Knowledge Society and Human Development in the Arab world

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Introduction

In order to become a knowledge society, the Arab region needs to open up first to the information age. Information and Communication Technologies (ICT) are vital tools for building an Information society while sustaining human development.

Such ICT-led transformation goes far beyond the use of computers and Internet. It entails the adoption of compatible organizational models. It involves a modernization of structures and processes in every organization. It implies moving from rigid mass production to flexible networks; from centralized pyramids to decentralized adaptable structures; from people as human resources to people as human capital; from global economy to knowledge economy.

This info-technological revolution is re-structuring the global socio-economic equations, namely shifting from "income divide" to "knowledge divide". The revolution is spearheading the growth of knowledge societies in developed countries. It has raised much interest among civil society, markets and the agents of change. The creation of knowledge societies starts with the incubation of knowledge in human minds: individual, appropriate and pro-active policies, and the external environment.

The global economy investment capital will flow to where the greatest opportunities for reward can be found. These opportunities will be found in those places – cities, countries and regions – where value creating ideas can be realized. A recent study examined 11 global cities in the US, Canada, Germany, France, the UK, China, Singapore and Japan. It showed that emerging cities such as Shanghai and Singapore may soon outperform traditional metropolises in the new knowledge economy.

The poor in developing countries remain much isolated economically, socially and culturally from the burgeoning information and progress in the arts, science and technology. Especially important would be their failure to transform Knowledge into accrued value and equity, as people are often not conscious of the global value of what they know or the potential value of absorbing the available information.

Disparity between Europe and the Arab world, the northern and southen shores of Mediterranean, in their approach towards regional economic cooperation, the drive towards a Knowledge Society/Economy, might be a factor of future instability, and an accelerator of South-North migration, especially as the gap, noted in this paper based on latest 2006 statistics, is growing with time.

Investing to reverse this trend and reducing the gap might be considered as the prime, long-term strategic goal for cooperation between Mediterranean Countries.

Definitions

Knowledge Society

Interesting facts come up when searching for a definition of the "Knowledge Society". Some resources *(MSN Encarta, Factmonster.com, and Encyclopaedia Britannica)* do not return any entries, while others confuse Knowledge Society and Information Society; even the World Bank used them interchangeably!!

Here is a summary of what was found:

Investing to reverse this trend and reducing the gap might be considered as the prime, long-term strategic goal for cooperation between Mediterranean Countries.

- a Knowledge Society is a formal association of people with similar interests, who try to make effective use of their combined knowledge about their area of interest, and in the process, contribute to this knowledge;
- a Knowledge Society/Economy is one in which knowledge becomes major product and raw material;
- Knowledge Societies are not a new occurrence. For example, since early history, fishermen have shared the knowledge of predicting the weather to their community and this knowledge gets added to the social capital of the community.

A common consensus seems to be that: knowledge societies need not be constrained by geographic proximity; technology offers much more possibilities for sharing, archiving and retrieving knowledge and knowledge is becoming the most important capital; hence the prize lies in harnessing it.
According to the United Nations Development Program (UNDP) Arab Human Development Report (AHDR), active knowledge acquisition and its effective utilization and optimization in building human capital is a key driver to economic growth:

"Knowledge has become an essential factor of production, and a basic determinant of productivity. The solid connection between knowledge acquisition and the productive capacity of society translates into the value added production activities (based on knowledge intensity) that are also the mainstay of competitiveness worldwide. Further the formation of the 'Knowledge Society' refers to this current phase in the evolution of human progress"

This transformation however does not guarantee economic growth with "equity" either within or between nations. This is because knowledge (in spite of its public good characteristics) becomes a much valued resource to be possessed and harnessed for its economic benefits.

The *creation of a Knowledge Society with "Equity": where does the answer lie?*
The answer *may* lie in working towards a perfect knowledge society where all forms of knowledge get recognized and valued especially from where they originate, and increase in value proportionally to the extent they end up benefiting the end user.

The Arab World

The Arab World stretches from the Atlantic Ocean in the west to the Gulf in the east, and from the Mediterranean Sea in the north to Central Africa and the Indian Ocean in the south. Consisting of 23 countries and territories in two continents, with a combined population of some 325 million people, it is the second largest geo-linguistic unit in the world after Russia.
Estimated Gross Domestic Product (GDP) is US $ 678 billion, which represents 1.6% of the world's economy. In October 2002 the World Economic Forum released a report which highlighted that 40% of the population of the Arab world is under the age of 14, while unemployment is around 15%. The Arab world's population is expected to increase from 280 million to over 400 million in 2020. The Arab world is also one of the richest regions in the world in oil deposits and other mineral wealth.
While some people hold the view that such wealth represents an excellent opportunity to fund the necessary changes, others have a different view:

As for natural resources, those countries that depend on their resources alone have been dramatically disillusioned. In a phrase that can only evoke a sign from oil-poor nations, oil wealth has been characterized as "a very mixed blessing" by none other than the former executive director of the International Monetary Fund. Yet he makes his point. The oil-exporting countries are extremely diverse, ranging from Algeria to Norway, from Kuwait to Mexico, but they have had surprisingly similar economic problems: the squandering of revenues, hyperinflation, stalled industrial development, an actual drop in agricultural production, and deeply painful social clashes among their various sectors--laborers, consumers, religious leaders who feel cheated, and government officials who feel accursed. Ali A. Attiga, an OPEC statesman, says that history may show that the oil-exporting countries "have gained the least, or lost the most, from the

discovery and development of their resources." *(The fifth generation: Japan's computer challenge to the world)*

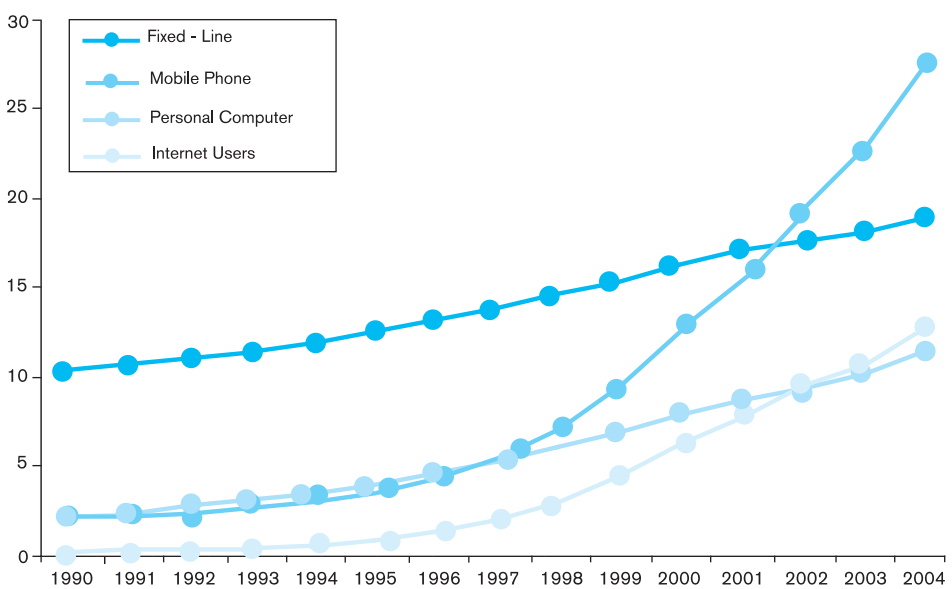
The amounts of money Arab countries invest in research and development (R&D) does not exceed 0.2% of their Gross National Products (GNP). Of this small expenditure, 89% comes from government sources and only 3% is funded by private industry (8% from other sources).
The Arab world has 5% of the world's population, but less than 1% of Internet users, just one-tenth of the level of use in Southeast Asia, according to the UNDP Human Development Report 2001. "That single statistic underscores the wide disconnect between Arab society as a whole and ICT."

Towards Knowledge Society/Economy

Globally

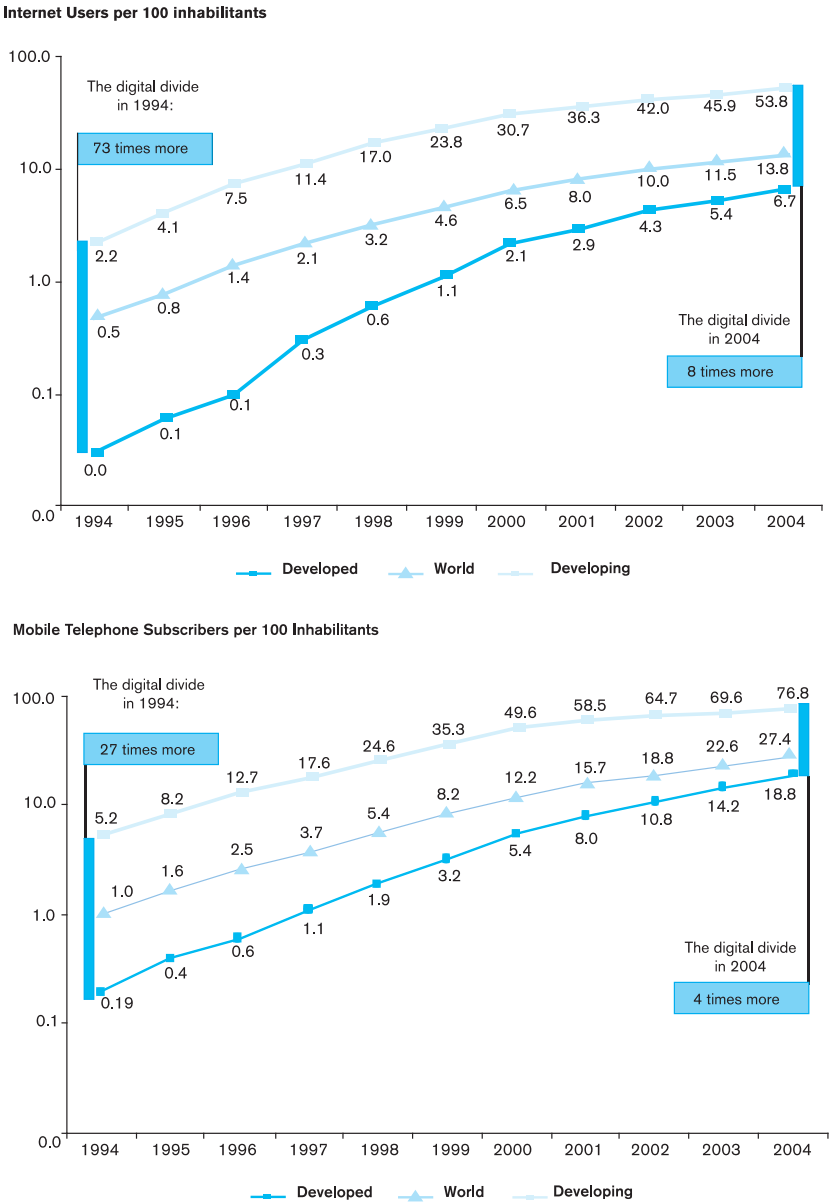
In the 1980's, it was written that: "The Japanese are planning the miracle product. It will come not from their mines, their wells, their fields, or even their seas. It comes instead from their brains. The miracle product is knowledge, and the Japanese are planning to package and sell it the way other nations package and sell energy, food, or manufactured goods (...)"
By the end of the 20th Century, ICT Penetration was considered as a measure of bridging the digital divide globally. Strategic global target 18 was stated by International Telecommunications Union (ITU) as: "In cooperation with the private sector, make available the benefits of new technologies, especially information and communications" and was measured by Indicators 47-48 as in the graphic below.
By the year 2005, 14% of the world's populations were using the Internet, with a large digital divide separating developed and developing regions. Over half of the population in developed regions had access to the Internet, compared to 7% in developing regions and less than 1% in the 50 least developed countries. This gap is rapidly changing year by year, as best illustrated in the following graphic.

GRAPHIC 10 **Proportion of World Population with Telephone Subscriptions, Personal Computers and Internet Connections, 1990-2004 (Percentage)**



Source: ITU, 2005

GRAPHIC 11 **Bridging the Digital Divide 1994-2004**



Source: International Telecommunication Union

The Arab World

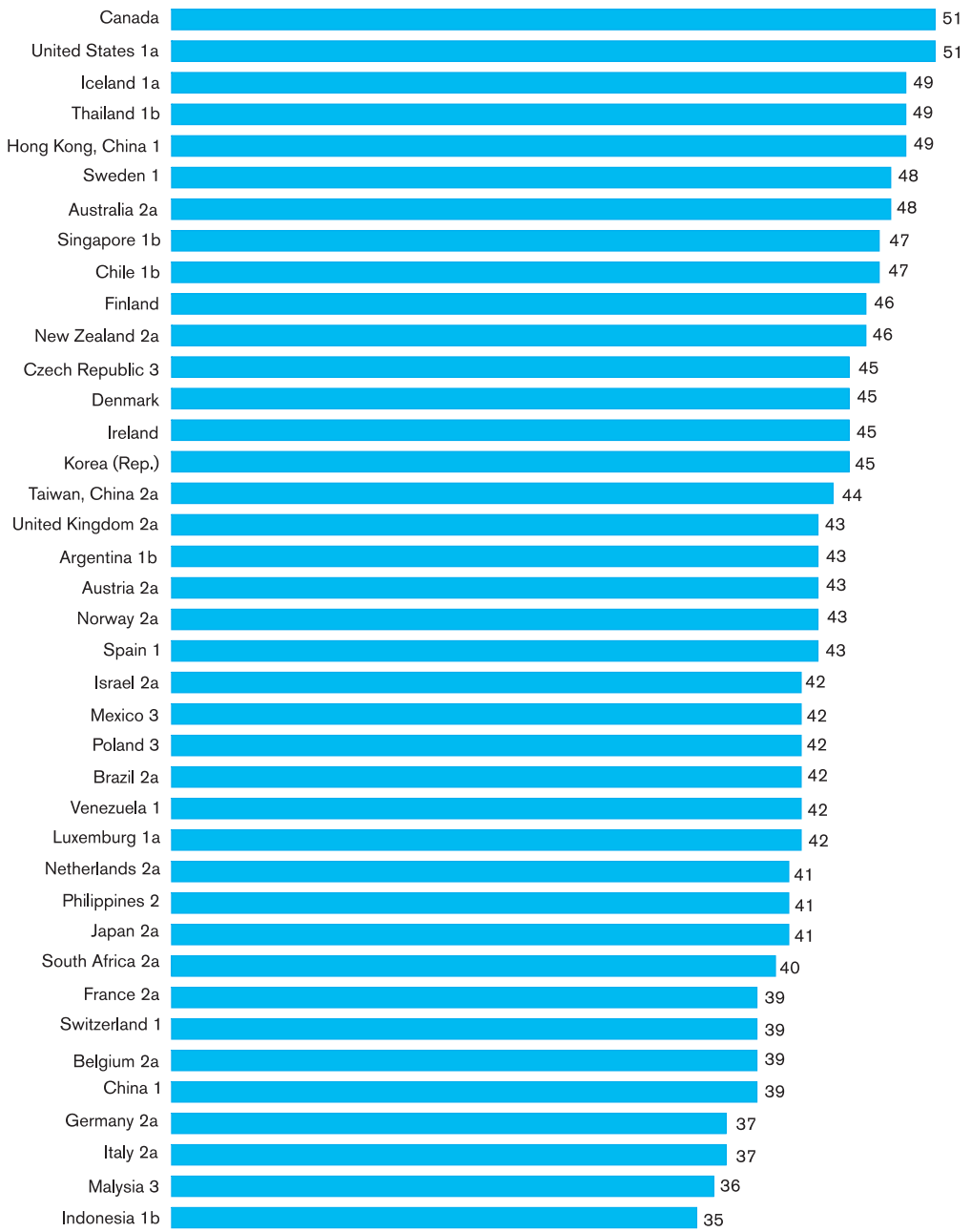
The UNDP challenged the Arab world to overcome three cardinal obstacles to human development posed by widening gaps in: freedom, empowering women (note absence of any Arab country in Graphic 12) and knowledge across the region.
AHDR put forward a strategic vision for creating Arab knowledge societies based on five pillars:

- Guaranteeing key freedoms;
- Disseminating quality education;
- Embedding science;
- Shifting towards knowledge based production;
- Developing an enlightened Arab knowledge model.

A look at international, regional and local developments affecting Arab countries since the report was issued confirms that those challenges remain critically pertinent and may have become even more serious, especially in the area of freedom.
In a study conducted by the World Economic Forum on the challenges of ICT and media in the Arab world, Arab countries were classified into three groups: fast developing countries, comprising Kuwait and the UAE; emerging countries, comprising Egypt, Jordan, Lebanon,

GRAPHIC 12 **Female Internet Users**

Female Internet Users as % of Total Internet Users, 2002



Note: 1= National Source. 2= Nielsen/Netratings. 3= TNS a= 2001 b= 2002.

Source: International Telecomunication Union (ITU).

and Saudi Arabia; and countries on the path towards development, including Morocco, Oman, and Syria. It could be argued that disabling constraints hamper the acquisition, diffusion and production of knowledge in Arab societies, despite its significant human and cultural capital which, under more promising conditions, could offer a substantial base for an Arab knowledge renaissance. In the Arab civilization, the pursuit of knowledge is prompted by religion, culture, history and the human will to achieve success. Obstacles in the way of this quest are the defective structures created by human beings – social, economic and above all political. Arabs must remove or reform these structures in order to take the place they deserve in the world of knowledge at the beginning of the knowledge millennium.

Who Is Doing What

The League of Arab States

The League of Arab States resembles the Organization of American States, the Council of Europe, and the African Union in that it has primarily political aims; one can regard each of these organizations as a regional version of the United Nations. However, its membership is based on culture rather than geographical location. In turn, the memberships of the smaller Gulf Cooperation Council (GCC) and Arab Maghreb Union (UMA) organizations are subsets of that of the League of Arab States. The League of Arab States differs notably from some other regional organizations such as the European Union, in that it has not achieved any significant degree of regional integration and the organization itself has no direct relations with the citizens of its member states.
In the context of the Information Society, one cannot find a declared group strategy similar to that of the European Union, namely:

"To become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion."

The European Union has worked towards achieving its declared objective: it has set up its Internet portal for "Knowledge Society" (www.europa.eu/). In this portal the EU's policies and activities are currently presented in one place, in all European languages, to tap those opportunities and address the risks of this new society, while making some research findings on the current developments known.
The League's web portal (www.arableagueonline.org/las/index.jsp) contents are in the Arabic language, and the intent is to provide an English version as well. It works mainly as a TV or radio information media unit.
No statement on any specific group strategy, objectives or action plan towards the achievement of a knowledge society in the Arab World was found during the research. Some references to cooperation with UN bodies were found, most notably the ITU organizing activities towards the World Summit on Information Society (WSIS) and to this end, the Cairo preparatory conference, and the "the Arab-regional dialogue" in May 2005.
A report from the Arab Union for Information Technology states that the Arab World ranks third in terms of middle range technical products after Latin America and the Caribbean region followed by Eastern European countries.

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Arab States

On an individual basis, the Arab states have pursued various paths at different paces. The 2003 e-readiness indicator – a 60-country comparative measure to evaluate the digital environment, the ICT infrastructure, government programs, as well as the scope of e-commerce in each country – covered only three Arab countries. Saudi Arabia ranked 45, Egypt ranked 51, and Algeria ranked 58.
In the wake of the WSIS second phase, eight Arab states filed their "New Country Programme Documents 2007-2011": Algeria, Egypt, Morocco, Saudi Arabia, Somalia, Syria, Tunisia and Yemen. It is not clear whether the other Arab states are still developing theirs or simply do not wish to publish them.
It is worth noting that many Arab States are affected by political and security instability in the region: the situation in Palestine and Iraq affects all their neighbours, internal strife and civil disorder in Sudan and Somalia, embargo in Libya, recovery from recent violent conflicts, such as Algeria, Lebanon and Western Sahara. Most are taking cautious and slow steps towards political and governance reform, thus lacking basic foundations and finance for the required transformations.
All Arab states declare they abide by UN declarations and projects towards the Information Society, yet each one charting its own path at its own pace.

United Nations Regional Offices and Organisations

"The Millennium Development Goals were adopted in 2000 by all the world's Governments as a blueprint for building a better world in the 21st century." - Kofi Annan
At the United Nations Millennium Summit, world leaders put development at the heart of the global agenda by adopting the Millennium Development

Goals (MDG), which set clear targets for reducing poverty, hunger, disease, illiteracy, environmental degradation and discrimination against women by 2015. The UN - sponsored project of a portable computer for every school child, announced in WSIS and which started deliveries in 2007, will further reduce poverty and the digital divide.

ICTDAR: ICT for Development in the Arab Region

A UNDP Regional Program was established in Cairo in October 2003. Its objective is to assist Arab States using ICT to reduce poverty, improve public administration performance and private sector prosperity. Its main tasks include: raising awareness campaigns (development and participation), capacity development and strategy implementation, pro-poor growth and employment generation, is implemented through the following approaches:

- *Partnership:* Agreements with key private sector elements (International, local or national), other UNDP sectors and local governments, communities and NGOs.
- *Quick Wins:* Capitalizing on Success.
- *Rollout and Realization Strategy:* formulating business model and execution framework, pilot implementation, consolidation on the national level then replication in other countries.
- *Capitalize on National Expertise:* build and develop local capacity and content in its initiatives
- *Policy Formulation:* assist local communities and governments in formulating the appropriate policies to implement and consolidate initiatives and projects on a national level.

WSIS

This significant UN sponsored project has been a definite catalyst and driver for Arab States to interact with the global drive towards Information Society on the way to Knowledge Society, such as:

- The action arising from the Council of Arab Ministers of Communications and Information to transform the Arab strategy for the ICT community, as adopted by the Arab Summit (Amman-March 2001), into specific projects in six main axes: human development, infrastructure, e-business, information environment, knowledge transfer and promotion of digital Arabic contents.
- Capacity-Building for ICT policy-making: To activate the execution of WSIS recommendation, the UN bodies provide technical assistance and advisory services to decision makers in order to:
  - develop comprehensive and sustainable ICT-for-development policies;
  - effectively integrate them into overall national development programmes and strategies;
  - establishing a network of ICT stakeholders and policy makers for knowledge-sharing on ICT policy-related issues,
  - promote bilateral, regional, and international cooperation, in particular South-South cooperation.

NGOs

The global phenomenon of NGOs and Civic Society is also manifesting itself in the Arab world, and its expansion was further enhanced by the WSIS. While the entrenched bureaucracy and rigid government structures have not been able to absorb and capitalize on the evolution of the Information Society, NGOs have practically mushroomed in that domain. All three forms of NGOs and projects, national, intra-national and international, are creating a momentum that seems to out-pace that of governments and UN bodies, and is definitely worth studying in more detail than the scope this paper permits. In the first example provided, we notice a National civic body focused on acting as a regional database and a forum of stakeholders in the drive towards the knowledge society. The second example shows us a sample of Regional Business Sector NGOs still reflecting political state border lines. Whereas the third example represents an instance of extra-national cooperation.

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Example 1: Civic Bodies and Coordinators

The Middle East NGOs [MENGOS] Internet portal (www.mengos.net) contains information about non-governmental organizations, funding agencies, events, projects, success stories and other topics relevant to nongovernmental organizations across the Arab world.

Example 2: The Business Community and Conferences

The Arab Business Forum for ICT (ABFICT) was established by eighty leading companies in the fields of communications and information technology in Cairo in 2002. ABFICT Executive Committee consists of six members representing Egypt, Kuwait, Palestine and the United Arab Emirates. In WSIS phase II, ABFICT attended all council meetings as an observer, in addition to cooperation with international entities such as: ESCWA & ICC and Global Business Dialogue on e-Commerce.

Example 3: Academia and Content Generation
Yale University in New Haven, Connecticut, is to put Arabic-language library resources online. Yale has been collecting Arabic and Middle Eastern texts for more than 150 years and has more than 150,000 books and 900 serial titles in Middle Eastern languages. In the first stage of the project, Yale has created a list of 14,000 Middle East journal holdings in 20 libraries from Arizona to Syria.
Digitizing Arabic texts requires particular care because the optical character-recognition software has difficulty correctly deciphering the printed Arabic script therefore requiring careful quality oversight. Yale chose Tishreen University in Syria to be the first partner in the region, provided its library with equipment and know-how to digitize part of their collection and make it available to other participating institutions through document sharing protocols
Yale's project "Iraq Re Collection" uses a grant from the National Endowment for the Humanities to digitize a collection of Iraqi scholarly journals dating from the early 20th century through contemporary publications expected to include about 100,000 pages of digitized text.

Status Review

Infrastructure and Connectivity

Individually, Arab States have made significant progress in bridging the ICT digital divide, sometimes exceeding the trends shown in graphic 11, by acquiring and expanding telephony and wireless telecommunications networks.
This is illustrated by total ICT spending worldwide in the year 2006, which amounted to US $3 trillion. The population of the Arab world represents 5% of the world population. The Middle East and Africa region, (including non-Arab States) had a share of 2.7% of global ICT spending, the highest growth rate (15.7%), hardly sufficient to close the gap of the digital divide.
Comparing IT spending of US$ 3.04 billion in Saudi Arabia to US $ 165 million in Syria, both of comparable population size, a 20-fold difference is shown. Similarly UAE spending of US $2.32 billion vs. Lebanon's US $ 217 million, shows a ten-fold difference. The digital divide is not just between the Arab States and the rest of the World, it is also seen intra Arab States, and it keeps widening.

The Information Society

Technology allows individuals to bring together knowledge by harvesting data from other sites and adding value to it by prioritizing, translating and updating. If we look closely at the Internet statistics and installed base of personal computers, as shown in Table 12, in 2005, the statistics showed 5.7 million Internet users in Arabic language representing 1% of Global Internet users. In 2006, figures showed 10.5 million Internet users (Arabic language) representing 1.4% of world Internet users, a rapid growth pace (*IDC Report 2007 & WITSC*).

Content: The Knowledge Base

In addition to universal challenges in building online digital content, the Arabic world faces serious handicaps. There is a lack of commercially proven Optical Character Reading (OCR) software. This prevents digitizing paper-based printed matter from earlier times (including legislation, records and archives), as well as the dissemination of Arab thought and culture to other people of the world. The lack of effective online translation tools is a show stopper for any form of globalizing present and future Arabic content. Furthermore, as of today, an Arab citizen cannot use of non-Arabic websites unless that citizen is fluent in foreign languages. The absence of a regulatory body to set and update norms and standards for the Data –Information – Knowledge Cycle is a definite delaying factor as well.
These are critical factors affecting both the active role of generating knowledge as well as the passive role of receiving knowledge from other countries and regions.
On a more positive note, the common Arabic language will ultimately be an accelerating factor for the automation of generation and dissemination of Arabic Content and Universal Knowledge. The present trends

TABLE 23 **ITU statistics for Arab Countries 2005**

	Internet				PC's	
2005	Host totaL	Host per 10,000 inhab.	Users (000s)	Users 100 inhab.	Total (000s)	Per 100 inab.
Algeria	944	0.29	1,920.0	5.83	350	1.06
Bahrain	1,850	25.84	155.0	21.33	121	19.90
Comoros	9	0.11	20.0	2.51	5	0.63
Djibouti	772	11.35	10.0	1.45	19	2.75
Egypt	3,499	0.50	5,000.0	6.75	2,700	3.65
Eritrea	1,037	2.46	80.0	1.82	25	0.57
Iraq	4	-	36.0	0.14	-	-
Jordan	2,966	5.28	629.5	11.22	300	5.34
Kuwait	2,791	10.93	700.0	26.05	600	22.33
Lebanon	6,875	19.37	700.0	19.57	409	11.45
Libya	67	0.12	205.0	3.62	-	-
Morocco	4,118	1.38	4,600.0	15.18	745	2.46
Oman	1,506	5.94	285.0	11.1	118	4.66
Palestine	-	-	243.0	6.56	169	4.59
Qatar	315	4.23	219.0	28.16	133	17.88
Saudi Arabia	16,665	6.96	1,586.0	6.62	8,476	35.39
Somalia	1	-	90.0	1.09	50	0.63
Sudan	-	-	2,800.0	7.98	3,250	9.26
Syria	11	-	1,100.0	5.78	800	4.20
Tunisia	373	0.37	953.8	9.46	568	5.63
United Arab Emirates	26,570	62.02	1,397.2	31.08	850	19.84
Yemen	162	0.08	180.0	0.87	300	1.45
Total Arab Countries	70,535	9.25	22,909.5	10.19	19,988	8.53
Africa	424,968	4.92	33,332.8	3.74	17,555	2.20
Asia	27,986,795	73.95	368,640.1	9.64	227,357	6.36
Americas	205,502,481	2339.05	304,834.8	34.23	307,778	35.33
Europe	29,058,680	363.24	256,195.3	32.02	239,833	30.69
Oceania	4,572,838	1402.49	17,383.7	53.21	16,130	50.46
WTI	267,545,762	420.69	980,386.7	15.23	808,653	13.36

Source: ITU

in the world towards Ubiquitous computing, starting with mobile phones, will relax constraints of literacy and linguistics, especially as peripherals become more “intelligent” and “ergonomic”.

Closing Remarks

Reflecting on the internet metamorphosis from Electronic Bulletin Boards, Chat rooms, AOL, Yahoo, eBay, Google to present day You Tube and Myspace, renders any near future predictions an impossibility. The new age terminology (knowledge society, information society, e-Government etc..) does not seem to be clearly defined and distinguished among established and respected organizations. This is one indication among many, that human society, with its social rules and regulating laws, is breathlessly running to catch up with the accelerating pace of the digital age. A definite topic of serious consideration, especially that Human Development in the Global (Digital) Village requires the wisdom of elderly leaders of yester-year villages, in an updated format maybe, to sail us through the coming turbulent waters.

Yet, in an Arab world where Blogs on the video of Saddam Hussein’s execution went around the globe before Arab Information and Media Executives were aware, where the outlawed Al Qaeda and associates are publishing violent content on the web, while ministries’ web pages get hacked by school kids, youth education and unemployment challenges grow by the day so we can safely assume that the Arab world is facing a Tsunami of change, that should better be grasped sooner than later...