

# Burma

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Despite very low connectivity, Internet users in Burma have managed to communicate valuable information to the outside world during explosive political events. The Burmese military government continues to enforce stringent overall access restrictions, the most extreme of which occurred during the complete shutdown of the Internet in Burma in September and October 2007. On top of these barriers to access, the government also polices Internet content through one of the most severe regimes of information control in the world.



## Background

The State Peace and Development Council (SPDC), the military government that rules the Union of Myanmar, maintained its stranglehold on economic and political developments in Burma through several major crises in 2007 and 2008.

On August 19, 2007, precipitating what would become known as the Saffron Revolution, leaders of the 88 Generation student movement organized a rally to protest a sudden sharp increase in fuel prices in Rangoon (Yangon).<sup>1</sup> Burmese spend up to

### 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 (years)	62
Literacy rate (percent of people age 15+)	90
Human development index (out of 179)	135
Rule of law (out of 211)	199
Voice and accountability (out of 209)	208
Democracy index (out of 167)	163 (Authoritarian regime)
Digital opportunity index (out of 181)	179
Internet users (percent of population)	0.1

Source by indicator: World Bank 2005, World Bank 2009a, World Bank 2009a, UNDP 2008, World Bank 2009b, World Bank 2009b, Economist Intelligence Unit 2008, ITU 2007, ITU 2008.

70 percent of their monthly income on food alone,<sup>2</sup> making the fuel price hikes amid chronic inflation—which reached 30 percent in 2006 and 2007—untenable.<sup>3</sup> Over the next month, leadership of the protests passed from the 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.<sup>4</sup> Throughout the crisis, citizen journalists and bloggers continued to feed raw, graphic footage and eyewitness accounts to the outside world over the Internet. The violent crackdown that began on September 26 ultimately left up to 200 dead,<sup>5</sup> including a Japanese journalist whose shooting was caught on video.<sup>6</sup> Burmese security forces raided monasteries, detaining and disrobing thousands of monks, and despite claims in 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.<sup>7</sup>

On May 2 and 3, 2008, Cyclone Nargis hit lower Burma and devastated Rangoon and much of the Irrawaddy River delta, with more than 138,000 dead or missing and millions in need of food, water, shelter, and medical care.<sup>8</sup> After initially blocking aid for two critical weeks, the junta accepted relief efforts coordinated through the Tripartite Core Group—the military junta, the United Nations (UN), and the Association of Southeast Asian Nations (ASEAN)—and has been cautiously credited with exhibiting greater openness since.<sup>9</sup> However, a year later, half a million people were still living in temporary shelters, over 200,000 lacked local supplies of drinking water, and villagers were still coping with chronic food shortages and the slow resumption of farming and fishing.<sup>10</sup> A recovery program requiring USD 690 million through 2011 had raised only USD 466 million in commitments at the end of 2008.<sup>11</sup>

On the heels of the release of Burma's longest-serving political prisoner, Win Tin, a 79-year-old journalist freed as part of an amnesty granted to 9,000 inmates,<sup>12</sup> around 300 individuals were sentenced to harsh prison terms for political crimes between October and December 2008.<sup>13</sup> Most were tried by police prosecutors and convicted by

judges operating from prison courts, including the notorious Insein prison.<sup>14</sup> During the week of November 10, 2008, alone, more than 80 individuals were convicted, including 14 democracy activists who were sentenced to 65 years' imprisonment for leading protests in the summer of 2007, Buddhist monks, poets, musicians, and student leaders.<sup>15</sup> According to the UN Special Rapporteur on the situation of human rights in Myanmar, 16 journalists and bloggers were in prison in March 2009.<sup>16</sup> Not surprisingly, given the crackdown that followed, the Committee to Protect Journalists has labeled Burma the worst place in the world to be a blogger.<sup>17</sup>

On May 14, 2009, Nobel laureate and democracy leader Aung San Suu Kyi was taken from her home to Insein prison to stand charges of violating the terms of her house arrest by affording temporary shelter to an American man who had swum across a lake to her residence.<sup>18</sup> Aung San Suu Kyi, facing five years' imprisonment under these charges, had lived under house arrest for 13 of the past 19 years, and she was arrested only weeks before her current six-year term was set to expire.<sup>19</sup>

### Internet in Burma

Unlike the rest of Asia, a combination of government restrictions, connection speeds, and prohibitive costs has kept Internet access rates relatively stagnant in Burma. The International Telecommunications Union estimates the number of Internet users at a low 45,000 for 2008,<sup>20</sup> representing a steep drop from recent figures of up to 300,000 users.<sup>21</sup> Burma's fixed-line, cell phone, and Internet penetration rates remain below 1 percent.<sup>22</sup> Connection speeds are slow, and steep costs significantly limit access. For example, initial costs for broadband range from USD 900 on Myanmar Teleport (MMT) to USD 2,300 on Myanmar Post and Telecommunication (MPT), with wireless access on MMT starting at USD 1,500.<sup>23</sup> As a result, broadband is available only to an estimated 2,000 subscribers, primarily government and businesses and used mostly for Internet telephony by VoIP.<sup>24</sup> Assuming that there are about ten to 15 users per subscription, media have calculated that there are more than 300,000 users of MMT (formerly Bagan Cybertech) and MPT, the two state-owned ISPs. Costs limit access significantly: even households that can afford a personal computer and long-distance connection fees outside the capital Rangoon and Mandalay cannot pay USD 20 per month and upward for a dial-up or broadband account.<sup>25</sup>

According to news reports, an entity called Information Technology Central Services (ITCS) was launched in 2007, to be run by the government-aligned Union Solidarity and Development Association.<sup>26</sup> Though ITCS is not an ISP, it provides telecommunication services such as voice mail, mail to SMS (short message service, or text message), and an information portal ([www.khitlung.org.mm](http://www.khitlung.org.mm)).

However, the arrival of a new ISP, predicted to become the largest in Burma, presented the most convincing evidence that the government intended to expand

Internet access while maintaining strict control over online activity. The new ISP, Hanthawaddy National Gateway, which was reportedly launched in July 2008, will serve the entire country with the exception of Rangoon.<sup>27</sup> In the case of Hanthawaddy, which officials state will operate to “international standards,” Internet security will be achieved largely through filtering. According to an MPT official, “The main advantages of having this ISP is that the Internet connection will be fast-moving, and good security will be available because of the website filtering system.”<sup>28</sup> The Irrawaddy, an overseas news site, reported that Hanthawaddy “received technical assistance from China’s Alcatel Shanghai Bell Company.”<sup>29</sup>

As a signatory to the e-ASEAN Framework Agreement initiated in 2000, Burma has formed the e-National Task Force to support IT development.<sup>30</sup> Yadanabon Cyber City (in Pyin Oo Lwin), set to become Burma’s largest IT development, is also part of an information and communications technology (ICT) development master plan under the Initiative for ASEAN Integration (IAI).<sup>31</sup>

Although the government initially cited a preference for investment from local companies or foreign companies that are cooperating with local companies, rather than solely foreign-owned enterprise, three foreign companies—Russian-owned CBOSS, Maxinet of Australia, and Global Technology (believed to be based in either Thailand or the U.K.)—were among the 12 technology companies approved to invest USD 22 million in the site, which is somewhat isolated by being 30 miles from Mandalay.<sup>32</sup> However, Shin Satellite of Thailand, Alcatel Shanghai Bell of China, and Malaysia’s IP Tel Sdn Bh were reportedly rejected as investment partners.<sup>33</sup> The Irrawaddy quoted sources from computer universities as stating that Yadanabon’s objective was to tighten control over Internet connections as well as prevent users from gaining access to or distributing information critical of the regime.<sup>34</sup>

Both MPT and MMT are currently connected to the Hanthawaddy Gateway backbone (a move announced in September 2008 but only recently executed),<sup>35</sup> but Yadanabon will ultimately serve as the national backbone (with a bandwidth of 600+ Mbps according to some sources), connected to China and eventually India and Thailand through overhead optical fiber (STM 1 or higher), underground optical fiber (STM 1 or higher), satellite communication systems, and the SMW-3 undersea cable system.<sup>36</sup>

To counterbalance price and access controls, most users access the Internet in Internet cafés (between USD 0.30 and USD 0.50 per hour).<sup>37</sup> Officially, there are 433 public access centers (PACs) nationwide, and the government plans to achieve full coverage of PACs in every township in the country.<sup>38</sup> In reality, the number of PACs and Internet cafés has increased rapidly in Rangoon, Mandalay, and other major towns and cities across the country, with more than 1,000 PACs operating without licenses in Rangoon alone.<sup>39</sup> Some PACs are owned by Union Solidarity and Development Association (USDA) and run Internet café services in their local offices in townships. Some

PACs provide VoIP services such as Skype, Pfingo, MediaRingTalk, and others. Centers are prevented from installing bypass software on their computers, but generally allow customers to use laptops. According to one PAC operator, 60 percent of users use dial-up connections or prepaid access kits while the rest use broadband connections such as ADSL or WiMAX, as well as satellite connections provided by the state-controlled MMT and MPT.

Despite the limitations imposed on connectivity in Burma, throughout the days of escalating protests in September 2007 and the first glimpses of a violent crackdown, a small band of citizen bloggers and journalists fed graphic footage and eyewitness accounts to the outside world through the Internet and their personal networks.<sup>40</sup> Vital information, including photographs and videos taken with cell phones and digital cameras and not obtainable through traditional means, was uploaded to the Internet, broadcast over television and radio, and spread in communities throughout the country. Although described invariably as tech-savvy university students and youth, these citizen journalists helped multiple generations of Burmese to find linkages to each other through blogs and other social media.<sup>41</sup>

On September 29, 2007, the SPDC made use of its comprehensive control over the country's Internet gateways to completely shut down Internet access, with intermittent periods of connectivity, for approximately two weeks.<sup>42</sup> A small group of netizens had vividly demonstrated that the tools of information technology can have a strong impact on the global coverage of events as they are unfolding. The Internet shutdown was the government's most direct and drastic option to cut off this bidirectional flow of information, so that the picture of reality for people on both sides of the Burmese border would remain distorted.

In April 2008, the overseas news organization Mizzima News reported that the government had formulated a sector-based Internet shutdown strategy to deal with the constitutional referendum scheduled for May 10.<sup>43</sup> As soon as information leaks began, Internet cafés and PACs would be cut off, followed by the commercial sector if information continued to flow out, and presumably by the hospitality and tourism sector. Authorities planned both shutdowns of access and significant slowdowns in connection speeds,<sup>44</sup> a strategy that was made moot in the wake of Cyclone Nargis.

Slowdowns in Internet access speeds are not infrequent in Burma. For example, a prolonged slowdown on MMT began on March 22, 2009, and continued until April 21.<sup>45</sup> MMT had announced that the submarine cable SE-ME-WE 3 (South East Asia Middle West Europe 3) would be undergoing maintenance from March 21 to March 25, but both MMT and 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, including Gmail, Google Talk, Skype,

Pfingo, and VZOChat, while many Internet cafés were closed while waiting for the resumption of normal Internet access speeds.

Slow upload speeds are an indication not just of capacity in Burma, but also of intentional design. Even after connectivity was largely resumed after the Internet shutdown, Internet speeds controlled with proxy caching servers were slowed to 256 Kbps in a likely attempt to prevent or diminish the uploading of videos and photos.<sup>46</sup> Although broadband subscribers can choose to pay according to access speeds (512 kbps, 256 kbps, or 128 kbps), they must also accept upload speeds that are half the download speeds in each subscription.<sup>47</sup>

### Legal and Regulatory Frameworks

Despite ongoing and grave human rights violations committed by the SPDC, equal protection under the law (Art. 347), freedom of expression and peaceful assembly (Art. 354), the right to education (Art. 366), freedom of religion (Art. 36), and other fundamental rights are guaranteed in the amended constitution adopted in May 2008.<sup>48</sup> Although the SPDC has stated that 380 domestic laws are being reviewed for compliance with constitutional human rights provisions,<sup>49</sup> it continues to apply broad laws and regulations to punish citizens harshly for any activity deemed detrimental to national interests or its continued grip on power.

All domestic radio and television stations, as well as daily newspapers, are state owned and controlled.<sup>50</sup> While more than 100 print publications are now privately owned,<sup>51</sup> the Ministry of Information limits licensing to media outlets that agree to print only approved material and to submit to vigorous advanced censorship by its Press Scrutiny and Registration Division.<sup>52</sup> For example, in the wake of Cyclone Nargis, media were prohibited from publishing stories depicting the devastation and human suffering.<sup>53</sup> 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.<sup>54</sup> 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.<sup>55</sup> Similar restrictions apply in the Video and Television Law, which provides for three years’ imprisonment for “copying, distributing, hiring or exhibiting videotape” that has not received the prior approval of the Video Censor Board.<sup>56</sup>

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

According to the 1996 Computer Science Development Law (CSDL), network-ready computers must be registered (for a fee) with the MPT; failure to do so can result in fines and prison sentences of seven to 15 years.<sup>57</sup> In the Electronic Transactions Law (2004), anyone who uses “electronic transactions” technology to receive or send information relating to state secrets or state security or to commit any act harming state security, community peace and tranquility, or national solidarity, economy, or culture can be sentenced to between seven and 15 years’ imprisonment.<sup>58</sup> Terms-of-service rules for MPT users issued in 2000 provide a warning that online content will be subject to the same kind of strict filtering that the Press Scrutiny and Registration Division carries out: users must obtain MPT permission before creating Web pages, and they cannot post anything “detrimental” to the government or simply related to politics.<sup>59</sup> Furthermore, sharing registered Internet connections is also punishable by revocation of access and the threat of “legal action,”<sup>60</sup> the equivalent to which can be found in the CSDL, which punishes unauthorized computer networks or links with seven to 15 years’ imprisonment.<sup>61</sup> The MPT can also “amend and change regulations on the use of the Internet without prior notice.”<sup>62</sup>

The threat to the junta posed by Burmese activists and other dissenting voices using online tools to communicate with and transmit information to the outside world became evident in the rash of draconian sentences handed down in November 2008 against 88 Generation’s leaders, bloggers, and others. Closed courts, mostly operating out of Insein prison, applied the Electronic Transactions Law and the Television and Video Law to deliver sentences of up to 65 years. On November 11, fourteen 88 Generation activists were sentenced to 65 years’ imprisonment, a staggering term consisting of 15 years for each of four counts of illegally using electronic media<sup>63</sup>; formation of an illegal organization added five years to that sentence.<sup>64</sup> Nay Phone Latt, a blogger and owner of several Internet cafés, was arrested in January 2008 and sentenced in November to 20 years’ imprisonment by a special court in Insein prison, 15 of those years for violating Articles 33(a) and 38 of the Electronic Transactions Law and over three years of the sentence for violating Article 32(b) and 36 of the Television and Video Law.<sup>65</sup>

The Electronic Transactions Law also constituted part of the 59-year sentence handed down to comedian, film director, and blogger Maung Thura (who uses the stage name Zarganar), convicted for circulating his footage of relief work after Cyclone Nargis on DVD and the Internet, as well as for giving interviews critical of government aid efforts to overseas media.<sup>66</sup> Both Nay Phone Latt and Zarganar had their sentences reduced, to 12 and 35 years, respectively, in February 2009.<sup>67</sup>

As for Internet cafés, the government has been urging business owners to become licensed as PACs under the management of Myanmar Info-Tech, a state-owned company.<sup>68</sup> The general manager of Myanmar Info-Tech claimed that more than 1,000 Internet cafés were operating in Rangoon without PAC licenses, and café owners reportedly have informal bribe-paying arrangements with government employees that

allow them to operate and offer proxy tools and other services that are technically forbidden.<sup>69</sup> In addition to requirements that screenshots be taken every five minutes and that records of Internet usage be sent to Myanmar Info-Tech every two weeks, café owners are told to arrange computer monitors for easy public viewing and to ensure that only state-run e-mail providers are used.<sup>70</sup> Operators of PACs must also record the names, identification numbers, and addresses of their customers.<sup>71</sup> However, it is widely reported that, despite regular crackdowns, most PAC owners largely ignore these regulations and provide customers with proxy servers and alternative means of accessing blocked Web sites.<sup>72</sup>

### Surveillance

In Burma, the fear of surveillance is pervasive and embedded in daily life.<sup>73</sup> Offline, the state can effectively monitor its citizens through a dragnet that functions with the assistance of various civilian organizations it directly controls. These overlapping organizations include mass organizations such as 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 a primary patron.<sup>74</sup> State and local Peace and Development Councils (PDCs) are also effective tools of social control. For example, 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.<sup>75</sup> Another mass-based organization, known as the Swan Arr Shin, pays its members to conduct routine neighborhood surveillance and police assistance, delegating others to engage in violence against opposition figures for higher remuneration.<sup>76</sup> During the Fall 2007 protests, intelligence officials videotaped and photographed protesters, and security forces relied on the information to enlist PDCs, the USDA, and local law enforcement authorities in identifying individuals in order to immediately begin making arrests in the ensuing crackdown.<sup>77</sup>

Until it was disbanded in 2004, the Defense Services Computer Directorate (DSCD) had become focused on information warfare operations such as monitoring telephone calls, faxes, and e-mails focused on military communications, while the computer center of the intelligence agency Directorate of Defense Services Intelligence (DDSI) under the Ministry of Defense monitored opposition groups.<sup>78</sup> After the DSCD was reformed as the Military Affairs Security (MAS), it presumably took over information warfare duties.<sup>79</sup>

While the government’s aptitude at conducting online surveillance is not entirely clear, it certainly appears to be pursuing a combination of methods to monitor the small proportion of its citizens that access the Internet. Despite the reported widespread lack of compliance, at the most popular Internet access point—Internet cafés—owners and operators, as mentioned earlier, are required to record users’ per-

sonal identification, take screenshots every five minutes, arrange computer monitors for easy public viewing, allow the use of only state-run e-mail providers, and forbid the use of circumvention tools.<sup>80</sup> A new service in 2009, Mtalk, offers an instant messaging application and private e-mail and is a rare joint venture between MPT and a private company, Myanmar Technology Gateway.<sup>81</sup> Mtalk's MPT-hosted server can access GTalk with a single login, causing Internet users to worry about potential surveillance and the exposure of their contact lists.<sup>82</sup>

The military government's stringent filtering regime fosters fear and self-censorship. For example, 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 added to the blacklist.<sup>83</sup> Government e-mail services, theoretically 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 receipt of e-mails, or with messages appearing with attachments deleted.<sup>84</sup> Blogger Nay Phone Latt was allegedly convicted in part for storing a cartoon of General Than Shwe in his e-mail account.<sup>85</sup> 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 in order to access the Internet.<sup>86</sup>

Surveillance methods are more effective when there are fewer targets, and a possible strategy of the Burmese regime may be to keep more people offline. 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 originally limiting Internet access to the curfew hours between 9:00 p.m. and 5:00 a.m.<sup>87</sup> Not only would the late hours significantly reduce the number of users (as most Burmese users do not have access to the 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.

In 2008, persistent and severe distributed denial of service (DDoS) attacks hit the Democratic Voice of Burma (DVB) and Mizzima News in July, the community forums Mystery Zillion and Planet Myanmar in August, and The Irrawaddy, DVB, and the New Era Journal in September.<sup>88</sup> In all these attacks, these Web sites, mostly overseas news organizations, were effectively inaccessible after being flooded with data in short amounts of time and thus becoming overloaded with information requests.<sup>89</sup>

### **ONI Testing Results**

In verifying the parameters of the Internet shutdown in September 2007, researchers from the OpenNet Initiative were able to determine the outage periods using router

paths advertised by the Autonomous Systems (AS) corresponding to these ISPs, recorded by Border Gateway Protocol (BGP) monitors of the RIPE project.<sup>90</sup> The outage on MPT, the main government ISP, can be divided in two phases. Phase One of the outage was a complete shutdown from September 29 to October 4.<sup>91</sup> The sole exception was one brief period of connectivity on October 1 for six hours starting at 6:35 p.m. Phase Two consisted of a regulated outage lasting all day except during the period between approximately 10:00 p.m. and 4:00 a.m. each night from October 4 through October 12. On October 7, MPT had one extra period of connectivity from 9:40 a.m. to 3:37 p.m. In addition to Internet connectivity coinciding approximately with the curfew period,<sup>92</sup> there is evidence that the Internet was also available from around noon (starting anywhere between 11:00 a.m. and 1:00 p.m.) until approximately 4:00 p.m. from October 9 to October 12. As of noon on October 13, MPT appears to have resumed operation as a stable network with few changes in routing paths.

The outage on BaganNet follows a similar pattern, with Phase One comprising a complete shutdown from 7:00 p.m. on September 29 until 10:24 p.m. on the evening of October 4, also with one exception. Phase Two comprises a regulated shutdown all day from October 4 until October 9, except during the curfew period from 10:00 p.m. to 4:00 a.m. As BaganNet's Internet connectivity is established through MPT, it was also up from October 9 through October 12 during the approximate curfew period as well as for a period starting between 12:00 p.m. and 1:30 p.m. for a few hours daily. Two long periods of connectivity thereafter, the first from 10:00 p.m. on October 12 to 4:04 a.m. on October 13 and the second from 12:05 p.m. on October 13 to 10:40 p.m. on October 15, were followed by one long outage, from 10:40 p.m. on October 15 to 9:00 a.m. on October 16. Throughout the outage, a small collection of pre-approved Web sites on the country's Intranet, known as the Myanmar Wide Web, was unaffected.

Testing was conducted on MMT and MPT at various periods in 2008 and early 2009. Both MMT and MPT continued to filter extensively and focused overwhelmingly on independent media, political reform, human rights, and pornography sites relating to Myanmar, as well as free Web-based e-mail services and circumvention tools. While MMT blocks entire root domains, MPT is slightly more selective and only blocks specific pages of sensitive Web sites—MPT treated Blogspot and the Asia Observer this way, blocking a number of URLs but not the root domain.

Both ISPs blocked approximately the same number of circumvention tools, including Proxify, Proxyweb, Guardster, and Proxyweb.net. Psiphon was inconsistently blocked: it was filtered at one time during testing but was accessible at others.

In June 2006, Gmail and Google Talk were made inaccessible and Skype was banned<sup>93</sup>—reportedly an attempt not only to censor communications but also to preserve the government's monopoly over telephone and e-mail services as MPT's rev-

venues dipped.<sup>94</sup> Testing by ONI confirmed filtering practices consistent with 2007 findings: search engines as well as the suite of additional services (e.g., Google Groups, Picasa, Google Docs, Google News, and Google Translate) offered by Google, Yahoo, and MSN were all accessible, with the exception of Google Video and google.at (Austrian Google), which were blocked by MPT. However, free e-mail services continued to be filtered, with Yahoo! Mail, Gmail, Hushmail, and mail2web blocked by both ISPs. In addition, MPT took the precaution of blocking additional e-mail sites including hotmail.msn.com (though not www.hotmail.com). While MMT and MPT blocked the Web site www.skype.com, once Skype is accessed and downloaded using circumvention tools, it is possible to use the Skype VoIP service on both ISPs.

Testing in 2008–2009 revealed that MMT targeted social media sites more than MPT. Only MMT blocked Flickr, YouTube (although MPT blocked Google Video), Geocities, and Blogspot. Blocking of the entire Blogspot/Blogger domain by MMT rendered many of the blogs that were the most active in disseminating images and information relating to the Saffron Revolution inaccessible. However, while MPT kept the Blogspot domain open, it blocked the individual blogs of at least four prominent bloggers featured by international media during the Saffron Revolution: ko-htike.blogspot.com and nikhayman.blogspot.com, two blogs reported blocked in September 2007,<sup>95</sup> as well as moemaka.blogspot.com and myochitmyanmar.blogspot.com. To avoid being casualties of the blocking of popular domains such as Blogspot and Wordpress, bloggers sought their own personal domain, such as blog.mghla.com, with its content hosted by Blogspot.

International news agencies filtered by both ISPs included Radio Free Asia (www.rfa.org), the Voice of America Burmese and English Web sites, and the BBC Burmese service. Only MPT blocked the main BBC Web site and *BBC News*, while MMT filtered CNN and the *Financial Times*. Both MMT and MPT blocked many major independent news sites reporting on Myanmar, including overseas regional publications such as *The Irawaddy*, *Mizzima News*, *Democratic Voice of Burma* (www.dvb.no), and *BurmaNet News*, as well as Web sites exclusively in the national language (www.burmatoday.net). While both ISPs blocked some regional publications, such as Thailand's *The Nation* newspaper, the *Asia Times* (www.atimes.com), and the *Asian Tribune*, MMT targeted regional news sites slightly more than MPT.

Web sites containing content on human rights advocacy and democratic reform continued to be a priority for blocking. A substantial number of nongovernmental organization Web sites with different levels of involvement in Myanmar human rights issues were blocked on both ISPs, from international rights organizations such as Human Rights Watch, the Open Society Institute, and Amnesty International, to a wide range of Burma-focused groups (e.g., Burma Watch; www.burmacampaign.org.uk). Within this group were Web sites documenting the persecution of ethnic minorities and the personal Web site of Aung San Suu Kyi. Other continuities in

blocking between 2006 and 2007 and 2008–2009 included coalitions for democratic change in Myanmar, such as the Web site of the coalition government of the Union of Burma ([www.ncgub.net](http://www.ncgub.net)), opposition movements ([www.chinforum.org](http://www.chinforum.org)), and rights groups ([www.womenofburma.org](http://www.womenofburma.org)).

There continue to be indications that the military government does not take an entirely systematic approach to filtering. For example, MPT appeared to have reduced filtering of certain content from previous testing periods, particularly of pornographic or adult content sites. Based on testing conducted in 2008 and 2009, it now appears that MMT has overtaken MPT in blocking pornography.

In addition, as was the case in 2006–2007, testing done in 2008–2009 found significant differences in filtering between the two ISPs. Of the sites blocked, less than a third were filtered on both ISPs. The remaining blocked Web sites were blocked on one ISP or the other, but not both. MMT blocked a greater number of Web sites dealing with domestic issues, where the term “Burma” or “Myanmar” in the URL was one of the common threads among the filtered list. Thus, groups critical of the government (the Burma Lawyer’s Council) as well as peripheral personal Web sites (such as those with photographs of Myanmar) were blocked. On the other hand, MPT chose to filter some additional Web sites of international organizations, including the UN’s Human Rights page ([www.un.org/rights](http://www.un.org/rights)) and the Center for Constitutional Rights, and particularly those with projects related to Burma listed on their home pages, including Earth-Rights International ([www.earthrights.org](http://www.earthrights.org)) and the International Confederation of Free Trade Unions.

## Conclusion

The Burmese military 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. Despite the ability of a small group of Internet users to continue to disseminate information online, access to connectivity as well as actual content are severely hampered by extensive filtering, stringent laws and regulations, and heightened surveillance, all factors contributing to a pervasive climate of fear.

## Notes

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