In 2010, Pakistan made global headlines for blocking Facebook and other Web sites in response to a contest popularized on the social networking site to draw images of the Prophet Mohammad. In general, Internet filtering in Pakistan remains both inconsistent and intermittent, with filtering primarily targeted at content deemed to be a threat to national security and at religious content considered blasphemous.



RESULTS AT A GLANCE								
Filtering	No Evidence of Filtering	Suspected Filtering	Selective Filtering	Substantial Filtering	Pervasive Filtering			
Political			•					
Social			•					
Conflict and security				•				
Internet tools			•					

OTHER FACTORS				
	Low	Medium	High	Not Applicable
Transparency		•		
Consistency	•			

KEY INDICATORS	
GDP per capita, PPP (constant 2005 international dollars)	2,381
Life expectancy at birth, total (years)	67
Literacy rate, adult total (percent of people age 15+)	53.7
Human Development Index (of 169)	125
Rule of Law (of 5)	1.6
Voice and Accountability (of 5)	1.5
Democracy Index (of 167)	104 (Hybrid regime)
Digital Opportunity Index (of 181)	127
Internet penetration rate	11.3

Source by indicator: World Bank 2009, World Bank 2008a, World Bank 2008b, UNDP 2010, World Bank Worldwide Governance Indicators 2009, Economist Intelligence Unit 2010, ITU 2007, ITU 2009. See Introduction to the Country Profiles, pp. 222–223.

Background

Under General Pervez Musharraf's leadership (1999–2008), print and electronic media were often censored in cases where content was deemed to be antigovernment or anti-Islam. Government repression of media was particularly acute with regard to Baluchi and Sindhi political autonomy, as well as with content considered blasphemous or subversive.

In October 2007, Musharraf won an indirect, widely boycotted presidential election held while his two major political opponents were in exile. Musharraf's eligibility to serve as president while still serving as army chief was challenged in court, to which Musharraf responded by suspending the constitution and placing the country under a state of emergency on November 3, 2007—shutting down all privately owned television and media outlets, arresting lawyers and judges, and jamming cell phone and Internet connections. On August 18, 2008, Musharraf resigned from the presidency in order to avoid impeachment. Elections were held on September 6, 2008, and Asif Ali Zardari, the husband of assassinated Pakistan People's Party (PPP) chair Benazir Bhutto, was elected Pakistan's new president.

Pakistan is home to a vibrant civil society, including a large movement opposing and monitoring Internet and other censorship.⁵ International human rights groups frequently report on persecution of journalists at the hands of Pakistani military and extremist groups. According to the Committee to Protect Journalists, at least five

journalists and media workers were killed in 2009, and at least seven in 2010, representing an increase from previous years.⁶

Internet in Pakistan

Internet usage in 2009 was estimated to be at 20.4 million users, with an 11.3 percent penetration rate.⁷ Since implementing a deregulation and market liberalization policy in 2003, Pakistan has seen considerable growth in its information and communication technology (ICT) sector. The aggressive pursuit of deregulation and market liberalization has been aimed at boosting Pakistan's economic modernization and creating an industry for software exports. Fierce competition and demand for service have seen Internet subscription charges drop. For example, DSL, which holds 64 percent of the market for Internet service, saw subscription charges drop from USD 55 to USD 15 per month by the end of 2008.⁸ However, despite an increase in the implementation of fiber optic cables and wireless technologies, most of Pakistan relies on dial-up Internet connections.

There are approximately 130 Internet service providers (ISPs) in Pakistan. Some of the leading ISPs include Wateen, Paknet, Linkdotnet, Comsats, and Cybernet. In 2007, Wateen Telecom, a subsidiary of Warid Telecom, introduced Worldwide Interoperability for Microwave Access (WiMAX), a telecommunications technology that provides a third-generation (3G) wireless alternative to cable and DSL. Pakistan is the first country in the world to implement such technology, which is designed to provide high-performance, high-speed Internet access over a larger area than other wireless technologies that offer either greater coverage or greater bandwidth can provide. Wateen was followed by Wi-Tribe, Mobilink Infinity, and Qubee in providing WiMAX to customers. Despite this state-of-the-art technology, WiMAX has about half as many subscribers as DSL, and about twice as much as EVDO. Internet subscriptions continue to remain low, with 3.7 million Internet subscriptions in 2009 at a 2 percent penetration rate. Since 2006, DSL has remained the preferred form of broadband technology.

As of 2009, the largest Internet exchange point (IXP) in the country was the Pakistan Internet Exchange (PIE), a subsidiary of the Pakistan Telecommunication Company, Ltd. (PTCL), largely owned by the Pakistani government. It was created by the government in 2000 to provide a single core backbone for Pakistan by providing peering points for ISPs. The Pakistan Internet Exchange has three main nodes—in Karachi, Lahore, and Islamabad—as well as 42 smaller nodes, and it operates two submarine cables, the South East Asia—Middle East—Western Europe 3 (SEA-ME-WE 3) and the South East Asia—Middle East—Western Europe 4 (SEA-ME-WE 4).

The PTCL was the sole provider of bandwidth to the country until 2009, when an agreement between the Internet Service Providers Association of Pakistan and the

PTCL decided that ISPs would not be forced to buy bandwidth from the PTCL and were free to choose from third-party providers.¹¹ A second major company in Pakistan's Internet infrastructure is TransWorld, which owns and operates Pakistan's first and only privately owned submarine fiber optic cable system, the TW1, which has a capacity of 1.28 terabytes, more than is currently necessary for the nation.¹²

Internet filtering in Pakistan is regulated by the Pakistan Telecommunications Authority (PTA) and the Federal Investigation Agency (FIA) under the direction of the government, the Supreme Court of Pakistan, and the Ministry of Information Technology (MoIT).

On September 2, 2006, the MoIT announced the creation of the Inter-Ministerial Committee for the Evaluation of Web sites (IMCEW), responsible for monitoring and blocking Web sites containing blasphemous, pornographic, or antistate material. The IMCEW is administered by the secretary of the MoIT and is composed of representatives from the MoIT, the PTA, the Ministry of the Interior, the cabinet, and other security agencies. Directives to block content are typically handed by the government or the Supreme Court through the IMCEW to the MoIT and PTA, who then pass the orders to individual ISPs. However, because there is no specific legal framework, directives can be given directly to the PTA and ISPs to block material without going through the IMCEW. The Deregulation Facilitation Unit is responsible for addressing the grievances that Internet users may have with this censorship body.

Internet censorship in Pakistan has received worldwide attention because of the pervasive influence of religious groups. The government's often quick moves to filter certain material can be considered rash.

In 2006, the Supreme Court issued a directive that ordered the PTA to block access to 12 Web sites that included "blasphemous" cartoons depicting the Prophet Mohammad. Among this banned content was a Web site that was hosted on a Blogspot domain. Rather than blocking the offending Blogspot Web site, the PTA blocked access to the entire domain for approximately two months. ¹⁵ At the same time, the Supreme Court ordered police to register cases of publishing or posting of blasphemous images under article 295-C of the Pakistan Penal Code, under which blasphemy or defamation of the Prophet Mohammad is punishable by death. ¹⁶

In 2008, the government issued an order to ISPs to block a URL and three IP addresses associated with a YouTube video clip of Geert Wilders, the Dutch lawmaker, considered "blasphemous" by the Pakistani government.¹⁷ Because the PIE was unable to conduct a URL-specific block, it performed an IP-wide block, which had the unanticipated consequence of rendering the entire YouTube domain inaccessible to much of the world for approximately two hours.¹⁸

In May 2010, the PTA ordered ISPs to block Facebook, YouTube, and certain Flickr and Wikipedia pages when an Internet user created a Facebook page entitled "Post Drawings of the Prophet Mohammad Day." The ban was ordered as a result of the

Islamic Lawyers Association's request for a court injunction to ban Facebook, while the other Web sites were later banned because of "objectionable material." The blanket Facebook ban was lifted after the page in question was removed; however, the government stated that it would continue to block other Web sites that contained "blasphemous content." In the following month, the government also ordered the PTA to monitor "offensive content" on Amazon, Bing, Google, Hotmail, MSN, Yahoo, and YouTube. 22

Internet content that is critical of or draws negative attention toward the Pakistani government and armed forces is also a target of filtering. In 2009, President Zardari received widespread criticism after he passed a law prohibiting the spread of "ill motivated and concocted stories through emails and text messages against the civilian leadership" after a flood of jokes about his government were sent to the president's official e-mail.²³ In February 2010, YouTube was blocked by the PTA after videos of Zardari yelling at a public gathering were posted on the site.²⁴ In October 2010, the Pakistani army ordered videos of a Pakistani army officer beating a civilian in the Swat Valley to be removed from popular video-sharing Web sites.²⁵

In addition to blasphemous material, Pakistan has blocked "antistate" content, Web sites promoting Baluchi and Sindhi human rights and political movements, and content regarding political autonomy and minorities. It has also blocked several Web sites regarding Pashtun secessionism.

Legal and Regulatory Frameworks

Former President Musharraf's crackdowns on the media included content prohibitions and enhanced government discretion toward licensing requirements in order to cultivate self-censorship. In 2002, Musharraf established the Pakistan Electronic Media Regulatory Authority (PEMRA) to facilitate and regulate private electronic media. ²⁶ One of the PEMRA's first acts was to lay out the regulatory framework that ultimately served to support Musharraf's drive to control and restrict independent journalism.

In recent years, violence toward minorities, journalists, and bloggers has increased dramatically. In 2010, the Committee to Protect Journalists named Pakistan the deadliest country for journalists, with the deaths of six journalists and one media worker in the span of six months.²⁷ In 2009, seven journalists and one media worker were killed, and in 2008, six journalists were killed.²⁸

Pakistan is considered to have some of the world's strictest laws regarding blasphemous material. In 1986 the penal code of 1860 was amended by the military regime of General Zia-ul-Haq. The amended laws prescribed life imprisonment or death for certain violations, and they have historically targeted Baluchi, Sindhi, Ahmadi, and Christian groups.²⁹ Minorities and those voicing divergent viewpoints continue to be targeted by extremist groups that use Pakistan's blasphemy laws to justify their brutal

attacks. One of the most persecuted groups in Pakistan is the Ahmadiyya community. Ahmadis, who are declared non-Muslim by Pakistani law, suffer persecution and widespread censorship under Pakistan's blasphemy laws for their beliefs.³⁰ Most recently, on May 28, 2010, terrorists carried out two attacks on Ahmadi places of worship, killing more than 90 people.³¹ In 2009 at least 50 members of the Ahmadiyya community were charged under the blasphemy law.³² Since the amendment of the penal code, there have been approximately 700 blasphemy cases. In January 2011, Salman Taseer, the governor of Punjab province, was assassinated by one of his own guards, who condemned the politician's public opposition to the country's blasphemy laws.³³

Actions taken by the government, especially in 2010, indicate a move toward a centralized monitoring and filtering system that is easy to manipulate through vague and easily amendable laws. The Prevention of Electronic Crimes Ordinance (PECO) came into effect on September 29, 2008.³⁴ The ordinance lays out offenses for electronic forgery, fraud, criminal data access, use of malicious code, cyber stalking, and cyber terrorism. It grants the government the ability to amend and add rules to the ordinance as it sees fit, as long as the changes are published in the government newspaper, the *Gazette of Pakistan*.³⁵

In March 2010, the Pakistani government issued a directive allowing it to order the PTA, "in case of any national security situation, to order temporary or permanent termination of telecom services of any service provider, in any part or whole of Pakistan."36 On June 3, 2010, the Lahore High Court ordered the PTA and the MoIT to devise methods to create a permanent system that would monitor and filter "blasphemous and objectionable content" on the Internet. By June 23, 2010, reports emerged that the PTA was in the process of developing regulations to define the filtering process, and that suggestions were made to create a centralized filter to block objectionable material.³⁷ These were immediately followed by orders from the Lahore High Court to the MoIC to ban 17 Web sites and to monitor Amazon, Bing, Google, Hotmail, MSN, Yahoo, and YouTube.³⁸ After the directive, evidence emerged that the PTCL was experimenting with transparent proxy servers in order to develop a more sophisticated censorship system. The evidence indicated that the PTCL was testing an advanced form of blocking known as CleanFeed, which would allow Pakistani authorities to block individual Web pages online as opposed to entire domains or Web sites.39

In November 2010, the Pakistani government released a draft policy that laid down the framework for a national plan to transform Pakistan's IT industry.⁴⁰ The draft policy uses vague language open to interpretation and misuse. It gives indirect control of the Country Code Top Level Domain for Pakistan, .pk, to the government. The draft policy also gives the government a free hand in enacting and amending legislation to support its goals, mentioning its ability to "take corrective actions as necessary."⁴¹ According to the draft, free access to information and the sharing of divergent

views and dialogue are promoted, except "in situations where the content poses a security risk or violated religious, social or cultural values," or disseminates blasphemous material, in which case the government has the ability to "take steps to block such traffic," and "necessary legislation would be enacted, as necessary, to support the aforementioned goals." The final version of the policy was slated for release in December 2010; at the time of this writing it had not yet been released.

Surveillance

Internet surveillance in Pakistan is primarily conducted by the PIE under the auspices of the PTA. The PIE monitors all incoming and outgoing Internet traffic from Pakistan, as well as e-mail and keywords, and stores data for a specified amount of time. ⁴³ Law enforcement agencies such as the FIA can be asked by the government to conduct surveillance and monitor content. Under PECO, ISPs are required to retain traffic data for a minimum of 90 days and may also be required to collect real-time data and record information while keeping their involvement with the government confidential. ⁴⁴ The ordinance does not specify what kinds of actions constitute grounds for data collection and surveillance.

ONI Testing Results

OpenNet Initiative testing was conducted on two major ISPs: PTCL and CyberNet Internet Services. Consistent with 2007–2008 testing results, ONI testing found no uniform method of blocking between the two ISPs. Pakistan continues to filter content that is considered to threaten the country's internal security. This includes content relating to the Baluchi conflict and independence movement as well as religious content deemed blasphemous. Filtering in Pakistan is inconsistent between ISPs and is often intermittent.

Internet users on PTCL who attempt to access blocked content receive a block page informing them that the site in question is restricted, while CyberNet users attempting to access blocked content receive a network error page indicating that there are "no DNS records" for the site. This error page gives users the impression that the Web sites are inaccessible as a result of network errors or that they simply no longer exist. Technical analysis revealed that these errors were the result of a DNS look-up failure, which is consistent with 2007 and 2008 testing findings.

A form of collateral filtering, the blocking of additional content that is unintended and caused by imprecise filtering methods,⁴⁵ has long been a feature of Internet censorship in Pakistan. For example, in March 2007, in an attempt to comply with a Supreme Court order to filter blasphemous content "at all costs," the PTCL implemented a blanket IP address block at their Karachi PIE exchange that lasted for four

days and affected the Akamai servers, leading to disruptions of Google, Yahoo, BBC, CNN, ESPN, and several other major Web sites.⁴⁶

One of the most extreme examples of collateral filtering occurred in February 2008, when the Pakistani government attempted to block YouTube for hosting the Geert Wilders video clip.⁴⁷ The PTA issued an order to block access to a single video; in response, the PTCL redirected requests for YouTube videos to its own network. This rerouting was advertised to ISPs worldwide and was picked up by Hong Kong–based ISP PCCW, which then broadcast the redirect to other ISPs.⁴⁸ YouTube staffers worked with PCCW to restore access within two hours.⁴⁹ Access to YouTube in Pakistan was restored following YouTube's removal of the offending video.

The Web sites blocked by the two tested ISPs provide a representative snapshot of filtering practices in 2010, consisting mainly of Baluchi-related news, culture, and independence sites. Although ONI testing did not capture the intermittent blocks on Facebook and other sites in the wake of "Draw Mohammed Day," a related site, http://drawmohammed.com, was found blocked by CyberNet. Two other sites containing images of the Prophet were also found blocked by CyberNet: http://zombietime.com and http://prophet.rydasrecords.com. Among the handful of other sites blocked by CyberNet were http://themoviefitna.com (the Web site for Geert Wilders's anti-Islam film *Fitna*); http://michellemalkin.com (the site of right-wing American talk-show host Michelle Malkin); and http://www.faithfreedom.org (a site that calls itself a "grassroots movement of ex-Muslims"). PTCL was found to be blocking only three sites: http://hinduunity.com, http://hizb-ut-tahrir.org, and http://islamreview.com.

In 2008, the ONI observed that responsibility for implementing filtering in Pakistan had been shifted to the ISP level. Just as the ONI found a decrease in consistency between tests conducted in 2006–2007 and 2008, the most recent round of testing showed a further decrease in consistency between PTCL and CyberNet. Consistent with previous tests, 2010 ONI testing showed that the vast majority of Web sites with content related to independent media, social media, circumvention and anonymity tools, international human rights groups, Voice over Internet Protocol (VoIP) services, civil society groups, minority religions, Indian and Hindu human rights groups, Pakistani political parties, and sexual content (including pornography and LGBT content) were accessible across the ISPs tested.

Conclusion

Pakistanis currently have free access to a wide range of content, including most sexual, political, social, and religious sites on the Internet. Although the majority of filtering in Pakistan is intermittent—such as the occasional block on a major Web site like Blogspot or YouTube—the PTA continues to block sites containing content it considers to be blasphemous, anti-Islamic, or threatening to internal security. Online civil

society activism that began in order to protect free expression in the country continues to expand as citizens utilize new media to disseminate information and organize.

Notes

- 1. Martina Smit, "Pervez Musharraf Wins Pakistan Election," *The Telegraph*, October 6, 2007, http://www.telegraph.co.uk/news/worldnews/1565320/Pervez-Musharraf-wins-Pakistan-election.html.
- 2. James Traub, "The Lawyers' Crusade," *New York Times Magazine*, June 1, 2008, http://www.nytimes.com/2008/06/01/magazine/01PAKISTAN-t.html.
- 3. Naween A. Mangi and Khalid Qayum, "Musharraf Quits as President to Avoid Impeachment," Bloomberg, August 18, 2008, http://www.bloomberg.com/apps/news?pid=newsarchive&sid=au6PGtmU44E0&refer=home.
- 4. "Timeline: Pakistan," BBC News, August 19, 2009, http://news.bbc.co.uk/2/hi/south_asia/country_profiles/1156716.stm.
- 5. For example, see Don't Block the Blog campaign, http://dbtb.org; Pakistan 451, http://pakistan451.wordpress.com; Bytesforall Pakistan ICT Policy Monitor Network, http://pakistanictpolicy.bytesforall.net.
- 6. Committee to Protect Journalists, "Journalists Killed in Pakistan since 1992," http://cpj.org/killed/asia/pakistan.
- 7. International Telecommunication Union (ITU), "Internet Indicators: Subscribers, Users and Broadband Subscribers," 2009 Figures, http://www.itu.int/ITU-D/icteye/Reporting/ShowReportFrame.aspx?ReportName=/WTI/InformationTechnologyPublic&ReportFormat =HTML4.0&RP_intYear=2009&RP_intLanguageID=1&RP_bitLiveData=False.
- 8. Pakistan Telecommunication Authority (PTA), "Value Added Services," August 23, 2009, http://www.pta.gov.pk/index.php?option=com_content&task=view&id=651&Itemid=604.
- 9. Mark Whitton, "What WiMAX Means for the Enterprise," TMCNet, April 2007, http://www.tmcnet.com/voip/0406/featurearticle-what-wimax-means-for-enterprise.htm.
- 10. ITU, "Internet Indicators."
- 11. Babar Bhatti, "End of PTCL Monopoly in Broadband," All Things Pakistan, May 23, 2009, http://pakistaniat.com/2009/05/23/broadband-pakistan/.
- 12. Transworld Associates, "TW1 Fiber Optic Cable Project," accessed November 29, 2010, http://www.tw1.com/index.php?action=text.
- 13. Don't Block the Blog, "Committee Formed to Block Websites," September 3, 2006, http://dbtb.org/2006/09/03/committee-formed-to-block-websites/.
- 14. Ministry of Information Technology, "De-regulation Policy for the Telecommunication Sector," July 2003, http://www.pta.gov.pk/media/telecom25092003.pdf.

15. Alecks Pabico, "Blogspot Blanket Ban in Pakistan Appears to Be Lifted," Free Expression in Asian Cyberspace, May 4, 2006, http://freeexpressionasia.wordpress.com/2006/05/04/blogspot-blanket-ban-appears-to-be-lifted.

- 16. Pakistan Penal Code, http://www.pakistani.org/pakistan/legislation/1860/actXLVof1860.html.
- 17. Stephen Graham, "Pakistan Lifts YouTube Ban," Huffington Post, February 26, 2008, http://www.huffingtonpost.com/2008/02/26/pakistan-lifts-youtube-ba_n_88522.html.
- 18. Don't Block the Blog, "TWA Internet Backbone Blocks Only Blasphemous Video URL," February 24, 2008, http://dbtb.org/2008/02/24/twa-internet-backbone-blocks-only-blasphemous-video-url.
- 19. Waqar Gillani, "Pakistan: Court Blocks Facebook," *New York Times*, May 19, 2010, http://www.nytimes.com/2010/05/20/world/asia/20briefs-Pakistan.html.
- 20. Zainab Jeewanjee, "Facebook Banned in Pakistan—May 2010," World Affairs Blog Network, May 20, 2010, http://pakistan.foreignpolicyblogs.com/2010/05/20/two-pakistans.
- 21. Declan Walsh, "Pakistan Lifts Facebook Ban but 'Blasphemous' Pages Stay Hidden," *The Guardian*, May 31, 2010, http://www.guardian.co.uk/world/2010/may/31/pakistan-lifts-facebook-ban.
- 22. Asif Shahzad, "Internet Censorship in Pakistan: Watching Google for Blasphemy," Associated Press, June 25, 2010, http://www.csmonitor.com/From-the-news-wires/2010/0625/Internet -censorship-in-Pakistan-Watching-Google-for-blasphemy.
- 23. Isambard Wilkinson, "Pakistan President Asif Zardari Bans Jokes Ridiculing Him," *The Telegraph*, July 21, 2009, http://www.telegraph.co.uk/news/worldnews/asia/pakistan/5878525/Pakistan-president-Asif-Zardari-bans-jokes-ridiculing-him.html.
- 24. "Govt Blocks Site over Zardari 'Shut Up' Tape," *Times of India*, February 11, 2010, http://articles.timesofindia.indiatimes.com/2010-02-11/pakistan/28149197_1_president-asif-ali-zardari-youtube-blocks.
- 25. Jane Perlez, "Pakistani Army Chief Orders Video Inquiry," *New York Times*, October 7, 2010, http://www.nytimes.com/2010/10/08/world/asia/08islamabad.html.
- 26. PEMRA Pakistan, http://www.pemra.gov.pk/pemra.
- 27. Committee to Protect Journalists, "Thirty-two Journalists Killed in Pakistan Since 1992/ Motive Confirmed," http://cpi.org/killed/asia/pakistan.
- 28. Ibid.
- 29. "Blasphemy Laws in Pakistan," Rationalist International, May 20, 2010, http://www.rationalistinternational.net/Shaikh/blasphemy_laws_in_pakistan.htm.
- 30. Amjad Mahmood Khan, "Persecution of the Ahmadiyya Community in Pakistan: An Analysis under International Law and International Relations," *Harvard Human Rights Journal* 16 (2003), http://www.law.harvard.edu/students/orgs/hrj/iss16/khan.shtml.

31. "Attacks on Minorities in Pakistan: Growing Power of Fundamentalists in Punjab," South Asia Citizens Web, June 1, 2010, http://www.sacw.net/article1443.html.

- 32. Human Rights Watch, "Pakistan: Massacre of Minority Ahmadis," May 31, 2010, http://www.hrw.org/en/news/2010/05/31/pakistan-massacre-minority-ahmadis.
- 33. "Pakistani Governor Opposing Blasphemy Law Killed," CTV News, January 4, 2011, http://www.ctv.ca/CTVNews/World/20110104/pakistan-assassination-110104.
- 34. Federal Investigation Agency, Government of Pakistan, "Prevention of Electronic Crimes Ordinance, 2007," http://www.fia.gov.pk/electronic_prevention_orde.pdf.
- 35. Ibid.
- 36. Aamir Attaa, "Government Regulates Jamming of Telecom Services Due to National Security," Pro Pakistani, February 12, 2010, http://propakistani.pk/2010/02/12/government-regulation-jamming-telecom-services-national-security.
- 37. Aamir Attaa, "PTA to Devise Centralized Internet Censorship Practices," Pro Pakistani, June 23, 2010, http://propakistani.pk/2010/06/23/pta-to-devise-centralized-internet-censorship -practices.
- 38. "Pakistan to Monitor Google and Yahoo for Blasphemy," BBC News, June 25, 2010, http://www.bbc.co.uk/news/10418643.
- 39. Danny O'Brien, "In Pakistan, a Censor's Hand in Facebook, Twitter Woes?" Committee to Protect Journalists, June 21, 2010, http://cpj.org/internet/2010/06/facebook-twitter-woes-in-pakistan-may-offer-glimps.php.
- 40. Ministry of Information Technology, "National IT Policy (Revised 2010) Draft," November 2010, http://www.pcl.org.pk/policy/doc/Draft_National_IT_Policy_%282010%29.pdf.
- 41. Ibid.
- 42. Ibid.
- 43. Cecil J. Chen, "Bloggers Brace for Blackouts over CJ," *Daily Times*, March 17, 2007, www.dailytimes.com.pk/default.asp?page=2007\03\17\story_17-3-2007_pg12_9.
- 44. Prevention of Electronic Crimes Ordinance, 2009, http://www.na.gov.pk/ordinances/ord2009/prevention_electronic_crime_ord2009_210809.pdf, accessed January 30, 2011.
- 45. Nart Villeneuve, "The Filtering Matrix: Integrated Mechanisms of Information Control and the Demarcation of Borders in Cyberspace," *First Monday* 11, no. 1 (2006), http://firstmonday.org/issues/issue11_1/villeneuve/index.html.
- 46. Adil Najam, "Google, Yahoo, BBC, CNN and Others Websites Blocked in Pakistan as PTCL Fumbles a Censorship Extravaganza," Pakistaniat, March 7, 2007, http://pakistaniat.com/2007/03/07/pakistan-blog-ban-block-ptcl-yahoo-google-cnn-websites-censorship-internet.

47. "Pakistan's Internet Has a Bad Weekend," OpenNet Initiative Blog, February 25, 2008, http://opennet.net/blog/2008/02/pakistan%E2%80%99s-internet-has-a-bad-weekend; Martin A. Brown, "Pakistan Hijacks YouTube," Renesys Blog, February 24, 2008, http://www.renesys.com/blog/2008/02/pakistan_hijacks_youtube_1.shtml.

- 48. Declan McCullagh, "How Pakistan Knocked YouTube Offline (and How to Make Sure It Never Happens Again)," CNet, February 25, 2008, http://news.cnet.com/8301-10784_3-9878655-7.html.
- 49. Brown, "Pakistan Hijacks YouTube."