

## KUWAIT

Kuwait is in many ways the little brother of its neighbor to the West, Saudi Arabia, with which it enjoys close relations (Figure 41). Both countries are conservative hereditary monarchies based upon Bedouin culture that rely principally on vast oil wealth for their standards of living, and both of which are attempting to develop alternative sources of national wealth and foreign exchange. Although both countries have sizable Shia' minorities, Kuwait appears to have taken a different tack in its approach to Iran. Whereas Saudi Arabia, and most of the other Gulf countries, have kept their distance from their Persian neighbor, Kuwait has developed close working relationships, especially on the commercial level, while officially maintaining a discrete distance. Kuwait thereby acts as a bridge between the eastern and western shores of the Gulf, between the Arabs and Persians on a commercial if not governmental level. Although Kuwait seems to thus enjoy a lower level of inter-ethnic conflict than its Arab neighbors, the continuing threat from Iraq is a security concern that conditions Kuwait's relationship with the United States.



Figure 41. Map of the State of Kuwait

Although damage to the infrastructure was extensive following the Iraqi invasion of 1990 and the subsequent counter-offensive, much has been reconstructed. Today, Kuwait has the second highest per-capita Gross Domestic Product in the Persian Gulf region (Table 73). Telecom-

Table 73. Kuwait in Statistics		
Metric	Value <sup>293</sup>	Remarks
Population	1.69	millions, 1995
Population density	70	per km <sup>2</sup> , 1995
GDP	24.3	US\$billions, 1994
GDP per capita	14,715	US\$, 1994
Telephones	382.3	thousands, 1995
Teledensity	22.61	per 100 inhabitants, 1995
Teledensity in largest city	na	
Cellular subscribers	117.6	thousands, 1995
Cellular density	7.07	per 100 inhabitants, 1995
PCs	95	thousands, 1995
PC density	5.71	per 100 inhabitants, 1995
Television sets (receivers)	630	thousands, 1995
Television density	37.3	per 100 inhabitants, 1995
Literacy rate	78.6 <sup>294</sup>	per 100 inhabitants older than 15 years, 1995
Infant mortality	11.1 <sup>295</sup>	per 1000 inhabitants, 1996 estimate

communications infrastructure was a high priority, and today Kuwait has a fully-restored, world-class system. The addition of Internet service appears to have been a natural extension of the modern telecommunications services already offered by the Ministry of Communications, and there is little evidence of

<sup>293</sup> Source: *World Telecommunication Development Report*, 3rd ed., 1996/97 (Geneva: International Telecommunications Union, March 1997), unless otherwise noted.

<sup>294</sup> *The World Factbook 1996*, <<http://www.odci.gov/cia/publications/nsolo/factbook/ku.htm>> (9 February 1998).

<sup>295</sup> *ibid.*

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there having been significant concerns regarding the introduction of public services.

### Networks in Kuwait

The .kw national TLD is managed by the Ministry of Communications, which entered into a contract with GulfNet Kuwait Computer Company (now Gulfnet International Company) on 12 June 1994 to offer Internet connections on an exclusive basis to the public and government agencies for two years, with the contract being renewable for additional two-year terms.<sup>296</sup> The contract remains in force today, although, in early 1996, the Ministry announced that a second ISP was to be licensed, in order to “improve the Internet service” and lower prices<sup>297</sup>; no second license has been forthcoming.



The service is marketed as the Kuwait Electronics Messaging Services (KEMS) ([www.moc.kw](http://www.moc.kw)). KEMS is connected to the Internet in the United States via a satellite circuit leased from SprintLink, operating originally with one Class C network (196.1.69) registered with the InterNIC and now with a complete Class B network (168.187).

Services offered include dial-up shell (UNIX) and SLIP/PPP accounts, and leased lines. At the time that it was granted the ISP contract, the Ministry of Communications had already registered and connected more than 200 Internet hosts, principally at government agencies. An affiliated company, Gulfnet Kuwait ([www.kuwait.net](http://www.kuwait.net)), offers identical services, although most government agencies and public companies are connected to the Internet via KEMS. Gulfnet has been assigned 64 Class C blocks of IP numbers (194.54.192-194.54.255) by UUNet Gulf (Dubai), and is connected to a UUNet Technologies Internet port in the United States by a satellite link.

**Kuwait.Net**

The Public Authority for Applied Education and Training (PAAET), an executive agency of the Ministry of Education, was allocated a separate block of IP numbers (196.1.70.0-196.1.70.255) for educational institutions in Kuwait, although its Internet connection is via KEMS. In addition to PAAET, Kuwait University is connected to the Internet.<sup>298</sup> The University offers free Internet accounts to all students. Thus far, Kuwait is the only Persian Gulf country, perhaps the only Islamic country, to provide such academic access.<sup>299</sup>

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<sup>296</sup> State of Kuwait, Ministry of Communications, Contract for facilitating linkage operations for benefiting from the Internet services (12 June 1994).

<sup>297</sup> “Gulf Intenet [sic] growth curbed by censorship,” *Middle East Communications* 11 (May 1996), p. 3.

<sup>298</sup> Gene Mesher, “Sandsurfing through the net,” *Middle East Communications* 11 (March 1996), p. 18.

<sup>299</sup> Deborah L. Wheeler <[wheelerd@kuc01.kuniv.edu.kw](mailto:wheelerd@kuc01.kuniv.edu.kw)>, “Re: Global Virtual Reality,” 16 July 1997, distribution list (17 July 1997). Dr. Wheeler was a Senior Fulbright Researcher at Kuwait University at the time.

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Kuwait hosts the most Internet sites in the Persian Gulf region, almost half of the total. A large number of domains are registered with the InterNIC, however, rather than the Ministry of Communications. Some of these registrations pre-date the existence of the Internet in Kuwait, but many companies today continue to prefer a domain name without a country identifier. Of passing note, the Kuwait Ministry of Information has its own Web site ([www.info-kuwait.org](http://www.info-kuwait.org)), which includes among the ministry's responsibilities "censorship," but the domain is not only registered with the InterNIC, but the server is located in North Carolina. At least several Kuwaiti companies also use servers located in the United States.



A new Internet service provider, ZakSat, was established in Kuwait in 1997 and started offering public Internet access on 10 September 1997. The company uses satellite technology similar to Hughes Network System's "PC Direct" Internet service, whereby subscriber-to-ISP transmissions are carried via leased or dial-up telephone lines but ISP-to-subscriber communications (i.e., the bulk of the data) are transmitted via satellite. ZakSat is connected to the Subic Bay Satellite Systems Inc. teleport in the Philippines, which is in turn connected to the Internet in the United States via a 7.7 Mbps satellite link which will be increased to 45 Mbps in the near future. The teleport's network operations center also hosts proxy servers that locally cache frequently-requested Web pages. Subscriber communications are carried on AsiaSat 2 (100.5°E), with a footprint reaching from Egypt to New Zealand, wherein resides two-thirds of the earth's population.<sup>300</sup>

### *Internet Dimensions*

The following section discusses the dimensions of the Internet in Kuwait, with the assessment summarized in Table 74 and depicted in Figure 42. Difficulties in assessing the extent of the Internet in Kuwait are addressed below.

*Pervasiveness* The pervasiveness of Internet use in Kuwait is difficult to judge, due to the large number of sub-networks and the relatively low number of dial-up users. KEMS and Gulfnet list 73 and 42 connected client networks on their Web sites, respectively, and there are many domains physically located in Kuwait but registered under the generic TLD *.com*. Additionally, there are several Internet cafés in Kuwait (e.g., Café Olé – [ole.com.kw](http://ole.com.kw), and Kuwait Café – [www.q8cafe.com](http://www.q8cafe.com))<sup>301</sup>, with an unknown number of regular users. As of June 1996, it was reported that there were 3,500 Internet users in Kuwait, with an average of 300 signing up per month.<sup>302</sup> However, in December 1997, KEMS reported having only about 1,200 dial-up users. The number of dial-up users subscribing via Gulfnet was not reported, nor did either company estimate the number of users on connected networks. However, the Dabbagh Information

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<sup>300</sup> Vince Waterson, "ZakSat ends the 'World Wide Wait,'" *Middle East Communications* 12 (October 1997), p. 18.

<sup>301</sup> The KEMS Web site also lists Khalid al-Essa's Internet Café and Thomas Friedman interviewed Fatima al-Abdali regarding her Coffee Valley Internet café, but neither site could be located in January 1997. See Thomas L. Friedman, "No longer walled-off, Arab states succumb to flow of technology, capital," *Arizona Daily Star* (11 December 1997), p. A18.

<sup>302</sup> Michael Minges, *Arab States Telecommunication Indicators* (Geneva: International Telecommunications Union, November 1996), p. 10.

Technology Group (www.dit.net), a UAE-based IT publisher, reported that there were 29,600 Internet users in Kuwait as of July 1997, growing to 42,350 by January 1998, a growth rate of over 2,000 users per month.<sup>303</sup> (If the growth rate had remained steady at 300/month since June 1996, there would be fewer than 9,000 people on-line in Kuwait today.) The lowest reasonable estimate (9,000 users) would put Kuwait at Level 2 (Established), while accepting the highest available estimate (42,350 users) would indicate that the country had reached Level 3 (Common). Although it is not possible, given the existing data, to refine the estimate of the current user community, given the high number and proportion of Kuwaiti Web sites and the large number of connected networks, we believe that a Level 3 rating, indicating that there is at least one Internet user for each 100 individuals in the population and the infrastructure has become well-established, is justified.

Dimension	Level	Explanation
Pervasiveness	(3) <i>Common</i>	There is probably at least one Internet user for each 100 persons in the country. The Internet and infrastructure supporting services are well-established.
Geographic Dispersion	(1) <i>Single Location</i>	All servers and international connections are in a single city, although at different locations within that city.
Sectoral Absorption	(2) <i>Moderate</i>	The government and commercial sectors are heavy users, as is the university. Other educational institutions and the health sector lag behind.
Connectivity Infrastructure	(2)	There is a well-developed, modern infrastructure within the geographical constraints.
Organizational Infrastructure	(1) <i>Single</i>	A single company, Gulfnet, offers Internet access through two ISPs. Rates are government-controlled. If the impending licensing of multiple ISPs results in competition (i.e., pricing is de-controlled), the rating will increase to Level 3.
Sophistication of Use	(2) <i>Conventional</i>	The Internet is used to increase the efficiency and reach of current processes.

Table 74. Internet Dimensions for Kuwait

*Geographic Dispersion* Kuwait is a Level 1 (Single Location) country. The Internet has not dispersed geographically in Kuwait because of the size, geography, and population distribution in the country. There is only one major population center, Kuwait City. The few outlying villages are unlikely to be connected to the Internet. Oil company sites may be linked by leased lines some time in the future, should the oil companies move their communications and/or SCADA (supervisory communications and data acquisition) functions to the Internet. If the proposed new city, Subiyah, is built across Kuwait Bay from Kuwait City, there will likely be an IP backbone between the two cities and one or more remote servers in Subiyah. All international

<sup>303</sup> <www.nua.ie/surveys/how\_many\_online/index.html> (7 January 1998).

Internet connections are via satellite; the earth stations are in proximity to one another and Kuwait City.

*Sectoral Absorption* Take-up of the Internet was led by the government, but the commercial sector has been the most active overall. Virtually all large companies, public and private, have leased-line connections and a Web presence. Many medium-sized companies are similarly connected. Several, but not all, government ministries and the Amiri Diwan (palace office) have full-time connections. The academic community is unique in the region in offering free Internet access to all university students, but lower-level educational establishments are lagging behind. There are no indications of a significant presence on or use of the Internet by the health community.

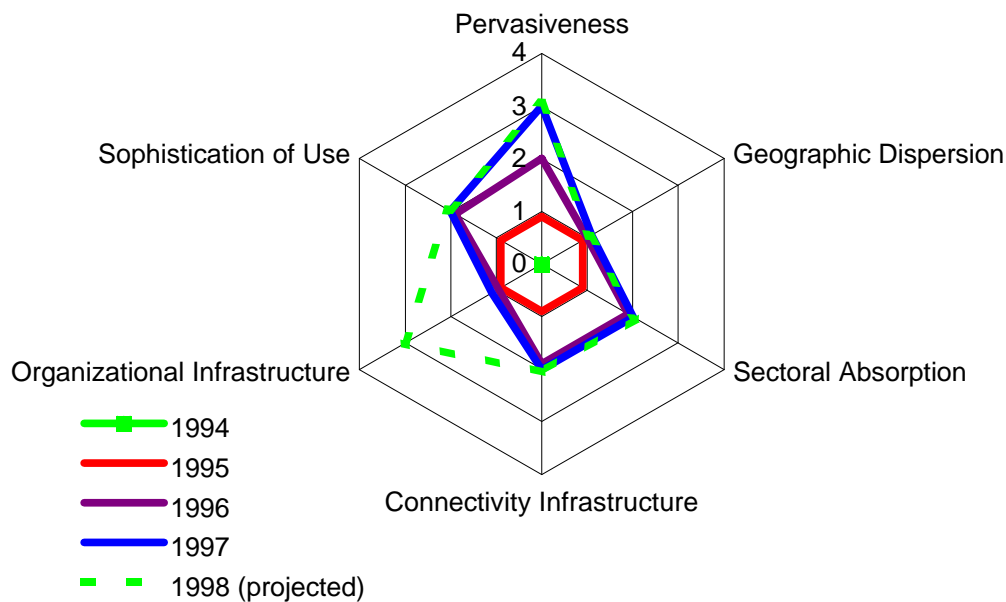


Figure 42. Internet Dimensions for Kuwait

*Connectivity Infrastructure* is difficult to rate, using Table 8 (p. 8). There is essentially no backbone (level 0), although there is an extensive metallic and fiber optic cable infrastructure available to carry Internet traffic on a non-exclusive basis. There are multiple, high-bandwidth international links to the Internet (level 2), but no Internet exchanges within the country (level 0 or 1). Internet access by subscribers is via modem or leased-line (level 2 or 3). Given the proliferation of Internet in the country, and the geographic constraints on physical dispersion of assets, we believe Kuwait should be rated at Level 2 overall for Connectivity Infrastructure.

*Organizational Infrastructure* Kuwait should current be rated at Level 1 (Single) for Organizational Infrastructure because, even though two apparently distinct entities offer Internet connections, they are both affiliates of a single company, Gulfnet, and there is no competition since rates are set by the Ministry of Communications. This situation may change within the next

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several months, however, as the ISP market is opened up to other private companies (see below), following which Kuwait might receive a Level 3 (Competitive) rating.

*Sophistication of Use* The employment of the Internet in Kuwait is conventional (Level 2). Use of the Internet has not transformed any government, educational, or business practices, and there is no evidence of any impending changes. The Internet is used principally to increase the efficiency of existing processes (e.g., electronic mail, Worldwide Web marketing) and extend their reach (e.g., identification of new suppliers of goods and services).

## Determinants

Although there was no public debate of concerns about the Internet prior to its implementation, the Ministry of Communications announced in May 1996 that providers of Internet service would have to take steps to prevent pornographic or “politically subversive” material from entering Kuwait via the Internet. As there was only a single ISP at the time (the licensing of a second was being considered), presumably that requirement applied to Gulfnet. The Ministry did indicate that, should a second ISP be licensed, the license provisions would ensure that the Ministry could “block access to certain information.” However, the minister also indicated that there were no plans to introduce Internet-specific legislation due to the “low level” of public usage.<sup>304</sup> More recently, the Minister of Water, Electricity, and Communications said that the authorities would “censor the Internet” for security purposes and “to preserve national customs and ethics.”<sup>305</sup> The gap between the implementation of public access to the Internet and the first public discussions of attempts to control Internet content may have been related to the relatively low level of public, as opposed to government or commercial, usage in the early days, which either obviated any need for public discussion or disclosure of policies or precluded the early development of an awareness of the potential for problems. In either case, an attempt to control Internet content is being made, although the method was not disclosed. Since all access is via the moc.kw and kuwait.net servers, it is possible that Kuwait has implemented a proxy server firewall in a fashion similar to that of the UAE. Table 75 summarizes the effect of the major determinants of Internet diffusion, in this case principally government policy and culture, on the dimensions of the Internet in Kuwait.

The lack of competition, although common in the region, has been particularly keenly felt in Kuwait in many sectors, as companies with exclusive licenses have generally had a free hand to charge very high prices. Although there has been no consistent policy regarding privatization or opening public companies to competition, this has been happening on a piece-meal basis. In the telecommunications sector, the government has licensed two private satellite communications carriers to provide VSAT services, GulfSat and ZakSat (which will also offer Internet access), and recently announced a tender competition for a second mobile cellular telephone operator to break the (government’s) Mobile Telephone Company monopoly and attendant high prices and marginal-quality service.<sup>306</sup> The government also announced its intention to privatize the telecommunications sector by converting the operational divisions of the communications ministry

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<sup>304</sup> “Gulf Intenet...,” *op. cit.*

<sup>305</sup> “Wide-Scale Internet Services Soon in Kuwait,” Xinhua English Newswire (10 January 1998).

<sup>306</sup> “Kuwait to get second mobile operator,” *Middle East Communications* 12 (November 1997), p. 4. The government will, however, own 24 percent of the second mobile telephone system operator.

into a joint stock company and then selling a majority of the shares publicly once the new company was profitable.<sup>307</sup>

Table 75. Determinant Impact	
Determinant Quality	Affected Dimension
State monopolies being opened to competition	Pervasiveness, Sectoral Absorption—Anticipated lower prices and improvements in quality of service should increase Internet take-up in the commercial sector. Organizational and Connectivity Infrastructures—New policies will expand the physical and operational infrastructures.
Restrictive information control	Pervasiveness, Sectoral Absorption—Although more subtle than in neighboring countries, domestic security policy restricts freedom of expression which may in turn reduce take-up by some individuals and sectors.
Very limited geographic scope in strategic location	Geographic Dispersion—There is no reason to expand the Internet outside of the major urban area and suburbs, except for oil field access. Connectivity Infrastructure—Kuwait’s location and desire to become an international telecommunications hub will result in a surfeit of international connections
New telecommunications infrastructure	Geographic Dispersion—Within the country’s limited geographic scope, the newly-installed digital telecommunications infrastructure will support extending high-speed Internet services throughout the urban area and suburbs. Connectivity Infrastructure—The modern infrastructure provides the basis for a robust IP network.

Most recently, the Minister of Electricity, Water, and Communications announced that licenses would soon be granted to as many as 54 companies to provide Internet service.<sup>308</sup> Presumably, these companies would be free to compete on price but would be required to obtain their Internet connection from the Ministry of Communications (as the exclusive international record carrier). The stated reason for the licensing of additional ISPs is to “promote scientific and cultural awareness among the people.” The minister’s statement suggested that, under the current arrangement with only two related ISPs, there was insufficient capacity to serve the number of people who wanted service. Although not stated, price is also likely an issue, since access fees in Kuwait are among the world’s highest (e.g., US\$217/month for individuals or US\$150/month for students; companies pay on a per-username basis with a 25 percent discount, i.e., US\$162 per month per user).<sup>309</sup>

### Problems and Prospects

The country’s early adoption of the Internet and the rapid growth of its use, as reflected in the increase in numbers of Worldwide Web hosts over the past four years, indicate that the Internet

<sup>307</sup> “Kuwait plans to privatise communications ministry,” Reuters World Service (31 December 1997).

<sup>308</sup> “Wide-Scale Internet...,” *op. cit.*

<sup>309</sup> State of Kuwait, *Contract...,” op. cit*

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received a favorable reception and that local users believe that there are good uses for the network. The lack of discussion of problem areas noted elsewhere in the Gulf could be due to a lesser degree of concern on the part of the Kuwaiti government and religious authorities, or may be due to a greater lack of openness in Kuwaiti society than elsewhere in the region. The future development of the Internet and its use by sectors of society now left out, such as the health sector and primary and secondary schools, and the less wealthy, depends upon the degree of freedom that will be allowed in using the Internet and in ISP competition. Competition should bring prices down, which should increase use. Stifling controls, however, may discourage use.

The market trends clearly indicate that there is a great deal of demand for Internet service in Kuwait, especially if the higher usage estimates are accurate. A benign control environment and reduced prices could cause a dramatic increase in the pervasiveness of the Internet in Kuwait in 1998.