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Issues Affecting Internet Use in Afghanistan and Developing Countries in the Middle East

Elham Ghashghai and Rosalind Lewis

Afghanistan and its neighbors to the west—the developing countries in the Middle East—face a common shortcoming: They are missing out on much of the Information Revolution. Although pockets of high access to communications lines exist in these countries, for the most part, they lag far behind developed countries in their access to and use of information and communication technologies (ICT).[1]

This paper examines some recent literature to identify the fundamental issues affecting the use of ICT, and particularly the Internet, in developing countries in the Middle East. Much of this research is also pertinent to Afghanistan, which, as a developing Islamic country, shares many cultural traditions with its Middle Eastern neighbors. In performing our research, we focused on key questions that broadly affect the region shown in the map. What social and cultural factors contribute to the "digital divide" in the Middle East? Is bridging the digital divide important to the continued economic and social development of the Middle East? If it is important, what should, or can, be done to facilitate the use of ICT? What additional information is needed to formulate effective policies to promote the use of ICT in the Middle East?

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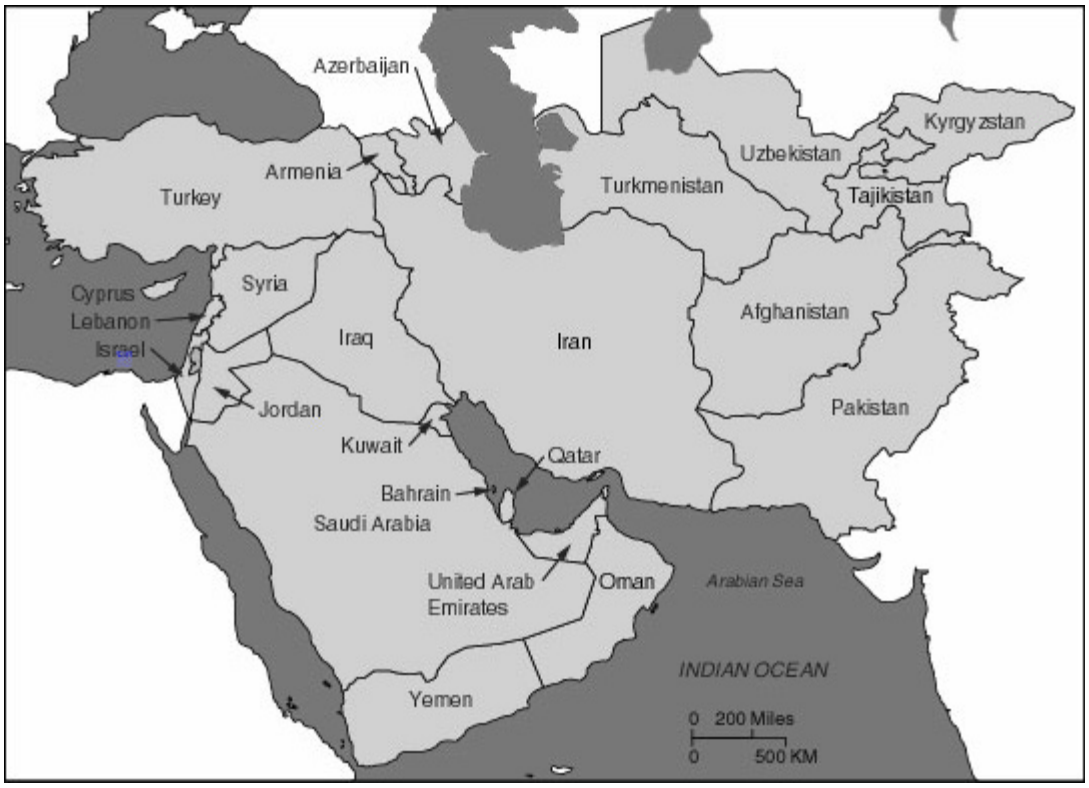

The gargantuan task of rebuilding Afghanistan has naturally been the focus of much attention recently. To a lesser degree, however, developing countries in the Middle East face challenges similar to those that Afghanistan faces: They need to strengthen and diversify their economies, educate and engage their young people, develop the infrastructures that support economic growth, and lure back the educated professionals and business-people who have fled to other countries. ICT will be instrumental in meeting these challenges, but recent history shows that Afghanistan and the Middle East are often suspicious of, and resistant to, technological change. If ICT is to fulfill the role of building and strengthening the economies of these countries, it must be adapted to the needs and cultures of its users.

Based on a report by the United Nations Science and Technology Group for Development (UNSTD), ICT strategies are often developed and publicized mainly to attract external investment to construct new infrastructures or to market hardware and software without giving sufficient attention to local concerns and requirements (Mansell and Wehn, 1998). These strategies give too little consideration to the plight of marginalized people and fail to build upon existing strengths in the local environment. The political and economic priorities of key decisionmakers often dictate the outcomes of these ICT strategies. (We will address these issues in greater depth in subsequent research.)

The UNSTD report emphasized that an urgent need exists to develop ICT strategies and actions that bring marginalized social and economic groups within reach of modern communications technologies. Such strategies must take into account that the user may be someone living in a small village, a factory worker controlling a robotic system on an assembly line, or a government official.

A number of organizations are working to bring the power of ICT to remote areas of developing countries worldwide. For example, the Los Angeles-based Greenstar Corporation (www.greenstar.org) is "a non-profit organization committed to bringing solar power, telemedicine, distance learning, electronic commerce, manufacturing, and agricultural support services to developing countries." While the Greenstar mission statement provides a specific approach or solution to the problem of bringing ICT

technologies to these countries, it also raises some questions: What other organizational models would be effective for "cyber-site"[2] implementation? What sorts of financial or investment strategies can be employed? How much of a factor are political and cultural considerations?

Later in this paper, we outline two steps for developing viable approaches to facilitating Internet usage in developing countries. The first step is conducting research on potential users: What do potential users want or need that ICT could provide? What do they regard as the benefits, drawbacks, and inducements to using the Internet? The second step is the establishment of a prototype Internet center in a small town or village to test whether such a center can be tailored to local needs and traditions while helping inhabitants to realize the potential advantages of the Internet.

DEVELOPING COUNTRIES IN THE MIDDLE EAST FACE A "DIGITAL DIVIDE"

"Digital divide" is a popular term that has many connotations. In this paper, we use it to describe a situation in which people are unable to access ICT with sufficient regularity or ease, or are unable to access it at all. Estimates of Internet usage in Afghanistan and the Middle East are difficult to determine. In the Middle East, many users may share one Internet service provider (ISP) account, so the actual number of users may be much higher than the number of ISP accounts. On the other hand, in regions with a relatively high expatriate population, overestimation may occur because expatriates are often counted as users and they are more likely to use the Internet to communicate with friends, family, and business acquaintances in their home countries. Finally, certain constraints, such as the prohibition of Internet access or the extensive monitoring of content in some countries, pose significant impediments to accurately assessing ICT usage in these regions. Meier (2000) notes that "data for poor regions are the least precise, or often [are] politically unavailable."

An indirect measure of ICT usage in various nations is based on a RAND Information Revolution (IR) assessment (Hundley, unpublished). Hundley developed a set of models for numerous countries and assigned each country to a specific model based on its "IR posture." He describes this posture as the "societal changes occurring as a result of IT [information technology] applications." In his definition of IR posture, Hundley considered several factors including "access to exploitable technologies." Many Middle Eastern countries were assigned country models that were near or just below the middle in the range of IR-posture models, while Afghanistan was assigned the lowest-rated model (signifying the least amount of IT development and the least amount of societal or economic changes related to IR). Even allowing for the difficulty of gathering accurate data, it is clear that the digital divide is a fact of life in Afghanistan and the developing countries of the Middle East.

WHY DOES THE DIGITAL DIVIDE EXIST?

Developing countries in the Middle East face the same problems as other developing countries around the world: low levels of education and literacy, poor technology infrastructures, and a wide gap between the disposable income of the relatively few "haves" and the more numerous "have-nots." Use of the Internet requires a fairly complex set of skills and technology. At the very least, one must have electricity, a communications line, a terminal capable of interacting across the communications lines, and (in most cases) a reasonable fluency in English (80 percent of the material on the World Wide Web is written in English; however, a movement to replace some English-language Web pages with Arabic-language ones is gaining momentum). All of these factors contribute to the digital divide.

In Afghanistan and other countries in the Middle East, government opposition to ICT has been a major factor in limiting Internet access. Many Middle Eastern leaders view the Internet as a Western-based

agent of moral and political subversion. As a result, many countries strictly enforce limits on Internet connectivity. Whereas Egypt and Jordan have been relatively progressive in building Internet connections, countries such as Saudi Arabia have shown more resistance to allowing widespread access to the Net. Internet access is very limited in Syria, and Libya and Iraq prohibit any kind of Internet access. Bahrain and Tunisia openly monitor Internet traffic, and the United Arab Emirates and Yemen use proxy servers that can prevent users from accessing "undesirable" sites. Iran allows access, but the extent of the traffic monitoring in that country is uncertain (Alterman, 2000).

Our research suggests that cultural issues may be just as important as political issues in determining the use of the Internet in these countries. For many Arabs, the tradition of oral communication ("isnad") is considered to be more reliable and trustworthy than the text- and image-based information on the Internet. This may help to explain why certain types of ICT that have been successful in developing countries in the Middle East are oriented toward group usage or audio-visual communications (Fandy, 2000). For example, cyber-cafes, where groups of people are accessing the Web in a public place, are popular in major cities in Iran. Shafeeq Rushaidat Street in Irbid, Jordan, which is no more than a kilometer long, has the largest concentration of cyber-cafes in the world. Satellite television (often viewed by large groups of people) and VCR players are also popular throughout the region.

Finally, the economics of Internet access are crucial to the issue of limited usage in these countries. Users incur nonrecurring costs to purchase the necessary equipment (such as a computer or personal-digital-assistant device) to connect to the Internet. Users also incur recurring costs derived from the ISP (which provides connectivity and the services and/or applications required to send e-mail or surf the Net). This may suggest another reason for the popularity of cyber-cafes—they eliminate nonrecurring user costs and significantly reduce recurring costs.

For governments that are already reluctant to invest in new infrastructures, diverting scarce national resources to IT can seem like a waste of money. However, most Middle East observers agree with a United Nations report on this subject: "Although the costs of using ICT to build national information infrastructures are high, the costs of not doing so are likely to be much higher" (Mansell and Wehn, 1998).

THE INTERNET HAS ITS PROS AND CONS FOR DEVELOPING COUNTRIES

There is an expectation that the Internet can bring a number of advancements to developing countries: enhanced business opportunities (including cross-border opportunities); better information in crucial areas such as health, agriculture, and commerce; improved education; and increased news and entertainment. But the Internet can bring problems, too. Many Middle Eastern states fear two by-products of the Internet in particular: dissemination of Western political thought and the spread of pornography. The region is politically turbulent, and many governments fear that the Internet will facilitate communication among subversive individuals and organizations. Pornography is an equally serious issue; in states with combined political and religious leadership, leaders are reluctant to embrace a technology that appears to encourage moral turpitude. Consequently, U.S. computer companies are actively selling firewalls to help the Saudi Arabian government block potentially offensive content from being downloaded to users' computers.

In reviewing the available literature, we found that while it is relatively easy to learn the viewpoints of Middle Eastern leaders and governments, it is difficult to ascertain the viewpoints of the Middle Eastern people. Little information is available on what Afghanis and other Middle Easterners think about the Internet, their level of awareness and interest in using the Internet, and their perceptions of its potential

advantages and drawbacks. This gap in our knowledge must be filled, at least in part, before any meaningful steps can be taken to promote Internet usage in this region of the world.

It may be possible to gauge public receptivity to the Internet in these countries by examining the public receptivity to earlier forms of ICT. Satellite TV has gained in popularity due to lower costs, increased content offering, and compatible language programming. Photocopiers have "democratized the wide dissemination of messages at low cost and with anonymity" (Alterman, 2000). Fax machines are popular, and may become even more so if telephone service rates continue to fall. VCR tapes are popular because they are entertaining, easily duplicated, and reusable (Alterman, 2000). So how does the Internet compare with these technologies? Like satellite TV, the Internet has an ever increasing and changing content offering. While the Internet cannot compete with the low initial cost and anonymity of photocopied material, the connectivity is much faster and material broadcast over the Internet can potentially reach a much wider audience than material sent through the mail or over the fax lines. Playing a VCR tape may be more entertaining than reading a Web site, but tapes lack the Internet's capacity for interactive communication.

WHAT SHOULD BE DONE TO MORE QUICKLY INTRODUCE THE BENEFITS OF USING THE INTERNET?

Before a viable approach can be formulated to more quickly bring the benefits of the Internet to Afghanistan and other countries in the Middle East while avoiding the real (or perceived) disadvantages, a feasibility analysis must be performed. The questions to be investigated in such an analysis include the following:

* What is the current level of interest in the Internet in Afghanistan and the rest of the Middle East? What are the perceptions of the general population regarding the Internet and its advantages and disadvantages?

* What are the potential benefits and drawbacks of increased access to the Internet from the government's point of view?

* What is the level of commercial (private industry) interest and support in promoting more widespread use of the Internet?

For countries that could potentially host more Internet facilities, certain questions must be answered in detail. For example: Is ICT important to the region? Where does development of an ICT infrastructure rank in relative importance to the development of other governmental or social objectives? Does the region have the resources and incentives to self-invest in ICT? For example, a successful ICT establishment must build upon existing strengths in the local community. Is there a market for ICT investment in the region? Is the region dependent on commodity exports? Observers note that countries that are heavily dependent on the export of commodities have difficulties in "growing" their own ICT capabilities (Hudson, 2000). What is the relative wealth of the area? In poorer areas, it is important to aim for sustainable objectives built around basic needs, health, and education (Meier, 2000). In wealthier areas, growth of ICT may be linked to gains in efficiency and quality in areas such as manufacturing, for example.

TESTING THE FEASIBILITY OF INCREASED INTERNET ACCESS

Based on our research, we suggest a two-step approach to testing the feasibility of enhanced Internet

access in Afghanistan and other countries in the Middle East.

Step 1: Conduct Research on Potential Users

Select one or more potential areas for performing a feasibility analysis (as described in the preceding section), along with thorough user research. Because most people in developing countries do not live in large cities, we suggest that a small town or village be selected as the research area. The user research should produce definitive answers to questions such as: What are the potential benefits and drawbacks to Internet usage for the individual user? Which local institutions (such as mosques, schools, or cultural centers) would enjoy widespread participation? Have there been changes to social or political systems or modifications to the local environment or infrastructure (perhaps in response to changes instituted by established institutions) that would provide a greater inducement to use the Internet? These questions should be answered for both the general population and for specific groups (for example, local artisans and craftspeople).

Step 2: Establish a Prototype Internet Center

Based on the information gathered in Step 1, partner with a business or development organization to establish a prototype Internet center. Our research to date (which would be confirmed or modified by the location-specific research performed in Step 1) suggests that a successful Internet center will have a "human face." For example, it will probably feature one or more facilitators to provide translation services, relay messages, help make business contacts, and in general facilitate use of the Internet. To address any governmental concerns, the facilitators could be licensed by or supervised by the government. Business development (for instance, putting local artisans and craftspeople in touch with end buyers rather than middlemen) and job creation will probably be the primary motivations for establishing the center.

RAND's role in Step 1 would be to perform the feasibility analysis and user research. RAND's role in Step 2 would be to develop and implement an evaluation framework to test the success of the prototype center, and to evaluate whether this concept could be extended to additional sites.

The inexorable advance of Internet technology in the Middle East, however slow it may be, indicates that despite their every effort, governments will not be able to bar connectivity to the Internet indefinitely. However, the immediate needs of Afghanistan, and the slow pace of economic progress throughout the Middle East, suggest that steps should be taken promptly to develop a practical and culturally acceptable approach to helping the general population take advantage of the benefits of ICT.

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ABOUT THE AUTHORS

Elham Ghashghai has an M.S. in mathematics and a Ph.D. in industrial engineering from Purdue University. Prior to joining RAND in 1999, Dr. Ghashghai worked as a system engineer at the Aerospace Corporation. Her research activities are in math-modeling and simulation, reliable network design and analysis, aerospace systems analysis such as the Global Positioning System, communications networks, graph theory, the impact of information systems in developing countries, educational systems, and manpower and personnel.

Rosalind Lewis joined RAND in 1999 as a senior engineer with 14 years of experience in requirements analysis and software engineering project management. For 12 years as a member of the Aerospace Corporation, she provided system acquisition and development support to the Air Force/Space & Missile Systems Center and to national customers. She holds a master's degree in systems architecture and engineering from the University of Southern California, a master's degree in computer science from Polytechnic Institute of New York, and a bachelor's degree in computer science from the University of Southern California. She is a member of the TAS (Technology and Applied Sciences) group.

[1] Our use of the phrase "developing countries in the Middle East" is not meant to imply that all countries in this region are in fact "developing." In this paper, we focus on problems faced by developing countries that impose serious challenges to their use of ICT.

[2] We define a cyber-site as any facility that provides Internet access in a broad sense—by providing a human "interface" in addition to an Internet connection.

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