

**Malaria in a Changing Borderworld:
A Twenty Year Overview**

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For discussion

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Located on a strategic cross-roads in Asia, the borderlands of Burma (Myanmar)¹ have witnessed extraordinary social and political upheaval during the past two decades. However, unlike in the adjoining states of China and Thailand, malaria morbidity and other health crises have remained at internationally high and often epidemic levels. It is a legacy that exemplifies much about the state failures of contemporary Burma. It is also a record of humanitarian malaise that, with too few exceptions, reflects the failure of key stakeholders in both Burma and the international community to prioritize health needs and conflict resolution in one of Asia's poorest lands. Far too late, a notion of humanitarian crisis has developed that in 2006 witnessed briefings about Burma at the United Nations Security Council (UNSC) on the basis that, along with political impasse, the transmission of malaria, HIV and tuberculosis across international frontiers could pose a threat to regional peace and security.² In reality, however, this is an analysis of humanitarian emergency that could have been made at any time in any of the preceding 20 years. In Burma, the humanitarian and political challenges have long been inextricably inter-linked.

As the UNSC briefings highlight, any discussion about health issues in Burma is invariably tinged with controversy and, very often, doubt. There is a paucity of research in many health and socio-economic fields. But about the national significance of malaria, there can be no uncertainty. Data from every part of the country has long since pointed to the disease as Burma's pre-eminent health challenge. Official statistics presently record malaria as the leading cause of both morbidity and mortality among the country's ten priority diseases, with incidence rates of 11.1/1000 and 3.65/100,000 respectively.³ *Plasmodium falciparum* has been identified as the cause of around 80 per cent of the 600-700,000 cases and 3,000 deaths reported annually.⁴ And a recent study estimated that Burma accounts for around 7 per cent of cases reported by the World Health Organisation (WHO) in the Southeast Asia region (including India), but 53.6 per cent of all malaria-related deaths.⁵

The difficulties, however, in addressing Burma's malaria challenges go very much further. Malaria is acknowledged to be endemic in 284 of the country's 324 townships, with over 70 per cent of the 54 million population at risk.⁶ But in vast areas of the countryside there is little access to basic health care, and it is estimated by the UN that only 25-40 per cent of malaria suspects currently seek treatment in the public sector.⁷ Indeed one UNICEF estimate in the early 1990s claimed that the real levels of malaria incidence could be up to seven times higher than WHO figures.⁸ Against this backdrop, multi-drug resistant malaria has become widespread, and essential combination drug treatments are frequently beyond the reach of the most at risk populations.

As in all countries, the recorded incidence of malaria in Burma often reflects local pockets of emergency that can be attributed to particular environmental or socio-economic factors. About 60 per cent of recorded cases, for example, are considered to be related to "forestry work".⁹ However mapping on a national scale reveals a much more disturbing reality, explaining why malaria has remained so endemic and with such high

levels of morbidity.¹⁰ The areas of greatest risk exactly match the rugged horseshoe of highlands that surround the central Irrawaddy plains. In these areas, four characteristics stand out: they are borderlands adjoining the neighbouring states of Bangladesh, India, China, Laos and Thailand; they are heavily forested; they are inhabited by ethnic minority peoples; and they are the scenes of among the longest-running and most diverse insurgencies to be found anywhere in the world.

The consequences of such frontier-land volatility have been profound, underpinning many of the health and political crises in the country. For decades, many different state and quasi-state actors have competed for authority in the borderlands. However during the era of Gen. Ne Win's isolationist *Burmese Way to Socialism* (1962-88), public health care never extended to more than one third of the country.¹¹ Meanwhile many of the borderlands remained under the *de facto* control of different armed opposition forces, including the Kachin Independence Organisation, Karen National Union, New Mon State Party and Shan State Progress Party. Each of these different authorities administered its own system of field clinics and health programmes. But whether in government or anti-government areas, clinical diagnosis and appropriate treatment were frequently unavailable for most communities. Equally serious, there was no real coordination on public education nor on national and international responses to disease. Every kind of drug – both real and fake – entered Burma through blackmarkets that flourished along the frontiers with Thailand, China, India and Bangladesh. This proved especially damaging in the case of malaria. As research by the Shoklo Malaria Research Unit (SMRU) has demonstrated, conditions in Burma's borderlands became very conducive to high levels of malaria infection and the spread of drug resistance.¹²

Throughout the Ne Win era, there remained little reliable data on humanitarian conditions in most regions of Burma. When media headlines occurred, it was only the lucrative trade in illicit opium and, from the mid-1980s, Karen refugees fleeing the fighting that alerted international attention to the endemic state of conflict in what had become one of the world's most hermetic lands. Indeed so non-aligned had Burma become that in 1979 Ne Win even withdrew the country from the Non-Aligned Movement. But the seriousness of malaria incidence could never be disguised, and by 1988 the number of officially recorded malaria-related deaths had grown to over 4,000.¹³ It remained impossible, however, to put such statistics into any kind of national context. As any traveller in Burma's borderlands could witness, malaria was the major cause of illness and death on far greater scale, evidenced by seasonal epidemics and the treatment of increasing numbers of refugees in neighbouring Thailand.

A new landscape in both health needs and perspectives emerged following the 1988 collapse of Ne Win's Burma Socialist Programme Party and the assumption of power by the present-day State Peace and Development Council ([SPDC] formerly State Law and Order Restoration Council [SLORC]). Three factors, especially, began to focus attention on the urgency and details of Burma's health crises.

The first was the accelerating departure of refugees and migrant workers into neighbouring countries. There can only be guesstimates about the exact scale of population movement since 1988 in what has become a constant state of cross-border human flow across some of the least regulated frontiers in Asia. But by the beginning of the 21st century, there were around 150,000 refugees (mainly ethnic Karen, Karenni and Mon) recorded in official camps in Thailand where there were also over one million migrant workers from Burma – both those described as “legal” and those “illegal”.¹⁴ In India, too, the refugee population is presently estimated as in excess of 50,000 (predominantly ethnic Chin), while during 1991-92 the Rakhine State border was the scene of one of the largest refugee exoduses in modern times when over 200,000 minority Muslims (known as Rohingyas) crossed into Bangladesh.¹⁵ In the following years, most of the Muslim refugee population was resettled back across the border under the auspices of the United Nations High Commissioner for Refugees. However the conditions of socio-political volatility along the Bangladesh and Burma’s other borders have generally continued.

Such intervention by UN agencies leads to the second important change after 1988: the growing engagement by international aid organisations in and around Burma. The refugee populations along the Thai and Bangladesh borders have remained a principal focus of international concern. However from the early 1990s the new military government of the SLORC-SPDC also began allowing international aid agencies access to many off-limits parts of Burma. As the first international analysts conducted research in a quarter of a century, they swiftly began providing data confirming what health workers in the country had always known but could rarely address: the close links between conflict, public health failures and humanitarian suffering.

In the early 1990s, the scale of its discoveries led UNICEF to frame the concept of Burma’s “Silent Emergency”, considering an appeal for “humanitarian ceasefires” to deliver relief aid to conflict-affected parts of the country.¹⁶ UNICEF’s strategies for “corridors of peace” through the borderlands remained on the drawing boards. But with the impetus of international analysis, public health statistics in Burma began to show more accuracy. In 1992 the official infant mortality rate was doubled to 94 per 1,000 live births, while there were estimates that the figure in conflict areas of the Karen and Shan States could be as high as 200 to 300 per 1,000 live births.¹⁷ As the new health data showed, children under five were accounting for nearly half the deaths annually recorded in Burma, due largely to a few treatable or preventable illnesses including malaria, pneumonia, measles and water-borne diseases.¹⁸

Confirmatory evidence of the health complexities in the field then accelerated from the mid-1990s with the increasing access of non-governmental organisations (NGOs) into Burma. Their arrival coincided with the spread of ceasefires between the SLORC-SPDC government and a growing number of armed ethnic opposition groups. For the first time in three decades, day-to-day fighting halted in many conflict-torn areas, especially in the borderlands with China. In a break with past isolation, by the end of the 20th century around 20 international NGOs were registered inside Burma working on health issues.¹⁹ Their dynamic mirrored a resurgence in energy by local community-based organisations,

many of which also have an emphasis on health. Indeed, by one estimate, the 1990s saw the fastest decade in NGO growth in Burma's history.²⁰

It is important to stress that, throughout this period, the countrywide picture was by no means stable or even. In particular, there were several borderland areas where armed conflicts still continued. But whether due to humanitarian concerns inside or outside of Burma, this increased international focus on health issues meant that many of the particular causes and localities of health emergency became better identified.

In the case of malaria, the borderlands with Bangladesh, India and Thailand became recognised as particular epicentres for high levels of malaria incidence. This led to increasing collaboration between international organisations and public health authorities in both Burma and abroad. New approaches were very clearly needed. A noteworthy example was Medecins Sans Frontieres-Netherlands (MSF-N) which, following its 1992 entry into Burma, prioritized malaria-related morbidity among vulnerable populations in the Rakhine State borderlands, treating over 100,000 malaria patients annually by the turn of the century.²¹ During the same years, the SMRU continued its anti-malarial programmes along the Thai border together with NGOs and the Thai government, helping reduce the incidence of *P. falciparum* by over 90 per cent in the refugee camps and surrounding regions.²²

Recognition of these unaddressed “gateway” dynamics in the incidence of disease proved the final factor in changing perceptions about the nature of humanitarian crises in Burma. Neither conflict nor malaria, however, was the main catalyst for concern but HIV/AIDS which, during the 1990s, became a major health challenge throughout the sub-Asian region. With an international frontier-line of 3,650 miles, it was always likely that the patterns of human flow to and from Burma would be critical. Many worst fears were soon realised. From the first HIV sentinel surveillance begun in 1992, the number of officially estimated cases of HIV infection rapidly increased in Burma to around 350,000 adults in 2004-5, with a national prevalence rate of 1.3 per cent.²³

As with malaria, however, there continue to be many doubts about statistics, with non-governmental groups claiming national prevalence rates of 2 per cent or even higher.²⁴ But on all sides of the arguments, there is recognition that many socio-economic conditions exist in Burma for the virulent spread of the disease, including borderland conflicts, intravenous drug users, commercial sex workers, mine workers and large numbers of other migrants.²⁵ As UNAIDS points out, the spread of HIV infection in Burma is “heterogenous varying widely by geographical location and by population sub group”.²⁶ Equally concerning, there has been an inter-linked upsurge in the spread of tuberculosis during the past decade, with 97,000 new cases detected each year and a worrying increase in multi-drug resistance.²⁷

Against this backdrop, in the first decade of the 21st century the health crises in Burma have finally become recognised as matters of international as much as domestic concern. In political respects, Burma remains one of the most isolated countries in the world and subject to various boycotts by governments in the West. Conditions of conflict and

humanitarian crisis also pertain in several frontier areas, especially along the Thai border. However, while it was notions of “humanitarian emergency” that first aroused international concerns in the early 1990s, it is important to note that borderland geopolitics have also subtly changed around Burma during the past two decades in what is becoming one of the fastest developing regions in Asia. Reflecting these post-Cold War realities, the neighbouring governments in Thailand, China, Bangladesh and, most recently, India have all promoted policies of “constructive engagement” with the SLORC-SPDC government. In consequence, Burma in 2006 is importantly different to the land of the pre-1988 time-warp, especially in socio-economic aspects.

The reasons behind these policy switches have often appeared economic as much as political. From logging deals and natural gas pipe-lines to new dams and hydro-electricity plants, there has been a dramatic increase in official business and trade, much of which is centred in Burma’s borderland states.²⁸ Along the China border especially, new towns have mushroomed in areas that were at the heart of conflict-zones just over a decade ago, including at Laiza, Laukkhai, Mongla, Muse and Panghsang. Similarly in southern Burma, despite the lack of inclusive ceasefires, the once sleepy border towns at Tachilek, Myawaddy and Three Pagodas Pass are daily thronged with traders and migrant workers passing through. The hermetic days of Gen. Ne Win are at an end.

These changing patterns in human flow have important ramifications in addressing social and health issues. Trans-national crime, especially, has become a major international pre-occupation. Most notoriously, at one stage during the 1990s Burma’s Shan State became the world’s largest source of illicit opium. This is a status from which it has since declined, although, subsequently, new concerns have arisen about an emergent trade in illicit methamphetamine production that follows many of the same trafficking routes.²⁹ Similar concerns have developed over the human trafficking of women, especially into Thailand.

Equally important, border-crossings in contemporary Burma can no longer be regarded as predominantly routes of one-way traffic out of the country. Malaria statistics very much confirm this. For example, of the 383 reported cases of malaria in Yunnan’s adjoining Menglian county in 2000, more than half occurred among Chinese migrant workers returning from Burma.³⁰ Similarly, as research by the SMRU highlights, among an average 67,000 identified malaria cases a year between 1996 and 2001, twice as high rates of *P. falciparum* were recorded by Thai public health services among the transient “foreign national” population (i.e., migrant workers and refugees) around Mae Sot as among the local Thai population.³¹ The same analysis reflecting complex human flow is confirmed by Burma’s Ministry of Health. Of the 56 major malaria outbreaks recorded between 1991 and 2000, “international migration” was regarded the most important factor in their spread.³²

In consequence, in the 21st century there are a diversity of reasons why the authorities in Burma and neighbouring countries have come to regard the mountainous borderlands as gateways rather than the imposing barriers that characterised the Ne Win era. However the challenges of addressing Burma’s health needs have not become any easier in an era

of volatility and more rapid travel. Instead, there have been a patchwork of humanitarian initiatives around the country's diverse landscape rather than an integrated response that includes every district.

As a result, selective evidence can be chosen to present some very different images of health realities in different parts of Burma today. For example, since the late 1990s the United Nations Office on Drugs and Crime has supported various crop substitution and health programmes in the Kokang and Wa ceasefire areas of the Shan State where, despite declines in production, in 2004 there were still some 260,000 households still involved in opium cultivation in some way.³³ A similar degree of focus on humanitarian and community-building initiatives can be seen in the Kachin State and Pao region of the Shan State, where the first aid and development programmes started in decades following the agreement of ceasefires during the 1990s. Through the cooperation of various governmental, UN and NGO agencies, mass immunisation programmes for infants have been a particular priority.

In contrast, in southern Burma, despite the 1995 ceasefire of the New Mon State Party, conditions of generally low-intensity conflict have continued, further fuelling the cycles of refugee flight and internal displacement. Burma, for example, is currently estimated to have at least 540,000 internally-displaced persons, the highest number in any South East Asian country.³⁴ Recent research also indicates that the number of civilians displaced in eastern Burma due to "development-induced" as well as "conflict-induced" causes is growing.³⁵ Against this background, international NGOs such as Medecins Sans Frontieres have come to work on different sides of the conflict front-lines during the past decade. But by far the greatest concentration of humanitarian support remains on the Thailand side of the border where one journalist recently noted that there are "as many as fifty different NGOs" working out of the frontier town of Mae Sot.³⁶

At a glance, the social landscape in Burma can still look very hazy. Nevertheless, out of this plethora of humanitarian responses, over the years a more reliable picture has gradually emerged of general health conditions in many parts of the country. By putting together official and unofficial reports, high levels of disease can be episodically identified in any region, but virtually all the most concerning statistics occur in the frontier states. In these areas, subjects of acute need and public health under-achievement include malaria, HIV and tuberculosis as well as poverty, malnutrition and illiteracy.³⁷ The World Food Programme, for example, estimated in 2004 that a third of all children aged under five in Burma are suffering from malnutrition, with the worst conditions of poverty in the ethnic minority borderlands.³⁸ Similarly, in the eastern and northern Shan State, high maternal mortality rates of over 500 per 100,000 live births have been officially recorded.³⁹ In the conflict-zones, the situation is even more serious, with medics working along the Thai border recently estimating maternal mortality rates of 1,000-1,200 per 100,000 live births, which rank among the highest figures in the world.⁴⁰

Similar understandings about the incidence of malaria have also started to develop. They, too, confirm an often-complex pattern that is difficult to put into a national context. For while Ministry of Health figures suggest a decline since 1999 in the rate of mortality, the

number of reported cases has actually increased.⁴¹ To some extent, this ambiguity is the result of the improved availability and use of malaria services in government and ceasefire areas. But, at the same time, health agencies have noted significant increases in the number of cases reported among non-immune migrants working on new development projects inside the country as well as travelling abroad. Equally important, there remain high levels of malaria incidence in the frontier conflict-zones that do not appear in the official statistics but where many communities have little access to regular health care. A recent testing, for example, of 1,723 adult mothers for malaria in several different areas of the Karen borderlands reported a 12.4 per cent positivity rate for parasites.⁴² Similarly, recent testing by the SMRU of 2,402 people at five different sites along the Thai border identified a *P. falciparum* rate of 3.7 per cent and *P. Vivax* rate of 9.5 per cent, with males at nearly three times higher level of *P. falciparum* risk than females.⁴³

On the basis of such analyses, a consensus has gradually emerged about the populations most at risk of malaria infection – as well as inadequate treatment – in Burma today. These include forestry workers, migrant workers involved in such activities as mining, road and dam construction, subsistence farmers, ethnic minority groups and other inhabitants in areas of conflict, pregnant women, and young males in the border regions. But there is still far to go in moving on from such generalised understandings of malaria epidemiology to effectively addressing health challenges in the field. As a recent external review of Burma's malaria programmes concluded, the "current coverage of malaria control is not sufficient to achieve major impact".⁴⁴ Equally serious, the heterogeneity of malaria transmission and diversity of treatments being used inside Burma and around its borders has itself become a major source of drug resistance that is of international concern and needs urgent address.⁴⁵

The challenges do not end here. In the 21st century, the issues of humanitarian engagement with Burma remain the subject of international controversy.⁴⁶ All Western development funding was cut off in 1988 and, although the doors have slowly opened to international aid and investment, Western constraints have largely continued. In consequence, Official Development Assistance has remained minimal by any international standards, estimated by the UN at just US\$1 per capita in 2001 as compared with US\$35 for Cambodia and US\$68 for Laos.⁴⁷ Against this backdrop, public health officials and medical practitioners in Burma have struggled as best they can. Innovative roles have also been played by NGOs in providing medical care and attempting to fill the yawning gaps between community needs and public health outreach.

However health specialists have long recognised that without effective governmental, inter-governmental and non-governmental coordination, little sustainable action in addressing health needs is likely to be achieved. In 2004, this led the Global Fund to Fight Aids, Tuberculosis and Malaria to launch a US\$100 million project in Burma. Within a year, however, the Global Fund pulled out against a backdrop of international lobbying against the programme and concerns about how independent its projects could be due.⁴⁸ It was the first time that the Global Fund had decided to quit any country where it was working. Raising concerns further, Médecins Sans Frontières-France also ended malaria programmes shortly afterwards that it had been running in the Karen and Mon

States since 2001. Subsequently, a group of concerned donors (Australia, UK DFID, the European Commission, Netherlands, Norway and Sweden) came together to form the new “Three Diseases Fund” that will start operations in 2007. But as recent difficulties in access for the International Committee of the Red Cross highlight, the immediate path towards addressing the health and humanitarian needs of Burma’s peoples will not be easy. There remains a very long way to go.

The need for peace and reconciliation in Burma is clearly paramount. During the past two decades, experiences have demonstrated that the potential to achieve long-overdue progress in the health field exists. Given the complexity of the landscape, different approaches will be needed for health delivery in different situations. But through a combination of such strategies as improved health access, public health education, disease monitoring, availability of combination treatments, international cooperation and integrated approaches among stakeholder groups, efforts must be galvanised to end the damaging burden of malaria on Burma’s peoples and the region.

There can be no room for complacency. Just as two decades ago, health progress continues to be constrained by political impasse. But as Paulo Sergio Pinheiro, the UN Special Rapporteur on Human Rights to Burma, warned in a statement to the UN General Assembly on 20 October: “humanitarian assistance cannot be made hostage of politics. Any decision on humanitarian assistance must be solely guided by the best interests of children, women, people living with disabilities, those affected by diseases and minority groups. It would be a terrible mistake to wait for the political normalisation of Myanmar to help the population and to reinforce the strengths of the community.”⁴⁹

¹ “Burma” was renamed “Myanmar” by the SLORC-SPDC government in 1989. In the Burmese language, the terms can be considered alternatives. However although recognised by the United Nations, Myanmar has yet to become common English language usage. This paper will maintain Burma for historical consistency and style.

² See e.g., GlobalHealthReporting.org, "US Drafts UN Resolution on Myanmar That Includes Calls To Curb Transmission of HIV, TB, Malaria", 28 November 2006.

³ External Review, *National Malaria Control Programme in Myanmar: Initial Findings and Recommendations*, 18-28 October 2005, slide 6; World Health Organisation, *World Malaria Report: Myanmar Country Profile*, p.1. <http://www.rbm.who.int/wmr2005/profiles/myanmar.pdf>, accessed 15 December 2006.

⁴ Ibid., p.2; World Health Organisation Regional Office for South East Asia, *Myanmar: Malaria Profile*. http://www.searo.who.int/LinkFiles/Malaria_Profile_MMR04.pdf. Accessed 15 December 2006.

⁵ C. Beyrer, V. Suwanvanichkij, L.C. Mullany, A.K. Richards, N. Franck, A. Samuels and T.J. Lee, “Responding to AIDS, Tuberculosis, Malaria, and Emerging Infectious Diseases in Burma: Dilemmas of Policy and Practice”, *PLoS Medicine*, Vol.3, Issue 10, October 2006, p.4.

⁶ External Review, *National Malaria Control Programme in Myanmar*, slide 6.

⁷ UN, “HIV/AIDS, Tuberculosis (TB) and Malaria in Myanmar: Nature of the problem” (unpublished UN summary page, Rangoon, 2006).

⁸ It is not only in Burma that there are difficulties over assessing malaria incidence and statistics. See e.g., S. Hay, C.A. Guerra, A.J. Tatem, A.M. Noor and R.W. Snow, “The global distribution and population at risk of malaria: past, present, and future”, *The Lancet, Infectious Diseases*, Vol.4, June 2004, pp.327-36.

⁹ World Health Organisation, *World Malaria Report: Myanmar Country Profile*, p.1.

¹⁰ World Health Organisation Regional Office for South East Asia, *Malaria Risk Areas in Myanmar*, http://www.searo.who.int/LinkFiles/Malaria_in_the_SEAR_Malaria_Risk_Areas_in_Myanmar.pdf, accessed 15 December 2006.

¹¹ M. Smith, *Fatal Silence? Freedom of Expression and the Right to Health in Burma* (London, Article 19, 1996), p.19.

¹² F Nosten, M van Vugt, R Price, C Luxemburger, K L Thway, A Brockman, R McGready, F ter Kuile, S Looareesuwan and N J White, “Effects of artesunate-mefloquine combination on incidence of Plasmodium falciparum malaria and mefloquine resistance in western Thailand: a prospective study”, *The Lancet*, Vol.356, 22 July 2000, pp.297-302.

¹³ World Health Organisation Regional Office for South East Asia, *Myanmar: Malaria Profile*, pp.1-2.

¹⁴ For a recent examination, see, Thailand Burma Border Consortium, *Programme Report: July to December 2005* (Bangkok, 2005), pp.2-6.

¹⁵ Refugees International, *Burma* (Updated June 2006). <http://www.refugeesinternational.org/content/country/detail/2922>, accessed 15 December 2006.

¹⁶ R. Carriere, “Responding to Myanmar’s Silent Emergency: the Urgent Case for International Humanitarian Relief and Development Assistance”, in, P. Carey (ed.), *Burma: the Challenge of Change in a Divided Society* (Basingstoke, Macmillan Press, 1997), pp.209-34.

¹⁷ Ibid., p.210; Smith, *Fatal Silence?*, pp.36-7; D. Porter, *Wheeling and Dealing: HIV/AIDS and Development on the Shan State Borders* (Background Paper supported by UNDP, Rangoon Institute of Economics and Australian National University, 1994), p.29.

¹⁸ Carriere, “Responding to Myanmar’s Silent Emergency”, pp.210-16.

¹⁹ For a contemporary discussion, see e.g., Burma Center Netherlands and Transnational Institute (eds.), *Strengthening Civil Society in Burma: Possibilities and Dilemmas for International NGOs* (Chiang Mai, Silkwood Books, 1998).

²⁰ B. Heidel. *The Growth of Civil Society in Myanmar* (Bangalore, Books for Change, 2006), p.60.

²¹ In 2004, MSF reportedly tested over 350,000 people and treated more than 175,000 in the state. Arzte Ohne Grenzen, *Myanmar: Activity Report 2004/5*.

²² “Refugees, Drug-resistance and Guerrilla Attacks: Twenty Years in the Fight Against Malaria”, Wellcome Trust, 27 November 2006.

- ²³ Myanmar National Strategic Plan on HIV and AIDS: 2006-2010, Draft 21 September 2006 update, p.8; UNAIDS, Myanmar: Country Situation Analysis, <http://www.unaids.org/en/Regions/Countries/Countries/myanmar.asp>, accessed 16 December 2006.
- ²⁴ See e.g., Beyrer et al, "Responding to AIDS, Tuberculosis, Malaria", p.3, which estimated a population rate of 3.46 per cent of reproductive age adults living with HIV in 2000.
- ²⁵ For a recent analysis, see e.g., R.M. Safman, "Assessing the Impact of HIV and Other Health Issues on Myanmar's Development", in, Kyaw Yin Hlaing, Tin Maung Maung Than and R.H. Taylor, *Myanmar: Beyond Politics to Societal Imperatives* (Singapore: ISEAS, 2005), pp.117-39.
- ²⁶ UNAIDS, Myanmar: Country Situation Analysis.
- ²⁷ UN, "HIV/AIDS, Tuberculosis (TB) and Malaria in Myanmar: Nature of the problem"; World Health Organisation Regional Office for South East Asia, *TB in South-East Asia* (2006), http://www.searo.who.int/en/section10/section2097/section2100_10639.htm, accessed 16 December 2006.
- ²⁸ See e.g., Global Witness, *A Choice for China: Ending the destruction of Burma's northern frontier forests* (Washington D.C., Global Witness Publishing, 2005).
- ²⁹ See e.g., M. Jelsma, T. Kramer and P. Vervest (eds.), *Trouble in the Triangle: Opium and Conflict in Burma* (Chiang Mai, Silksworm Books, 2005).
- ³⁰ R. Drew and M. Smith, *External Mid-Term Evaluation of the Health Unlimited Programme: Across the Divide: Addressing Communicable Disease and MCH in the Upper Mekong Valley* (London, Health Unlimited, 2003), p.37.
- ³¹ V.I. Carrara, S. Sirilak, J. Thonglairuam, C. Rojanawatsirivet, S. Proux, V. Gilbos, A. Brockman, E.A. Ashley, R. McGready, S. Krudsood, S. Leemingsawat, S. Looareesuwan, P. Singhasivanon, N. White, F. Nosten, "Deployment of Early Diagnosis and Mefloquine-Artesunate Treatment of Falciparum Malaria in Thailand: The Tak Malaria Initiative", *PLoS Medicine*, Vol.3, Issue 6, June 2006, p.5.
- ³² World Health Organisation, *World Malaria Report: Myanmar Country Profile*, p.1.
- ³³ UN Office on Drugs and Crime, "2004 Myanmar Opium Survey – Results at a Glance", Press Release, 11 October 2004.
- ³⁴ Norwegian Refugee Council, *Internal Displacement: A Global Overview of Trends and Developments in 2005*, March 2006, p.79.
- ³⁵ Thailand Burma Border Consortium, *Internal Displacement in Eastern Burma: 2006 Survey*, November 2006, pp.16-22.
- ³⁶ P. Thornton, *Restless Souls* (Bangkok, Asia Books, 2005), p.116.
- ³⁷ For an overview, see e.g., M. Smith, *Burma/Myanmar: the Time for Change* (London: Minority Rights Group, 2002), pp.21-8.
- ³⁸ "UN warns of child malnutrition in Myanmar", *Agence France Presse*, 14 September 2004. The highest levels of child malnutrition (between 40-50 per cent) have been identified in the Chin, Karen, Rakhine and Shan States as well as Tenasserim Division; these are ethnic minority borderlands where it is estimated that just one third of children complete the four basic years of schooling. See, International Crisis Group, *Myanmar: Aid to the Border Areas* (Brussels, 2004), p.3.
- ³⁹ Source: Ministry of Health, as quoted in UN Country Team, *A Review of the Humanitarian Situation in Myanmar* (Rangoon, unpublished monograph, February 2003), pp.32-3.
- ⁴⁰ Back Pack Health Worker Team, *Chronic Emergency: Health and Human Rights in Eastern Burma* (2006), p.39.
- ⁴¹ World Health Organisation, *World Malaria Report: Myanmar Country Profile*, p.1.
- ⁴² Back Pack Health Worker Team, *Chronic Emergency*, p.34.
- ⁴³ Shoklo Malaria Research Unit, *Second Survey: May-June 2006*. The difference is presumed to be related to different working practices and migration, especially among young men.
- ⁴⁴ External Review, *National Malaria Control Programme in Myanmar: Initial Findings and Recommendations*, 18-28 October 2005, slide 44.
- ⁴⁵ See e.g., F Nosten et al, "Effects of artesunate-mefloquine combination".
- ⁴⁶ See e.g., International Crisis Group, *Myanmar: The Politics of Humanitarian Aid* (Brussels, 2002).
- ⁴⁷ UN Country Team, *Myanmar: A Silent Humanitarian Crisis in the Making* (Rangoon, 30 June 2001), p.2.
- ⁴⁸ International Crisis Group, *Myanmar: New Threats to Humanitarian Aid*, Asia Briefing No.58, 8, December 2006.
- ⁴⁹ Available at <http://www.ibiblio.org/obl/docs3/GA2006-SRM-oral2.pdf>.
