs). The initiative offers subscription free Internet services to Internet users. In September 2002, free Internet service was available nationwide. Today, Internet users across Egypt are only charged for the price of local phone calls associated with connecting to the network. The local phone call charges are approximately USD 0.15 for an hour of access. The free internet model was a major step in

increasing the number of Internet users from 1 million in January 2002 to 2.5 million in November 2003 through 940,000 connected households.

The aim of the **Computer for Every Home** initiative is to provide end-users with PCs at prices affordable for the average user. By the end of 2007, 14 million users are expected to benefit from 4 million PCs. It is also a Public Private Partnership in which 17 Egyptian private sector companies are participating. Partially manufacturing and assembling computers locally, with some components imported from abroad, the initiative markets reasonably-priced computers paid for in monthly instalments with payments charged to the users' telephone bills. The number of PCs sold has reached 48,000 (November 2003). The target is to reach 100,000 PCs sold annually to lower market segments and to open the market to Egyptian and foreign investors, since PC penetration remains low at 2.3%.

The **ICT Clubs model** (550 in November 2003) is a public- private sector initiative to bring affordable Internet access throughout the country to those who cannot afford the PCs, for nominal fees reaching LE 1 (about USD 0.15) per hour and by providing hardware, software, and Internet connections. The objective is to reach 1000 villages by 2005 while promoting with the Ministry of Education, the connectivity of all schools to the Internet. Many centers are based in the deprived and rural areas. Users receive guidance through instructors available in each club as well as training for basic skills. The government provides all equipment and hardware necessary for each club's launch. IT clubs also create job opportunities for university graduates who join the Training of Trainers program. To reinforce the concept of community at each club, trainers must live in the same governorate as the club they work in, capitalizing on their familiarity with the needs and interests of the local community.

EGYPT'S TELECOMMUNICATIONS INFRASTRUCTURE INDICATORS				
Details	Indicator	October 1999	November 2003	Strategic goal by 2007
Fixed Services	Exchange capacity	6.4 million	11.2 million	12.5
	No. of fixed telephone lines	4.9 million	8.6 million	
	subscribers	1265million	139,000	
	Waiting list for fixed telephone lines	775	1074	
	No. of exchanges in rural areas	13,300	48,819	
Mobile Lines	No. of mobile phone subscribers	654,000	5.5 million	10 million
	No. of mobile phones/100 individual	0.98	7.8	
	Mobile services companies	2	2	
Internet Penetration	Internet capacity	20 Mbps	925 Mbps	7.5 million
	No. of Internet users	300000 users	2.5 million users	
	Monthly Internet subscription	100 EG (\$29)	Cost of local call	

PC Penetration	No. of PCs No. of PCs /100 individuals	850,000 1.25	1.6 million 2.3	4 million
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E-Learning: Nurturing Human Capital:

ICT is considered a complementary tool for higher standards of education, as human capital is a major cornerstone for building the Egyptian Information Society. The objectives are:

- Improve the effectiveness and quality of education at all levels using ICT.
- Start at the pre-university level to promote computer literacy, and use ICT to enhance education and leverage scarce teaching resources.
- Create high quality online educational content in Arabic.
- Provide continuous relevant training for educators and administrators.
- Help universities expand their education to accommodate the increasing numbers of high school graduates.
- Help institutions use ICT to provide quality education to people with disabilities.
- Establish a new methodology that would provide feedback on the quality of education, which would be used to improve programs and increase the competitiveness of our graduates.

The communicative power of information technology can improve and enhance the learning process especially in overcrowded systems of education. The Internet, multimedia and virtual learning environments carry a huge potential for better and faster implementation of lifelong learning and for providing access to educational and training opportunities for all citizens. MCIT has partnered with other ministries and agencies as well as the private sector to develop several e-learning programs, which include **distance learning programs, the Smart Schools Network, and the Nile Technology University**, among other things.

The E-Learning initiative follows a number of guiding principles: Universality of educational opportunities, lifetime learning, partnerships, removing language barriers (provide Arabic educational content such as e-libraries and other educational media), coordination, schools as community centers (schools as communities' focal point for access to the information society by offering programs such as after school use of computer labs, internet access, and training programs), and multiple modalities of learning (including computer-based training, the Internet, multimedia, virtual classrooms, interactive and non-interactive TV and more).

Training programs:

- a) **Basic ICT skills or "IT literacy"** to use ICT for basic tasks and as a tool for learning. This program started in May 2000, is conducted at Egyptian Universities and Research Centers (160 centers across Egypt) training more than 82,000 graduates. ICT training in this initiative comprises the Basic Skills Training Program (BSTP) and the International Computer Driver's License (ICDL) program. The Basic Skills Training Program is designed to teach basic computer skills to graduates of universities, junior colleges, and professional schools. Participants receive 360 hours of computer training from staff at Egyptian universities and research institutes and are awarded a certificate of completion at the course's conclusion. Students who do well in the basic program are candidates for receiving an additional 100 hours of instruction in UNESCO-accredited training centers to receive the International Computer Driver's License (ICDL). The BSTP is accessible to all Egyptian youth. BSTP is not only free of charge but students also receive a monthly stipend over the course of the six-month program to encourage enrolment.

The Super User Program (SUP) consists of 360 hours of specialized training for trainees who excel in the ICDL program. The program targets professionals in various fields who want to learn how to use software and IT applications specific to their industry.

Companies specialized in different commercial fields provide the training and the certification associated with the Super User Program. By November 2003, 675 individuals have obtained their International Certification. SUP is accessible to all Egyptian youth. SUP students receive a monthly stipend over the course of the three-month program.

The Central Agency for Public Mobilization and Statistics (CAPMAS) has played a key role in basic skills development by training approximately 15,000 government employees and new graduates in cooperation with MCIT.

- b) Professional ICT skills** to use advanced ICT tools and/or to develop, repair and create ICT tools and applications. In 2000, MCIT signed an agreement with Cisco Systems to set up training academies in Egypt. Similarly to basic training, this program is free of charge, with students receiving a monthly stipend. The program is divided into two sectors: **Communication and Networking and Information Technology**. For training in **information technology**, the program uses nearly 40 centers located in major cities throughout Egypt. The IT section focuses on developing Internet applications, software development and programming, maintaining local area networks, multimedia applications, and development of databases and decision support systems. This course lasts six months and at the end of the course, each graduate receives an international professional certificate of completion, besides implementing a real-life practical project. Within the IT training project, 15000 young graduates have finished the training program in one of the above-mentioned areas. The program which lasts until 2005 is expected to graduate 25,000 students at the rate of 5000/ year.

The **Communication and Networking training** takes place at the National Telecommunications Institute (NTI). This training lasts three to eight weeks and provides training in managing different communications technologies. More than 2500 young graduates have participated in the training programme during the past two and a half years. MCIT has outsourced management of the program to NTI.

The **Vocational Education Program for Computer Technicians** aims at developing Egypt's cadre of IT technicians. Begun in 2002, it is designed to train 7000 computer technicians during the start up period of the project from 2002- 2005 in the 35 centers of the Productive Sufficiency Authority. The program is geared towards preparatory school students who would like to gain IT skills. The vocational program is offered during the academic year as part of the curriculum. It is a three-year program that trains students for computer and network maintenance and repair, as well as other basic IT skills. The Ministry of Industry manages the program through its five Productivity and Vocational Training Development (PVTD) institutes located in Cairo and Alexandria. The program provides an opportunity for recent graduates to take up IT as a career and add further professional skills as developers and administrators. The program is expected to graduate 4,000 students per year following the initial start up.

Closing the Gender Gap: Focusing on Women and ICT Training: MCIT has created a unit focusing on ICT and gender issues. As of September 2003, MCIT has provided computer literacy training to 77,000 individuals, 55% of them women and has trained 40,000 women in IT clubs throughout the country. Forty percent of the specialized IT training given to date has been to women. Fifty-four percent of students receiving professional training on maintenance of PCs and networks were women. In addition, Egypt's National Council for Women was established to develop strategies and policy recommendations to bridge this gender gap. The Council has created a documentation and information center, with a computer lab, geographical information system (GIS), training lab, and a specialized library. It also provides a center for enhancing women's skill in small enterprises, providing consultations and computer training.

- c) Applied ICT skills** to apply simple ICT tools in general workplace settings.

National Efforts in ICT Training and E-Learning:

Most Egyptian ministries have created information centers to serve the work of the ministry, its employees and the general public. They engage in ICT training in addition to offering digital material related to their ministry. The Ministry of Youth has established 86 IT and science clubs, which train local young men and women to creatively use IT in small projects. (www.alshabab.gov.eg).

The Ministry of Education has established 27 technology centers to train trainers and the General Administration for Computers in Education. It promotes ICT as a subject in all educational levels in the national school system, offers training for trainers, and distributes ICT textbooks. Since its establishment, it has trained more than 50,000 ICT teachers. IT labs affiliated to the Ministry have been set up in all national schools to offer Internet access to the surrounding communities. The Ministry also sponsors nationwide contests, participates in international projects, communicates with teachers through a new Internet web site, and offers video conferencing with tutors. The Ministry has provided schools with a substantial amount of equipment, including 25,000 PCs for preparatory schools, direct Internet links to 22,000 schools, in cooperation with MCIT, and 25 IT caravans to serve areas that have no access to electricity. To enhance learning and to strengthen attempts to eradicate illiteracy as well as to provide continuous education for people with special needs, the Ministry of Education has worked closely with the Ministry of Information to capitalize on the capacity of the Egyptian satellite Nile Sat 101. The two ministries reached an agreement in 1998 to broadcast educational programs throughout the country for 12 – 18 hours daily. The Ministry of Education produces more than 160 programs for different school grades and five programs for people with special needs.

Case Studies

The Smart Schools Network (SSN)

Its aim is to promote the institutionalisation of ICT in education, and to contribute to the modernization of the Egyptian schooling system through the introduction of IT education and IT-aided learning in schools. The Network will build public-private partnerships to put computers in schools and develop quality computer and computer-aided education. In addition, the project will benchmark with other countries and learn from successful models. SSN concentrates on preparatory schools in its first stage. The SSN initiative will be completed in two phases. The pilot phase is a 2-year project covering 30 governmental and experimental schools, 20 private schools and national institutes and 10 schools in cooperation with the education development program in Alexandria with about 80,000 students. The second phase will extend the project to the remaining 7,500 preparatory schools to reach 4.5 million students nationwide. MCIT is establishing partnerships between schools and private Education Service Providers. Schools will provide a physical space for students, teachers and administration, while IT companies will provide technical support, training of trainers and software applications. The centers established by them will also function, after school hours, as Internet cafés and business centers for the local community.

The Egyptian Universities Network (EUN)

The network was established in 1987 to facilitate the electronic exchange of data between universities, and is the Internet top level domain administrator in Egypt. Under the umbrella of the Supreme Council of Universities, the EUN connects all Egyptian universities, in addition to Al Azhar University and some academic, research institutes to the Internet. The EUN contributes to the improvement of higher education through its web site, a leading portal, an e-library, its center of excellence, and its e-learning center (www.frcu.eun.eg). A prototype e-learning project is being implemented for several courses. An attempt is being made to substitute the affiliation system of education (student physical attendance) with an e-learning aid, whereby courses are offered on-line in addition to computer-based training (CBT). The Ministry of Higher Education has established computer and information technology faculties in all national universities (e.g. the new Nile Technology University

NileTech, IDSC's Information Technology Institute, RITI and the National Telecommunications Institute.

The National Telecommunications Institute (NTI)

The institute was established to provide high quality, postgraduate education and training in the field of telecommunications. The Institute also conducts research in telecommunications, provides technical and policy expertise, and regularly organizes seminars and workshops in the various fields of telecommunications technology, policy and management. NTI offers an accredited two-year graduate diploma in telecommunications engineering. NTI also conducts scientific and applied research. The research projects are conducted through protocol agreements with other scientific and research organizations.

The Cabinet Information and Decision Support Center (IDSC)

IDSC has long been a leader in promoting the use of IT throughout the country and in developing training programs for users in both government and private sectors. IDSC, through its **Information Technology Institute**, provides professional development programs for graduates, training programs for government and public sector employees, teacher training, curriculum development and computer-based training. IDSC has also established training centers in each of Egypt's governorates and has developed educational software and curriculum support systems. These combined efforts have taught IT skills to more than 100,000 graduates and trainees. A number of collaborative projects have been initiated to instill IT in education from the primary through postgraduate levels. IDSC has established a large number of centers throughout the country to provide children with the opportunity to develop their talents using IT in their areas of interest (21st Century Kids Club). The Information Technology Institute (ITI) was established in 1993 by IDSC to provide specialized software development programs for new graduates and training programs and IT courses for the Egyptian government, ministries, and local decision support centers. Over the past ten years, ITI has supplied the local, regional, and international markets with more than 2000 highly-trained professionals in various IT domains. In addition, ITI, through its GOV training program, has trained more than 50,000 government employees. ITI currently offers a M.Sc. in Information Technology, with specializations in e-commerce, software engineering, multimedia and web design, geographic information systems, and computer networks and communication; in cooperation with other international universities. ITI also hosts the E-Learning Project, or "Virtual ITI", which develops and publishes ITI course materials on the Internet. ITI also introduces IT training materials in Arabic.

The Regional Information Technology Institute (RITI)

The Institute was established in 1992 as the training and professional development subsidiary of the Regional Information Technology and Software Engineering Center (RITSEC). Its mission is to design and deliver professional degree and non-degree programs in business management and information technology. RITI has delivered more than 870 executive training programs and trained more than 10,000 men and women from over 90 countries.

The Global Campus Initiative

The initiative was launched in 1997 by RITSEC with the chief aim of building a global e-learning community through the intelligent utilization of the evolving distance learning tools and techniques. The basic framework of the project involves the provision of e-learning programs and services in collaboration with reputable institutions. Global Campus programs include an academic program which provides two masters degrees that are accredited from Middlesex University (UK), the first in business information technology and the second in e-commerce; an executive program which offers project management and knowledge certification. The Global Distance Learning Center (GDLC) provides a variety of executive courses jointly with the World Bank Institute; a professional program which offers coursework in many technical fields, and offers children's sites. In addition, the global campus offers a variety of e-learning services to the education sector. The project offers a high degree of

flexibility in access through its Learning Management Systems (LMS), where students, instructors and administrators can access content easily. Courseware is multilingual and incorporates tools such as simulations, multimedia, and modelling techniques that are fully integrated into managed learning systems. Moreover, the Global Campus offers a highly personalized learning experience.

Other projects are for example **Computer Literacy**. MCIT and the Ministry of Education have made a commitment that all preparatory school graduates will be computer literate by the end of the year 2007. The number of preparatory school graduates is estimated to be 4.5 million students. The **Illiteracy Eradication Initiative** uses computers and CD-ROM based multimedia technology to encourage people to overcome illiteracy in a non-threatening environment. The initiative will produce and distribute a simple tutorial that will be displayed on a computer screen that will interactively teach reading and writing skills without requiring more than basic input from the student. The course will be distributed through the IT Club network as well as in schools through NGOs and other social services and educational providers. **E-Libraries** project will create electronic libraries and establish a mechanism that will enable the gathering, validation, and maintenance of data that is relevant to local communities and can be provided in digital format. It will also define a strategy for stimulating local knowledge generation and fostering research capabilities using ICT at the school or community level. It will also provide tools for machine translation and text-to-speech conversion in Arabic, in order to enable the illiterate, blind and physically impaired access to information stored in the e-library. **The Nile Technology University (NileTech)**: One of the goals of the e-learning initiative is to establish a non-profit university specializing in IT to produce graduates. NileTech puts strong emphasis on applied research and development, as well as on graduating the future entrepreneurs and middle managers for Egypt. Nile Tech students will be able to take advantage of special training, research, and technical centers run in collaboration with Egyptian and multinational companies. The centers will provide "real world" training and familiarize students with the social, cultural, and technical needs of society. Proposed centers include a center for research and development, a center for intellectual property, and a center for entrepreneurship and incubation. Nile Tech will also be a hub for distance learning in the Middle East and North Africa. To promote lifelong learning and continuous upgrading of skills, Nile Tech will provide open ended training packages to individuals who have already studied communications and information technology at other universities.

E-Culture

The objective is to promote Egyptian Culture. It will document Egyptian cultural identity through the use of tools to preserve manuscripts, archives and index materials, offer worldwide access to cultural and historical materials, and generate and promote interest in Egyptian cultural life and heritage. It will also forge contacts and bridges between Egypt and countries throughout the world. As a cornerstone of its e-culture initiative, MCIT has established the National Center for Documentation of Cultural and Natural Heritage (CultNat), as part of the National Project of Technology Renaissance of Egypt, in cooperation with Bibliotheca Alexandrina. The Ministry of Culture has also created a website for information related to the art movement in Egypt (www.fineart.gov.eg) and an electronic center for arts and culture, which distributes information related to cultural fields, links artists, and spreads cultural awareness. UNESCO is funding a project to preserve manuscripts; the European Union - through its Euro-Mediterranean program - aims to create a multimedia portal for cultural heritage in Mediterranean countries; and Euro Med Heritage II aims to disseminate knowledge and know-how for best practices. The Strabon Project (part of the EUMEDIS initiative) offers a multilingual information system for Euro- Mediterranean cultural heritage where CultNat is the Egyptian partner. UNDP is supporting MCIT's effort by providing studies, technical and human resources, and capacity building.

E- Business

The institutionalization of ICT into Egyptian business is a major goal of the Egyptian government. Egypt is endeavouring to create an environment friendly to IT businesses in Egypt and instill e-business practices in both the consumer and corporate spheres. Businesses are believed to account for an estimated 75% of Internet use in Egypt. The government of Egypt is concerned with all e-readiness aspects, including connectivity, development of logistics and online payment systems, and a supportive legal environment. The objectives of the e-business initiative are:

- i) Expand ICT infrastructure to support the business community and encourage foreign direct investment
- ii) Expand the use of e-business tools in business and financial transactions as well as in the exchange of documents
- iii) Increase business efficiency by encouraging the use of ICT tools in trade
- iv) Establish a strong ICT infrastructure for e-payment and e-signatures

It is expected that 20% of issued documents and applications will be provided online within two years, and 100% by 2017. The government is predicting that 30% of transaction volumes will be implemented using e-payment for government services by 2007, and 100% by 2017. E-commerce will represent 13% of local and international trade by 2007, and 50% by 2017.

MCIT has formed committees with the Central Bank of Egypt and the banking communities. These communities have developed a framework for establishing the first retail credit information center (credit bureau). Credit bureaus play an instrumental role in expanding micro-credit services and are essential for the growth of related industries. To encourage e-business, the government is working on the creation of the enabling regulatory and legal environment for conducting online transactions through drafting an Electronic Signature Law. The ministry has also developed a framework for networking chambers of commerce to facilitate the flow of information for improved trading and better economic performance. Each chamber will have an internal network (LAN) and a complete electronic database.

A number of projects have been launched. They include, among others, **e-business in the banking sector**, through an information network linking the Central Bank of Egypt with 50 banks. The Export Development Bank is an example of automation activities. It developed a database for supervisory purposes, developed banking systems including e-banking and e-commerce, installed an archiving system and an open system dealing with data warehouse. Several banks have started mobile and internet banking pilot projects. The database of the **Electronic Commercial Registry Authorization Pilot Project (e-CRA)** is a national information resource for commercial activities in Egypt. At present, all commercial registry offices have been fully automated. The **Egyptian International Trade Point** is an electronic network to promote exports and offer commercial facilities and access to databases. It offers a gateway to global networking as trade points are interconnected through Global Trade Points Network. At Trade Points, businesses can receive all services related to international trade. The **Trade Information Center** was established in 2001 to develop the commercial sector, its trading practices and national data network, and to increase the competitiveness of Egyptian enterprises, particularly of small to medium enterprises through a complete information system and world class business management practices. In order to **modernize the postal sector**, MCIT provides more than 400 major post offices computer equipment, LANs, and local servers. MCIT has set up a postal information network, and has launched a pilot project to establish an electronic fund transfer network and the necessary infrastructure for electronic payments. It will also facilitate access to postal savings accounts, pensions and salaries for individuals. The **Capital Market Authority** has established databases for companies registered on the stock market, for financial disclosure, and an electronic archive.

ICT Export Initiative – Industry Development

The ICT Export Initiative will:

- i) Increase local demand in ICT applications and tools
- ii) Promote exports and support marketing initiatives
- iii) Attract investment in the Egyptian market
- iv) Maximize the local value-added component
- v) Embrace new inventions, support research and development initiatives, and increase Egypt's share of patents and copyrights

The Egyptian government has identified several ways to strengthen the local ICT industry and business sector in Egypt. These include attracting foreign direct investment, stimulating growth of the domestic IT industry, and promoting exports of IT products. The government has made the establishment of a strong national ICT industry one of its top priorities.

A number of pioneering projects and initiatives are being developed to offer facilities and a supportive environment for foreign investment and the development of the ICT industry. The business development track of MCIT's national plan focuses on supporting IT companies and increasing Egypt's software exports. By amending already existing investment legislation (Law 8 for 1997), the government added significant financial incentives designed to attract investment to Egypt's technology sector. MCIT also fosters a supportive environment for IT companies by training professionals to serve in the domestic workforce. By providing locally trained, internationally qualified employees, the ministry is supplying companies operating in Egypt with the human resources they need to successfully develop, manufacture, and export IT products. Today, there are 1042 companies working in the IT field, and ICT exports for the year 2003 total USD 100 million.

The Software Engineering Certification Center (SECC) is the Middle East's first certification center inaugurated in mid 2001. It evaluates software companies and infuses international standards of software quality in Egypt. It has successfully certified a number of professionals and companies in the market. The center has promoted and supported the development of the software industry by raising industry standards and increasing professionalism.

Another MCIT project is the construction of the **Smart Village** technology business park close to Cairo. The Smart Village's state-of-the-art infrastructure is geared towards high tech companies that seek to remain competitive in the global marketplace. The project has already attracted some major industry players, including Microsoft, Oracle, Alcatel, Vodafone and others. The Microsoft building, the incubator, the call center, the IT training building, and the CultNat building are already functional.

The **Frame Agreements** initiative (established 2002) grants international companies long term contracts for supply of hardware and services to upgrade the infrastructure and services of Telecom Egypt. In return, the companies commit to technology transfer into the Egyptian market through investments in value added that result in exportable services and equipment to serve neighbouring markets. Activities embrace the establishment or expansion of training centers to qualify a new generation of 15,000 engineers and computer scientists.

Citegypt.com, the new Internet portal for the Egyptian ICT industry, aims to provide both a meeting point for the ICT community and a comprehensive resource for information about the industry. It also contains events and conferences initiated by MCIT, as well as an investors relations section information on the Egyptian economy, the ICT infrastructure, and rules and regulations governing the industry in Egypt.

The **Industrial Modernization Program** will provide technical assistance to small and medium enterprises in the private sector. This program is managed by the newly established

Industrial Modernization Center (IMC), providing demand-driven services for private sector companies and institutions and support to the Ministry of Industry. The program is working on the preparation and implementation of an integrated technical support program to serve the software industry based on market mechanisms and requirements of external trade.

MCIT has created a quasi-judicial entity, the **IT Conflict Resolution Committee (CRC)** to resolve conflicts that may arise in the field of ICT between government entities, the public sector, and private corporations. The committee has seven members representing the government, the IT business committees and the information technology chamber and will form subcommittees to provide technical expertise required in conflict resolution.

Egypt will also be continuing its investment in its most important asset: the large pool of trained graduates. With the help of its intensive training programs, Egypt is preparing its labor force for the service industry and will focus on labor intensive industries such as call centers.

Regional Cooperation

Regional negotiations culminated in the formulation of an Arab ICT strategy encapsulating Arab concerns and priorities in the field of ICT. In March 2001, the Arab Strategy for Information Society and Communications Technology was adopted at a summit of Arab heads of state in Amman, Jordan. The **Pan Arab Regional Conference** on the World Summit on the Information Society (WSIS) was organized by MCIT in cooperation with the League of Arab States in June 2003. This event was an opportunity to reach a consensus on a regional plan of action for building the Arab Information Society. One of the outcomes of the conference was a document titled "Towards an Arab Information Society: Common Action Plan for Collaborative Work."

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