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**A FRAMEWORK FOR BUILDING KNOWLEDGE SOCIETY
IN THE ARAB REGION**

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A Framework for Building a Knowledge Society in the Arab Region

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SECOND REGIONAL PREPARATORY CONFERENCE FOR WSIS, *Partnership for Building the Arab Information Society*

November 22-23, 2004

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Outline

- AHDR 2003
- Some ICT Indicators
- ICT and Knowledge in the Region
- ICT strategies
- GSSD, A knowledge base example
- Conclusion

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Arab Human Development Report 2003

- The Report sent shock waves across the world especially in the Arab Region. The Report discusses the three cardinal challenges facing the region:
 - a) its growing knowledge gap,
 - b) the cultural, economic, societal and political context influencing knowledge acquisition in the region at this critical junction in its history, and
 - c) the strategic vision that delineates the landmarks of a deep social reform process for establishing a knowledge-based society in the Arab countries.

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Arab Human Development Report 2003

- According to the Report, the strategic vision for establishing a knowledge-based society in the region is based on five pillars:
 1. Unleashing and guaranteeing the key freedoms of opinion, speech and assembly through good governance.
 2. Disseminating high quality education targeted on educational outcomes and life-long learning.
 3. Indigenizing science, universalizing research and development (R&D) in societal activities and keeping up with the information age.
 4. Shifting rapidly towards knowledge-based production.
 5. Establishing an authentic, broadminded and enlightened Arab general knowledge model.

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Some ICT Indicators

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Number of people with internet access and the Middle East has the second lowest rate but has the highest user growth.

World Regions	Population (2004)	Internet Usage	User Growth (2000-2004)	Penetration % Population	% of World
North American	325,246,100	222,956,690	106.3 %	68.6 %	27.9 %
Oceania	32,540,909	15,786,930	107.2 %	48.5 %	2.0 %
Europe	730,894,078	224,462,968	117.7 %	30.7 %	28.1 %
Latin America	541,775,800	50,749,374	180.9 %	9.4 %	6.3 %
Asia	3,607,499,800	256,454,536	124.4 %	7.1 %	32.1 %
<u>Middle East</u>	<u>258,993,600</u>	<u>16,843,900</u>	<u>218.7 %</u>	<u>6.5 %</u>	<u>2.1 %</u>
Africa	893,197,200	12,786,100	183.2 %	1.4 %	1.5 %
World Total	6,390,147,487	800,040,498	121.6 %	12.5 %	100.0 %

Source: Internet World Stats (www.internetworldstats.com)

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Ratio of Speakers of a Language to Web pages in That Language

Rank	Language	No. of Web Pages	No. of Speakers (thousands)	Speakers/ Web Page
1	English	214,250,996	322,000	1.5
.
10	Japanese	18,335,739	125,000	6.8
.
26	Hebrew	198,030	12,000	60.6
.
31	Arabic	127,565	202,000	1,583.5

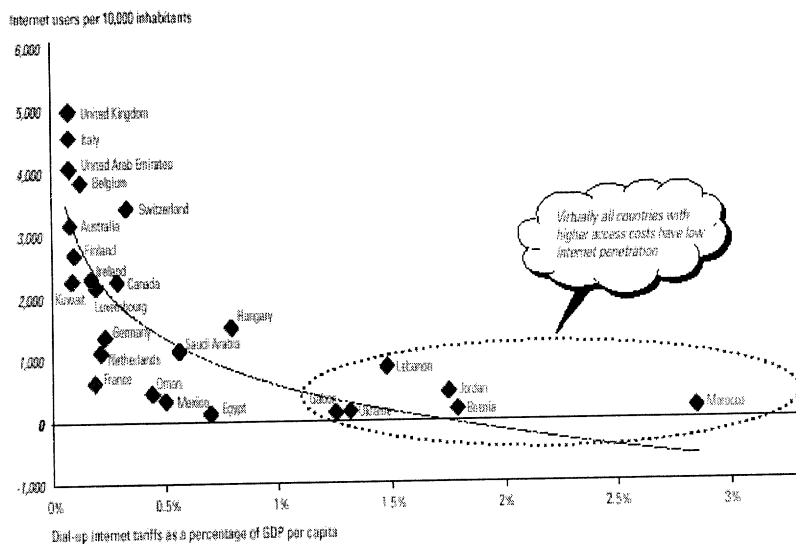
Source: Carvin, A. 2001. Website Language stats (www.benton.org)

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Internet Penetration vs. Connection Cost

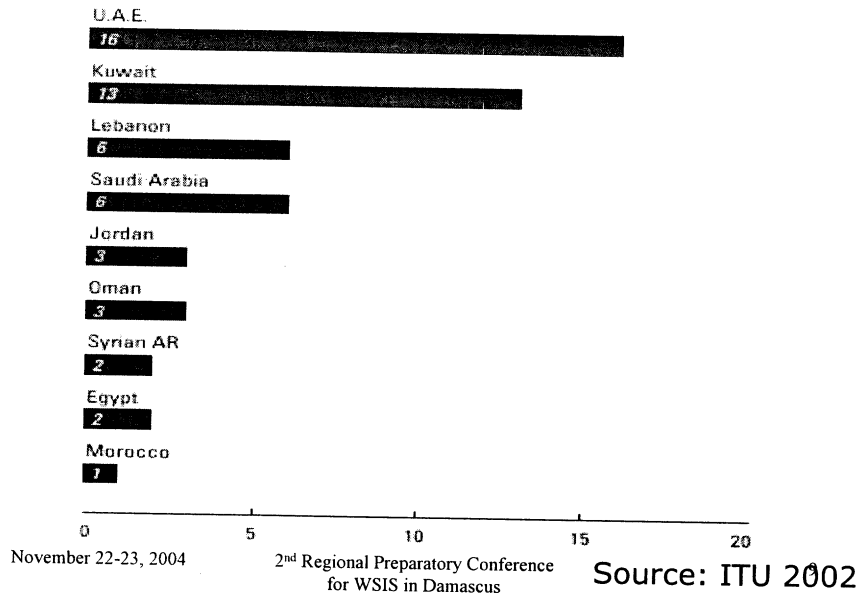


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Source: ITU 2002

PC Penetration



Telecom Market Competition

Country	Local Voice	DLD Voice	ILD Voice	Mobile	Data	Internet
Egypt	M	M	M	D	C	C
Jordan	M	M	M	P	C	C
Kuwait	M	M	C	D	C	D
Lebanon	M	M	M	D	C	C
Morocco	M	M	M	C	C	C
Oman	M	M	M	M	M	M
KSA	M	M	M	M	M	C
Syria	M	M	M	P	M	—
U.A.E.	M	M	M	M	M	M

November 22-23, 2004 2nd Regional Preparatory Conference for WSIS in Damascus Source: ITU 2002

ICT and Knowledge Status (subjective point of view) in the Region

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Literacy, ICT and Knowledge Access

	Literacy	ICT Access	Knowledge Access
Communication stage	Writing, print	Computer-mediated communication	Internet and Intranet
Main Economic Era	Industrial capitalism	Informational capitalism	Knowledge capitalism
Physical artifacts	Books, magazines, newspapers, journals	Computer	e-Books, e-magazines, e-newspapers, e-journals
Organization of content	Novels, short stories, essays, articles, reports, poems, forms Reading	Web sites, e-mail, & instant messages	Organizational memory, best practices, & lessons learned

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Literacy, ICT and Knowledge Access

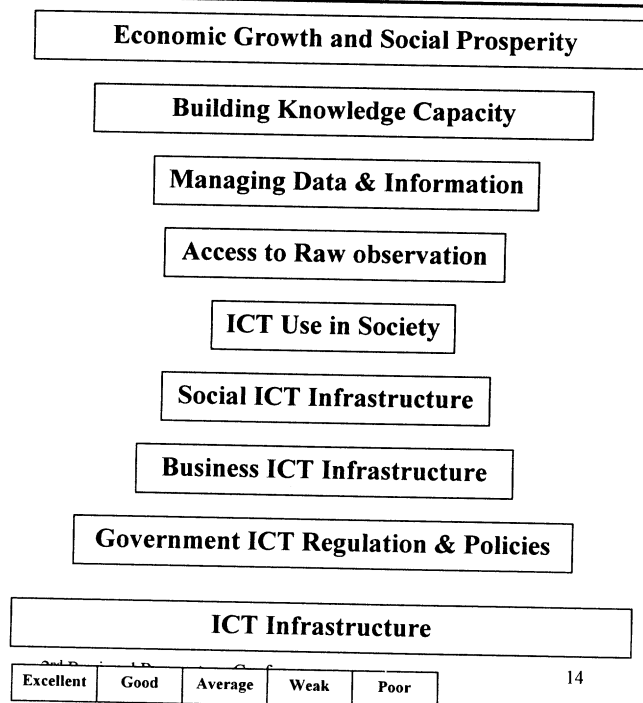
Receptive skills	Reading	Reading and multimedia interpretation, searching, navigating	Understanding & accessing the needed knowledge
Productive skills	Writing	Writing and multimedia authoring and publishing	Knowledge creation & dissemination
Divides	A great literacy divide?	A digital divide?	A knowledge divide?

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ICT Readiness In Terms of Local Content and Knowledge In Most Regional Countries



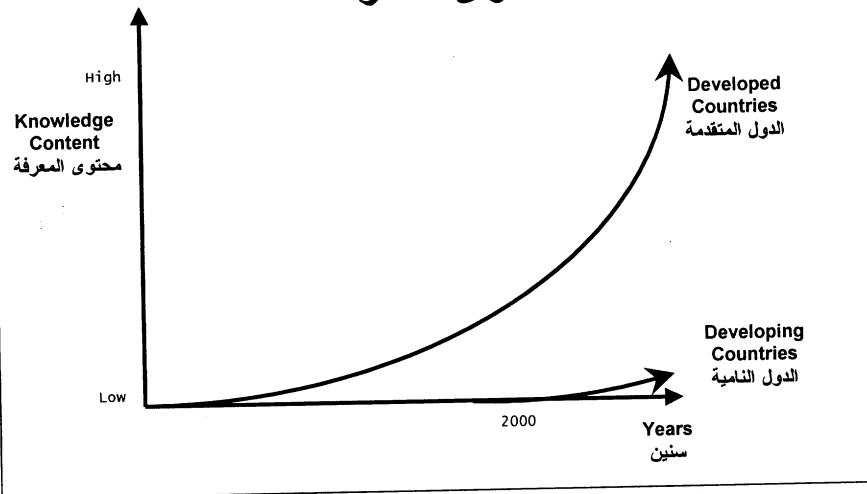
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Excellent Good Average Weak Poor

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Local Knowledge Content On the WEB

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ICT Education and Knowledge

ICT Use and Knowledge in Society

Private Sector

Government Agencies

ICT Education at Universities

ICT Education in Schools

Excellent	Good	Average	Weak	Poor
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ICT Usage

Developed Countries

Most Regional Countries

ICT Use in Society

ICT Use in Society

Building Local Content

Building Local Content

ICT Education and training

ICT Education and training

Update ICT Infrastructure

Update ICT Infrastructure

Excellent	Good	Average	Weak	Poor
-----------	------	---------	------	------

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Internet Access

Household

Private Sector

Government Agencies

Universities

Schools

Excellent	Good	Average	Weak	Poor
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Beirut Declaration at WSIS (2003)

- Focused on 5 points
 - National And Regional ICT Policy & Enabling Legislative-regulatory Environments
 - ICT Infrastructure
 - ICT Applications
 - ICT Production And Service Sector
 - ICT Capacity Building

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ICT PRIORITIES FOR ACTION

- ICT Policy and the creation of an enabling environment
- ICT Infrastructure
- E-government
- E-Business
- E-learning and e-education
- E-content
- ICT production and service sector
- Capacity building

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Comments

- Beirut declaration was an important step toward building knowledge society but still the most fundamental prerequisites are still not implemented:
 - Political reforms
 - Economic reforms
- AHDR (2003) did discuss these issues in great details.

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Knowledge Development Strategies

- **Open access to capital markets to encourage investments in knowledge creation projects**
- **Provide initial consulting and help-desk support**
 - Enhances initiatives driving awareness of the benefit knowledge creation.
- **Serve knowledge content in local language and translate foreign knowledge to local language**
 - Eliminate the language barrier
- **ICT and knowledge creation strategies in different countries should be complementary and not compete.**
 - Make use of each country's strength.

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Knowledge Development Strategies

- **The use of ICT for promoting social inclusion.**
 - Programs should be based on a systemic approach that recognizes the primacy of social structure and promotes the capacity of individuals or organizations using technology.
- **It is essential to understand and exploit possible catalytic "effects" of ICT.**
 - A new computer laboratory in a low-income neighborhood may also become a meeting hub for at-risk youth and college student mentors.
- **Partnerships should be created between the people who master ICT technologies and have access to knowledge with poor people who represent a growing majority in our society (digital & knowledge divide).**

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Knowledge Development Strategies

- **“Champions” of change should be community leaders, educators, managers, and organizers rather than computer experts.**
 - Those who are capable of managing complex social projects to foster innovative, creative, and social transformation will likely be able to learn to integrate technology and knowledge creation into this task.
- **Telecenters projects should make a difference in people’s lives.**
 - Training should not only consists on how to use basic computer techniques and applications, but training should be on how to use these tools to improve people’s lives. People need to be able to express themselves fluently. Telecenter projects should reach “people” and not “numbers.”

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Knowledge Development Strategies

- **Experiment with Computer Clubhouses (MIT) in poor communities and rural areas. This will require human (mentors and staff) and physical resources commitment. Clubhouse not only considers the new technology, but also new forms of social interaction, new types of activities, new areas of knowledge, and new attitude toward learning. Clubhouse Principles:**
 - Support learning through design experiment
 - Help youth build on their own interests
 - Cultivate “Emergent Community”
 - Create an environment of respect and trust.

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Global System for Sustainable Development (GSSD) An example of a knowledge-base System (gssd.mit.edu)

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What is GSSD

- GSSD is an adaptive and evolving global knowledge system dedicated to sustainable development based on distributed networking principles and practices.
- Designed to help identify and develop innovative approaches, enabling technologies, as well as new institutional, financial and regulatory mechanisms, the GSSD domain spans over the complex dimensions of the sustainability challenges - at all levels and all parts of the world.
- A set of knowledge management, search, and navigation functionalities allow users to customize their own site inputs into the system and/or to tailor specific retrieval queries over the GSSD knowledge base.

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GSSD Contributions

- Used as a Benchmarking tool for other knowledge management projects
- Provide direction for Best Practices in sustainability
- Reduces barriers in knowledge sharing, provision, management and well as networking and help make evolving knowledge more accessible for decision and analysis.
- Provides connectivity among all stakeholders (local, regional and global)
- Facilitates knowledge-sharing through customized and quality-controlled methods to help reduce prevailing gaps in knowledge-discourse on development

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GSSD Contributions

- Provides e-based multilingual capabilities (including Arabic) for knowledge provision and access
- Supports ‘top-to-bottom’ & ‘bottom-to-top’ communication and contribute to critical mass, synergy, and leadership in uses of advances in ICT for development.
- “Sustainable development can best be advanced in the Information Society when ICT-related efforts and programs are fully integrated in national and regional development strategies. ICT driven productivity gains contribute to poverty eradication and sustainable development” (WSIS draft declaration principles). GSSD is a good example.

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Conclusion

- Technology Leapfrogging is crucial to the bridging of the Knowledge Society.
- In addition to breaking the digital divide, we must work on breaking the knowledge divide. This can be done by:
 - Creating local content using local language.
 - Translating foreign knowledge to fit local needs
 - Train the trainers not only to train people to use basic knowledge tools and techniques, but also help them understand, find and building their knowledge needs.
 - More collaboration is needed between government, private sector, education institutions and NGOs in each country to develop knowledge building strategies to fit each country’s need.
 - Arabic countries should not compete in building knowledge hubs, but should complement each others.

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