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ICTs and Burma: A Contextual Analysis

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ICTS AND BURMA: A CONTEXTUAL ANALYSIS

by

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Abstract

The succession of highly authoritarian military regimes that have ruled over the country of Burma (a.k.a. Myanmar) since 1962 have systematically suppressed their citizens' fundamental freedoms of speech and expression. Such repression has become one of the primary mechanisms employed by Burma's junta to curtail political opposition and preserve their authority over nearly all dimensions of Burmese society. Currently, the nation maintains one of the lowest Information and Communication Technology (ICT) penetration rates in the world.

Researchers have conceptualized the relationship between power and technology in both utopian and dystopian ways over time. Dystopian theorists have tended to concentrate on the political economy of unequal living conditions, contending they will inevitably inhibit technological innovation and merely serve to perpetuate existing inequalities. Alternatively, utopian perspectives tend to take a technologically deterministic stance, maintaining that new technologies are inherently democratic in nature and will inevitably liberate citizens worldwide from the tyranny of authoritarian rule.

This paper will explore how contextual forces in Burma affect various dimensions of ICTs (namely the Internet and mobile phones) to help shape Burmese society. To do so, data regarding ICT use in Burma were collected and analyzed through a review of official government documents, NGO reports, academic journals, books, and newspaper articles.

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Communication

ICTs & Burma: A Contextual Analysis

Thesis directed by Dr. Bella Mody

Dedication

To the people of Burma, whose unrelenting pursuit of the fundamental freedoms of free speech

and expression is awe inspiring. To Dr. Bella Mody, whose intellectual, professional, and

emotional support I remain forever grateful of. To Drs. Revi Sterling and Andrew Calabrese,

whose intellectual guidance helped make this work possible.

CONTENTS

ACRONYMS & ABBREVIATIONS

ABSDF	All Burma Students' Democratic Front	ITU	International Telecommunications Union
ADSL	Asymmetric Digital Subscriber Line	TSF	Telecom sans Frontiers
AP	Associated Press	MCPT	Ministry of Posts & Telegraphs
BHRY	Burma Human Rights Yearbook	Mizzima	Mizzima News Agency
CIA	Central Intelligence Agency	MMT	Myanmar Teleport
CPJ	Committee to Protect Journalists	MNA	Myanmar News Agency
DVB	Democratic Voice of Burma	MPT	Myanmar Posts & Telecommunications Agency
FBC	Free Burma Coalition		
HDI	UN's Human Development Index	NAB	News Agency Burma
HR	Human Rights	ND-Burma	Network for the Documentation of Human Rights Burma
IAE	International Atomic Energy Agency		
ICT	Information & Communication Technologies	NGO	Non-Governmental Organizations
IDI	ITU's ICT Development Index	NLD	National League for Democracy
IRIN	Integrated Regional Information Networks (project of the UN OCHA)	NY Times	The New York Times
		OCHA	UN Office for the Coordination of Human Affairs
Irrawaddy	Irrawaddy News Magazine		
ISP	Internet Service Provider	ONI	OpenNet Initiative
IT	Information Technology	OSS	Open Source Software

PSB   Press Security Board

RU   University of Rangoon

RUSU University of Rangoon Student

Union

RWB   Reporters Without Borders (*a.k.a.*

Reporters sans frontières)

SLORC   State Law & Order

Restoration Council (1988-1997)

SPDC State Peace & Development Council

(1997-2010)

UN   United Nations

USD   US Dollar

USDP Union of Solidarity & Development

Party

VOA   Voice of America

AUTHORS NOTE

In 1989, the State Peace and Development Council (SPDC) changed the name of the country they presided over from Burma to the Union of Myanmar. While the United Nations has recognized the change, some countries, such as the United States, have not. Internationally both Burma and Myanmar are recognized as acceptable titles for addressing the nation (BBC News, 26 Sept., 2007). In this thesis, the author will use the name preference of the country of his institutional affiliation and country of residence, the United States. Therefore, "Burma" and "Burmese" will be used to address the country and its people in regard to events taken place both prior to, and after, the 1989 title change.

CHAPTER I

INTRODUCTION

RESEARCH PROBLEM

On 10 December, 1948, the United Nations' General Assembly adopted the Universal Declaration of Human Rights, establishing for the first time a universal foundation on which to build "freedom, justice and peace in the world." Central to the Declaration is the tenet that "all members of the human family" are entitled certain "equal and inalienable rights" (UN Declaration of Haman Rights, 1948, Preamble). Among these rights is the "right to freedom of opinion and expression," which includes the freedom "to seek, receive, and impart information and ideas through any media and regardless of frontiers" (UN Declaration of Haman Rights, 1948, Article 19). As a member of the UN, Burma, like all Member States, has pledged to observe, respect, and promote these fundamental freedoms. However, in practice, the succession of highly authoritarian military regimes that have ruled the country since 1962 have systematically suppressed their citizens' freedom of opinion and expression. Such repression has become one of the primary mechanisms employed by the junta to curtail political opposition and preserve their authority over nearly all dimensions of Burmese society.

Researchers have conceptualized the relationship between power and technology in both utopian and dystopian ways over time. Dystopian theorists have tended to concentrate on the political economy of unequal living conditions, contending they will inevitably inhibit technological innovation and merely serve to perpetuate existing inequalities. Alternatively, utopian perspectives tend to take a technologically deterministic stance, maintaining that new technologies are inherently democratic in nature and will inevitably liberate citizens worldwide from the tyranny of authoritarian rule.

By the end of the 1980's, the utopian perspective had become conventional wisdom in the Western world (Goldsmith & Wu, 2006; Katathil & Boas, 2003). According to Ronald Reagan, speaking shortly after the fall of the Berlin Wall, "technology will make it increasingly difficult for the state to control the information its people receive…The Goliath of totalitarianism will be brought down by the David of the microchip." Similarly, Bill Clinton, speaking in regard to China's attempts to control the flow of online information within its borders, said that such an endeavor was "like trying to nail Jell-O to the wall" (Economist, 23 Jan., 2003). More recently, author and *New York Times* columnist Thomas Friedman has contended that "the Internet and globalization are acting like nutcrackers to open societies" (Goldsmith & Wu, 2006, 89).

As previously mentioned, Burma's military government relies on the systematic suppression of its citizens' freedom of opinion and expression to preserve its authority over the country. In the past, the regime primarily attempted to curtail such freedoms by subverting all traditional forms of media (radio, television, cinema and print publications) within the nation, particularly Burma's independent press. However, the global proliferation of information and communication technologies (ICTs) (principally mobile phones and the Internet), has opened-up

new channels of expressions for citizens worldwide. As a result, the regime has attempted to circumscribe the role of ICTs in Burmese society in much the same way it has traditional media.

According to the prevailing, conventional, utopian perspective, the mere existence of ICTs (most notably the Internet and mobile phones) in Burma will inevitably open the country to the outside world and afford Burma's population the universal freedoms of speech and expression it has long been denied. Conversely, dystopian arguments have suggested that highly authoritarian regimes have the capacity to monopolize new technologies as they emerge, inhibiting their use in the public domain and in turn preserving existing inequalities. Thus, within the context of Burmese society, which of these two contradicting perspectives is taking shape?

Research Question #1

What is the role and significance of mobile phones in the current power context in Burma?

Research Question #2

What is the role and significance of the Internet in the current power context in Burma?

METHODOLOGY

This study uses *contextual* analysis as a research framework in order to obtain a comprehensive understanding of the technological forces shaping the existing power structure in Burma. Dystopian theorists concentrate on the political economy of unequal living conditions,

maintaining that they will inevitably inhibit technological innovation and merely serve to perpetuate existing inequalities. Utopian, technologically deterministic perspectives view new technologies as inherently democratic in nature and contend that they will inevitably liberate citizens from oppressive governments around the world. However, the "inevitability" innate in both perspectives has failed to account for the unpredicted consequences of technologies in various "time-and-place settings." Contextual analysis accounts for such unpredictability, and grounds claims on the power of technology, by illustrating how the adoption of certain technology is influenced predominantly by historic, economic, political, and cultural forces. Similar contextually grounded analysis of communication technologies has been applied in studies on the India satellite project, Mexico's Morelos project, and the Andean satellite project (Mody, 1978; Mody, 1987; Mody, 1989). In order to assess how contextual forces in Burma affect various dimensions of the technologies in question to help shape Burmese society, data regarding ICT use in Burma were collected and analyzed through a review of official government documents, NGO reports, academic journals, books, and newspaper articles.

ORGANIZATION OF THESIS

The following chapter will review the current literature regarding the role of ICTs in Burmese society and assess their value and shortcomings. Chapter three will provide a general profile of Burma in order to lay the necessary foundation for all subsequent discussions in this study. Additionally, this chapter will explore the Nation's modern political history alongside the

evolution and ensuing de-evolution of Burma's independent press to illustrate how both are inherently linked. This connection, it will be argued, demonstrates how historical-political forces have influenced the current relationship between power and technology in Burma. Chapter four will explore the ways in which contextual forces are impacting various dimensions of the Internet in Burma. Chapter five will investigate the ways in which contextual forces are impacting various dimensions of mobile phones in the. Finally, chapter six will summarize the study and present an analysis of the role and significance of both the Internet and mobile phones in Burmese society.

CHAPTER II

REVIEW OF LITERATURE

Throughout history, information has always been power, and communication counter power. Therefore, the technology of information and communication is a fundamental dimension of civil society in our time (Castells, Fernandez-Ardevol, Qui & Sey, 2005, 129).

While many studies have been conducted on the relationship between technology and power in various societies worldwide, few have focused on Burma. The first substantial investigation of the role of ICTs in the country was *Networking Dissent: Cyber Activists Use the Internet to Promote Democracy in Burma* (2000). In the report, the authors attempt to determine the impact of the Internet on Burma's power structure. Two cases were analyzed (the *Massachusetts Selective Purchasing Legislation,* and *The Fee Burma Coalition and the Pepsi Boycott Campaign*) through interviews with U.S. state legislators and key figures in the campaigns, as well as through analysis of news reports and media coverage pertaining to the events (Danitz & Strobel, 2000, 121)

The authors concluded that ICTs, particularly the Internet, provide grassroots activists with a valuable tool to counter the power of international corporations, and in turn the power of Burma's military regime (Danitz & Strobel, 2000, 131). However, while the study demonstrates that the Internet can indeed afford grassroots movements a powerful means to affect corporate

involvement in Burma, there are significant limitations of the study. The most notable limitation is that it fails to demonstrate the capacity of the Internet to actually affect the power structure *within* Burma. While the campaigns under investigation successfully forced disinvestment from the country, economic sanctions have been applied to Burma's government for decades with little political consequence. This can largely be attributed to the country's vast natural resources and the regimes stable economic cooperation with its regional neighbors. Additionally, although the coalition that achieved the passage of the selective purchasing legislation consisted of many Burmese exiles, neither campaign included a direct voice from the Burmese community within Burma. In order for changes in Burma's power structure to occur, they must come from within (Suu Kyi, 2008). Therefore, while Danitz and Strobel's study may demonstrate the capacity of the Internet to aid the mobilization efforts of oversees movements dedicated to political change in Burma, in order to accurately assess the role of the Internet in Burma's power structure, a more in-depth investigation, focused primarily on the use of ICTs *within* the country is needed.

Another notable study investigating the role of ICTs in Burma's power structure is *Internet Filtering in Burma in 2005,* conducted by the *OpenNet Initiative* (ONI) (ONI, 2005). In the report, ONI documents the level and methods of government Internet censorship within the country. To obtain their data, ONI connected to the country's Internet provider from abroad under the mask of a local Burmese end user, and carried out extensive "technical testing" of blocked Internet sites (ONI, 2005, 13). The study found that Burma's government employs one of the most extensive and sophisticated methods of Internet censorship and control in the world. According to ONI, such control is used to augment off-line restrictions of speech imposed by the state. Furthermore, the report found that the government continually seeks to refine and advance its censorship methods (ONI, 2005, 4).

ONI's investigation remains an invaluable addition to the research pertaining to the effects of ICTs on the structure of power in Burma. This 2005 study represented the first test of Internet censorship in the country. However, as ONI notes, Burma's ruling military regime is constantly seeking to enhance its Internet censorship capabilities. As a result, it is likely that the country's Internet has undergone significant changes since the time of the study. Furthermore, since 2000, there has been a relatively significant increase in mobile phone usage in Burma, yet mobile phones were not included in the study (Ure, 2008). Therefore, in order to obtain a more informed account of the current role of ICTs in Burma's power context, a fresh investigation that incorporates the use of mobile phone technology is needed.

The Role of the Internet in Burma's Saffron Revolution (2008) also directly addresses the relationship between ICTs and power in Burma. The study analyzed government, NGO, academic, and newspaper reports in an attempt to determine the role of ICTs in Burma's 2007 mass anti-government protests (Chowdhury, 2008, 2). According to the report's findings, ICTs played a pivotal role in the events. Through the use of the Internet and camera phones, "citizen journalists" were able to transmit news of the demonstrations to the outside world. However, the report also notes that neither the protests nor the use ICTs led to any political change. Therefore, the study concludes that the actual impact of ICT use during the 2007 protests remains unclear.

The 2008 investigation provides valuable insights into the role of ICTs in Burma's power context, but is focused solely on a single major political event. The subtle everyday ways in which ICTs may be influencing Burmese society may seem less significant and not overtly political, but small degrees of ICT uptake can ultimately have considerable social impacts (ITU, 2010). While the study notes the importance of mobile phones and the Internet in the 2007 protests, it fails to address their role in Burmese society beyond them. Therefore, in order to fully

understand the significance of ICTs in Burma's power structure, a more comprehensive investigation is required.

Networking Dissent demonstrated that ICTs, particularly the Internet, provide grassroots movements with a powerful tool to affect international corporate investment in Burma. However, foreign commercial disinvestment from the country has proven ineffective in forcing political change in Burma. Therefore, by focusing solely on the use of the Internet outside the nation, the study fails to adequately address the potential significance of the medium in Burma's power context. *Internet Filtering in Burma in 2005* provides a valuable addition to research regarding the role of ICTs in Burma's power structure. The study represented the first examination of Internet censorship in the country. However, based on the report's findings, Burma's Internet has likely undergone significant changes since the study's 2005 publication. Furthermore, since 2000, there has been a relative surge in mobile phone usage in Burma, yet the investigation fails to explore the significance of this trend. *The Role of the Internet in Burma's Saffron Revolution* offers helpful insights into the role of ICTs in Burma's power context by demonstrating their importance during the country's 2007 demonstrations. However, by focusing on a single political event, the study fails to address the subtle everyday ways in which ICTs may be influencing Burmese society.

Therefore, in order to fully understand the significance of ICTs in Burma's power structure, it is essential to investigation *all* the *current* ways in which *mobile phone and Internet technology* manifest themselves *within* Burmese society. The remainder of this study will attempt to achieve through the use of contextual analysis to explore the ways in which economic, political and cultural forces within Burma interact with the various dimensions of mobile phone and Internet technologies, and in turn shape the countries power structure.

The fallowing chapter will begin with a basic overview of Burma in order to lay the necessary foundation for all subsequent discussions regarding the role of ICTs in the country. The second section explores the nation's modern political history alongside the evolution and ensuing de-evolution of Burma's independent press in an attempt to illustrate how both are inherently linked. This connection, it will be argued, demonstrates how historical political, economic and cultural forces have influenced the current relationship between power and technology in Burma. To accomplish this, all major political periods in the nation's modern history will be discussed, including Burma's pre-colonial, colonial, democratic republic, and sequential authoritarian periods. The final section will discuss the current state of the press, television, radio, and cinema in the country in order to show how they have all been circumscribed by the state in similar ways. It is this study's contention that the related methods of state control are significant because they illustrate that the regime sees all channels of public expression as a threat to their authority. Furthermore, the current policies and rational employed by Burma's military government to limit the influence of ICTs in Burmese society represents an extension of its treatment of older forms of media.

CHAPTER III

BURMA: OVERVIEW, HISTORY & THE PRESS

INTRODUCTION

This chapter is organized into three sections. The first section provides a general profile

of Burma in order to lay the necessary foundation for all subsequent discussions in this study.

The second section explores the nation's modern political history alongside the evolution and

ensuing de-evolution of Burma's independent press in an attempt to illustrate how both are

inherently linked. This connection, it will be argued, demonstrates how historical-political forces

have influenced the current relationship between power and technology in Burma. To

accomplish this, all major political periods of the nation's modern history will be discussed,

including Burma's pre-colonial, colonial, democratic republic, and sequential authoritarian

periods. The final section will discuss the current state of the press and other forms of traditional

media (television, radio, and cinema) in the country in order to show how they have all been

circumscribed by the state in similar ways. It is this study's contention that these past methods of

state censorship and control are significant because they illustrate that the country's military

governments have regarded all channels of public expression as a threat to their authority.

Additionally, they are of particular relevance to this study because the current regime's

national/state policies regarding ICTs represent an extension of older policies governing these media.

BURMA: COUNTRY OVERVIEW

(Figure 1: *Political map of Burma*)

Burma is located in Southeast Asia and borders the Andaman Sea, the Bay of Bengal, Bangladesh, China, India, Laos and Thailand. The country is extremely rich in natural resources, notably natural energy. However, economic sanctions imposed by Western countries limits the nation's economic trade to its regional neighbors. The population is estimated to be around 50

million. While the majority of Burma's population is comprised of ethnic Burmans, 135 distinct ethnic populations are indigenous to the region (Clapp, 2007). Beginning in 1044 AD, the various ethnicities were unified under a succession of Buddhist dynasties. In 1886, the country was conquered by the British and subsequently incorporated in British India. In 1948, Burma gained its independence from the colonial power and became a democratic republic. In 1962, a military coup overthrew the democratically elected government. Since that time, Burma has been governed by a succession of oppressive military regimes that have relied on the systematic repression of free speech and political opposition to preserve their power.

DYNASTIC ERA: 1044-1855

Theravada Buddhism has long been Burma's dominant religion, and in the country's dynastic era, Buddhism represented a powerful socio-cultural institution. In an effort to deepen the population's understanding of Buddhist philosophy, monks taught Burmese citizens how to read and write throughout the country. As a result, during Burma's pre-colonial period, literacy and education were held as sources of national pride and the country maintained one of the highest literacy rates in the region (Lintner, 2001; Fink, 2009). Consequently, the emergence of the country's independent press during this time period was of notable significance to the nation's population.

In 1874, Burma's reigning monarch, King Mindon, introduced the first modern-style Burmese newspaper. In *Access to Information: the Case of Burma,* Lintner (2001, 3) describes what is considered to be the birth of the country's independent press,

> At an official meeting palace in Mandalay, King Mindon, one of the most enlightened monarchs in Burmese history, bestowed immunity on the local press corps: 'If I do wrong, write about me. If the Queens do wrong, write about them. If my sons and daughters do wrong, write about them. If the judges do wrong, write about them. No one shall take action against the journalists for writing the truth. They shall go in and out of the palace freely.'

Free expression and freedom of the press were further assured by the King with the passage of a legal statute stating that the press was for the interest of the population, and should serve to as a tool for enhancing education, communication and trade. Not only did the Act represent Southeast Asia's first press-freedom laws, it established Burma as one of the least press restricted nations in Asia (Lintner, 2001).

COLONIAL ERA: 1885-1948

In 1824, the British initiated their conquest of the country. In 1885, after three British-Burmese wars, Burma officially fell to Britain and was annexed into British India. Despite the colonial occupation, the nation's independent press continued to evolve and thrive. Dozens of newspapers in Burmese, English, Chinese and Indian languages began to emerge (Lintner, 2001).

In response to this rapid expansion of the country's independent press, the British enacted several laws attempting to curb its growing societal influence. However, the statutes failed to inhibit the institution's continued growth, and Burma soon came to be regarded as being home to one of the most sophisticated and least restricted press environments in Asia (Chowdhury, 2008).

In the 1920's and the 1930's, as the role of the press in Burmese society steadily grew, newspapers began to serve as podiums for the growing independence movement. Numerous outspoken anti-colonial and nationalist newspapers started to emerge, often run by, or employing, figures who would later become prominent political leaders in the country's independent government (Lintner, 2001).

U Thant, future Minster of Information in Burma's independent government, as well as future Secretary General of the UN, was among those figures. In the 1930's, U Thant was a journalism student at the University of Rangoon (RU), writing for the English-language journal *New Burma,* multiple Burmese-language magazines, and the outspoken nationalist newspaper, *The Sun.* In 1939, criticizing of the lack of substantive political action in the country, and attempting to inspire his fellow Burmese "to think critically" about the future direction of the country, Thant wrote, "Burmese politics have no meaning save to keep Burmese newspapers busy," adding, "We need not despair. Recognition of the causes of a malady are half the cure" (Myint-U, 2006, 217).

Nowhere was the role of the press in ascending future leaders to prominence more evident than in RU, where a new generation of politically radical students was beginning to use periodicals to challenge British imperialism. Apart from Thant, other outspoken students included U Nu and Aung San. U Nu, future Prime Minister of Burma's independent government, was the acting President of RU's Student Union (RUSU). Aung San, future leader of Burma's

independence movement, and future father of Nobel Laureate and Burmese pro-democracy leader Aung San Suu Kyi, was editor of RUSU's official magazine. Together, Thant, Nu, and Aung San published articles in newspapers defaming British authorities, made anti-imperial speeches to mass rallies, and turned RUSU into formidable political force (Charney, 2009).

In 1935, Nu and Aung San were expelled from RU for their anti-British publications (Charney, 2009; Lintner, 2001). In direct response to their expulsion, a nationwide student strike ensued. The strike was loudly championed by the press, which played a pivotal role in mobilizing public support for the movement throughout the country (Fink, 2009). As solidarity with the strikers grew among the Burmese population, so did the notoriety and political legitimacy of the student leaders and nationalist movement in general.

In 1941, Aung San, the now recognized leader of the independence movement, went to Japan to seek assistance for an armed resistance against British rule. In 1942, the group returned with Japanese forces and successfully dispelled the British from Burma. However, in 1945, the now General Aung San, disillusioned by the Japanese occupation, turned to Allied forces for assistance in freeing the country from Japanese control. By the end of World War II, Japanese troops had been driven out of the country and the British were once again attempting to establish their authority over Burma. However, their attempts were met with harsh criticism in Burma's now flourishing independent press, and strong resistance by the now politically invigorated Burmese population. With insufficient military forces to quell the escalating unrest, the British negotiated the terms of independence with Aung San (Fink, 2009). However, before the transition to an independent Union of Burma took place, Aung San was assassinated, allegedly by his political opponents.

DEMOCRATIC REPUBLIC: 1948-1962

When Burma officially declared its independence in 1948, with U Nu emerging as the nation's Prime Minister, democracy in the now Union of Burma seemed to flourish and optimism about the country's future was high. The new constitution guaranteed citizens the right to free expression and opinion, and there were widespread, open discussions of public policy in parliament, public arenas, and newspapers. Around 70 new newspapers arose alongside many literary journals and mass market dailies (Committee to Protect Journalists [CPJ], 2 Feb., 2002). As a result, Burma's independent press continued to build a reputation of being one of the freest in Asia (Chowdhury, 2008; Irrawaddy News Magazine, 1 May, 2004).

However, aspirations about the direction of the nation's future soon began to erode. The country's deep ethnic and political divisions that Aung San had somewhat successfully managed to contain began to re-erupt and threatened the legitimacy of the new government. Ultimately, Nu failed to maintain the sense of national identity and common purpose among the population that Aung San had instilled (Clapp, 2007). As a result, social instability steadily grew, eventually escalating into an outright civil war on 8 August, 1988. During the unrest, the leader of Burma's armed forces, General Ne Win, stepped in and overthrew the democratically elected government in a military coup. The coup not only ended Burma's sole, fleeting encounter with democracy, it initiated the demise of the country's independent press, which at the time was held as one of the freest in Asia.

MILITARY RULE: 1962-1988

Initially, General Win and his newly instilled military government, dubbed the

Revolutionary Council, appeared to demonstrate surprising tolerance of the country's

independent press. Win assured Burma's Journalist Association that the Council would honor

press freedoms, including government criticism (Charney, 2009, 111). Additionally, the

government provided a prestigious journalism course for hundreds of aspiring correspondents

from across the nation. To many Burmese, these steps appeared to signify that the government

was attempting to foster a constructive and open relationship with the press and would maintain

a level of transparency and accountability to the public. However, in reality, these actions have

been interpreted as an attempt by Win to manipulate the press into portraying the military

government in a positive light. Having witnessed firsthand the role of the press in mobilizing the

population against the British and ascending the leaders of the independence movement to

political prominence, Win clearly recognized the power of the institution and sought to limit its

role in Burmese society (Charney, 2009)

The pretext of the military government's adherence to freedom of the press proved to be

short lived. Soon after consolidating power, the Council implemented the *Printers and*

Publishers Registration Act of 1962. The Act, which remains in effect today, requires all printers

and publishers to register with the government and submit all publications to the Press Security

Board (PSB) for scrutiny (Printers and Publishers Registration, 1962). While the statute severely

curtailed press freedoms, the regime employed a host of other mechanism to gradually strip the country of its fourth estate.

In 1963, the Revolutionary Council began establishing its own newspapers, journals and magazines throughout the country. At the same time, in an effort to sever the connection between foreign news services and private Burmese newspapers, the regime founded News Agency Burma (NAB). NAB took control of all news distribution from private wire services and served as a filter for all information flowing in and out of Burma (Charney, 2009, 112). To further ensure a state monopoly on information, all foreign correspondents were deported from the nation in 1963 (Lintner, 2001). Later the same year, the Council began the dissolution of Burma's independent press all together. Editors and publishers were arbitrarily arrested and all private papers were either shutdown or nationalized (Charney, 2009; Lintner, 2001). In 1964, the Revolutionary Council established the Policy Direction Board for Newspapers, Journals, and Publications, whose task was to ensure that nothing would be printed contradicting state policy (Charney, 2009). As a result, "the last year of a free press in Burma was 1964" (Lintner, 2001, 5).

In addition to exerting control over the press, the regime nationalized all radio service in the country and began employing the medium as a tool for the dissemination of state propaganda. However, the heavily censored and ideologically saturated state broadcast service drove the majority of the country's population to adopt external radio services, such as the *BBC* and the *Voice of America* (VOA), as their stations of choice (Lintner, 2001).

Like the press and radio, the cinema was also circumscribed by the state. By the 1960's, visual media such as films had begun to play an important role in Burma's multilingual society, where illiteracy was becoming increasingly prevalent. In 1962, the government enacted the

Union of Burma Cinematograph Law, which placed all realms of the cinema industry under the authority of the Minister of Information. Additionally, the Council created the Film Censor Board to oversee the censorship of all films, both foreign and domestic. Furthermore, recognizing that the film industry had played a significant role in mobilizing popular support for the independence movement, Win turned Burma's cinema into a propaganda organ of the state (Charney, 2009, 114).

While the Revolutionary Council managed to instill relatively high levels of social order through its military domination of the country, in 1988, in the wake of severe deterioration of the country's economy, student-led protests escalated into nation-wide demands for an end to the military dictatorship, a return to democracy, and the restoration of a free-market system. In an effort to voice their discontent, millions of Burmese took to the streets to in ant- government protests (Lintner, 2001).

As the momentum of the demonstrations, which has become known as the "8.8.88 Uprising," continued to grow throughout the country, the regime's control over the nation began to erode. During this power vacuum, Burma's dormant independent press abruptly re-awoke. Dozens of independent newspapers and magazines emerged overnight and helped energize the growing movement that ultimately led to the collapse of the Win government (CPJ, 2 Feb., 2002; Lintner, 2001).

MILITARY RULE: 1988-2010

Although the 8.8.88 Uprising led to the disintegration of the Win government, when Win and his Revolutionary Council fell from power, another military dictator, General Saw Maung, stepped in to take his place. After successfully quelling the unrest with brutal force that left thousands dead, Saw Maung declared himself prime minister and installed his newly established State Law and Order Restoration Council (SLORC) as the acting government of the country. Following his ascendance to power, Maung promised to hold "free and fair" elections. However, when the National League for Democracy (NLD), led by Aung San Suu Kyi, won the overwhelming majority of seats in parliament, the SLORC refused to acknowledge the results. In 1992, Maung was replaced by General Than Shwe, who has maintained ultimate authority over the country ever since. In 1997, in an effort to rebuild its image internationally, the SLORC was rebranded and given the name State Peace and Development Council (SPDC).

2010 ELECTION

On 7 November, 2010, the SPDC held the country's first elections since 1990. According to official statements released by the regime, the election was intended to transition the country from military rule to democratic, civilian rule (BBC News, 7 Nov., 2010). However, the poll has been widely criticized in the international arena and viewed as an attempt by Burma's ruling military elite to secure their continued political predominance indefinitely (BBC News, 29 March, 2010).

Under Burma's constitution, published in May 2008, 25% of parliamentary seats are reserved for military officials; constitutional reforms require a 75% approval; individuals with prior criminal convictions and those who belong to religious orders are barred from running for office; the commission overseeing the electoral process is to be hand-picked by the SPDC, and political parties must refrain from chanting, marching, or saying anything that defames the national image (BBC News, 31 Aug., 2010; BBC New, 13 Aug.., 2010).

Under these conditions, no one with prior legal convictions was able to run for office, including pro-democracy leader and Nobel Prize laureate Aung San Suu Kyi. Additionally, Buddhist monks, the social and spiritual backbone of Burmese society, and leaders of the 2007 pro-democracy uprising, were also banned from running for positions in the new government. Thus, with this constitutional clause the military junta ensured the suppression of Burma's most formidable political opposition forces. Furthermore, the outlawing of rallies and marches can be seen as a measure intended to prevent the mobilization of oppositional parties, thereby limiting their capacity to challenge the state-backed party. Moreover, the 75% approval virtually guarantees that no constitutional reforms will be able to take place without the direct support of the military, which is guaranteed 25% of parliamentary seats.

Responding to these inherently flawed constitution clauses, the NLD, Burma's main opposition party, boycotted the elections, thus significantly limiting any challenge to the state-backed party. Consequently, the outcome of the election gave the junta-backed Union of Solidarity and Development Party (USDP), which is comprised of and led by recently "retired" top military officials, 80% of the vote (BBC News, 27 Aug., 2010). However, while opposition groups have "alleged widespread fraud," the hand-picked commission overseeing the legitimacy

of the election is not independent of the regime, thus limiting protection against "voting irregularities" (BBC News, 9 Nov., 2010).

Additionally, foreign journalists and independent observers were prohibited from covering the events. Prior to the election, UN and human rights agencies continually requested to establish independent monitoring teams, but were rejected. In an official press statement, the Election Commission chairman justified such restrictions by saying that "foreign observers were not needed," because "we have abundant experience in holding elections," and since press statements would be released "in a timely manner," foreign journalists were not required (BBC News, 18 Oct., 2010). In addition to the barring of foreign journalists, a mandate was passed down to domestic media banning them from taking photos or video clips anywhere near voting stations with the expressed intent of preserving voter privacy and the free casting of ballots (ND-Burma, November, 2010).

In addition to the legal restrictions curtailing opposition groups' capacity to challenge the government-backed party, alternative parties lacked the USDP's abundant state-financial recourses needed to compete on an even footing. Furthermore, in a country where the annual wage remains under $200, parties were required to submit a $500 (USD) deposit for each candidate (Economist, 4 Nov., 2010). Moreover, because media within the country is not independent of the state, challenging parties could not obtain the same press resources afforded to the USDP.

As a result, the election has been widely criticized in the international arena. A UN sponsored resolution, backed by 96 nations, including EU member nations and the U.S., said the election lacked "transparency and inclusivity," and condemned the "ongoing systematic violations of human rights and fundamental freedoms" (BBC News, 18 Nov., 2010). Similarly,

Tomas Ojea Quintana, the UN human rights envoy to Burma, has called the election "deeply

flawed," saying that it only served to further restrict freedom of expression and assembly.

Echoing Quintana's statement, UN Secretary-General Ban Ki-moon has criticized the election as

"insufficiently inclusive" (UN News Service, 21 Oct., 2010; UN News Service 8 Nov., 2010).

Likewise, in a report assessing the validity of the election, the *Network for Human Rights*

Documentation – Burma (ND-Burma) concluded that the elections would not bring the promised

democratic change to the country,

> The polls will take place against a backdrop of systematic violence, repression and ongoing rights
>
> violations. Rather than advancing a democratic transition, the elections will cement military rule
>
> indefinitely (ND-Burma, 8 Nov., 2010).

PRESENT MEDIA & PRESS CLIMATE

Press

As soon as the SLORC (a.k.a. SPDC) was established, the government moved to reaffirm

its complete control over the press. All newspapers and periodicals that had arisen in the wake of

the 8.8.88 revolution were closed, the state press that remained was strictly censored, and

countless journalists were imprisoned (Lintner, 2001). Currently, the SPDC is widely considered

to employ one of the most severe methods of state censorship in the world (Lintner, 2001; ONI,

2005; Chowdhury, 2008). Every aspect of traditional forms of media in Burma is under the

complete control of the SPDC (Chowdhury, 2008). The 1962 *Printers' and Publishers*

Registration Act continues to mandate that nothing may be published without first being

submitted for approval by the government's Press Security Board. This submission occurs after

the work has already been printed, and the board commonly rejects and censors material that

does not conform to its stringent standards. As a result, publishers frequently engage in heavy

self-censorship to avoid the financial loss associated with the rejection of a text. Additionally, the

regulations often compel publishers to work with writers who do not push government

boundaries (Fink, 2009). Those writers who do attempt push the state imposed boundaries often

face being blacklisted or jailed (Fink, 2009; Lintner, 2001). In 2009, *Reporters Without Borders*

(RWB), a French-based, non-profit organization with UN consultant status, dedicated to global

press freedom, published their annual *World Press Freedom Index*, in which Burma ranked 171

out of 175 countries for press freedom (RWB, 2009).

Television

Burma did not obtain television until 1980, and it was not until 1985 that TV broadcasts

were capable of being received throughout the country (Lintner, 2001). Since that time, all

broadcasting within the country has been under the complete control of the state (U.S.

Department of State, 2010). In 1996, the regime formally solidified their authority over the

industry with the *Television and Video Law*. Under the Law, all TV's, VCR's, VHS tapes and

satellites must be registered with the government. Anyone found guilty of unauthorized use or

possession of such equipment faces up to five years in prison. Additionally, the Law established

the formation of the Video Business Supervisory Central Committee, a government board in

charge of censoring and regulating the country's video and television industry (Television and Video Law, 1996).

In the decade and a half following its inception, Burmese TV carried only one government-run station, Myanmar TV (MRTV-3). The channel has long been used as a propaganda tool of the ruling military elite, containing government edited news reports and images of high ranking generals intended to evoke nationalist sentiment. In 1995, the regime introduced Myawaddy TV in an attempt to reach a younger audience with its propaganda (Fink, 2009). While Myawaddy contains more entertainment oriented programming than its predecessor MRTV-3, it remains heavily government regulated. Performers are restricted form "dancing provocatively," and censors have disallowed the wearing of red and yellow due to their association to the country's prodemocracy movement (Fink, 2009, 220).

Cinema

Burmese cinema has continued to be strictly governed by the regime as well. The Burmese *Motion Picture Law,* enacted in 1996, imposes strict regulations on the production, distribution, and showing of films in the country. Additionally, like the *Television and Video Law,* the *Motion Picture Law* established the formation of a state board that oversees and censors the industry (Motion Picture Law, 1996). In order to produce a film, filmmakers must submit detailed storylines and scene descriptions to the board who frequently reject anything that could even remotely be perceived as anti-regime. Moreover, perceived dissident filmmakers are susceptible to arrest under *Television and Video Law*.

As previously noted, literacy and education had long been held as sources of national pride in Burma, particularly during the country's Dynastic era and into its colonial period. However, under the succession of authoritarian military regimes, they have both diminished substantially throughout the nation. As a result, illiteracy, coupled with rampant poverty, has made radio and television the "primary media of mass communication" in the country (U.S. Department of State (USDS), 2010, Section 2a). The two existing domestic radio stations remain under the complete control of the regime and are widely considered to be propaganda tools of the state. Consequently, foreign broadcasts, such as the *BBC, Radio Free Asia*, the *Democratic Voice of Burma* (DVB), and Voice of American (VOA) remain the only source of uncensored information for the overwhelming majority of Burmese citizens (USDS, 2010).

ANALYSIS

The first section of this chapter provided a general profile of Burma in order to lay the necessary foundation for all subsequent discussions in this study. The second section explored the nation's modern political history alongside the evolution and ensuing de-evolution of its independent press. The final section discussed the current state of the press and other forms of traditional media (television, radio, and cinema) in the country.

During Burma's dynastic era, literacy and education became sources of national pride and as a result, the country achieved one of the highest literacy rates in the region. Consequently, the emergence of the nation's independent press during this time period proved to be of notable

significance to the population. When the country was conquered by the British in the late 19th century, high levels of literacy helped encourage the continued growth of a press independent of the colonial government. This independent press played a pivotal role in both mobilizing Burma's independence movement and ascending national leaders to political prominence.

Having witnessed firsthand the role of the press in Burma's independence movement, General Win was well aware of the institutions' capacity to challenge the legitimacy of the reigning governing body. Consequently, when Win seized power in 1962, he immediately took steps to systematically circumscribe the country's fourth estate. As other forms of media (radio, television and cinema) began to open new avenues of public expression, Win extended his policies concerning the press to incorporate them. Although the Win regime fell from power in 1988, the military governments that have succeeded it have adopted its perception that all channels of public expression should be viewed as a threat to the state. Additionally, they have extended Win's policies concerning the press and media to incorporate new technologies as they have emerged. Therefore, current national/state policies governing ICTs in Burma can be seen as inherently linked to Burma's former vibrant independent Burmese press.

However, the various technological dimensions of ICTs are interacting with economic, political and cultural forces within Burma in ways far more profound than the technology and media discussed in this chapter. In order to determine the role and significance of these new information technologies in Burmese society, the remainder of this study will explore the ways in which contextual forces are interacting with the technological dimensions of mobile phones and the Internet in Burma.

CHAPTER VI

CASE STUDY I: BURMA & THE INTERNET

INTRODUCTION

The following chapter will explore the ways in which contextual forces are impacting various dimensions of the Internet in Burma in an attempt to establish the role and significance of the medium in Burmese society. The first section will present the most recent available statistics regarding Internet penetration in the country. The data set forth in this segment will illustrate that Burma's Internet penetration rate is among the lowest in the world and will likely remain relatively stagnant in the near future. The subsequent sections will look at how different dimensions of the Internet are being influenced by historical, political, economic and cultural forces. In section two, the ways in which *historical/political* and *economic* forces affect the *ownership and finance* of Burma's Internet will be explored. The subsequent section will look at how the *user* dimension of the Internet has been influenced by *historical/political*, *economic*, *national/state policy,* and *cultural* forces. Section four will discuss how *national/state policy,* and *culture* forces are interacting with the *programming and content* dimension of Burma's internet.

The final section will analyze the ways in which these historical, political, economic and cultural forces are impacting various dimensions of the Internet.

INTERNET PENETRATION

Internet use continues to grow steadily worldwide. In 2009, there were an estimated 1.7 billion Internet users globally, representing over a quarter of the world's population. On average, Internet penetration among developed nations is increasing at an annual rate of 6%, but for the developing world the rate of increase is 21% annually (ITU, 2010). However, while such statistics indicate that, in general, the developing world is making substantial strides in Internet development, Internet use in Burma is among the lowest in the world and growth remains relatively stagnant.

ITU, which is "recognized around the globe as the leading provider of comprehensive telecommunication/ICT statistics and trends," provides ICT data for 203 national entities (ITU, 2010). According to ITU's most recent available statistics, in 2008, Burma was one of only thirteen nations with an Internet penetration rate lower than 1%. Of those thirteen countries, only Sierra Leone had a lower percentage of Internet users than Burma, where just 0.22% of the population is estimated to be online (ITU, 2008).

ITU's *ICT Development Index (IDI) Use Sub-Index* uses Internet and mobile phone penetration to assess the level ICT use in nations. Of the 159 countries included in the Index (based on 2008 data), Burma ranked 159th, making it the least developed nation in terms of ICT

penetration (ITU, 2010). Furthermore, there is little evidence to suggest that the country is making any substantial progress in fostering greater ICT penetration, particularly with regard to the Internet. While the estimated number of Internet users in the country rose from 31,500 in 2005, to 108,900 in 2008, an estimated 99% of the country's population remained unconnected as of 2008 (ITU, 2008). In order to understand the forces inhibiting growth of country's Internet penetration rate, it is essential to look at the development of the Internet in Burma.

OWNERSHIP & FINANCE

Historical-Political

To date, all of Burma's Internet services and facilities remain either state-owned or state-controlled. The regime formally solidified its authority over the sector in 1989 with the introduction of the *Economic Enterprise Law*. Under the statute, all telecommunication services and facilities became "the sole right of the government," though government-private joint ventures are permitted (Ure, 2008, 357). Myanmar Posts and Telecommunications' (MPT), a state agency operating under the Ministry of Communications Post and Telegraphs (MCPT), is currently the single sales agent and maintenance operator of all telecommunication services in the country and works in conjunction with various semi-private telecommunication companies (MPT, 2010; Mizzima News Agency, 24 Dec., 2009).

While the Internet was officially introduced in Burma in 1997 with the establishment of the country's first data communication link, the first Internet Service Provider (ISP) was not

operational until 1999, and it was not until 2000 that individual citizens were permitted to access

the network (Ure, 2008, 10; Mizzima, 24 Dec., 2009; Reporters Without Borders [RWB], 2009).

To date, there are three ISP's operating in the country, state-owned Myanmar Posts and

Telecommunications (MPT), state-owned Myanmar Teleport (formally Bagan Cybertech), and

state controlled Hanthawaddy National Gateway (ONI, 2007; Irrawaddy, 12 May, 2009).

The first ISP to be established was MPT in 1999. MPT was initially launched as a dial-up

ISP, charging approximately $230 (USD) annually for service. At the time of its inception,

service was restricted to Business groups, travel agencies, and government ministries (Mizzima,

24 Dec., 2009). However, due to the nation's lack of an adequate mainline telephone

infrastructure, which "is barely capable of providing basic service," had the Internet not initially

been restricted to the general public it is doubtful that many Burmese citizens would have had

the capacity to take advantage of it (CIA, 2010). Furthermore, the relatively high annual cost of

MPT service compared to the relatively low annual wage of Burmese citizens (currently less than

$200 USD), would likely have further inhibited its uptake by the general public (U.S.

Department of State, 2009).

Upon the introduction of dial-up Internet, the government began blocking all international

email services, instead mandating Internet users to purchase email accounts directly from the

government (Ure, 2008). While this move heightened the regimes email surveillance capabilities,

the government's initial attempt to establish a monopoly on email service has been regarded

more as a means to obtain revenue than a tactic employed to exert control over the flow of online

communication (ONI, 2007).

In 2001, Bagan Cybertech was formed in order to establish an ISP for a chain of state-owned,

for-profit, public Internet cafes. Although Bagan Cybertech was originally a joint government-

private enterprise, operating in conjunction with the Ministry of Communication Posts and

Telecommunications (MPT), in 2004 the company was stripped of its private ownership, placed

under the control of the MPT, and its name was changed to *Myanmar Teleport* (MMT) (Ure,

2008). Shortly after the takeover, MMT was transformed into *Yatanarpon Teleport* (RWB, Nov.,
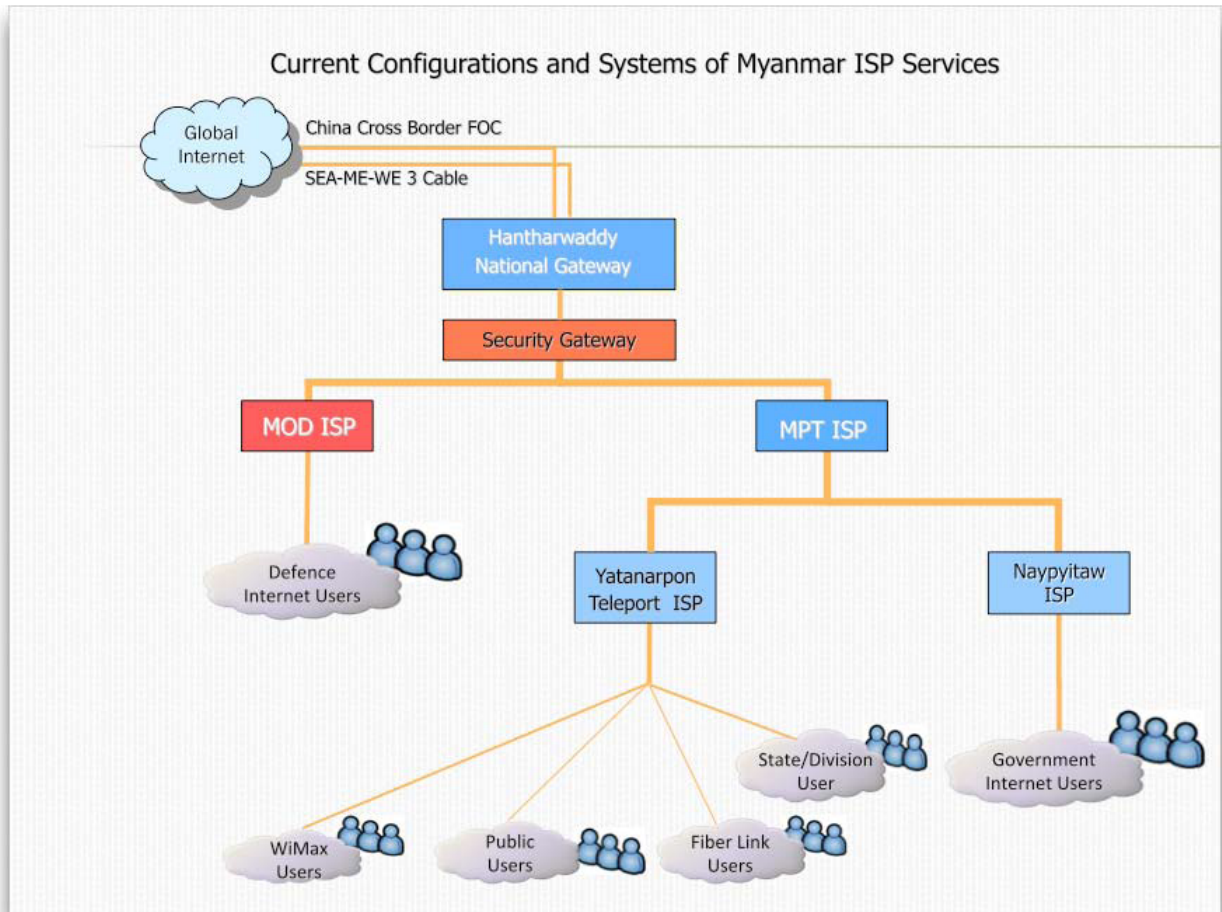
2010).

From 2004 until 2010, the country's ISP configuration consisted of two ISP servers (both

state controlled), *Yatanarpon Teleport* and *MPT ISP*. Under this system, both *Yatanarpon

Teleport* and *MPT ISP* were required to pass through proxy servers located in Rangoon,

essentially bottlenecking all connections into a single ISP server. As a result, both government

officials and private Internet users ultimately shared the same ISP.
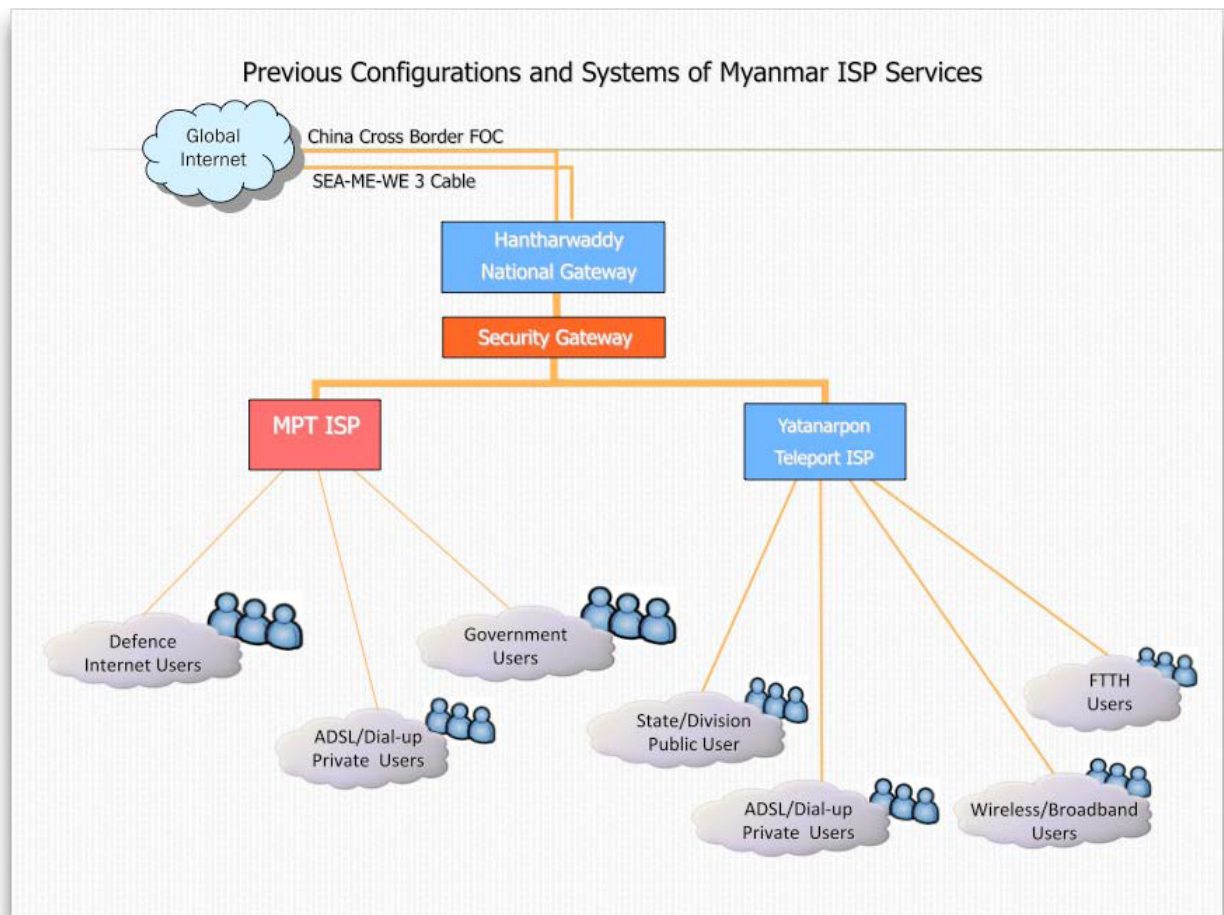
(Figure 2: *Previous ISP configuration*) (RWB, Nov., 2010)

In October 2010, the regime announced the launch of the Burma's first national Web portal, owned by Yatanarpon Teleport and based in the newly constructed Yatanarpon Cyber City in Mandalay. While both the launch of the national Web portal and the construction of Yatanarpon Cyber City have been heralded by the regime as an IT development measure undertaken for the benefit of the Burmese people, the portal has been seen by many as a means by the regime to greatly enhance their Internet surveillance and censorship capabilities.

As previously discussed, prior to the portals launch, all Internet users in Burma accessed the Internet through the same ISP server. With its completion, the defense ministry, the government, and the public will all be allocated one of the three existing ISPs. As a result, the military regime will now have the capacity to disrupt or completely sever the public's Internet connectivity without disrupting those used by state officials. Additionally, while the country's total bandwidth is distributed to the three ISPs equally, the disproportionate user rates for each will inevitably mean that government officials will have much greater Internet speeds and performance.

(Figure 3: Current ISP configuration) (RWB, Nov., 2010)

The new National Web portal at Yatanarpon Cyber City will inevitably greatly enhance Burma's Internet structure, providing heightened bandwidth and in turn improved Internet performance. However, due to the allocation of services in the current ISP system, the benefits afforded by the new configuration are expected to serve government officials, particularly the Ministry of Defense, while providing little advantage to public Internet users. This disadvantage is augmented by the fact that the new structure is forecasted to increase the costs associated with Internet services in a country where such costs are already prohibitively high. Additionally, while the SPDC has flaunted the Web portal as step toward greater IT development for the benefit of the Burmese people, the separation of the ISPs, and the military's authority over them,

gives the junta the capacity to completely regulate and surveil all online traffic into and out of

Burma. As a result, analysts predict the Yatanarpon Myanmar National Web Portal will only

serve to further infringe upon the freedoms of speech and expression within the country (RWB,

Nov., 2010).

Such an assessment gains volition when looking at the previous ways in which the military

junta has moved to control Internet communication during past political events within the

country. When political turmoil has erupted in the past, the SPDC has repeatedly deliberately

slowed or severed the country's Web connection in attempts forestall national and global

dissonance.

In September 2007, anti-government protests led to a brutal crackdown by state security

forces. In the midst of the unrest, images of government atrocities against peaceful protesters

were leaked to the international community via the Internet. The images, which were widely

circulated by media institutions worldwide, provoked international condemnation of Burma's

military government. In response, the regime slowed down Internet speed throughout the country

considerably, making it impossible to send images and videos abroad via the Web (ONI, 2007;

RWB, 2010). Soon after the connectivity slowdown, the government completely terminated

Burma's Internet connection altogether (ONI, 2007).

While the junta's Internet crackdown undoubtedly precluded the potential, ultimate extent of

damning images and accounts from being released to the global public, the negative press

resulting from the initial Web-leaked images and reports provoked strong political and economic

backlash from a vast array of International actors. As a result, the military government remains

particularly sensitive to the flow of online communication concerning the event. In September

2010, on the third anniversary of this so called "Saffron Revolution," distributed denial-of-

service (DDoS) attacks, where a website is overloaded with thousands of malformed Web connections forcing it to crash, were unleashed on the three major Burmese-exile media organizations, *The Democratic Voice of Burma* (DVB), *The Irrawaddy News Magazine*, and *Mizzima News Agency* (CPJ, 27 Oct., 2010; RWB., 5 Oct., 2010).

While the origin of the attacks remains unclear, the three news outlets were the primary purveyors of the 2007 Internet-leaked images and continuingly provide independent coverage of events within the country. As a result, the SPDC has long viewed the organizations as a significant threat to their legitimacy. This has lead many analysts to contend that the DDoS attacks ultimately originated from the military government. One such assessment was given by Shawn Crispin, CPJ's senior Southeast Asia representative. According to Crispin, "these debilitating attacks…are consistent with the Burmese governments past attempts to censor the Internet and block critical foreign news" (CPJ, 27 Sept., 2010). Responding to the attacks, the three media organizations have called upon the international community to end cyber attacks against online news outlets (RWB, 5 Oct., 2010).

Similar government measures were also implemented during pro-democracy leader Aung Sun Suu Kyi's 2009 trial. In 2009, in what has widely been seen as "a purely political sentence," Ms. Kyi was tried and convicted of violating her house arrest when a U.S. citizen swam to her lakeside residence (BBC News, 11 Aug., 2009). Aung Sun, who won a landslide victory in Burma's 1990 democratic election but was denied power by the SPDC, has long been viewed by the regime as a significant threat to their continued political predominance. Evidence of this is particularly apparent when looking at Burma's state-controlled media, which is banned from covering any of her or her NLD party's political convictions.

During the trial, Internet connectivity was cut in the city where the hearing was taking place and Internet connections throughout the country slowed considerably. According to *Reporters Without Borders* (RWB), numerous journalists reported that it took well over an hour to send a basic email. The timing of the connectivity disruption and the location of the Internet termination has led many analysts to conclude that they were intentional measures taken on behalf of the military government to prevent media coverage of the event (RWB, 12 March, 2010).

Yet another example of Internet disruptions coinciding with a major political event can be seen with Burma's 7 November, 2010 national election. In the week leading up to the polls, Burma's Internet was hit by a "massive Net attack" that knocked the entire country off the Web. Beginning on 25 October, Internet connections throughout the country slowed considerably and were periodically unavailable. As a result, there were reports of journalists having trouble getting news out of the country and cybercafés closing due to a lack of customers (RWB, 29 Oct., 2010; Mizzima News, 28 Oct., 2010).

In the days leading up to the election the attack grew in intensity, eventually knocking the entire country offline. According Dr. Craig Labovitz from Arbor Networks, the global provider of DDoS attack protection, the slowdown and eventual termination of connectivity was a result of a sophisticated DDoS attack, comprised of various different DDoS attack methods, and "several hundred times more than enough" to overwhelm the nation's network (BBC News, 4 Nov., 2010).

One Burmese technician closely associated with the Ministry of Communications, Post and Telegraphs (MPT), told *The Irrawaddy News Magazine* that the government had not taken any action against the attack, adding that "they let it happen" (29 Nov., 2010). A similar assessment was made by the Committee to Protect Journalists (CPJ), who just prior to the termination had

said that "it did appear that authorities were deliberately slowing down Internet connections to make it difficult for journalists to file images and video over the Internet ahead of the upcoming elections" (CPJ, 28 Oct., 2010).

The new national Web portal and the construction Yatanarpon Cyber City is undoubtedly a major advancement in the development of Burma's Internet infrastructure. The national portal will heighten both the country's total bandwidth and overall Internet performance considerably. However, due to the asymmetrical user rates of the three ISPs, government authorities will be allocated a disproportionate amount of the benefits. Additionally, the IT development is expected to raise associate public Internet costs considerably. In a nation where such costs are already prohibitively high, this will inevitably detrimentally impact Burma's Internet user rate, which currently stands at less than 1%.

Moreover, Yatanarpon Cyber City and Yatanarpon Myanmar National Web Portal ultimately represent a new means by the regime to centralize and monopolize the flow of online communication coming into and out of the country. The new ISP configuration will allow the military government to disrupt or terminate all public online communication at will while maintaining its own Internet connection. Additionally, the new IT infrastructure gives the SPDC the capacity to monitor, surveil and govern the flow of all net traffic within the country.

When reviewing Burma's 2007 "Saffron Revolution," it becomes apparent that the military junta perceives the flow of online communication as a significant threat to their continued legitimacy and is prepared to take severe action to control it. This was amply demonstrated by the regimes complete termination of the county's Internet during the September 2007 demonstrations, and the apparent SPDC-originated DDoS attack against independent news organizations on the events third anniversary. Furthermore, the significant Internet disruptions

occurring during pivotal political events within the country, supposedly perpetrated on behalf of the junta demonstrate their continued willingness to invoke authoritarian methods of communication control and censorship. Therefore, while Burma's IT infrastructure continues to develop, it is unlikely that the people of Burma will prosper in any significant way. In fact, such developments will ultimately only serve to further infringe on the populations' universal freedoms of speech and expression.

Economics

As ITU notes, "the role of ICTs in enhancing economic growth…is now well established" (ITU, 2010, iii). It is increasingly evident that Burma's ruling military regime recognizes the potential economic benefits derived from increased Internet connectivity and is attempting to capitalize on them while simultaneously maintaining its monopoly on information within the country. According to the *OpenNet Initiative*, the SPDC is slowly and selectively expanding Internet access while continually enhancing its Internet censorship capabilities (ONI, 2007). This assessment indicates that that the only reason for the recent marginal growth of Internet penetration in Burma is because it serves the regimes interest. Given the concern the SPDC demonstrated over the flow of online communication during the 2007 protests, it is unlikely that such growth is of strategic interest to the military government. Therefore, it is reasonable to assume that it is of financial interest.

Further indications that the development of Burma's Internet has only occurred because it benefits the regime economically can be seen in the government's recent business endeavors. The regime is increasingly engaging in joint ventures with private commercial entities in order to

expand Internet services and facilities in the country. However, while the SPDC maintains that such development is being undertaken in the interest of the population, evidence suggests otherwise. The commercial entities that the state has partnered with are all either owned by the military elite themselves, or share direct connections to them.

Bagan Cybertech, one of the country's original ISP's, was launched in 2001 as a joint government-private enterprise. At the time, its introduction broke the existing state monopoly on ISP's held by the MPT. However, while Bagan Cybertech was not an official government body, the company was directly linked to Burma's military elite. When Cybertech was originally established, the regime's former Prime Minister, General Khin Nyunt, appointed his son, Ye Naing Win, as director of the company. When Nyunt was stripped of power in 2004, Win was imprisoned, control of Cybertech was given to the MPT, and the company's name was changed to Myanmar Teleport (MMT) (Ure, 2008; Irrawaddy, March, 2010).

Further evidence of the links between the regime's economic interest and IT development in the country can be seen with Yadanabon Cyber City. In 2006, Burma's senior general, Than Shwe, named his grandson as director of the IT center. Additionally, the ISP that the facility is to eventually house, Hanthawaddy National Gateway, is an extension of Alcatel Shanghai Bell Company. Alcatel is run by Tay Za, "a close associate" and "personal friend" of many of Burma's senior military generals (Irrawaddy, 12 May, 2009). According to the US Treasury Department, Za is the "financial henchman of Burma's repressive regime" (Associated Press (AP), 5 Feb., 2008). As a result, it is believed that although the Hanthawaddy ISP is officially "privately" owned, the company is in fact directly controlled by Burma's ruling military elite and is an extension of their commercial, economic interests (Irrawaddy, 12 May, 2009).

Another company heavily involved in Burma's Internet development is IGE Ltd.. In addition to designing and building Web portals specifically for government use, IGE heavily invests in the country's IT sector. The managing director of the company, Ne Aung, is the son of Burma's Minister of Industry, General Aung Thaung (Irrawaddy, March, 2010). The Minister's other son, Pyi Aung, sits on the board of directors at IGE and is married to Burma's second most powerful General's daughter (Irrawaddy, March, 2010).

In January 2010, the regime organized the largest IT forum in Burma's history. The events main sponsor was Redlink Communications, an IT company run by the junta's third senior general, Thura Shwe Mann. Among the other companies sponsoring the event were Alcatel Shanghai Bell and IEG Ltd.. According to the government, the forum was intended to encourage development and growth of the country's IT sector. However, according to the *Irrawaddy News Magazine*, the true intention of the convention was to "plan and divide" the economic "spoils" obtained from future development of Burma's IT sector, as well as to determine national security protocols relating to the governments soon to be centralized Internet surveillance and censorship capabilities (Irrawaddy, March, 2010).

Burma's Internet and IT sector are undoubtedly slowly being developed. The country's ruling military regime continues to tout this IT progress, maintaining that it is being undertaken for the benefit of the population. However, statistics on Burma's Internet penetration indicate that the overwhelming majority of the country's population is reaping no technological reward from such progress. Furthermore, there are no indications that the revenue acquired from such development has trickled down to the Burmese people in any form. Therefore, while the regime may be fostering Internet and IT development, it is clearly not doing so for the benefit of the country's citizens. Rather, the SPDC is using corrupt business practices to expand the sector in

order to acquire revenue needed to maintain its legitimacy. This assessment is corroborated by the U.S. Department of State (2010), which found that the regime's unofficial commercial ties "play a major role" in preserving its authority over the country.

USERS

Historical-Political

While Internet access had been denied to Burmese citizens until 2000, and to date, remains virtually non-existent to the overwhelming majority of the population, Internet users have attempted to impact Burma's power structure since the late 1980's. In 1988, Coban Tun, a Burmese exile and graduate student at San Francisco University, created *seasia-1*, an electronic mailing list that redistributed news reports on Burma through Usenet, a world-wide distribution Internet discussion system (Zarni, 2000).

In 1993, Douglas Steel, an American Georgetown University student working with student revolutionaries in Thailand, launched another Usenet group called *soc.culture.thai*. *Soc.culture.thai* provided the first in-depth accounts of the situation in Burma by posting newspaper articles from neighboring Thailand (Danitz & Strobel, 1999). In 1994, the Open Society Institute, a foundation dedicated to enhancing human rights and democracy around the world, provided Steel with a grant to expand on *soc.culture.thai* (Zarni, 2000; ONI, 2010). The

result was the construction of BurmaNet, a news-list server that provided the first consistent and most up-to-date source of information on Burma. In addition to providing the international online community with current events on the country, BurmaNet gave Burmese exiles a platform on which to communicate and mobilize (Danitz & Strobel, 1999). In *Networking Dissent* (1999), Steele describes the effect of BurmaNet on the Burmese exile community,

> Once it was obvious that people were using it, that it was useful to them, more and more came on. Pretty soon you had, if not the entire Burmese exile community in the world, all the ones who had $20 a month and a modem. There's a lot of Burmese in exile, but they weren't together and the Net allowed them, in one way, to be together (Danitz & Strobel, 1999).

As its user-base and international prominence grew, BurmaNet began to inspire the formation of other Internet-based organizations dedicated to peace and democracy in Burma (Danitz & Strobel, 1999). Among these so-called "Free Burma" organizations was the Free Burma Coalition (FBC) (Zarni, 2000). According to their mission statement, FBC "is a Burmese-led political initiative to support Burmese people's aspirations and struggle for democracy and human rights through boycotts, pro-sanction advocacy, and Burma awareness promotion" (FBC, 2010). Founded in 1995 at the University of Washington, FBC recognized the growing influence of "Free Burma" Internet initiatives and the need for them to consolidate their influence under a unified network. As a result, FBC launched itself as an umbrella group for "Free Burma" organizations worldwide (Zarni, 200). Using the anti-apartheid movement in South Africa as model, FBC began to employ grassroots Internet campaigns to exert pressure on governments to stop doing business with Burma's military regime (Troester, 2001). Among the most notable of these was the Massachusetts Selective Purchasing Campaign.

In the 1995, FBC, working in cooperation with BurmaNet, seasia-1, and other Burmese activist groups, began using email communications to campaign for the drafting and passing of Massachusetts' legislation that would ban corporations doing business with the SPDC from gaining new business contracts in the state. The coalition of Internet-based organizations facilitated the drafting of the so-called Massachusetts selective purchasing bill by conveying documented human rights abuses perpetrated by the regime to Massachusetts legislators. Once drafted, "email alerts were sent out at key points of the legislative process" (Danitz & Strobel, 1999, 140).

On June 25, 1996, the bill was passed by Massachusetts Governor William Weld. In *Networking Dissent* (1999), Gov. William Weld describes the role of electronic mail in its passage,

Supporters of this and other bills to impose sanctions on Burma have been particularly successful in their use of electronic mail to keep their movement going, leading one activist to describe this as the first "cyber-campaign" (Danitz & Strobel, 1999, 139).

Aside from the passing of the legislation itself, the Internet-based campaign enjoyed success in other ways. The publicity surrounding the event captivated the attention of the news media and brought the situation in Burma into the national spotlight. In direct response to the ensuing negative publicity for their business involvement with Burma's military regime, Motorola, Hewlett-Packard, Apple Corp, and various other large companies withdrew from the country (Danitz & Strobel, 1999).

Another group that has used the Internet to impact Burma in the past is Burmese students. In the late 1980's, Coban Tun, the exiled Burmese student dissident who started the email list

seasia-1, traveled to All Burma Students' Democratic Front (ABSDF) military camps on the

Thai-Burmese border where he distributed computers and computer software to student militants

and taught them basic computer skills. Subsequently, ABSDF members and ethnic minority

human rights groups began traveling to ethnic conflict zones and documenting government

human rights abuses. Using their newfound IT skills, the ABSDF used laptops to compile the

data onto computer discs. The discs were then mailed the groups colleagues in Bangkok, who

disseminated the information online (Zarni, 2000). In the early days of the Internet, these

students played a pivotal role in exposing SPDC human rights abuses to the world. The

information, which without the Internet would have been virtually unattainable, played a pivotal

role in mobilizing global support for international campaigns dedicated to human rights and

democracy in Burma.

  While the ABSDF illustrates that the Internet was being utilized as a tool to combat

Burma's authoritarian military regime as early as the 1980's, more recently, another group of

clandestine, so called "Burmese freedom fighters," have also turned to the technology to achieve

their goals. In 2004, various groups of Burmese exile activists began using Benetech's Internet-

based *The Martus Human Rights Bulletin System* as a means to document human rights

violations perpetrated by the SPDC.

  At any given time, NGO's and human rights observers throughout the world engage in

the documentation of human rights abuses with the intent of exposing them and holding

perpetrators accountable. To do so, these individuals and organizations must collect data, often in

the form of testimonials, and relay it to the international community. However, the act of

gathering, processing, and transmitting such information often faces significant obstacles. Data

collected on human rights abuses is often subject to confiscation and/or destruction.

Additionally, due to the lack of financial resources of many these NGOs, information stored on computers is vulnerable to viruses and system crashes.

In an attempt to overcome some of these challenges, Benetech, a leading US-based nonprofit technology company, has developed *The Martus Human Rights Bulletin System*, "an open source technology tool designed to assist human rights organizations in collecting, safeguarding, organizing and disseminating information about human rights abuses." The user-friendly software, developed in conjunction with international human rights organizations, allows NGOs to store their data in a secure location on off-site servers, thus "preserving crucial evidence for research, investigation, and prosecution" (Martus Overview, 2010).

According to Benetech, the four central components of the software are usability, security, searchability, and transparency. The software, which requires no consistent Internet connection, is free, easy to use, and can be run on any computer. Because all data is encrypted, password protected, and automatically backed upped on multiple servers when Internet connections are available, collected information remains secure. Since the initiative is a collaborative partnership of human rights NGOs worldwide, *Martus* acts as a universal human rights database, accessible to outside organizations and researchers. Additionally, because Martus is open source, the software can be modified by any organization to meet specific needs as they arise (Martus Overview, 2010).

In 2003, a coalition of thirteen Thailand-based NGOs began the *Network for Human Rights Documentation – Burma* (ND-Burma) in an attempt to "collectively use the truth of what communities in Burma have endured to challenge the regime's power through present-day advocacy as well as to prepare for justice and accountability measures in a potential [political] transition." Each of the organizations of which ND-Burma is comprised of has devised unique

ways of obtaining evidence and testimonials of human rights violations perpetrated by the SDPC. Examples of such methods include the use of extensive networks of local populations, the use of coded language through walkie-talkies, and the use of emails to transmit testimonials and other evidence of human rights violations to colleagues across the Burmese border. However, these attempts have been hampered by significant challenges involved in the acquisition of such data.

    The groups and individuals undertaking the task of collecting information within Burma do so at great risk to both themselves and those who provide essential testimonials. Walkie-talkie transmissions and unsecured emails can easily be intercepted by Burmese, Chinese, and Thai authorities. Additionally, due to the insufficient financial resources of the organizations, members of ND-Burma are often forced to use outdated and unreliable information technologies, which can lead to the loss of valuable data. Moreover, because funding for virus protection is often unavailable, the loss of information due to computer viruses remains a viable threat.

Beginning in 2004, with the assistance of Benetech's Human Rights Program (HRP), ND-Burma began utilizing *Martus* in their HR documentation efforts in an attempt to overcome these challenges. The application of *Martus* has provided ND-Burma a common framework on which to collect, manage and secure essential data. Additionally, because Martus is open source software (OSS), the application is free to use and capable of being modified to meet ND-Burma's specific, arising needs.

When ND-Burma affiliates obtain valuable information pertaining to human rights violations within Burma's borders, all data is entered into portable laptop computers. While wireless internet connections are virtually non-existent within the country, Wi-Fi is sporadically available along the nation's border regions. When connections become available, the *Martus* software automatically backs ups all data to a remote server of the user's choice. Therefore, if

data is lost or compromised upon exiting the country, the information can be re-obtained from the *Martus* server. Furthermore, data entered into the software and sent to the server is strongly encrypted, making it inaccessible to anyone without authorized clearance. Consequently, *Martus* protects both the providers and obtainers of vital information on human rights abuses from possible retribution from state authorities. To date, *Martus* has enabled ND-Burma to safely and securely enter well over 1,500 reports on HR violations perpetrated by the regime in the central database.

These cases demonstrate that since its inception, the Internet has been employed by users seeking to alter Burma's power structure. However, while these campaigns have had success in bringing global attention to human rights violations perpetrated by the regime and forcing foreign corporate disinvestment from the country, there is little evidence to suggest that they have destabilized Burma's ruling military government's authority to any measurable degree. Nevertheless, Internet campaigns such as these may have impacted the role of ICTs in Burmese society. The SPDC's recent centralization of the nation's Internet gateways, and its implementation of strict laws governing Internet use, suggests that it feels that the Internet poses a significant threat to its legitimacy. This perception can be seen as a result of the ways in which the Internet has been used in the past to subvert its authority. This argument gains greater validity when acknowledging other mechanisms used by the regime to inhibit Internet use, such as high associated costs of the technology.

Economics

As the ITU (2010) notes, there is a direct correlation between associated costs of an ICT and its uptake and use. While low costs tend to foster greater adoption and usage, high costs tend to inhibit uptake. This is particularly evident in low income economies, where "basic needs" consume high proportions of individual annual incomes, and even moderately high associated costs can significantly reduce an ICT's usage.

As previously addressed, Internet penetration in Burma remains among the lowest in the world. One of the primary forces inhibiting greater Internet usage in the country is the relatively high costs associated with connectivity. With a population of over 48 million, 32.7% of Burmese citizens live below the poverty line and the estimated average annual income for the country is less than $200 (USD) (CIA, 2010; U.S. Department of State, 2009). Due to such prevailing poverty, few citizens are able to afford the hardware (computer, modem, etc.) needed to establish a personal Internet connection. Furthermore, the associated costs of residential Internet service remain prohibitively high.

In 2005, establishing a home broadband connection cost $1,300 (USD). As a result, the overwhelming majority of Burmese who subscribe to residential Internet service do so through dial-up connections, which in 2005 cost approximately $9 (USD) per 15 hours of service. If located outside the country's two major cities, Rangoon and Mandalay, the price is increased due to long distance connection fees (ONI, 2005). However, because Burma's domestic telephone system is "barely capable of providing basic service," even if citizens were able to afford dial-up service, few would be capable of taking advantage of it (CIA, 2010). As a result, most Burmese who connect to the Internet do so in Internet cafes. However, the hourly cost for Internet connection at these cafes, which are only located in five major cities, also remains prohibitively high for the large majority of citizens. In 2007, the cost for an hour of Internet service at a café

was approximately $0.30 (USD). While this price has reduced substantially in recent years

(down from $1.50 [USD] in 2003), considering that the average citizen earns less than one US

dollar a day, it remains a luxury few Burmese can afford (ONI, 2007). According to OpenNet

Initiative findings, high associated costs of the Internet due indeed limit access significantly, and

even those few households that can afford the hardware, cannot afford the monthly rates (ONI,

2005).

According to the ITU, the costs of ICT services determine ICT uptake (ITU, 2010). In an

attempt to illustrate the relative affordability of ICT services in countries worldwide, the ITU has

developed the *ICT Price Basket*. The *Basket* ranks 161 world nations based on the average

associated costs of their fixed telephony, mobile cellular and broadband Internet services. In the

ITU's 2010 *ICT Price Basket* (based on 2008 data)*,* Burma ranked 159th in terms of ICT

affordability, with only Togo and Niger having higher relative costs (ITU, 2010). Based on

Burma's relatively low average annual income, pervasive poverty, and exceedingly low Internet

penetration, high associated costs of Internet service can clearly be seen as a significant barrier to

Internet uptake in the country.

The extensive measures the regime has undertaken to consolidate its control over the

Internet, coupled with its recent enactment of laws directly governing Internet use, seems to

indicate that it is intentionally hindering Internet penetration growth in the country. Because the

SPDC maintains ultimate control of the nation's IT sector, it is in a position to lower associated

Internet access costs if it so chooses. Therefore, it is reasonable to assume that the barrier of cost

is a mechanism employed by the regime to inhibit Internet use in Burma. As with the

suppression of other forms of media within the country, this can be seen as a means of reducing

the public's capacity to engage in free expression, which the regime clearly regards as a threat to

its authority. Further evidence of this can be seen by the regimes use of legal regulations governing Internet use.

National/State Policy

As discussed in chapter three, Burma's military governments have long used legal restrictions to inhibit free expression in order to diminish potential threats to their authority. As soon as the Internet began affording the country's population with new avenues of expression, similar restrictions were enacted to regulate the new technology. To date, laws governing the use of the Internet in Burma are considered to be among the most extensive in the world (ONI, 2010; Chowdhury, 2008). A "patchwork" of vague legal regulations confer upon the regime the power to prosecute citizens for any use of the Internet they deem a threat to their legitimacy (ONI, 2005). This broad legal reach of the state over the medium can be attributed to the absence of an independent judicial branch within the government. The Supreme Court is directly appointed by the SPDC and all lower court appointments must be approved by the junta. As a result, the military government "rules by decree" and is not constrained by the requirement of providing just public trials (U.S. Department of State, 2010, 1e).

The *Computer Science Development Law,* established in 1996, requires individuals to apply and register with the government prior to the importation or purchase of computer technology. Additionally, the law prohibits any unsanctioned use of "a computer network or any information technology." Anyone found in violation of the statute faces up to fifteen years in prison as well as a fine (Computer Science Development Law, 1996).

In November 2008, Nay Phone Latt, a popular Burmese political blogger, was sentenced to over twenty years in prison. Among the charges brought against him was violation of the Computer Science Development law for possessing a cartoon depicting Burma's current senior military general in his email (Irrawaddy, 10 Nov., 2008). Following Latt's conviction, 14 other political dissidents were found guilty of violating the law and handed similar sentences (Irrawaddy, 13 Nov. 2008).

While the *Computer Science Development Law* provides the SPDC with broad powers to regulate Internet activity, subsequent unforeseen threats posed by new dimensions of the technology led the regime pass the *Electronic Transaction Act* in 2004. Under the Act, which *Reporters Without Borders* (RWB) has called "one of the most liberticidal laws in the world," any individual found to have used "electronic devices capable of receiving, transmitting, storing, processing or retrieving information and records," to disseminate information detrimental to the state, faces a prison sentence of up to 15 years (RWB, 2010, 6; Electronic Transaction Act, 2004).

The regime has increasingly used the Act to crackdown on the use of the Internet to provide exile-run news organizations with information from inside the country. In June 2009, Soe Naing Lin was arrested in an Internet café for sending information to the *Democratic Voice of Burma (DVB)*, an Oslo-based news outlet. He was charged under the *Electronics Transaction Act* and sentenced to 13 years in prison with hard labor (BBC News, 29 Jan., 2010; Irrawaddy, 2 Feb., 2009). In December 2009, Hla Hla Win, a video journalist for the Democratic Voice of Burma (DVB) was also arrested and convicted under the Act for sending information online to the news organization (CPJ, 7 Jan., 2010). While the exact number of journalists imprisoned under the Act has not been reported out fear that doing so would lead to extended prison sentences for the

reporters currently detained, it is estimated that at least 14 correspondents are imprisoned from DVB alone (CPJ, 2 Feb., 2010; CPJ, 7 Jan., 2010).

In addition to journalists, the Act is increasingly being used to target political dissidents within the country. Immediately following the September 2007 mass demonstrations in Burma, where the Internet was used to send photos and videos of government violence to the outside world, over 1,000 political activists were arrested. Many of those detained were reportedly convicted and sentenced to jail terms under the *Electronic Transaction Act* for their alleged use of Internet technologies during the events (NY Times, 16 Nov., 2008).

In recent years, legal regulations have also been imposed on Internet cafés, where the overwhelming majority of the country's Internet users access the Web. The government has mandated that Internet café owners must apply for and receive a license from the government (ONI, 2005). Under these licenses, owners are required to take screenshots of Internet user's activity every five minutes and regularly submit the images to state officials (Chowdhury, 2008; BHRY, 2008). Additionally, the regime is beginning to issue digital certificates that citizens will be required to obtain prior to using the Internet in a café. To acquire a certificate, individuals must provide their name, address, and intended purpose for using the Web. According to one Burmese IT technician, "with digital certificates, the government can follow whatever information it wants and find out who is accessing it" (Irrawaddy, March, 2010).

In early 2010, the government issued new regulations that force café owners to record the names of Internet users, the websites they frequented, and the people they sent emails to and chatted online with (Mizzima, 19 Feb., 2010). To ensure compliance with the new edicts, authorities regularly make unannounced visits to cafes and have threatened to shut down any establishment failing to abide by the directives (Irrawaddy, March, 2010).

The number of laws and regulations governing Internet use in Burma, the extent of their reach, the arbitrariness of arrests regarding online activity, and the severity of the subsequent sentences, all indicate that the SPDC is attempting to incite self-censorship among the country's few Internet users. There are indications these government mechanisms are having the desired effect. Fearing state reprisals, Internet users are reportedly regularly engage in self-censorship (Chowdhury, 2008). However, this tactic is not solely reserved for citizens. In early 2010, two senior military officials were sentenced to death for using the Internet to email sensitive government documents abroad (RWB, 2010, 5). These actions suggest that, while its control over the Internet is among the most extensive in the world, the SPDC remains deeply concerned over the threat the Internet poses to its authority. Such concern may be a result of the ways in which cultural forces are affecting Internet use in the country.

Culture

As argued above, the SPDC uses the centralization of the country's Internet gateways, the use of vague, far reaching laws, arbitrary arrests and detentions, and high associated Internet connectivity costs to suppress the flow online information and communication within the country. However, despite these mechanisms, many young Burmese citizens are increasingly turning to the Internet as both a vehicle for social expression and means of empowerment. One notable example of this growing trend can be seen with the youth group Generation Wave.

Generation Wave employs unconventional methods of political resistance in their ultimate pursuit of "inspiring a revolution" in Burma (BBC News, 24 Feb., 2010). In addition to the sporadic use of graffiti art in urban areas as means of political expression, the organization

composes, records, and distributes their own hip-hop albums. The albums, while not always overtly political, contain underlying messages intended to inspire citizens (particularly fellow Burmese youth), to stand up to the oppressive government regime (Asia Sentinel, 6 Jan., 2010). To help facilitate the dissemination of their music and message, Generation Wave is increasingly employing the Internet. Since 2007, the group has established an email contact list for fans and members, a webpage on the social networking site Facebook, and the website www.gmave-network.co.cc, where their album can be downloaded worldwide (Facebook, 2010; Irrawaddy, March, 2010).

However, as with other forms of political expression in Burma, Generation Wave's outspoken political dissention has attracted the attention of, and provoked a response from, Burma's military government. As of January 2010, thirty organization's members had been imprisoned. Furthermore, the SPDC recently decreed that membership in the group is illegal and an imprisonable offense (Asia Sentinel, 6 Jan., 2010). In an effort to help these youths evade arrest by "covering their online tracks," Thai media experts have volunteered their services to provide the organization with tutorials on Internet security. Some of the lessons taught to the group included setting Facebook privacy settings and encrypting online messages (BBC News, 24 February, 2010).

Conversely, the SPDC has recently taken steps that are seen by some as a means to prevent further growth of online political dissention among Burma's youth. In August 2009, the regime created an Internet search engine contest which, according to the government, was aimed at "encouraging the development of the country's ICT [sector]…and enhancing the youth's interest in the creation ICT research" (Irrawaddy, 25 Aug., 2009). However, according to *Pandia*

Search Engine News, an IT newsgroup based out of Norway speaking to the *Irrawaddy News Magazine*, the contest may have two ulterior motives,

> One could be to identify young Burmese with computer skills and prevent them from developing technology that threatens the regime. We know of activists that have managed to get around the walls of censors. The opposition often uses proxy servers and special software to get across information. Another could be to get the winners of the competition to serve the regime by developing a search engine that can be used to block any kind of unwanted information (Irrawaddy, 25 August, 2009).

Government action such as this indicates that the SPDC is keenly aware of the arising ways in which the Internet is being used to destabilize its authority, and that it is poised to respond to such threats. The IT contest can be seen as a direct response to escalating online dissension among Burmese youths. Additionally, it signifies that the junta regards subversive Internet use among Burma's younger generation as a threat significant enough to warrant a response. The latent threat of dissident youth's use of the Internet can be seen as one of the reasons why the government goes to such extensive lengths to filter online programming and content.

PROGRAMMING & CONTENT

National/State Policy

With 80% of all websites blocked by government filtering methods, Internet content in the country is among the most heavily censored in the world (BHRY, 2008; ONI, 2005). The SPDC blocks a wide range of websites that it feels threatens its authority, including virtually all popular email, blog, and instant messaging sites (ONI, 2007; U.S. Department of State, 2009). In addition, the government blocks most major news services, all Burmese exile-run news services, video sharing sites such as YouTube, sites dedicated to human rights advocacy and democratic reform, sites using "Burma" to refer to the country instead of "Myanmar," and many prominent NGO websites (ONI, 2007).

However, Burma's Internet users have found innovative ways in which to circumvent the state's filtering practices. Almost every café owner in the country has installed foreign hosted proxy sites in their establishment (Chowdhury, 2008; ONI, 2007). Proxy sites work by acting as an intermediary between the Internet user and the site being requested. Web addresses are inserted into the proxy server which then retrieves and displays the page rather than the user's computer doing so. This "redirection" allows Internet users to surf the web anonymously since, technically speaking, the proxy site is the only website they are visiting (Economist, 30 Nov., 2006).

One prominent example of the use of proxy servers in Burma is gLite.sayni.net (a.k.a. Glite), which has been downloaded by hundreds of the country's Internet users (ONI, 2007). gLite played a pivotal role in the nation's September 2007 anti-government demonstration. When tens of thousands of Burmese took to the streets to protest a sudden hike in energy prices, government security forces quelled the demonstrations with violent force. During the unrest, "citizen journalists" captured government atrocities with cameras and video phones. These

images were then circulated online through the use of *gLite* and various other proxy servers, which allowed users to bypass government filters. The ensuing publicity sparked worldwide outrage and led the international community to impose economic and political sanctions against the regime. The role of Glite in allowing for the information and images to be sent abroad led to the term "gLite Revolution" being adopted to describe the general international use of proxy servers to expose authoritarian government human rights abuses by citizen journalists (ONI, 2007). One of the key players in Burma's Glite Revolution, and a prominent example of how cultural forces in the country are influencing the role of the Internet in Burmese society, are Bloggers.

Culture

The role of blogs (regularly updated commentary websites most commonly maintained by a single individual) in Burmese society has become increasingly significant in recent years. Due to the absence of independent media and lack of access to global communication channels in Burma, blogs are steadily being recognized as a valuable vehicle for cultural, social and political expression. While three-fourths of Burmese bloggers are between the ages of 21 and 35, there is a relatively considerable degree of variation among the demographics of bloggers and the content of their blogs. Of the estimated 800 active Burmese bloggers, half reside in the country. 80% of these blogs are in Burmese, 8% are in English, and 10% are bilingual (RWB, 2010). While some are overtly political and outspokenly critical of Burma's government, others are religious, social, environmental, educational, or artistic in nature (Myanmar Blog Directory, 2009). Additionally, while the majority of bloggers are young, as older Burmese have come to

recognize the social and informational value of blogs, multiple generations are now engaging in their composition (CNN, 28 Sept., 2007; ONI, 2007).

Burmese bloggers (both foreign and domestic), played a particularly critical role in the circulation of information during the September 2007 events in Burma. As the events unfolded, "small networks" of Burmese bloggers, comprised of individuals located both within and outside Burma, maintained correspondence through the Internet. This so-called "trusted-contact blogging" allowed those residing outside Burma to send essential proxy server links and other government censorship circumvention tools to Bloggers within the country. As a result, bloggers and citizen journalist were able feed information and images of the unfolding events to the outside world until the government terminated the country's Internet connection (ONI, 2007).

One Burmese blogger who gained notoriety during the Saffron Revolution was Ko Htike. According to the 28-year-old, London-based blogger, he had up to 40 people within Burma sending him photos and information on events on-the-ground until the Internet shutdown. Due to the government crackdown, as well as the absence of an independent Burmese press, there was almost no traditional media coverage of the events. As a result, more than 170,000 people from 175 countries flocked to Htike's blog alone in order to obtain information on what was happening inside the country (CNN, 28 Sept., 2007). On 26 September, as the events were still unfolding, Chris Vallance from *BBC News* described the significance of blogs such as Htike's,

> Citizen Journalists in Burma have demonstrated that the exclusion of professional reporters no longer cuts off the flow of news…this is quite a cultural change. When news breaks, Blogs, Social Networks and Video Sharing sites are going to become must-check sites for journalists (BBC News, 26 Sept., 2007).

Echoing Vallance's sentiments, Joel Simon, Executive Director of the *Committee to Protect Journalists* (CPJ), described the growing significance of bloggers, and the growing response of the authoritarian governments they expose,

> Bloggers are at the vanguard of the information revolution and their numbers are expanding rapidly…But governments are quickly learning how to turn technology against bloggers by censoring and filtering the Internet, restricting online access and mining personal data. When all else fails, the authorities simply jail a few bloggers to intimidate the rest of the online community into silence or self-censorship.

Simon's account seems to be corroborated by Burma's government's response to the 2007 events. The SPDC's complete shutdown of the country's Internet can be interpreted as signifying the regime's recognition that they were unable to successfully "turn the technology against the bloggers," and other online dissidents. As a result, the junta began a campaign of intimidation against those who would use the Internet as a vehicle for expressing dissident views.

In 2008, popular comedian and outspoken political blogger, Zarganar, wrote openly wrote about the 2007 demonstrations on his blog, was found in violation of the *Electronic Act* and sentenced to 45 years in prison (BHRY, 2008; BBC News, 21 Nov., 2008). Earlier the same year, Nay Phone Latt, an Internet blogger and owner of multiple Internet cafes, was also found in violation of the Act for allegedly "creating public alarm" by disseminating news of the 2007 demonstrations and sentenced to over 20 years in prison (U.S. Department of State, 2010; BBC News, 11 Nov., 2008). In December 2008, *Reporters Without Borders* awarded Latt the its press freedom prize in the cyber-dissident category (RFW, 22 Oct., 2010). In April 2010, PEN, a global freedom of expression advocate and the world's oldest human rights and international

literary organization, honored Latt with the prestigious PEN/Barbara Goldsmith award (DVB, 24 Nov., 2010).

In addition to these arbitrary arrests and detentions, the regime has also resorted to other means of intimidation to silence bloggers in the aftermath of the September 2007 events. According to the OpenNet Initiative, the SPDC has banned a number of blogs and circulated rumors that it would ban the rest if it found that any contained anti-government sentiment. As a result, many domestic Burmese bloggers have begun to self-censor their blogs to avoid being shutdown (ONI, 2007).

In response to these government tactics of intimidation against bloggers, in 2009, the *Committee to Protect Journalists* (CPJ) name Burma as "the worst online oppressor," and "the worst place to be a blogger" in the world (CPJ, 30 April, 2009). Additionally, thanks in part to the SPDC's arrests and detentions of Burmese dissident Internet users, according to CPJ, online journalists and bloggers now represent the largest imprisoned professional group in the world (CPJ, 30 April, 2009; RWB, 2010, 2).

However, the 2007 Saffron Revolution was not the only political event in which blogs and bloggers demonstrated their social and political significance. In Burma's November 2010 elections, the government-backed Union of Solidarity and Development (USDP) party achieved 80% of the votes. However, the polls have been widely condemned in the international arena as neither free nor fair (BBC News, 18 Nov., 2010). The military-imposed election laws, which stated that 25% of parliamentary seats were to be reserved for SPDC officials and constitutional reforms required a 75% approval, virtually ensured the regimes continued political predominance. However, in addition to these legal restrictions, opposition party's lacked the capacity to express alternative viewpoints to the Burmese and global public on any substantive

level. Because no facet of formal media in Burma is independent of the military regime, positions oppositional to state were widely unavailable. Additionally, in the run-up to the election, all foreign journalists and independent observers were barred or expelled from the country (BBC News, 18 Oct., 2010). It was in this information vacuum that blogs and bloggers once again demonstrated their role as purveyors of independent channels of communication.

The last election held in Burma, in which the pro-democracy party NLD won a landslide victory, occurred in 1990 and was annulled by the regime. Prior to the 1990 polls, elections had not been held in the country since Ne Win ascended to power in 1962. As a result, few Burmese have any experience with the electoral process. A prerequisite of any democratic election is educating the population on their civic rights. In the run-up to the 2010 election, no such education occurred. According to one Burmese woman from the state of Kachin,

> I want to know details about elections but I don't have any chance to learn about it. In my region, we are not allowed to do anything related to politics. If we talk about it, even just a little bit, we are warned" (ND-Burma, Nov., 2010).

Tin San, a Rangoon-based Burmese bloggers, has recognized this lack of electoral education. Speaking to the AFP, San said "most people in [Burma] are not familiar with voting. We need to have resources and information to vote how we like." In an attempt to help provide such information, San became one of the numerous Burma-based bloggers that posted information on opposition candidates and electoral regulations on his government-outlawed blog. According to San,

I have quite a lot of influence on my readers so I want them just to think about the

information…As far as I know most young people are not interested in the election, even though

they want change. But this is the beginning of change -- it's a stepping stone (AFP, 31 Aug.,

2010).

As illustrated in this section, the socio-political impact of blogs in Burma is both apparent

and increasing. The role of blogs and bloggers in the Saffron Revolution unequivocally

demonstrated that they are indeed a significant political force within the country. Moreover, it

demonstrated that despite having one of the lowest Internet penetration rates in the world, and

some of the most draconian policies associated with its use, the significance of the technology

within Burma is not negligible. Furthermore, the role of blogs and bloggers as purveyors of

essential information during the run-up to Burma's 2010 election, despite the greatly enhanced

associated risks following the 2007 protests, demonstrates that their presence and role in

Burmese society is steadily increasing. However, although Burmese bloggers are enhancing the

Internet's capacity to open new channels of communication and expression to the Burmese

people, this section has also demonstrated that the SPDC will use all means at their disposal to

subvert their efforts. This is evident with the legal, surveillance, and censorship measures

invoked by the regime following the Saffron Revolution. The successive authoritarian military

regimes that have presided over Burma since Win took power in 1962 have clearly waged a war

on the fundamental freedoms of speech and expression. In the past, Burma's Universities

represented the forefront of opposition in this war, as evident with the student-led *8.8.888*

Uprising. The case of Burmese bloggers illustrates that while this war rages on, the forefront of

opposition is now Internet users, and the primary battle is being waged online.

SUMMARY

This chapter investigated the ways in which contextual forces are impacting various dimensions of the Internet in Burma in an attempt to establish the role and significance of the medium in Burmese society. The first section presented the most recent available statistics regarding Internet penetration in the country. The data set forth in this segment sought to illustrate that Burma's Internet penetration rate is among the lowest in the world and will likely remain relatively stagnant in the near future. The subsequent sections looked at how different dimensions of the Internet are being influenced by historical, political, economic and cultural forces. In section two, the ways in which *historical/political* and *economic* forces affect the *ownership and finance* of Burma's Internet were explored. The subsequent section looked at how the *user* dimension of the Internet has been influenced by *historical/political*, *economic*, *national/state policy,* and *cultural* forces. Finally, section four discussed how *national/state policy,* and *culture* forces are interacting with the *programming and content* dimension of Burma's internet (Martus: Case Studies, 2010).

ANALYSIS

It is clear by the SPDC's slowing down and shutting off of the country's Internet during times of political unrest that it perceives the medium as a legitimate threat to its authority. As a

result, the historical development of Burma's Internet has been characterized by the ruling military regime utilizing its ownership and finance of the country's IT sector to centralize all incoming and outgoing Internet traffic. In doing so, the SPDC is placing itself in a strategic position where it will be more capable of controlling all online communication and information in the future.

The SPDC has also increasingly used its ownership and finance of the country's Internet to capitalize on the financial rewards of an expanded IT sector. Burma's Internet infrastructure is undoubtedly slowly being developed. The country's ruling military regime continues to tout this IT progress, maintaining that it is being undertaken for the benefit of the population. However, statistics on Burma's Internet penetration seem to indicate that the overwhelming majority of the country's population is reaping no technological reward from such progress. Furthermore, there are no indications that the revenue acquired from such development has trickled down to the Burmese people in any form. Therefore, while the regime may be fostering Internet and IT development, it is clearly not doing so for the benefit of the country's population. Rather, the SPDC is using corrupt business practices to expand the sector in order to acquire revenue needed to maintain its legitimacy.

Although Internet usage in Burma is severely inhibited, and access did not exist for Burmese citizens until 2000, Internet users have attempted to impact Burma's power structure since the late 1980's. However, while many Internet campaigns since that time have been successful in bringing global attention to human rights violations perpetrated by the regime, as well as in forcing foreign corporate disinvestment from the country, there is little evidence to suggest that they have destabilized Burma's ruling military government's authority to any measurable degree. Nevertheless, such Internet use may have impacted the role of ICTs in

Burmese society. The SPDC's recent centralization of the nation's Internet gateways, and its implementation of strict laws governing Internet use, suggests that it feels that the Internet poses a significant threat to its legitimacy. This perception can be seen as a result of the ways in which the Internet has been applied by users in the past to subvert its authority. This argument gains validity when acknowledging other mechanisms used by the regime to inhibit Internet use, such high associated costs of the technology.

One of the primary forces inhibiting Internet user growth in the country is the economics associated of connectivity. With a population of over 48 million, 32.7% of Burmese citizens live below the poverty line and the estimated average annual income for the country is less than $200 (USD) (CIA, 2010; U.S. Department of State, 2009). Due to such prevailing poverty, few citizens are able to afford the hardware needed (computer, modem, etc.) to establish a personal Internet connection. Furthermore, the associated costs of residential Internet service remain prohibitively high. Therefore, associated Internet connectivity costs can clearly be seen as a significant barrier to Internet uptake in the country. Because the SPDC maintains ultimate control of the nation's IT sector, it is in a position to lower associated Internet access costs if it so chooses. Consequently, it is reasonable to assume that the barrier of cost is another mechanism employed by the regime to inhibit Internet user growth in the country.

Another mechanism applied by the SPDC to restrict Internet user growth is national/state policy governing Burma's Internet. The regime uses a "patchwork" of vague laws to confer upon them the power to prosecute citizens for any use of the Internet they deem a threat to their legitimacy. As a result, laws governing Internet use in Burma are considered to be among the most extensive in the world. This broad legal reach allows the regime to selectively inhibit Internet usage through both the use, and threatened use of legal action.

However, despite these legal mechanisms inhibiting Internet use, Burmese citizens are increasingly turning to the Web as both a vehicle for cultural expression and means of empowerment. The cases of both Burmese bloggers and Generation Wave demonstrate that cultural forces within the country will continue to lead the population to adapt the technology in new and unforeseen ways despite the associated risks. Perhaps in recognition of this growing trend, the regime has not limited its mechanisms for inhibiting subversive Internet use to legal regulations, as evident by its censorship practices.

The junta blocks a wide range of websites, both cultural and political, in an attempt to inhibit political dissention. With 80% of all web sites blocked by government filtering methods, Internet content in the country is among the most heavily censored in the world. However, Burma's Internet users continually find new and innovative ways in which to circumvent such filtering practices. As discussed, this is most evident with Burma's Blogging community, which continues to be the central force in circulating proxy sites and other state censorship circumvention tools.

CHAPTER IV

CASE STUDY II: MOBILE PHONES & BURMA

INTRODUCTION

The following chapter will explore the ways in which contextual forces are impacting

various dimensions of mobile phones in Burma in an attempt to establish the role and

significance of the medium in Burmese society. The first section will present the most recent

available statistics regarding mobile phone penetration in the country. The data set forth in this

segment will illustrate that Burma's mobile phone penetration rate is among the lowest in the

world and will likely remain relatively stagnant in the near future. The subsequent sections will

look at how different dimensions of mobile phone technology are being influenced by historical,

political, economic and cultural forces. In section two, the ways in which *historical/political* and

economic forces affect the *ownership and finance* of the nation's telecommunications sector will

be explored. The subsequent section will look at how the *user* dimension of mobile phones in

Burma has been influenced by *historical/political*, *economic*, *national/state policy,* and *cultural*

forces. The final section will analyze the ways in which these historical, political, economic and cultural forces are impacting various dimensions of cellular phones in the country.

MOBILE PHONE PENETRATION

As the ITU notes, the growth rate of mobile cellular penetration in developing nations "remains remarkable." In 2009, there were an estimated 57 mobile cellular subscribers for every 100 developing world inhabitants, up from 23 in 2005. However, while developing nations in general are experiencing rapid progress in mobile phone uptake, in Burma, mobile phone penetration continues to be among the lowest in the world. In 2009, the country had an estimated 0.74 mobile subscribers for every 100 inhabitants. Of the 233 nations included in ITU's 2009 mobile cellular statistics database, no country had a lower percentage of cellular subscribers than Burma (ITU, 2010). In order to obtain a better understanding of the forces inhibiting greater mobile phone penetration in the country, it is essential to assess the ownership and finance of the country's telecommunications sector.

OWNERSHIP & FINANCE

Historical-Economics

When Burma's first military government came to power in 1962, it implemented the "Burmese way to socialism" policy that led to the nationalization of all businesses and property and the country's economic disengagement from the outside world. As a result, under this military regime, the country went from being one of the most prosperous economies in Asia, to one of the poorest (Ure, 2008). The "8.8.88 Uprising," in which millions of Burmese took to the streets to protest the reigning government, was largely a response to this economic mismanagement. Consequently, when the SLORC came to power in 1988, it implemented an "Open Door" policy of economic reform that was intended to foster greater liberalization of the national economy. However, in reality, this policy has led to only minimal increases in genuine privatization and competition in the country, and has instead created a business elite directly linked to the regime's senior generals. Additionally, despite the *Open Door* policy, Burma's telecommunications industry remains entirely state-owned (Ure, 2008).

Control of the sector was formally given to the Myanmar Posts and Telecommunications (MPT) (a.k.a. Ministry of Communication, Posts and Telegraph (MCPT)), under the 1989 *State-Owned Economic Enterprise Law*. According to the statute, all fixed and wireless telephony services and facilities are the "the sole right of the government," though government-private sector joint ventures are permitted (Ure, 2008, 357). This government monopoly has allowed the junta to allocate lucrative state telecomm contracts to senior generals, their families and a select few businessmen with close ties to the junta (Ure, 2008). Such business practices helped Burma achieve the rank of "most corrupt country" in Transparency International's 2007 index (Washington Post, 2007).

This corrupt business climate has resulted in a substantial lack of foreign investment in the country's telecommunication sector. According to the CIA (2010), Burma's economic environment has consistently led foreign investors to "shy away from nearly every sector except natural gas, power generation, and mining." As the ITU (2010) notes, private investment and competition are key drivers of innovation and development of a country's IT sector. Therefore, the lack of private investment due to widespread economic corruption can be seen as a major factor inhibiting greater development of the country's telecommunications sector.

Another factor restraining the development of Burma's telecommunication industry, and in turn the country's capacity for greater mobile phone uptake, is the lack of substantial foreign investment due to widespread international condemnation of the regime. Growing awareness of the extent of the junta's political repression and human rights violations has led to an exodus of, and boycotts by (self imposed or otherwise), many international firms, notably Western ones. While Burma's regional neighbors have increasingly filled the investment vacuum, the absence of access to foreign capital, particularly Western capital, has significantly stunted the growth of the country's mobile cellular development.

International outcry over the regimes suppression of Burmese political dissidents, particularly the detention of Aung San Suu Kyi, the democratically elected NLD leader who the junta refused to relinquish power to, led to international sanctions and the flight of foreign companies from the country. The U.S., Canada, the UK, Australia, and the EU have all imposed economic sanctions on Burma that prohibit their domestic companies from financial involvement in the country (CIA, 2010).

In May 1997, the U.S. enacted *Executive Order 13047*. The Order officially prohibited new investment in Burma by U.S. companies and citizens based on the assessment that Burma's

ruling military government had committed "large-scale repression" of the country's democratic political opposition (U.S. Department of State, 2008). While the sanctions prohibited new investment, companies already engaged in dealings with Burma were exempt from the ban. However, the country's corrupt economic climate, coupled with increasing consumer stigmatism of companies associated with the regime, has led to an exodus of corporate investment from the nation. According to a 2008 U.S. Department of State report documenting the investment climate in Burma,

> Prior to the imposition of the investment ban, many prominent U.S. investors had already withdrawn from Burma due to a hostile investment climate and disappointing returns. An active anti-Burma consumer movement in the United States and Europe also put investors' corporate images at risk. Current U.S. federal sanctions prohibit new investment, but allow companies invested in Burma prior to May 20, 1997 to maintain their investments. Very few companies have elected to do so.

Among the companies to sever economic ties with the country were international mobile cellular providers. In 1996, Motorola and Philips Electronics N.V. withdrew their involvement from Burma, and in 1998, Ericsson cut all business ties with the regime out of fear that their association with Burma's government could damage their business in other markets (Ure, 2008).

To compensate for the outpouring of foreign investment, the SPDC began developing closer economic ties with its regional neighbors, particularly China. Burma is of significant economic importance to China because it provides a trading rout to the Indian Ocean for Chinese provinces without coastal access. It is also of strategic importance for its potential to help China

secure a military presence in the Indian Ocean. However, arguably more significant is Burma's growing energy importance to China.

China currently accounts for 17% of total global energy demands. By 2035, China's energy consumption is projected to climb by 75%, increasing its share of world demand to 22% (NY Times, 9 Nov., 2010). In the past three decades, China has achieved astounding economic growth, out-passing Japan as the world's second largest economy in 2010 (NY Times, 15 Aug., 2010). Thus far, such development has rested on the nation's attainment and use of energy resources. In 2010, global oil use is expected to outpace the rate of new supplies (Reuters, 24 Nov., 2010). As a result, securing long term, adequate energy resources has been an important force driving Beijing's foreign investment. Currently, Burma is home to the largest proven gas reserve in South-East Asia (The Economist, 7 Feb., 2010). Consequently, China's investment in Burma's energy industry has grown considerably in recent years.

Beginning in 2009, China National Petroleum Corporation (CNPC), China's largest energy producer, working in conjunction with state-owned Myanmar National Oil and Gas Company, began construction of two gas and oil pipelines between the two countries. Totaling 1,100 kilometers in length, the pipelines will have the capacity to transport 12 billion cubic meters of oil and 22 million tons of natural gas annually (Xinhua, 4 June, 2020). Thus, the continued maintenance of a stable Sino-Burmese political-economic relationship is of vital concern to Beijing energy security.

Due to such military, strategic, and most importantly, economic interests, the political relationship between Beijing and Burma's ruling military government has steadily grown in recent years. As a result, China has continued to back the Burmese junta, denounce Western imposed sanctions against the regime, prop up the nation's economy with low interest loans, and

engage in increasingly substantial trade with the country (Ure, 2008). Between 2004 and 2005, China-Burma trade was estimated at $1.145 billion (Hariharan, 2007). In 2009, trade between the two nations totaled 2.9 billion (BBC News, 7 September, 2010). In the first half of 2010 alone, China's financial investment in Burma had reached $8 billion (DVB, 25 Nov., 2010).

While much of this Chinese investment has come in the form of energy development, such economic cooperation has had a notable impact on Burma's telecommunications sector as well. In 2004, China's Shanghai Bell signed a $20 million (USD) contract with the MPT to install 55,000 digital lines in the country, and China's ZTE Corporation signed a $12.5 million (USD) contract to provide 95,000 phone connections in the country (Ure, 2008). Additionally, in 2008, state-owned China Telecom and Burma's state-controlled Yunnan Telecom developed a fiber-optic link in order to facilitate enhanced telecommunications between the two nations (Xinhua News, 3 Dec., 2010). Moreover, several Chinese firms, including China's ZTE, were heavily involved in the construction of Burma's new Yatanarpon National Web Portal and Yatanarpon Cyber City (RWB, Nov., 2010).

However, while China's financial investment in Burma has been increasing at a staggering rate in recent years, other regional powers have been following suite. In the early 1990's, the SPDC also began developing closer economic and strategic ties with India. Burma is of importance to India because it represents a strategic link between South Asia and East Asia, making it particularly significant to India's national security (Hariharan, 2007). Moreover, China's rising regional hegemony and economic development increasingly threatens India's own economic growth and regional political strength.

India's energy demands rival that of China's. India is the fourth largest global energy consumer and its energy demand is expected to more than double my 2030 (NY Times, 2 March,

2008). As a result, China and India will increasingly be vying for the same scarce energy resources in the years to come. Consequently, both nation's are actively seeking to curry favor with nation's equipped with sizable energy reserves, such as Burma.

Additionally, China's growing regional political influence will likely come at the expense of Delhi's. India is steadily emerging as a significant player in the international system, as apparent with President Barack Obama's November 2010 endorsement of Delhi's desire to gain permanent membership on the UN Security Council. Consequently, the nation's political leverage in the region is expected to grow substantially in the coming years. However, the extent and pace of such growth will ultimately be determined by the future significance of China. In 2008, the U.S. National Intelligence Council (NIC) released a report projecting that by 2025 China's economic and military strength would rival that of the U.S., transforming the current unipolar world order into a multipolar one (The Guardian, 8 November, 2010). Therefore, China could potentially eclipse India's regional, political influence. As a result, India is actively seeking to counter Beijing's growing geo-political significance through the development of closer economic and strategic relations with its regional neighbors, namely Burma.

Since the early 1990's, India has developed "a broad based relationship" with Burma's military government, funneling developmental assistance into the country and signing a range agreements and deals, notably on science and technology. In 2006, the two governments signed a $7 million (USD) contract that led to the installment of a high-speed broadband connection for voice and data transmission in Burma. Additionally, in February 2009, a cross-border fiber optic link was set up in an attempt to further enhance the telecommunication capacity between the two countries (BBC News, 27 July, 2010).

The outpouring of western foreign investment (particularly that of leading mobile cellular companies) due to the regimes widespread human rights violations undoubtedly led to the developmental stagnation of the country's telecommunications infrastructure. However, as the cases of China and India demonstrate, in recent years, geo-political dynamics have driven regional neighbor-states to begin to fill the vacuum. Nevertheless, Burma maintains one of the lowest mobile phone uptake rates in the world. As ITU statistics indicate, despite recent, significant regional technological investment, Burma continues to lag far behind the rest of the world in mobile phone development. This assessment is corroborated by a 2010 CIA report that found Burma's mobile phone infrastructure to be "grossly underdeveloped" (CIA, 2010).

The question thus arises, why has regional telecommunications investment not led to greater mobile phone uptake within the country? One possible argument is that, like the Internet and traditional forms of media previously discussed, Burma's ruling military regime is intentionally inhibiting public cellular development while simultaneously attempting to expand its own telecommunication capacity in an attempt to monopolize the flow of information and communication within country. In order to determine the validity of this argument it is helpful to explore how political, economic, and cultural forces are affecting the *user* dimension of mobile phone technology.

USERS

Historical-Political: *"The Saffron Revolution"*

On 15 August, 2007, Burma's ruling military regime cut all government subsidies from imported diesel and natural gas. The price of fuel instantly doubled and the cost of gas increased 500 fold, resulting in immense inflation in essential commodities (Clapp, 2007). In September 2007, an estimated 100,000 Burmese citizens, shepherded by thousands of Buddhist monks, took to the streets to decry the declining living standards and to demand the SPDC's re-engagement with the country's main political opposition, the National League for Democracy (NLD).

Just as the government had done in response to the 8.8.88 demonstrations, the SPDC reacted with "mass arrests, torture, and murder" (Chowdhury, 2008). According to UN estimates, 31 protesters were killed and up to 4,000 people were arrested, many of whom were Buddhist monks (UN News Service, 5 Feb., 2008).

During the unrest, many activists were able to document the government violence with mobile phones and anonymously upload the images and videos onto the Web or physically smuggle them across the border to be uploaded (Chowdhury, 2008). The images, which were widely circulated by the global media, brought about harsh condemnation of the SPDC by the international community. To prevent the continued circulation of these images, the regime terminated all cellular phone service in Burma, and severed the nation's Internet connection (ONI, 2007). An OpenNet Initiative (2007) report on the events describes the governments rational for resorting to such an extreme measures,

> The shutdown of Internet connectivity was precipitated by its use by citizens to send photographs, updates and videos that documented the violent suppression of protests in Burma, information that contributed to widespread international condemnation of the Burmese military rulers' gross violations of human rights.

The Saffron Revolution clearly demonstrates that the people of Burma are attempting to wield ICTs, notably mobile phone technology, to counter government oppression. However, in this case, the use of cellular technology ultimately did not lead to political change in the country. Nevertheless, the termination of all cellular service, and the complete shutdown of the nation's Internet connection, clearly demonstrates that Burma's ruling military regime perceives information and communication technologies, notably mobile cellular technology, as a significant threat to its legitimacy. Therefore, the country's extremely low cellular penetration rate can be seen as a direct result of a conscious attempt by the SPDC to limit the technology's role in Burmese society. Consequently, it is likely that the regime will continue to inhibit mobile phone uptake in the future as a means to preserve its authority. Further evidence of this argument can be seen in another major event in the nation's recent history, Cyclone Nargis.

Historical-Political: *Cyclone Nargis*

In 2008, Burma was struck with one of the deadliest storms in recorded human history. On the 2nd of May, Cyclone Nargis, a category 3 cyclone with winds speeds reaching upwards of 121mph, decimated the country's Irrawaddy Delta before moving on to the nation's former capital and largest city, Rangoon (formerly Yangon). In the densely populated, agricultural dependent delta region alone, Nargis destroyed 700,000 homes, killed three quarters of the livestock, and wiped out half of the fishing fleet (NY Times, 30 April, 2009). As of June 2008, the estimated damage caused by the cyclone had exceeded $10 billion (USD) (ICT4DPeace Foundation, 2008). According to UN figures, 2.4 million people were "affected" by the storm

and nearly 140,000 were either killed or remain missing (OCHA, 2008). The Burmese government initially reported the death toll to be 350 (CPJ, 7 May, 2008).

According to one eyewitness account, after the cyclone hit, many of the survivors had nothing to eat or drink and died of starvation waiting for government assistance (Williams & Williams, 2008). In the midst this humanitarian crisis, the SPDC went to great lengths to suppress accurate information about the affected areas from being reported. The regime imposed a travel ban on journalist, both foreign and domestic, restricting reporters from entering disaster regions. Foreign journalists were barred from entering the country for the duration of the crisis and at least one *BBC News* reporter was deported (BHRY, 2008).

In the week following the disaster, a mandate was passed down to all state officials by Burma's Prime Minister proclaiming that "no foreigners" and "no cameras" were to be permitted in the cyclone hit region in order to prevent documentation of the event (Asia Times, 15 May, 2008). The only images permitted to be released of the catastrophe were those channeled through state media outlets and consisted of military authorities "distributing aid and comforting survivors" (Irrawaddy, 13 May, 2008). Moreover, the stories that were allowed to circulate portrayed a government in complete control of relief efforts and made no mention of death toll estimates or the escalating problems regarding foreign aid (Irrawaddy, 13 May, 2008).

In the face of this media blackout, reporters intent on covering the disaster were forced underground. According one journalist covering the aftermath for the *Irrawaddy News Magazine*, "all journalists here are undercover. If authorities knew we were journalists, we are unwelcome." The strict control over access to cyclone hit regions, and the high profile of foreign correspondents, meant that the majority of those able to gain access to events on-the-ground

were local Burmese who, unlike foreign journalists who simply faced deportation, risked lengthy prison sentences to report the catastrophic suffering of affected populations.

Despite the risks, many Burmese citizens continued to cover the disaster and were able to relay accounts on the ground to the outside world. As a result, exiled-run organizations were able to challenge official reports of the extent of the destruction. Burmese exile-run news publications began reporting casualty figures substantially higher than official government estimates. According to the *Committee to Protect Journalist* (CPJ), reporting such as this played a pivotal role in forcing the regime to eventually acknowledge death tolls in the tens of thousands (CPJ, 7 May, 2008).

Democratic Voice of Burma (DVB), one of the prominent Burmese exile-run news organizations consistently providing up-to-date independent news on unfolding events in Burma describes the role of such reporting,

> Video journalists now fill an important gap, replacing a news vacuum behind the iron curtain of dictatorship. DVB trains video journalists before they go into the field undetected and unrecognized, even by their colleagues. To do their jobs, they are armed with mini video cameras, satellite phones and other new media technology. In addition they are also trained to service hostile environments. However, even minor carelessness could put one's own life and those of others in jeopardy (DVB, 3 May, 2010).

Faced with the obstacles of government censorship, and the nearly non-existent presence of traditional means of communication, the success of the cyclone coverage has been largely attributed to the use of mobile phone technology by such "clandestine journalists." As CPJ notes, "amid widespread electricity blackouts and extensive telecommunication damage, reporters

made use of satellite phones to send images and information out of the country" (CPJ, 7 May, 2008). CPJ's assessment is corroborated by the *Irrawaddy News Magazine*, which reported that the few on-the-ground independent press reports released on Cyclone Nargis' were obtained by undercover journalists who "concealed their satellite phones, battery packs and generators needed to operate in the cyclone hit-areas where electricity was down" (Irrawaddy, 13 May, 2009).

However, while the very existence of Cyclone Nargis coverage demonstrates the capacity of new media-equipped journalists' to break through Burma's considerable censorship obstacles, significant risks are associated with such reporting. In the months following the cyclone, a team of undercover Burmese reporters travelled to the disaster region to document the lives of young survivors. The accounts and footage, often obtained and relayed through new media technologies such as cellular communications, was later released as a film entitled *Orphans of Burma's Cyclone*. While the film has gone on to achieve international acclaim, winning the Sony Professional Impact Award, the One World 'Child Rights' Award, the Rory Peck Award, and the prestigious One World Media Award, it also gained the attention of Burma's military government. Following the documentary's release, Burmese military intelligence tracked down and arrested one of the films cameramen, Ngwe Soe Lin (DVB, 23 June, 2010). In January 2010, in a direct response to his role in the movie's composition, Lin was sentenced to 13 years in prison for violation of the *Electronics Act*, which prohibits use, possession, and/or circulation of unregistered new media technologies (BBC News, 29 Jan., 2010).

Although *Orphans of Burma's Cyclone* and news coverage of the event demonstrates that circumventing state censorship controls through the use of mobile communications is possible, the capacity to do so was significantly hampered by the lack of an adequate Burmese

telecommunications infrastructure, which the CIA has called "grossly underdeveloped" (CIA, 2010). In the past (such as with the Saffron Revolution), the underdevelopment of a national telecomm system has enabled the regime to better monopolize the flow of communication into and out of the country. This has led to speculation that such IT underdevelopment has been a tool used to serve the SPDC's advantage. This assessment gains validity when looking at the state of telecommunication networks in the cyclone hit areas and the military government's position regarding them,

> Cyclone Nargis left the telecommunications infrastructure of the affected areas in tatters. Cell phone towers and phone lines were toppled and television broadcasts were disabled. Telecom Sans Frontiers (TSF), an international NGO that responds along with the UN to deliver emergency telecommunication services such as satellite phones and remote offices to disaster areas, received clearance to enter Burma fallowing the cyclone. However, employees of the organization then found themselves detained in Rangoon. Aid workers for the NGO stated that it was clear that the regime did not want the telecommunications equipment in the affected areas.

The significance of this nearly non-existent telecom infrastructure on the extent of the Nargis' impact is not negligible. According to IRIN Humanitarian News and Analysis, a project of the UN *Office for the Coordination of Human Affairs* (OCHA), in the event of natural disasters, mobile phones can play a pivotal role in an early warning system and in relief efforts (IRIN, 17 September, 2009). Therefore, had mobile phone networks been more developed in the region, the magnitude of the disaster would likely have been significantly less severe.

Like the Saffron Revolution, the extent to which the SPDC attempted to restrict the use of mobile phones during the aftermath of Nargis clearly indicates that it perceives the technology's

use as significant threat to its legitimacy. Furthermore, the events demonstrate that the regime is willing to sacrifice the welfare of its population in order to inhibit further adoption of the technology. While the SDPC sought to keep telecommunications in the region severely impaired in an attempt to conceal its ineptitude in its handling of the situation, the absence of cellular communication channels drastically exacerbated the scope of human suffering. The Saffron Revolution and Cyclone Nargis clearly illustrate that the SPDC sees mobile phone use as a threat to its authority and that it seeks to restrict the role of the technology in Burmese society as a result. However, the events do not sufficiently illustrate the mechanism employed by the regime to inhibit mobile cellular uptake. Therefore, it is essential to begin to explore the ways in which the government systematically suppresses mobile phone user growth in Burma. As with the Internet, one such mechanism is legal regulations governing the technology.

National/State Policy

As discussed in the previous chapter, Burma's judicial system is not independent of the ruling military government. As a result, as technologies offering new channels of public expression have arisen in the past, the SPDC has applied far reaching laws to govern their use. One recently enacted law capable of being applied to mobile cellular use is the 1996 *Computer Science and Development Law*. Under this statute, in order to use any form of "information technology," Burmese citizens must receive approval from the State. Any unsanctioned use of such technology can carry a prison sentence of up to 15 years" (Computer Science and Development Law, 1996). Consequently, any unauthorized use of a mobile phone is an imprisonable offense.

The 2004 *Electronic Transaction Act* also affords the SPDC broad legal reach to regulate the use of cell phones. Under the Act, any individual found to have used a device "capable of receiving, transmitting, storing, processing or retrieving information" to disseminate information "detrimental to the State," faces up to fifteen years in prison (Electronic Transaction Act, 2004). As a result, any communication over a mobile phone that the regime perceives as a threat is a potentially imprisonable offense. In the 15 months following the 2007 anti-government protests, in which mobile phones played a pivotal role in exposing human rights abuses perpetrated by the regime, over one thousand demonstrators were arrested and jailed. Many of these individuals were charged under the Act for their use of camera phones to capture the events (NY Times, 16 Nov., 2008).

According to Sean Turnell, an expert on Burmese politics from the Macquarie University in Sydney Australia, laws such as these, which have primarily been applied to the use of ICTs by political activists, "confirms the degree to which the governing generals were alarmed by protesters' use of the Internet and satellite phones…to circulate images of the [2007] protests around the globe" (NY Times, 16 Nov., 2008).

Turnell's assertion gains further validity when looking at the country's recent polls. In the days leading up to Burma's November 2010 election, the junta issued a decree banning the sale of subscriber identification module (SIM) cards. The edict specifically targets those who have failed to register their mobile phones with government authorities, and was seen as a means to further restrict the flow of communication detrimental to the state in the run-up to the election (DVB, 6 Nov., 2010).

When looking at the national-state policies enacted by the SPDC concerning mobile cellular technology, and their relationship to pivotal political events within the country, it becomes clear

that Burma's ruling military regime perceives the proliferation of mobile phones as a direct and significant threat to its authority. Additionally, the continued use and escalation of such policies seems to indicate that the military regime will only further inhibit the uptake of the technology in near future. However, there are indications that the use of legal regulations is not the only means by which the junta circumscribes mobile cellular use. Costs associated with the technology can be seen as another mechanism employed by the state constrain uptake.

Economics

In an attempt to monitor the relative affordability of associated mobile phone costs between nations, the ITU provides the *Mobile Cellular Price Sub-Basket*. Of the 161 countries included in the *Price Sub-Basket*, Burma ranked 161, making it the least affordable nation in terms of associated mobile phone costs (ITU, 2010). This "un-affordability" becomes clearer when contrasting income and poverty levels in Burma with the current associated costs of cellular phones.

With a population of over 48 million, 32.7% of Burmese citizens live below the poverty line and the estimated average individual annual income for the country is less than $200 (CIA, 2010; U.S. Department of State, 2009). Mobile phone retailers (located only in major cities) sell mobile phones ranging in price from $30-$700. The cost to place a domestic call on a mobile phone is approximately $0.05 a minute. The price of a SIM card, required for most mobile phone use, is around $1,000 (DVB, 6 Nov., 2010). The cost of establishing a cellular phone number, which needs to be approved and registered by the government, is $1,500 "at the official rate," and $1,800 on the black market. However, before one can even submit an application for a number, which costs $1.50, "you need a letter of recommendation signed by a high ranking

official." According to the *Irrawaddy News Magazine*, "mobile phone ownership is so rare in Burma that it can be used as proof of one's financial status" (Irrawaddy, 10 Oct., 2009)

While very few urban residents are able to afford the inordinate costs associated with mobile phone ownership, the recent mobile developments are even less significant for rural Burmese who make up the majority of the country's population. Because the advancements in the country's mobile infrastructure are taking place predominately in major cities, cellular networks are likely to remain underdeveloped in rural areas. Furthermore, apart from the low incomes of the agricultural labor force, which makes up 70% of the country's entire labor force, access is further restricted from them by the fact that mobile retailers are only located in major cities (CIA, 2010; Irrawaddy, 10 Oct., 2009).

Only a minute fraction of Burmese citizens are in a financial position to acquire and activate a mobile phone, and even those who are still face legal, bureaucratic, and geographical barriers. Consequently, the increased availability of cellular service in the country has largely been perceived as a means for the regime to acquire additional, much needed revenue from businessmen, tourists and foreign residents (Irrawaddy, 8 Dec., 2008). Yet again, by all indications the government appears to be attempting to reap the financial rewards of an expanded IT sector while maintaining its control over the flow of information and communication within the country. Additionally, because the SPDC maintains complete authority over the country's telecommunications sector, it is in a position to lower costs if it so chooses. Therefore, in addition to acquiring revenue, high associated costs of mobile phone use in the country can be seen as a method employed by the regime to inhibit cellular use in the country. However, despite these barriers, Burmese youths are increasingly using mobile phone technology as a vehicle for cultural expression and as a means of empowerment.

Culture

As discussed in the previous chapter, Generation Wave employs unconventional methods of political resistance in their ultimate pursuit of "inspiring a revolution" in Burma (BBC News, 24 Feb., 2010). In addition to the sporadic use of graffiti art in urban areas as means of political expression, the organization composes, records, and distributes their own hip-hop albums. The albums, while not always overtly political, contain underlying messages intended to inspire citizens (particularly fellow Burmese youth), to stand up to the oppressive government regime (Asia Sentinel, 6 Jan., 2010).

However, as with other forms of political expression in Burma, Generation Wave's outspoken political dissention has attracted the attention of, and provoked a response from, Burma's military government. As of January 2010, thirty organization's members had been imprisoned. Furthermore, the SPDC recently decreed that membership in the group is illegal and an imprisonable offense (Asia Sentinel, 6 Jan., 2010). In an effort to stay "one step ahead" of police, and to coordinate political action, the group is increasingly using mobile phones. Despite the lack of mobile phone ownership in the country, the organization has managed to rent cell phones from existing owners for $50 month. While the government reportedly taps many mobile phones, according to one Generation Wave member, "They can't listen to all the numbers at once" (Asian Sentinel, 6 Jan., 2010). As a result, mobile phones have become a valuable tool in Generation Waves pursuit of cultural expression and self-empowerment.

SUMMARY

This chapter explored the ways in which contextual forces are impacting various

dimensions of mobile phones in Burma in an attempt to establish the role and significance of the

medium in Burmese society. The first section will presented the most recent available statistics

regarding mobile phone penetration in the country. The data set forth in this segment illustrated

that Burma's mobile phone penetration rate is among the lowest in the world and will likely

remain relatively stagnant in the near future. The subsequent sections looked at how different

dimensions of mobile phone technology are being influenced by historical, political, economic

and cultural forces. In section two, the ways in which *historical/political* and *economic* forces

affect the *ownership and finance* of the nation's telecommunications sector were explored. The

subsequent section looked at how the *user* dimension of mobile phones in Burma has been

influenced by *historical/political*, *economic*, *national/state policy,* and *cultural* forces.

ANALYSIS

Upon my release, the main change that I have seen is that there is a proliferation of camera –

phones. I see camera-phones all over the place. This shows the development of communication.

This development must be used for the good of the majority. Communication brings

understanding. Please use communication to foster mutual understanding and unity. Show me

your phones; let's see how many there are (cheers). My, there are so many. I used a phone like

this for the first time yesterday. Six years ago these did not exist here (Kyi, A.S.S., 14 Nov., 2010).

Aung San Su Kyi's remarks, given in a speech to the people of Burma following her 2010 release, articulates two important arising dimensions of mobile cellular communications in Burmese society. First and foremost, it demonstrates the growing proliferation of mobile phones in a country with one of the lowest penetration rates and among the most draconian policies regarding their possession and use in the world. Moreover, it addresses the technology's capacity to cultivate the awareness, understanding, and unity required for any significant political change to occur in Burma. However, though cellular phone uptake in Burma is steadily increasing, as ITU statistics demonstrate, they remain among the lowest in the world. Additionally, as the review of the various contextual forces surrounding the technology indicates, uptake will likely remain stagnant by global standards in the near future.

Ownership and finance of the nation's telecommunications sector is characterized by a state monopoly that has allowed the junta to allocate lucrative state telecomm contracts to senior generals, their families and a select few businessmen with close ties to the junta. This corrupt business climate has resulted in a substantial lack of foreign investment in the country's telecommunication sector. As a result, Burma's low mobile cellular penetration rate has been attributed to widespread corruption and a subsequent lack of foreign investment. However, in recent years the SPDC has significantly expanded its economic and technological cooperation with its regional neighbors. Nevertheless, such cooperation has not led to increased mobile phone uptake in the country. This seems to indicate that the low penetration rate is not a result of a lack of foreign investment in Burma's telecommunication sector. Therefore, another explanation for the underdevelopment of the nation's cellular infrastructure is required. One

argument is that, like the Internet and forms of media previously discussed, Burma's ruling military regime is intentionally inhibiting cellular development in order to restrict the flow of information and communication in the country. This argument gains validity when looking at the ways in which mobile cellular users have posed a threat to the regime in the past

The Saffron Revolution clearly demonstrated that the people of Burma are attempting to wield ICTs, notably mobile phone technology, to counter government oppression. However, in this case, the use of cellular technology ultimately did not lead to political change in the country. Nevertheless, the termination of all cellular service, and the complete shutdown of the nation's Internet connection, clearly demonstrates that Burma's ruling military regime perceives information and communication technologies, notably mobile cellular technology, as a significant threat to its legitimacy. Therefore, the country's extremely low cellular penetration rate can be seen as a direct result of a conscious attempt by the SPDC to limit the technology's role in Burmese society. Consequently, it is likely that the regime will continue to inhibit mobile phone uptake in the future as a means to preserve its authority. Further evidence of this argument can be seen in another major event in the nation's recent history, Cyclone Nargis.

Like the Saffron Revolution, the extent to which the SPDC attempted to restrict the use of mobile phones during the aftermath of Cyclone Nargis clearly indicates that it perceives the technology's use as significant threat to its legitimacy. Furthermore, the events demonstrate that the regime is willing to sacrifice the welfare of its population in order to inhibit further adoption of the technology. While the SDPC sought to keep telecommunication in the region severely impaired in an attempt to conceal its ineptitude in its handling of the situation, the absence of cellular communication channels drastically exacerbated the scope of human suffering. The Saffron Revolution and Cyclone Nargis clearly illustrate that the SPDC sees mobile phone users

as a threat to its authority, and this has undoubtedly affected the ways in which it has responded to the technology as a result. Therefore, historical and political forces are interacting with the user dimension of mobile phones in Burma to shape the technology's role in Burmese society. Evidence of this can be seen by the mechanisms employed by the regime to inhibit mobile phone use in the country.

One such mechanism is the use of legal regulations. It is clear that Burma's ruling military regime perceives cellular technology as a significant threat to its authority and is increasingly applying broad legal regulations to govern use and restrict uptake as a result. However, the use of laws is not the only mechanism employed by the regime to inhibit mobile phone uptake. The SPDC is increasing using costs as a means of prohibiting cellular use. Only a minute fraction of Burmese citizens are in a financial position to acquire and activate a mobile phone. Because the SPDC maintains complete authority over the country's telecommunications sector, it is in a position to lower costs if it so chooses. Therefore high associated costs of mobile phone use in the country can be seen as a method employed by the regime to inhibit cellular uptake in the country. However, despite such mechanism restricting mobile phone use, like the Internet, Burma's youth are increasingly using cellular technology as a vehicle for cultural expression and a means of empowerment, as evident by Generation Wave.

CHAPTER VI

SUMMARY & CONCLUSIONS

SUMMARY

The first chapter of this thesis discussed the existing problem and laid out the method of the study. The second chapter reviewed the current literature regarding the role of ICTs in Burmese society and assessed their value and shortcomings. Chapter three provided a general profile of Burma in order to lay the necessary foundation for all subsequent discussions in this study. Additionally, this chapter explored the nation's modern political history alongside the evolution and ensuing de-evolution of Burma's independent press to illustrate how both are inherently linked. This connection demonstrates how historical-political forces have influenced the current relationship between power and technology in Burma. Chapter four explored the ways in which contextual forces are impacting various dimensions of the Internet in Burma. Chapter five explored the ways in which contextual forces are impacting various dimensions of mobile phones in the country.

CONCLUSION

Based on the data presented in this study, one immediate conclusion about the role of ICTs in Burmese society becomes evident. Counter to pessimistic and optimistic perspectives regarding the social role of technology, ICTs hold no inevitability in determining the structure of Burma's social order. As the two case studies in this thesis demonstrate, technologies interact with historical, political, economic, and cultural forces in different ways in different time-and-place-settings. As a result, the role of technology in societies is beyond generalization.

Burma's ruling military regime clearly perceives information and communication technologies as a threat to its legitimacy. This can in part be attributed to past regimes' awareness of the threat free expression poses to authoritarian rule. However, it is also a reaction to recent historical events in which ICTs were wielded by Burmese citizens in attempts to challenge their oppression. This perceived threat has led the regime to impose a range of mechanisms that inhibit the population's capacity to utilize new technologies that offer new channels of self-expression. These mechanisms include national/state policies governing ICT use, economic barriers that prohibit ICT uptake, centralization of the nation's information and communication channels, intentional lack of development of ICT infrastructure, and fear and intimidation. As a result, the role of ICTs in the daily lives of the overwhelming majority of Burmese citizens remains virtually non-existent.

However, despite these seemingly insurmountable barriers, the people of Burma have exhibited an indomitable spirit to continually seek to open new avenues of self-expression through any and all channels, most notably ICTs. Technology has not sealed the population's fate in either direction. Given the right interplay between contextual forces and the dimensions of

communication technologies, ICTs may yet afford the universal human freedoms promised by technological determinists. The SPDC's undiminished fear of information and communication technologies can be seen as a testament to such a potential outcome. While the role of ICTs in the daily lives of the Burmese people may be minimal, the role of ICTs in Burmese society may not be, for they continually offer the population new forms of hope that no government mechanism can inhibit. Such hope may be best illustrated in a speech made by Burmese pro-democracy leader and Nobel laureate, Aung San Suu Kyi, given to people of Burma following her release from house arrest in November 2010.

> Upon my release, the main change that I have seen is that there is a proliferation of camera – phones. I see camera-phones all over the place. This shows the development of communication. This development must be used for the good of the majority. Communication brings understanding. Please use communication to foster mutual understanding and unity. Show me your phones; let's see how many there are (cheers). My, there are so many. I used a phone like this for the first time yesterday. Six years ago these did not exist here (DVB,14 Nov., 2010).

LIMITATIONS

Undoubtedly the most significant limitation of this study is the lack of access to the testimony of average Burmese citizens. The traditional media in Burma is under the complete control of the military government, Internet penetration remains below 1%, and cell phone use is among the lowest in the world. As a result, very few Burmese have the capacity to convey their

situation to the outside world. Furthermore, while a few do have access to communication

technology, they either represent a small middle class, or small subsection of the population and

generalizations about the wider Burmese society should not be inferred solely upon their

narratives.

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