Burma

Burma's ruling military junta is attempting to expand Internet access in the country while maintaining a restrictive system of control. Although less than only 1 percent of the population has access to the Internet, the government maintains a tight grip over online content, and—as demonstrated by the shutdown of Internet access during the 2007 "Saffron Revolution"—is willing to take drastic action to control the flow of information. Internet filtering in Burma is pervasive and extensively targets political and social content. Strict laws and regulations, along with surveillance, prohibit Internet users from freely accessing the Internet. Cyber attacks on the Web sites of opposition groups and media are frequent and typically occur on the anniversaries of significant political events, or during critical moments such as the 2010 election.

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)	854
Life expectancy at birth, total (years)	62
Literacy rate, adult total (percent of people age 15+)	91.9
Human Development Index (out of 169)	132
Rule of Law (out of 5)	1.0
Voice and Accountability (out of 5)	0.3
Democracy Index (out of 167)	163 (Authoritarian regime)
Digital Opportunity Index (out of 181)	179
Internet penetration rate (percentage of population)	0.2

Source by indicator: World Bank 2005, 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

The State Peace and Development Council (SPDC), the military government that rules the Union of Myanmar, maintains a tight stranglehold on the country's economic and political developments. The government polices Internet content through one of the most severe regimes of information control in the world. Despite barriers to access and very low connectivity, however, Internet users in Burma have managed to communicate valuable information to the outside world during explosive political events.

On August 19, 2007, precipitating what would become known as the Saffron Revolution, leaders of the 88 Generation student group organized a rally to protest a sudden sharp increase in fuel prices in Rangoon (Yangon).[1] Because the Burmese spend up to 70 percent of their monthly income on food alone,[2] the fuel-price hikes amid chronic inflation—which reached 30 percent in 2006 and 2007—were untenable.[3] Over the next month, leadership of the protests passed from former student leaders and a number of female activists to Buddhist monks, with participation swelling to an estimated crowd of 150,000 protesters on September 23.[4] Throughout the crisis, citizen journalists and bloggers continued to feed raw, graphic footage and eyewitness accounts to the outside world through the Internet. The violent crackdown that began on September 26 ultimately left up to 200 dead,[5] including a Japanese journalist whose death by gunshot was caught on video.[6] Burmese security forces raided monasteries, detaining and disrobing thousands of monks. Despite claims by official state media

that only 91 people remained in detention as of December 2007, Human Rights Watch claimed the number to be in the hundreds.[7]

Between October and December 2008, around 300 individuals were sentenced to harsh prison terms for political crimes.[8] Most were tried by police prosecutors and convicted by judges operating from prison courts, including Insein prison—a prison run by the junta for the purpose of repressing political dissidents and notorious for its inhumane conditions.[9] In November, it was reported that 150 critics of the government had received imprisonment terms of two to 65 years.[10] According to the UN Special Rapporteur on the situation of human rights in Burma, 16 journalists and bloggers were in prison in March 2009.[11] As of 2010, there were an estimated 2,100 "prisoners of conscience" in Burma.[12]

A general election in Burma was held on November 7, 2010. It was the first election in Burma since 1990 when the National League for Democracy (NLD)—the major opposition party led by Aung San Suu Kyi—won a majority of 392 out of 492 seats. However, the State Law and Order Restoration (SPDC's predecessor) refused to hand over power to the NLD and imprisoned many of the NLD's members, including Suu Kyi.[13] The 2010 election was a part of the SPDC's plan to move the country from military to democratic rule under the "road map to democracy" plan. However, the general sentiment within the country was that the election would only consolidate military rule.[14]

In March 2010, the SPDC laid down ground rules for the election with controversial electoral laws and bylaws that undermined participation by opposition parties and prohibited those with criminal convictions from participating in the election.[15] These actions were understood by many as contrary to the democratic process because the move essentially prohibited the participation of many prodemocracy leaders who had been arrested in the aftermath of the 1990 election.

By October 2010, 40 political parties had been approved by the electoral commission to participate in the election, but observers predicted that the race would come down to three contenders: the National Democracy Force (established by former members of the NLD), the Union Solidarity and Development Party (USDP), and the National Unity Party (NUP). Both the USDP and the NUP had the full backing of the junta, with the USDP consisting of former military officers.[16] Due to draconian election laws and constraints imposed by the military's controversial constitution, as well as its size and budget, a USDP victory was expected. In the lead-up to the election, parties opposed to the junta complained about harassment, and Suu Kyi called for a boycott of the election. Foreign media and observers were barred from the country during the election.

On November 9, 2010, with 80 percent of all votes, the USDP was declared the winner of the general election.[17] The USDP claimed that 70 percent of eligible voters had participated in the election.[18] Although many opposition groups condemned the

results by alleging massive fraud, the government of Burma declared the election to be a transition to democracy. Those who condemned the election pointed to illegitimate advance voting[19] and the fact that the Burmese constitution automatically reserves 25 percent of the seats in Parliament for military officials.[20]

Internet in Burma

A combination of government restrictions, slow connection speeds, and prohibitive costs has kept Internet access rates relatively low and stagnant in Burma. In 2009, there were an estimated 111,000 Internet users in Burma, representing a 0.2 percent penetration rate.[21] In the same year, there were 15,000 fixed broadband subscriptions, representing a 0.03 percent fixed broadband subscription penetration rate.[22]

Most users access the Internet in public access centers (PACs), which typically charge between USD 0.30 and 0.50 per hour.[23] Some PACs are owned by the Union Solidarity and Development Association (USDA), which operates Internet café services in their local township offices. Users and owners of PACs are subject to a number of state regulations.[24] Operators of PACs must record the names, identification numbers, and addresses of their customers. They are also required to take screenshots of a patron's computer every five minutes and maintain records of Internet usage to be sent to the Myanmar Information Communications Technology Development Corporation every two weeks. Internet café owners are required to arrange computer monitors in a way that makes them publically visible (that is, to restrict privacy) and to ensure that only state-run e-mail providers are used.[25] Access to political Web sites, as well as cybercrime (including acts against Burmese culture), are prohibited at Internet cafés.

Despite regular crackdowns, it is widely reported that most PAC owners ignore regulations and provide their customers with proxy servers, such as glite.sanyi.net, an alternative means of accessing blocked Web sites.[26] Informal bribe-paying arrangements between some PAC owners and government employees allows some PACs to operate illegally—which in turn allows owners to offer proxy tools and other services that are technically forbidden.[27]

Slow connection speeds and steep costs limit access significantly. In 2009, initial setup costs for broadband were approximately USD 200 for dial-up connection and USD 2,000 for ADSL.[28] The Internet connection speeds in homes, offices, and businesses were, respectively, 128 Kbps, 256 Kbps, and 512 Kbps.[29] Slow upload speeds are not only an indication of the lack of Internet capacity in Burma—they may also be of intentional design. For example, even after connectivity was resumed following the Internet shutdown during the Saffron Revolution, Internet speeds controlled with proxy-caching servers were slowed to 256 Kbps—a likely attempt by the government to prevent users from uploading videos and photos or sending large files and documents.[30] Although broadband subscribers can choose to pay according to access speeds,

they also have to accept upload speeds that are half the download speeds in each subscription.[31] In Internet cafés, Internet speed tends to be slower because connection lines are shared by multiple computers.[32]

Slowdowns in Internet connection speeds are common in Burma. For example, a prolonged slowdown on the Burmese Internet service provider (ISP) Yatanarpon Teleport began on March 22, 2009, and continued until April 21.[33] Yatanarpon Teleport had announced that the submarine cable South East Asia–Middle East–Western Europe 3 (SEA-ME-WE 3) would be undergoing maintenance from March 21 to March 25, but both Yatanarpon Teleport and Ministry of Post and Telecommunications (MPT) shut down their service for several hours on the afternoon of March 22. For end users, the announced network maintenance resulted in frustration with delays (in addition to those caused by the use of circumvention tools) in accessing popular online services, while many Internet cafés were closed while waiting for the resumption of normal Internet access speeds. A similar slowdown occurred in February 2010.[34]

The Burmese government maintains a tight grip on the Internet, particularly during key moments, and continually strives to improve its means of controlling information. In April 2008, Mizzima News reported that the government had formulated a sector-based Internet shutdown strategy to deal with the constitutional referendum scheduled for May 10 so that as soon as information leaks began, Internet cafés and PACs would be cut off, followed by the commercial sector (and presumably the hospitality and tourism sector) if information continued to flow out.[35] Authorities planned both shutdowns of access and significant slowdowns in connection speeds,[36] a strategy that was made irrelevant in the wake of Cyclone Nargis.[37]

The Burmese government aggressively controls online content through filtering Web sites related to pornography, human rights, political reform, and politically sensitive topics. Web sites are filtered with technologies from U.S. companies Fortinet and Bluecoat,[38] despite an embargo that places limits on exports to Burma. Users often use proxy sites to access banned Web sites and free e-mail services and chat programs such as Gmail and Gtalk. However, proxy sites are also banned.

Despite the limitations imposed on society in Burma, the Internet has become an important tool for citizens to challenge the restrictions that are placed on them. For example, amid escalating tension and protests in September 2007, a small band of citizen bloggers and journalists fed graphic footage and eyewitness accounts to the outside world through the Internet.[39] Photographs and videos taken with cellular telephones and digital cameras were uploaded to the Internet, broadcast over television and radio, and spread across communities in Burma. Citizen journalists helped many generations of Burmese citizens link to each other through blogs and other forms of social media.[40] Although this effort was brought to a complete halt on September 29, 2007, when the SPDC completely shut down the country's Internet access for approximately two weeks, allowing only intermittent periods of connectivity,[41] the

actions of "netizens" demonstrated that the tools of information technology can have a strong impact on the global coverage of events as they unfold. The subsequent Internet shutdown was the government's most direct and drastic option to cut off this bidirectional flow of information, to keep the picture of reality distorted for people both within the Burmese border and outside.

Although the Burmese ruling elite perceives the Internet as a source of instability and goes to great lengths to control access and content, they also see the Internet as an enabler of economic development. After signing the 2000 e-ASEAN Framework Agreement, Burma formed the e-National Task Force to support the development of information and communications technologies (ICTs).[42] Set to become Burma's largest IT development, Yatanarpon Cyber City in Pyin Oo Lwin is part of an ICT development master plan under the Initiative for ASEAN Integration.[43] The development of Yatanarpon Cyber City and the country's Internet infrastructure illustrates the regime's commitment to economic development in the realm of ICTs.

At the same time, some sources have charged Yatanarpon as being part of a plan to tighten control over the country's Internet and prevent users from gaining access to or distributing information critical of the regime.[44] In October 2010, Yatanarpon Teleport, the first Myanmar national Web portal, was launched in Yatanarpon. Its creation marked a major change in Burma's ICT development.

Prior to the launch of the national Web portal, the country's two ISPs were the state-owned MPT and the privately owned Yatanarpon Teleport (or Myanmar Teleport, formerly known as Bagan Cybertech), which was controlled by the Ministry of Communications, Posts, and Telegraphs. Internet requests would have to go through each of the ISPs, through the security gateway, and then through the military-controlled Hantharwaddy National Gateway before accessing the global Internet through the SEA-ME-WE 3 and China-Burma cross-border fiber-optic cables.[45] Under this system, all Internet requests were required to go through proxy servers located in Rangoon. Because military and government users shared ISPs with private users, Internet requests from military and government users also went through the Rangoon proxy servers, creating a bottleneck for government and military users.[46]

After the launch of Yatanarpon Teleport, the two main servers were no longer MPT and Yatanarpon, but MPT and a newly created Ministry of Defense ISP. Naypyitaw (a new ISP) and Yatanarpon Teleport are now under the Myanmar Post and Telecommunications ISP. Under this new ISP system, the Ministry of Defense ISP will serve only Ministry of Defense users, while the Naypyitaw ISP will serve other government ministries, and Yatanarpon will serve private civilian users. This new ISP system will minimize loading on the National Gateway as well as the main ISP, but Internet requests will have to pass through more ISPs servers—thus placing users under more screening and controls.[47]

As one report pointed out, segregating users into separate groups accessing the Internet through differentiated servers means that users will be subject to more screening

and controls as the government will be given a better capacity to control traffic.[48] At a time of emergency, the government will only have to shut down the Yatanarpon ISP, as opposed to all ISPs, in order to block civilian users from the Internet. The Burma Media Association and Reporters Without Borders have expressed concern about the safety of users' login credentials because there are possibilities of sniffing (or "Man in the Middle")[49] attacks and DNS spoofing/poisoning.[50] These new developments demonstrate that the government intends to expand Burma's Internet access, while at the same time maintaining strict control over online activity.

Legal and Regulatory Frameworks

Despite the fact that the right to equal protection under the law, to freedom of expression and peaceful assembly, to education, and other fundamental rights are guaranteed in the Burmese constitution, the SPDC continues to violate these rights and freedoms.[51] Although the SPDC claims that 380 domestic laws are being reviewed for compliance with constitutional human rights provisions,[52] it continues to apply broad laws and regulations in order to punish citizens for any activity deemed detrimental to the national interest or the SPDC's grip on power.

All domestic radio and television stations, as well as daily newspapers, are state owned.[53] While more than 100 print publications are privately owned,[54] the Ministry of Information limits licensing to media outlets that agree only to print approved material and to submit to vigorous advance censorship by the Press Scrutiny and Registration Division.[55] For example, in the wake of Cyclone Nargis, media were prohibited from publishing stories that depicted devastation and human suffering.[56] Publishing license regulations issued by the Ministry of Information in 2005 are prodigious in scope, banning negative news and commentary about ASEAN, any "nonconstructive" criticism of government departments, coverage of national disasters and poverty that affect the public interest, and the citation of foreign news sources that are detrimental to the state.[57] In effect since 1962, the Printers and Publishers Registration Law applies to all "printed published matter" and requires the registration of all printing presses, printers, and publishers, as well as the submission of all books and newspapers as they are published.[58] Similar restrictions apply in the Video and Television Law, which stipulates three years of imprisonment in cases of "copying, distributing, hiring or exhibiting videotape" that has not received the prior approval of the Video Censor Board.[59]

Online access and content are stringently controlled through legal, regulatory, and economic constraints. As in other areas, state policies are difficult to access because they are rarely published or explained.

A terms-of-service rule for MPT users issued in 2000 provided a warning that online content would be subject to the same kind of strict filtering that the Press Scrutiny

and Registration Division carries out. The terms state that users must obtain MPT's permission before creating Web pages, and users cannot post anything "detrimental" to the government or even simply related to politics.[60] Sharing registered Internet connections is punishable by revoked access and "legal action."[61] The MPT can also "amend and change regulations on the use of the Internet without prior notice."[62]

According to the 1996 Computer Science Development Law (CSDL), network-ready computers must be registered with the MPT. Failure to do so may result in fines and a prison sentence of seven to 15 years.[63] Under the 2004 Electronic Transactions Law, it is unlawful to use electronic transactions technology to receive or send information relating to state secrets or state security. It is also unlawful under Article 33 to use such technology to commit acts "detrimental to the security of the State or prevalence of law and order or community peace and tranquility or national solidarity or national economy or national culture."[64] Failure to abide by such laws can result in fines and a prison sentence of seven to 15 years.[65]

These laws have been invoked by the junta to prosecute Burmese activists and dissenters who use online tools to communicate or transmit information. In November 2008, closed courts, mostly operating out of Insein prison, applied the Electronic Transactions Law and the Television and Video Law to deliver sentences to 88 Generation activists, bloggers, and others.[66] That same month, Nay Phone Latt, a prominent Burmese blogger, was sentenced to more than 20 years of imprisonment by a special court in Insein prison: two years for defamation of the state under Article 505(b) of the Criminal Code and 18 years and six months for the violation of Article 32(b) of the Television and Video Law and Article 33(a) of the Electronics Transactions Law.[67] The Electronic Transactions Law also constituted part of the 59-year sentence handed to Maung Thura, comedian, film director, and blogger, who was convicted for circulating his footage of relief work after Cyclone Nargis on DVD and the Internet, as well for criticizing government aid efforts in interviews with overseas media.[68]

Surveillance

In Burma, the fear of surveillance is pervasive and embedded in daily life.[69] Offline, the state can effectively monitor its citizens through a dragnet that functions with the assistance of various civilian organizations it directly controls. These organizations include the USDA, which imposes mandatory membership on citizens in specific professions and is being cultivated as a "future military-controlled civilian government in Burma," with President Gen Than Shwe as its primary patron.[70] State and local Peace and Development Councils (PDCs) are also effective tools of social control. All households must provide their local ward PDCs with a list and

photographs of all persons residing in the household and register any overnight guests before dark—a policy that is reinforced by regular midnight checks of homes.[71] Swan Arr Shin, another civilian organization, pays its members to conduct routine neighborhood surveillance and provide police assistance, delegating others to engage in violence against opposition figures for remuneration.[72] During the Saffron Revolution, intelligence officials videotaped and photographed protesters, and enlisted the help of PDCs, the USDA, and local law-enforcement authorities in identifying individuals for arrests in the ensuing crackdown.[73]

Because surveillance is more effective when there are fewer targets, a possible strategy of the Burmese regime may be to limit people's time online. During the October 2007 Internet shutdown, surveillance (or at least perceived surveillance) was attributed as a rationale for various government responses, including the government's policy of limiting Internet access to the curfew hours between 9:00 PM and 5:00 AM.[74] Not only would the late hours significantly reduce the number of users online (since most Burmese users do not have Internet at home), but it would also make the task of identifying targeted users easier for a government without much experience in tracking and investigating Internet usage.

While the government's aptitude at conducting online surveillance is not entirely clear, it appears to be pursuing a combination of methods to monitor the small proportion of its citizens that access the Internet. In addition to the constraints that Internet café owners are required to impose on their customers,[75] it has also been reported that most Internet cafés have installed local software to make each computer beep if it accesses a prodemocratic news media outlet outside the country. Owners must then intervene with the user or risk imprisonment.[76]

Government e-mail services—boosted by the blocking of many free Web-based e-mail services—are widely believed to be under surveillance, with delays of up to several days between the sending and receiving of e-mails, or with messages arriving without their original attachments.[77] Nay Phone Latt was allegedly convicted in part for storing a cartoon of General Than Shwe in his e-mail account.[78]

The military government's stringent filtering regime fosters fear and self-censorship. According to ONI sources, the banning of certain political blogs in mid-2007 sparked rumors that more would be banned if this trend continued, spurring many local bloggers to self-monitor their postings in the hope that their blogs would not be blacklisted.[79] Internet slowdowns fuel speculation of enhanced online monitoring, especially where users are required to click through pages equipped with network visibility applications (such as Bluecoat) that allow for monitoring of network activity and behavior intended to access the Internet.[80] Government workers are not exempt from surveillance—in 2010, two high-ranking government officials were sentenced to death for e-mailing documents abroad.[81]

Cyber Attacks

Beyond Internet filtering, there are also frequent cyber attacks on Web sites that host political content related to Burma, such as exiled independent Burmese media. These are typically distributed denial of service (DDoS) or defacement attacks, and appear to be politically motivated because the attacks are routinely launched on politically sensitive dates, such as the anniversary of the Saffron Revolution. It is widely believed that such attacks are state sanctioned; however, direct evidence of state attribution remains elusive. Nonetheless, attacks are consistent with the state's demonstrated interest in information control and censorship and are part of a pattern of ongoing attacks against opposition groups.[82]

On September 27, 2007, during the brutal crackdown on the Saffron Revolution, attackers infected The Irrawaddy's Web site with a Trojan virus, leaving the site inoperable.[83] Throughout 2008, persistent DDoS attacks on a number of Web sites belonging to overseas news organizations as well as community forums rendered these Web sites effectively inaccessible.[84] The September attacks coincided with the first anniversary of the Saffron Revolution. The DDoS attacks continued in 2009 and 2010.[85] Most notable were the attacks launched on the Web site of Mizzima News on the 21st anniversary of the 8888 Uprising (it was also reported that in the week leading up to the anniversary, the Internet speed in the country had been slowed down considerably);[86] and the DDoS attacks on Mizzima News, The Irrawaddy, and the Democratic Voice of Burma in September 2010. These attacks coincided with the anniversary of the Saffron Revolution.

The Irrawaddy reported that the attack on its Web site originated from a Chinese IP address and that the volume of the DDoS assault on its Web site was four Gbps—three Gbps larger than the 2008 assault.[87] The attack on Mizzima News was six Gbps and originated from China, Russia, the United States, and Turkey, while the attack on the Democratic Voice of Burma occurred at 120 Mbps and originated from Georgia, Israel, Kazakhstan, Russia, Ukraine, and Vietnam.[88]

On October 25, 2010, two weeks before the general election, MPT was subject to large-scale DDoS attacks.[89] By November 2, the sophisticated attacks had rendered Burma's Internet inaccessible.[90] The volume of the DDoS attack was ten to 15 Gbps, meaning that the attack transferred several hundred times more data than the 45 Mbps that the Internet in Burma can support.[91] This attack was significantly larger than the instances of DDoS attacks in Estonia in 2007 (814 Mbps) and against Georgian Web sites during the Russia-Georgia conflict of 2008.[92] In addition to the impact on individual Internet users, hospitals, hotels, media, and Internet cafés were also affected by the attacks.[93] However, unlike 2007, when it was obvious that the government had deliberately shut down the country's Internet access, government involvement in the case of the preelection DDoS attacks is unclear. International civil society groups

accused the government of deliberately slowing down the Internet in the country in order to silence foreign media, which were prohibited from entering Burma.[94] However, domestic Burmese media did not attribute the slowdown to government action and, instead, reported the lower Internet speed as a result of attacks.[95]

ONI Testing Results

OpenNet Initiative testing was conducted on Yatanarpon Teleport and MPT at various periods in 2009 and 2010 and found evidence of extensive filtering. Findings revealed that the filtering practices of Yatanarpon Teleport and MPT remained largely consistent with previous ONI findings.

MPT focused on filtering political-reform Web sites, independent Burmese media, and human-rights content related to Burma. When users attempted to access these Web sites, they were redirected to a block page notifying them that "the URL you requested has been blocked." Users were not given the option of contacting a moderator to have the blocked Web site reevaluated. OpenNet Initiative testing found that MPT remains slightly more selective in its filtering practices than Yatanarpon Teleport, a finding that is consistent with previous results. Rather than blocking entire domains, MPT blocked specific pages of Web sites—for instance, blocking http://niknayman .blogspot.com, as opposed to http://blogspot.com.[96]

Yatanarpon Teleport continues to target the Web sites of independent Burmese media, content relating to political reform and human rights, free e-mail services, and circumvention tools. When users attempted to access these sites, they were redirected to a block page notifying them that "access has been denied . . . access to requested URL has been denied." At the bottom of the block page, users were given the option of contacting a moderator to have the blocked Web site reevaluated. In contrast to MPT, and consistent with previous ONI findings, Yatanarpon Teleport blocked entire domains. The result is that Web sites with content unrelated to Burma were often blocked.

Compared to MPT, Yatanarpon Teleport blocked significantly more Web sites in the "social" thematic category—ONI testing found that pornography and Web sites with content related to sex education and family planning were the two most filtered within the social thematic category. Yatanarpon Teleport filtered slightly more Web sites with political content than MPT, although both ISPs heavily filtered Web sites with political content, with the end result being approximately equivalent.

Consistent with previous ONI findings, Web sites with content related to human rights, women's rights, commentary and criticism, political transformation, political reform, free expression, media freedom, minority rights, and religious conversion continue to be a priority for blocking. Nongovernmental organizations with concerns about Burmese human-rights issues were blocked by Yatanarpon Teleport, including

Human Rights Watch, Amnesty International, and Burma Watch.[97] International news agencies were also filtered by Yatanarpon Teleport, including the Web sites of CNN, the *Times of India*, and the *Financial Times*. Both MPT and Yatanarpon Teleport also blocked regional news Web sites and forums, including Asian Tribune and Asia Observer, and independent Burmese media organizations, including The Irrawaddy, Mizzima News, and the Democratic Voice of Burma.

Yatanarpon Teleport continues to block a number of Internet tools such as multimedia-sharing Web sites (http://youtube.com, http://flickr.com, etc.) and social-media Web sites (http://twitter.com, http://mybloglog.com, etc.). Yatanarpon Teleport also heavily filters free Web-based e-mail services, anonymizers and circumvention tools (http://proxify.com, http://psiphon.civisec.org, http://tor.eff.org, etc.), and blogging services Web sites (http://blogger.com, http://livejournal.com, http://wordpress.com, etc.).

Conclusion

Despite the fact that less than 1 percent of Burma has access to the Internet, the Burmese military junta has targeted online independent media and dissent with the same commitment it has demonstrated to stifling traditional media and voices for reform. The government has demonstrated that it is willing to take extreme steps to maintain its control over the flow of information within and outside its borders, including shutting down Internet access entirely. Cyber attacks on opposition groups are frequent and occur at strategic moments. Although a lack of evidence makes state attribution difficult, these attacks remain consistent with the regime's interest in controlling information, as well as an overall pattern of ongoing attacks against opposition groups.

The Internet in Burma remains tightly controlled through state control of ISPs, state intervention through content filtering and various laws and regulations, and state-sanctioned surveillance. Despite the ability of a small group of Internet users to continue to disseminate information online, the pervasive climate of fear has compelled many to engage in self-censorship.

Notes

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