# COMBATING INFECTIOUS DISEASES IN EAST ASIA: SECURITIZATION AND GLOBAL PUBLIC GOODS FOR HEALTH AND HUMAN SECURITY

Mely Caballero-Anthony

Since the Asia-wide outbreak of the SARS virus in 2003, the threats from infectious diseases have become more severe. No sooner had the region begun to recover from the devastating impact of SARS than news about the rising incidence of avian influenza cases—on almost a daily basis and with an ever-expanding geographic reach—raised alarm about the potentially imminent outbreak of a pandemic of global proportions.[1] In this era of globalization and regionalization, such infectious diseases have the capacity to detrimentally affect the security and well-being of all members of society and all aspects of the economy. This point was highlighted at the 2006 World Economic Forum (WEF) in Davos, Switzerland with the release of the 2006 Global Risks Report. The report ranked pandemics and natural disasters among the highest in the list of risks currently confronting the international community. The study also concluded that despite the interplay of these multiple global risks and their combined ripple effects, which can be potentially devastating, "disaster planning and crisis management suffer from a number of shortcomings." Among these are limited investment of resources in health systems and varying responses to different assessments of threats.[2]

In a region that has a history of being the breeding ground for flu pandemics, the WEF report has come at a time when an abundance of policy statements, studies and other reports have been written, amidst a flurry of official and non-official meetings, which have altogether raised the urgency within and outside the region of finding a common approach to prevent the outbreak of a new and devastating pandemic. As momentum is building in the international community to increase cooperation in mitigating possible risks from pandemics, it is an opportune time to review current approaches and policies in East Asia, from local to regional levels, which address challenges to health and human security. Of particular interest here is the capacity of states and societies to mitigate the risks and challenges involved. Such a review would speak not only to efforts at combating the threats from infectious diseases, but also to

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the broader issue of how states respond to other threats from a host of emerging non-traditional security issues. These issues have been defined in the international relations and security studies literature as those threats that are not confined to the conventional notion of deliberate military threats to the physical protection of the state. These issues include environmental degradation, economic security, transnational crimes, ethnic conflicts and infectious diseases.[3]

In some of the recent studies that assess domestic and international approaches to non-traditional security threats, arguments have been raised for states and non-state actors to "securitize" these issues so that immediate attention and resources can be commanded to address the ominous risks that endanger the lives and well-being of states and people.[4] Specifically when applied to the threat of infectious diseases, a point has been made to use the language of "security" in framing this issue in order to persuade the relevant audience of its immediate danger. Analysts who have employed this approach draw heavily from the "securitization theory" proposed by the Copenhagen School, represented by a group of European scholars from the Copenhagen Peace Research Institute. These scholars, who include Barry Buzan and Ole Waever, argue that security is a socially constructed concept. The securitization theory essentially offers a systematic framework to determine how and when a specific issue is perceived as an urgent, existential threat to a given referent object, such as state, a community, the biosphere or the economic system.[5] An issue is successfully securitized when an audience accepts that there is an existential threat to a shared value.[6]

Studies on public health are no longer confined to the scientific and medical community.

Perhaps as a result of more readily and widely circulated information regarding infectious diseases, there is growing interest among scholars in international relations and security studies to securitize infectious diseases to protect state and human security. Some of these securitization studies, particularly in East Asia, argue for a new perspective in treating these issues as no longer just medical issues but as major security threats to the region requiring the immediate attention of policy makers and defense and security officials.[7] As a result, studies on the broad issue of public health and security are no longer confined to the scientific and medical community. The emerging trend is one of dialogue between health, security and foreign policy communities on the practice of global health security.

However, given the rapid changes in the global environment and the complex interplay of risks associated with pandemics, it may well be that securitization of infectious diseases is no longer sufficient to generate a more effective approach to respond to these threats. As other studies have also shown, the threats of emerging and reemerging pandemics cut across related issues of poverty, natural disaster, migration, drug trafficking and others, and in turn they require the involvement of

a wide range of actors beyond the medical, veterinary and agricultural community.[8] Hence, while securitizing infectious diseases can be a decisive approach to respond to such a grave threat, it has to be complemented with other approaches to allow for a comprehensive and integrated method for addressing a complex problem. This paper therefore adopts an eclectic approach in dealing with the broad issue of health and human security. In particular, it examines how the problem of pandemics can be addressed by using the securitization framework and the global public goods (GPGs) approach. Unlike securitization, the latter approach frames infectious diseases as a global public good requiring more inclusive participation, from a wide range of actors, and requiring various policy interventions. This study suggests that complementing securitization with the global public goods approach is highly relevant in the light of the new kinds of mechanisms that are currently being proposed at the local, national and intra-regional levels, such as ASEAN and ASEAN +3. These are considered key to the prevention and containment of the spread of pathogens. Also of special interest are the proposals to develop surveillance mechanisms and health networks, which would be considered equally significant in the prevention and containment of virulent pathogens.

While the proposals for strengthening surveillance mechanisms are indeed crucial in containing the spread of diseases, especially against the imminent threat of avian flu mutating into the next pandemic, the importance of good support infrastructure, provided by sound public health care systems at the national level, cannot be understated. Equally important are the strong national and regional institutions that can facilitate closer cooperation among various actors and agencies across borders. However in a region where the burden of infectious diseases is compounded by poverty, political instability and conflicts, the capabilities of states to provide for basic health care services are starkly uneven. Only a few states have adequate health infrastructure, while some have facilities that are rudimentary at best.

Thus, against the varied and complex set of issues that arise in addressing the threats of infectious diseases, the main objectives of this study are two-fold. First, the study examines the state of public health management in East Asia and reviews the current experiences of state and non-state actors in dealing with infectious diseases like HIV/AIDS, SARS and the avian flu. Second, the study explores how a comprehensive framework using securitization and the global public goods approach can better address many of the issues and challenges facing the public health systems in the region, especially against the current period of extreme uncertainty brought on by the looming threat of a global pandemic.

It is often claimed that globalization has brought on new challenges to health and human security. The threat of infectious diseases is not a local problem, but a global concern. I argue therefore that for many developing states in the region, particularly in Southeast Asia, the burden of infectious diseases has reached a critical stage where

innovation is needed to strengthen the capacity of public health management in the region. This compels the international community to search for new ways to respond to new threats, even if this means moving away from conventional approaches to managing public health and exploring nonconventional, eclectic approaches in order to generate alternative policies that address the complex challenges of global health security. Hence, a way to do this is to adopt a two-track approach of complementing the securitization framework with the more inclusive global public goods approach in order to provide for a more efficient and sustainable system for the prevention and containment of infectious diseases. In this way, the international community is able to immediately respond to crisis situations and deploy emergency measures if necessary, while also attending to the deeper structural issues and problems of ensuring health security to the wider community, both rich and poor.

The paper therefore proceeds as follows. Following this introduction, section one will briefly review the arguments for the securitization of infectious diseases and the global public goods debate and discuss why these two approaches are not mutually exclusive. Section two examines the experiences of securitization of infectious diseases in the region and highlights some of the problems that emerged. Section three identifies some salient issues in advancing the agenda of securitizing infectious diseases, while section four proceeds to discuss how the global public goods approach can address many of the issues and problems in working towards global health security. Finally, the paper concludes with some thoughts on why we need to adopt a comprehensive and integrated framework in order to build regional capacity for health and human security.

## I. Infectious Diseases and Policy Responses: Securitization vis-à-vis Global Public Goods

### The Arguments for Securitizing Infectious Diseases

In light of the experience of East Asia with SARS and the looming threat of the next global pandemic, there has been an increasing tendency among a number of actors outside the medical community to securitize infectious diseases. There are several reasons for this, but paramount among them is the current concern about the next pandemic. For some time now, officials at the World Health Organization (WHO) have already been warning of the outbreak of the next global pandemic. The last major outbreak of a deadly pandemic was the 1918 Spanish flu that killed between 20 and 50 million people worldwide in the span of one year. But since then, there have been three other epidemics that each claimed thousands of lives.[9] With the onset of globalization, the scale, speed, and extent of movement of people and goods is now without parallel, prompting warnings from the head of the WHO Global Influenza Programme, Klaus Stohr, that if this impending "big" flu pandemic were to

break out, about 2 million people in Asia and 7 million globally would die from a virulent new influenza, possibly originating from avian flu (H5N1), and another 1.5 billion people would require immediate medical attention.[10]

At the time of writing, avian flu has already proven deadly in more than half of the 174 reported cases of affected people in the wider Asia since 2003.[11] But these relatively minor figures obscure the looming threat of the avian flu as the catalyst for the next big flu pandemic. Moreover, behind these numbers are the hundreds more who suffer related economic hardship. A recent Asian Development Bank (ADB) policy brief on the economic impact of an avian flu pandemic—which assumed only a moderate level of infection—posited a cost for the East Asian region of between $99 and $283 billion for an avian flu pandemic.[12]

Indeed, given Asia's experience with SARS, states have been made aware of their vulnerability to the threat of infectious pathogens that can easily cross national borders. Although the SARS outbreak lasted for five months and infected 8,098 people, with 774 deaths, it demonstrated how the pandemic became more than a health crisis.[13] Its impact was not limited to the loss of lives alone, but extended to socio-economic, psychological, political and security spheres of affected countries. And, while the death rate of SARS victims was much lower than the quarter of a million casualties of the Indian Ocean tsunami, many of the victims were healthcare workers.[14] The psychological impact was particularly significant. As described succinctly by one of the medical scientists from the University of Hong Kong's Centre for Behavioural Health, "when doctors and nurses cannot take care of themselves...the whole community panics."[15]

About 7 million people globally would die from a virulent new influenza.

Aside from the concern about the impending pandemic are other reasons for securitizing infectious diseases. These are summarized below:

First among them is the changing nature of threats and the burden of infectious diseases. Globalization has led to the development and spread of new and resurgent diseases globally.[16] According to the WHO, new diseases are emerging at an unprecedented rate of one per year. The examples include among others: Ebola Haemorrhagic Fever in Africa, the West Nile virus pulmonary syndrome in the United States and the Nipah Encephalitis in Southeast Asia. Older diseases like cholera and tuberculosis have also reemerged. We are currently in what is known as the "seventh pandemic" of cholera, with the disease having returned to Peru in 1991 and recently manifested itself in the plague that hit India in 1994. These recurring diseases like tuberculosis have come back with more virulent strains and are often found to be resistant to currently available first-line antibiotic drugs.[17] Moreover, the fatal variant Creutzfeldt-Jacob disease (vCJD), first detected in 1996 and linked to bovine spongiform encephalopathy (BSE) or "mad cow" disease, has added consid-

erable concern to these new diseases, as well as the highly unstable flu viruses, such as SARS and avian flu. Most of these new diseases carry virulent pathogens that pose serious challenges to current epidemiological expertise.

Secondly, there are disease multipliers. With globalization also emerge the so-called artificial disease force-multipliers, which greatly exacerbate not only the incidence but also the spread of infectious disease.[18] These include modern medical practices such as the overuse and misuse of antibiotics; accelerating urbanization that has given rise to overcrowded "megacities" lacking clean water, sanitation and adequate hygiene; climate change resulting from global warming that in turn exposes millions of people to dengue fever and other insect-borne illnesses; and new social and behavioral patterns. An example of the latter is the rising incidence of HIV/AIDS facilitated by not only by sexual transmission but also by the increasing prevalence of intravenous drug use.[19]

Thirdly, there is the potential for biological terrorism. In 1997, the concern about infectious diseases being used as weapons for offensive purposes led the WHO to initiate consultation with a team of ninety experts with specialties ranging from public health to chemical and biological weapons. Their product, a volume entitled *Public Health Response to Biological and Chemical Weapons*, was published in October 2004. It provides extensive guidelines and thorough protocols for risk assessment and management when dealing with disasters or emergencies.[20] In a different vein, those more concerned about military security, including weakening of fragile states by epidemics, health risks of troops or the humanitarian impact of military action, have sharpened their focus on health as it relates to defense.[21]

In brief, the region's recent history with SARS, taken together with the push factors outlined above, has seen several state and non-state actors in the region increasingly using the language of security, effectively resulting in the securitization of infectious diseases in the region. Civil society groups and business community groups like private banks are raising the security implications of infectious diseases, particularly the avian flu outbreak.[22] The impact of this on policies for health and human security at the national and regional level will be discussed in the second section, but in the meantime, we now turn to the arguments for the global public goods approach to global public health, particularly in the control of infectious diseases.

## Global Public Goods Approach to Health Security

The idea of global public goods (GPGs) builds on but also provides a revisionist approach to the conventional economic textbook definition of "public goods" (PGs). Inge Kaul, head of the United Nations Development Programme's (UNDP's) Office of Development Studies, defines GPGs as "[public] goods whose benefits reach across borders, generations and population groups. They form part of the broader group of international public goods, which includes another sub-group, regional pub-

lic goods."[23] In other words, public goods become regional and global goods in so far as they have regional and global dimensions. Examples of GPGs include an emission-free environment, a stable financial architecture and good human rights regimes. A list of GPGs is presented in the UN Millennium Declaration, which identifies global public health—particularly the control of diseases—as one of these goals.[24]

The GPGs approach is particularly relevant in the global fight against control of infectious diseases. Unlike the conventional public goods approach where the state retains a critical role in ensuring the provision of this good, the GPGs perspective on global health security requires an inclusive approach, bringing together not just states but also non-state actors across state boundaries. More importantly, it highlights the fact that the responsibility of providing GPGs also requires the participation of the private sector because of their ability to provide financial and technological resources in securing these goods. In this regard, the GPGs approach makes a case for the reforming of the process of public policymaking as key to managing the global problem of disease control. As pointed out by Kaul, "as the fate of many nations has become increasingly intertwined, transforming what were once national policy issues into regional issues—and regional issues into global ones... so too should they bring them together as partners in appropriately reformed public policymaking."[25] In brief, the GPGs approach stresses the notion of shared responsibility among a number of actors: responsible and transparent governments, active and engaged civil society and socially concerned businesses.[26]

Despite shared concerns, different policy communities still talk amongst themselves.

Although the idea of GPGs is not necessarily new, using this conceptual lens to examine and respond to the challenge of infectious diseases is not widely used, at least in many countries in Asia. It is also noteworthy that while one can see obvious complementarities between securitization and the global public goods approach, these two perspectives have yet to converge. Similarly, using these conceptual constructs in defining a regional framework to promote closer cooperation among various actors towards the ultimate goal of attaining regional/national/global health security, has not yet been done. This is reflected in the uncoordinated way the health, foreign and security policy communities interact. Paradoxically, despite the shared concern about the threats of infectious diseases, different policy communities still tend to talk among themselves. This underscores an observation by Emma Rothschild, a well-known British economic historian, who noted that despite the historical linkages between health and security, these two areas developed their own distinctive technical aspects, political constituencies and institutional networks.[27] As a consequence, opportunities are often missed for closer collaboration among relevant state agencies, among different regional and international organizations and with

the private sector in coming up with a comprehensive and integrated approach to global health security.

The main thrust of the global public goods approach therefore is to highlight the need for countries to work together to attain these public goods, and to help countries that face constraints in securing these goods on their own. According to Kaul, the provision of public goods as it is currently approached both nationally and internationally involves multiple authorities and actors of varying power at different jurisdictional levels, reacting to a crisis in ways that are moved more by "political compulsion than concern for all."[28]

Hence a case can be made for a more integrative approach in combating infectious diseases, first by highlighting the merits of securitization and then by reinforcing this with the more inclusive approach of global public goods. An integrated approach could allow for a more comprehensive policy framework that promotes closer cooperation and task-sharing among different actors involved in disease control. The value of a two-track, integrative approach can best be seen when we look at the experience of securitizing infectious diseases in Asia.

## II. Assessing Securitization in East Asia

The SARS outbreak has been instructive in illustrating how infectious disease is securitized by affected states in East Asia. It is useful to first examine the way the issue was framed at the official level, also referred to as the "speech act."[29] In crisis-affected countries like Singapore, Vietnam, Malaysia and the Philippines, the statements and press briefings coming from officials declared SARS to be "a national security concern." The national security adviser of the Philippines, for instance, even went to the extent of saying that the "SARS threat...was greater than any threat of terrorism in the country."[30]

The manner in which the disease was securitized can also be seen in the crisis management measures that were adopted, particularly the mandatory quarantine that was imposed in some states. For example, the Singapore Health Ministry invoked the Infectious Diseases Act (IDA) to isolate people who were known to have been in contact with those who had fallen sick with SARS.[31] Similar measures were adopted in SARS-stricken countries in the region, including the closure of schools and entertainment centers and other areas where infection might spread. Although China was severely criticized for initially playing down the seriousness of the problem and responding slowly to contain the spread of infection, the Chinese government eventually took action, including the drastic step of controlling the movement of people in and out of the capital, Beijing, which was a site for local transmission of the disease.

Affected countries also adopted strict immigration and border controls. Several countries adopted stringent measures to screen and control visitors from SARS-

affected countries into their own countries. Thermal imagers were installed in airports to identify and bar passengers with fevers from entering and leaving airports and other points of entry/exit. Other more stringent measures were also introduced but later reconsidered. In ASEAN for example, Thailand and Malaysia had at one point banned entry of tourists from China but withdrew the ban after quiet protests from China, which in turn had prevented its citizens from traveling to Malaysia, Singapore and Thailand. Nonetheless, these countries' policies of requiring their own citizens arriving from China and other SARS-affected areas to go on "voluntary" quarantine for about a week to ten days stayed in place until the WHO gradually removed the countries from its list of SARS-affected areas where the travel advisory applied.[32]

## Securitization at the Regional Level

As far as regional responses to contain SARS were concerned, the crisis generated unprecedented coordination among countries in ASEAN together with China, Japan and Korea (ASEAN +3), as seen in the hastily convened meetings among heads of governments and other officials. Singapore Prime Minister Goh Chok Tong and Thai Prime Minister Thaksin Shinawatra led the initiatives to gather their regional counterparts to address the crisis. Following the ASEAN +3 health ministers' meeting held in Kuala Lumpur on 26 April 2003, the Special ASEAN Summit on SARS as well as the Special ASEAN-China Leaders Meeting were held back-to-back in Bangkok on 29 April 2003. During these meetings several measures were outlined to put in place regional mechanisms to address the multiplicity of issues brought on by the SARS crisis.

The immediate measures agreed upon involved the exchange of information and best practices in containing infectious diseases; the strengthening of cooperation among frontline enforcement agencies such as health, immigration, customs, transport and law enforcement; and the harmonization of travel procedures to ensure proper health screening at the points of origin.[33] The short-to-mid-term measures involved deepening cooperation between ASEAN and the WHO, as well as exploring the possibility of developing a regional framework for rapid response to outbreaks of infectious diseases, which would include deploying resources to national and regional laboratories for speedy diagnoses of cases of human infection, as well as the stockpiling of drugs and vaccines. In addition, Malaysia proposed the creation of a regional center of disease control (CDC), while others suggested the further development of the ASEAN-Disease Surveillance Net, a website that was set up in April 2003 to facilitate regional cooperation and information exchange on disease outbreaks in Southeast Asia.

The SARS experience notwithstanding, some analysts have observed that overall attempts to securitize infectious diseases in the region have been rather limited.

In a recent study on infectious diseases in Asia, Peter Chalk, a U.S.-based analyst from the RAND Corporation, argued that although many East Asian states may have begun to recognize the security dimension inherent in the contemporary "microbial era," most still continue to regard this unconventional security threat in traditional terms, effectively recognizing only one facet of the overall disease threat—its use as a weapon for offensive purposes. It has been observed for instance that a number of countries have already installed very integrated homeland security structures complete with dedicated bio-response components. Also, official deliberations in multilateral forums, including ASEAN, ASEAN Regional Forum (ARF) and Asia-Pacific Economic Cooperation (APEC), now include contingencies to respond to threats of bioterrorism and aggressively counteract potential proliferation of offensive microbial technologies. However, as Chalk argues, these efforts do not address the broader dimensions and concerns of health and human security.[34]

The delayed impact of an infectious disease has prevented decisive action.

Chalk's arguments are reinforced when one examines how other infectious diseases are handled in the region. One good example is the way the HIV/AIDS problem has been tackled by states inside and outside the region. One recent study indicated that while the disease has been aggressively managed in richer developed countries, it is not given the same kind of urgency in Asia despite the number of actors who have campaigned to securitize HIV/AIDS.[35] One reason that explains this attitude is the fact that the effects of microbial spread, while significant, do not typically pose an immediate strategic threat to the state concerned. The delayed impact associated with an infectious disease therefore mitigates the sense of urgency that often drives decisionmaking and resource allocation among security planners. This has in turn prevented decisive action, such as expeditious allocation of human and financial resources, to combat the disease.

As a result, we see uneven securitization of infectious diseases. While one could argue that the responses to SARS and avian flu are defined by the virulence of these types of diseases, thus deserving the utmost priority given by states, the WHO and other international organizations end up overlooking the equally grave risks posed by other diseases.

Again, the case of HIV/AIDS is a fitting example. In a recent report, it was revealed that across the developing world, only 15 percent of the estimated treatment needs for HIV/AIDS, including the provision of retroviral drugs, had been met.[36] This finding is particularly significant when one considers the prospect of HIV/AIDS spreading through the region, where there were an estimated 8.2 million people living with the disease at the end of 2004.[37] In China, the head of the Department of Disease Control of the Ministry of Health warned that if the HIV/AIDS epidemic were not dealt with efficiently by the year 2010, there could be

more than 10 million HIV/AIDS patients in China.[38] Meanwhile in India, the WHO estimates the number of HIV infections in the country to be 5.13 million, although current reports from New Delhi's HIV/AIDS Charity group, Naz Foundation International, placed the figure closer to 15 million.[39] In Cambodia, HIV/AIDS is now reported to be the country's new "killing field."[40] A senior Cambodian health official had said that by 2010, more than half a million of the country's population of 11.5 million will suffer or die from AIDS.[41] Similarly, the WHO cites Myanmar as another country with one of the most serious HIV/AIDS epidemics in Asia, adding that the disease has already become "entrenched in lower-risk populations in several parts of Myanmar."[42] Such alarming scenarios have prompted a WHO official to designate Asia as the next possible frontline in the pandemic.[43]

HIV/AIDS, malaria and tuberculosis are treated as medical rather than security issues.

Yet, despite these alarming figures, successfully securitizing HIV/AIDS appears to be unattainable for many of these affected countries in the region. Aside from the lack of funds allocated to combat the disease, the social stigma that has come to be associated with the disease has been a significant obstacle in getting political actors to put forth a case for aggressively responding to it.[44] Moreover, despite the advocacy on fighting HIV/AIDS carried out by NGOs and international organizations, this agenda has yet to be mainstreamed into the security agenda of states in the region.

Another strikingly deadly disease is malaria, which is estimated to kill 3,000 people daily.[45] Also, tuberculosis (TB) kills about 1,000 people every day.[46] However, these diseases are still essentially treated as medical rather than security issues. In effect, what we see are two different levels or degrees of securitization: one is the securitization of SARS and avian flu and the other is the continued "medicalization" of HIV/AIDS and other infectious diseases.

The disparity in the securitization of different infectious diseases in Asia reflects the competing demands faced by states in addressing a number of security priorities. Against the resurgence and emergence of infectious diseases, governments in the region are grappling with multiple threats to human security, while also trying to maintain regime stability. Besides the threats from infectious diseases, the growing list of non-traditional security threats confronting many of these states today has not only placed added pressure on states' capacities, but also has stretched their ability to accommodate many competing demands, both within and outside the state. The non-traditional challenges include the continuing threats of terrorism and rising incidence of transnational crimes, particularly illegal drug smuggling and human trafficking. Consequently, many states are unable to cope with emerging challenges.

Against these constraints, measures to successfully securitize infectious diseases, such as improving the disease surveillance mechanisms in the region, are beset with

challenges. While this is no doubt a critical mechanism to avert a global health crisis, advancing this goal also brings to the fore a number of underlying factors that could lead to securitization's failure or success. This is where a broader and more comprehensive strategy, beyond securitization, becomes imperative.

## III. Taking Securitization Forward

With the barrage of news headlines covering the worst-case scenarios of a pandemic outbreak, the urgency of putting in place emergency plans and effective global surveillance systems has been stressed in the region. In October 2005, the WHO had declared that Southeast Asia was going to be the "next ground zero" if the H5N1 virus mutates into the next pandemic. The WHO by way of this assessment had reminded the governments that they needed to be the first line of defense in case of an outbreak. [47] Against these warnings, the question that we need to ask is how prepared are states in East Asia, particularly the ASEAN countries?

Other than Singapore and Hong Kong, information about disaster response and capability from other countries in the region is sketchy.[48] As shown in their respective responses to the SARS outbreak, while Singapore and Hong Kong were able to deal with the health crisis in a reasonably effective manner, other countries experienced a range of challenges in coping with the problem. Particularly in Southeast Asia, aside from the complex problems faced by states at the national level, such as the lack of contingency planning and coordination among state agencies, there has been very little institutionalized regional cooperation in the area of public health policy. As indicated above, it was only after the SARS outbreak that some regional mechanisms were proposed, and many of these proposed measures still need to be implemented. Given the lack of resources allocated to improving public health systems—a point I shall elaborate in the latter part of this section—national and regional capacities to respond to transnational health crises remain inadequate.

Against the stark disparities in states' capacities to control the spread of virulent pathogens and the urgency to prevent and contain the outbreak of infectious diseases, we are therefore compelled to revisit the problems faced by governments and regional organizations in promoting regional cooperation in disease control in order to explore how to move forward with securitization. In this regard, effectively advancing this agenda ought to focus on core issues: building regional surveillance systems for monitoring infectious diseases, improving the poor state of health infrastructure in less developed countries and the politics of crisis health management in the region. These issues will be discussed in the context of the current regional efforts to stem the spread of avian flu/H5N1 virus in East Asia.

### Regional Surveillance Mechanism

It has been argued that better monitoring networks are essential to risk pre-

paredness and crisis management in pandemic outbreaks. But in many parts of developing East Asia, poor health infrastructure seriously impacts the building of local capacity to support these surveillance measures.[49] For example, reporting about human cases of avian flu is often hampered by lack of epidemiological expertise in the region.[50] In Thailand, which has a relatively good public health system, its head of Disease Control had admitted that out of eight laboratories, only one of them is capable of meeting international standards. There are also no more than ten epidemiologists working in the field to detect avian flu outbreaks and "plan surveillance and containment measures."[51] Meanwhile, Indonesia—which had seen an increasing number of human cases of avian flu—still relies on Hong Kong's virological facilities. As noted by a medical analyst who was part of the fact-finding team in Jakarta examining cases of avian flu, without local capacity "there was a risk that human cases will not be detected until mid-stage of the epidemic."[52]

The situation is even more dismal in the cases of Cambodia and Laos. A WHO epidemiologist stationed there reportedly said, "routine surveillance is just not possible," given that both countries lack many of the essentials needed to control an outbreak, "including sufficient number of veterinarians, transport to get samples to laboratory—or indeed laboratories themselves."[53] Hence, after a fact-finding mission to Thailand, Cambodia, Laos and Vietnam, U.S. Health and Human Services Secretary Mike Leavitt observed that the task of creating a sufficient network of surveillance was daunting and that "the chances of that happening [were] not good."[54]

An important factor in building a surveillance mechanism at the domestic level is also the linkages between central government with regional and rural areas. This is a common problem in Southeast Asia, and this disconnect between local and national bureaucracies was highlighted recently by WHO Regional Director for Western Pacific Shigeru Omi. Omi said that insufficient capacity for proper surveillance in rural villages and the lack of education among rural populations not only complicates the task of preventing and containing diseases but also exposes farmers and market operators to risk. Narrating his experience in Cambodia when the country first reported its first human case of avian flu in 2004, Omi described how he had to follow a motorcyclist with live chickens tied across the bike to a small rural market where he saw a woman who was slaughtering chickens with her bare hands. He remarked that if the animal she was handling was infected, "[he's] sure she would have picked up the infection."[55]

Finally, there are also the important issues of transparency and accountability. This problem was well illustrated during the SARS crisis when the lack of transparency hampered the handling of the crisis when it first broke out in China. We recall for instance the comments by WHO's former Director General Gro Harlem Brundtland who stated that had the Chinese authorities acted earlier and with more openness, the outbreak of the disease would have taken a different course.[56] Despite

**Table 1: Public Expenditure on Health in Southeast Asia (% of GDP)**

| Country | 1990 | 2002 |
|---|---|---|
| Brunei | 1.6 | 2.5 |
| Indonesia | 0.6 | 0.6 |
| Malaysia | 1.5 | 2.1 |
| Philippines | 1.5 | 1.5 |
| Singapore | 1.0 | 1.3 |
| Thailand | 1.0 | 2.1 |
| Cambodia | ... | 1.8 |
| Laos | 0.0 | 1.7 |
| Myanmar | 1.0 | 0.4 |
| Vietnam | 0.9 | 1.5 |

Source: UNDP Human Development Report 2004 and 2005

**Table 2: Public Expenditure on Defense in Southeast Asia (% of GDP)**

| Country | 1990 | 2003 |
|---|---|---|
| Brunei | 6.7* | 7.0** |
| Indonesia | 1.8 | 1.5 |
| Malaysia | 2.6 | 2.8 |
| Philippines | 1.4 | 0.9 |
| Singapore | 4.9 | 5.2 |
| Thailand | 2.6 | 1.3 |
| Cambodia | 3.1 | 2.5 |
| Laos | ... | ... |
| Myanmar | 3.4 | ... |
| Vietnam | 7.9 | ... |

* Refers to 1991 figures.
** Based on 2002 figures.
Source: UNDP Human Development Report 2005

recent lessons from SARS, WHO officials are still complaining about the poor reporting of human cases of avian flu. This was indeed a worrying trend given that despite the high level of commitment by some countries in the region to fight avian flu, it was reported that Indonesian officials took two years to admit that there was an H5N1 outbreak in the country's poultry.[57]

### State of National Health Systems

The problem of poor public health systems in many developing states in Southeast and East Asia is not new. However, the impact of this takes on a new dimension in light of the escalating threat of avian flu. In this regard, the record of primary health care in parts of the region merits closer scrutiny. In many countries,

the absence and/or lack of basic health care facilities compounded by weak health infrastructure is typically the case. This problem is largely due to inadequate resources allocated to public health.[58] The relative priority of health care in the region's national budgets is reflected in Table 1.

One notes that over a decade, national budget allocation for public healthcare in Southeast Asia has not really improved, with some countries posting the same figures over a span of twelve years. The picture becomes more dismal when one compares these health figures with that of Japan (6.2 percent of GDP) and South Korea (2.6 percent of GDP).[59] But as Table 2 shows, the contrast cannot be starker than when one compares the budget allocation for health with other areas like defense.

One notes for example that the defense budgets of poorer countries like Cambodia and Vietnam are significantly higher than the defense budgets of Japan (1 percent of GDP) and South Korea (2.6 percent of GDP). Some countries in Southeast Asia also have greater allocations for defense than China (3.5 percent of GDP).[60] Given the relative peace that has defined the strategic environment in Southeast Asia since the 1990s, and the positive nature of interstate relations as reflected in the success of ASEAN, it is noteworthy that greater priority is given to defense than to public health in national budget allocations.

Against these uneven priorities, it is not surprising to encounter stories about inadequate staff and lack of expertise in dealing with outbreaks of infectious diseases in the region. In the current fight against avian flu, a common problem that has been cited is the push for a mass culling of infected poultry or birds. Some countries like Indonesia and Vietnam complained about a lack of funds for carrying out these measures, aside from the lack of expertise in observing health regimes and standards in the culling of animals. The problem of limited resources is further exacerbated by the ongoing campaign to encourage countries to stockpile on drugs like Tamiflu, considered to be the best available antiviral treatment for H5N1-type influenza. To be sure, developing countries' access to them would be severely constrained—a point I shall return to in section four of this paper.

## Politics of Crisis Health Management

One of the lessons of the SARS experience in the region is the need to have a coordinated system that brings together the bureaucracy, the market and the wider public. As the crisis has shown, the lack of coordination among these groups often leads to a system's failure to respond effectively. Failure also occurs when different units have conflicting goals, thus leading to problems such as gaps or breakdowns in information systems, as well as conflicting interests. Many of these factors can also be seen in the way countries in the region are handling the outbreak of avian flu.

A salient issue that has emerged in the handling of the avian flu outbreak is the uncoordinated responses of different agencies. So far, avian flu remains an animal

issue and countries report cases to the World Organisation for Animal Health (OIE), resulting in different risk assessments of animal infections and gaps in reporting since there is less incentive to report for fear of the economic fallout that would result from an import ban on poultry. An expert from the Food and Agriculture Organisation (FAO) had also lamented that 90 percent of international investment has gone into the human aspect of the disease, while ignoring the need to devote resources to animal health as well.[61] The inevitable competing claims often reflect the traditional mindset of most agencies and bureaus that are slow to adopt new operational mandates that extend beyond their area of responsibility. The unfolding avian flu crisis has shown that it is both a human and animal problem and thus requires further inter-agency collaboration to strengthen the animal and human epidemiological systems.

There is less incentive to report avian flu for fear of economic fallout.

The Thai case is a good example of the impact of conflicting goals. Thailand's slow response to the avian flu crisis was partly due to that fact that it has the largest poultry industry in Southeast Asia. The government's first reaction was to deny reports of infected chickens. By the time the government finally admitted that the virus was endemic, the infection had already spread to twenty-nine of the country's seventy-six provinces.[62] This illustrates that the poultry industry in many of these countries sees the avian flu problem as an economic issue more than a health issue.

Related to the economic concerns is the issue of compensation. In Indonesia, enforcement measures such as culling and vaccination of poultry and other animals had been hampered by the government's inability to provide adequate compensation to farmers in Java. Poor farmers resist killing their infected flocks without subsidies, and it is especially difficult to track small farms in the densely populated islands of Java. According to Peter Roeder, the head of the FAO mission in Jakarta, there are about 30 million households in the country raising around 200 million chickens.[63] The same difficulties regarding compensation apply to Vietnam.[64]

Finally, there is the contentious issue of the production of antiviral drugs for avian flu. So far, only one drug company, Swiss-based Roche, has authority to manufacture the antiviral drug Tamiflu, and supplies are heavily concentrated in developed countries despite the fact that the disease is concentrated largely in Asia.[65] When news broke out of the first avian flu case in Europe, European countries were in a rush to stock up on antiviral drugs. The monopoly in drug production has seen orders coming in faster than Roche can fill them.[66] In the event of a pandemic, a WHO official had estimated that 300,000 to 1 million people would immediately need antivirals, but given the limited stock, there is concern that the richer nations may dominate vaccine supply.[67] Several developing countries in the region, including Thailand and Taiwan, therefore called on the WHO to apply pressure to Roche to loosen its patent rights on Tamiflu to other companies in order to allow produc-

tion of cheaper, generic versions of the drugs, but the WHO has yet to act on this.[68]

From this discussion of the challenges of combating infectious diseases, the clearest message for the international community is the need to find new ways to address the complex problems of providing global health security by bringing together a wide range of relevant actors. In this sense, combating and controlling infectious diseases is clearly a case of protecting a global public good.

## IV. Bringing the Global Public Goods Back In

While securitization was a first step toward highlighting the urgency of addressing the security threat of infectious diseases, many of the measures that have been instituted, particularly in the case of SARS at the national and regional level, were mainly aimed at containing the spread of the outbreak. Given our experience with SARS, we need not wait for the worst-case scenario of the avian flu to mutate into a global pandemic before the international community can act to prepare for and prevent such a disaster. That is where the GPGs approach is useful, as it provides the critical interventions from a wide range of actors to respond to many of the extant and emerging issues in fighting infectious diseases. If we reexamine the three core issues discussed earlier that are critical to advancing securitization of infectious disease—building regional surveillance systems, improving the poor state of health systems and addressing the politics of crisis health management in the region—we can see how the GPGs framework is compatible with the securitization approach.

First, with regard to building regional capacity for surveillance and disease control, we note that there are currently several proposals to strengthen the monitoring of disease outbreaks at the national and regional level. In December 2004, ASEAN established a task force to respond to the spread of avian flu in the region. Responsibility was divided among the five original members of the group with each country taking on a specific role. Indonesia was to harmonize vaccination and culling procedures; Malaysia was to draft action plans to contain the disease, boost emergency preparedness and establish disease-free zones within the region; the Philippines was to increase public awareness about the problem; Singapore was to establish an information-sharing system; and Thailand was to create surveillance systems to detect the disease and ensure rapid exchange and analysis of virus samples. This plan was reinforced in October 2005 with the establishment of a regional fund for avian flu and a three-year action plan.[69] Although these developments reflect greater mobilization within the region, one also notes that these efforts are limited to only five of the ten ASEAN states. It remains to be seen how the other, less developed half of the group can be brought in, given the current state of their health systems. ASEAN officials have indicated that as the regional funds of $2 million would be insufficient, they would attempt to enlist their wealthier dialogue partners—Japan, South Korea and China—to provide supplementary funds.[70]

One could argue, however, that boosting regional efforts to develop a regional surveillance system is an area in which other potential partners like the Commission on Macroeconomics and Health—with its range of financing mechanisms like the proposed Global Health Research Fund—could be involved.[71] Within the GPGs framework, the private sector, particularly that of richer countries, can certainly help in pooling resources at the regional and even global level to help build this critical mechanism and contribute the much needed research and development funds. National and regional surveillance networks would also need to be assisted in building linkages with other networks outside the region and in interfacing with the Global Outbreak Alert and Response Network (GOARN). Set up in 2000, GOARN is a network of some 140 existing laboratory and disease reporting networks with aim of pooling technical and human resources for the rapid identification, confirmation and response to international outbreaks.[72]

There needs to be a framework for efficient donor coordination.

Second, with regard to improving the state of national health systems among the poorer countries in the region, international financial institutions like the World Bank and the ADB can certainly do more to assist these countries. In particular, most of these countries need financial and technical support in strengthening their epidemiological surveillance systems for both animal and human infections. With significant support and coordination, these financial institutions can greatly assist poor countries in the vaccination and culling of animals. In this regard, the International Pledging Conference on Avian and Human Influenza that was held in Beijing in January 2006, which raised $1.9 billion, is a good start in this direction, especially in filling in the gaps in disease control at all levels.[73] One hopes, of course, that these pledges will be speedily translated into actual financial contributions while there is still momentum. Moreover, as with contributions for any international disaster, there also needs to be a framework for efficient donor coordination that clearly identifies the needs and gaps and at the same time defines the respective roles of different partners.

Third, in relation to the politics of crisis health management, international cooperation can certainly be enhanced in responding to the immediate problems of stockpiling antiviral drugs in developing countries. Although the WHO is prepared to supply large quantities of the antiviral drug when a pandemic starts, the organization could certainly benefit from the support of the international community and the multinational drug companies to intensify efforts in vaccine development. It is noteworthy that amidst the call for stocking up on drugs, other scientists have raised concern about the efficacy of current drugs given the uncertainty as to whether an emergent pandemic strain would respond to the usual regime.[74] One of the concerns for instance is the inadequate data on how well Tamiflu and other drugs like Relenza

might work against a human strain of avian flu.[75] Hence, sharing of knowledge and expertise by the epistemic communities who are best placed to stimulate innovative thinking and research are even more critical now. Their intervention in providing more information and sharing research findings on epidemiology, among others, is an integral part of the global approach for global health. As argued by Inge Kaul, "merely upholding patent rights over people's rights to a decent life is no longer a feasible policy option. People today increasingly expect efficiency, equity, growth and human development."[76] Thus, one possible option that needs to be explored is allowing countries with the capacity to manufacture drugs and vaccines to negotiate with big multinational drug companies and assist them with technology transfers, especially during national health crises.

## Conclusion

In spite of the current efforts at the regional, national and international levels, the world remains ill-prepared for the next pandemic. Even the recently established cross-agency taskforce in the United States—bringing together the offices of the Pentagon, Health and Human Services, State Department, National Security Council and Central Intelligence Agency—recently admitted that it would not be able to cope with a pandemic outbreak.[77]

Clearly, what the world needs at this critical stage, when it is no longer a question of if but when the pandemic will break out, is a global, coordinated response to a global problem. Hence, while securitization has attracted the attention of policymakers and has placed the issue of infectious diseases prominently on the global agenda, advancing the cause of health and human security needs to be complemented with multidimensional, multilevel and multisectoral initiatives. As we saw in the case of SARS, states can close their borders and tighten immigration controls to turn away travelers who are potential carriers, but these measures proved inadequate to stem the spread of the virus. As aptly described by an official of the U.S. National Science Foundation: "Pathogens do not carry passports."[78] Addressing the threats and challenges of infectious diseases is therefore a global concern that needs no less than a global, integrated response. Hence, while it is beyond man's control to stop the path of nature, we can still contain—if not prevent —disasters, starting with the global endeavor against pandemics.

## NOTES

[1] The SARS outbreak affected certain states in East Asia. The term "region" throughout this paper refers to East Asia, which includes the ten ASEAN states of Southeast Asia as well as China, Japan and South Korea. At the time of writing, the avian flu outbreak is reported to have spread beyond the Asian continent to parts of Europe and Africa.

[2] World Economic Forum (WEF), "Global Risks 2006" (report, WEF, Geneva: 2006), 1-12, http://www.weforum.org/pdf/CSI/global_Risk_Report.pdf.

[3] For further discussion on non-traditional security threats, see among others Richard Ullman, "Redefining Security," *International Security* 8, no.1 (1984); Jessica Matthews, "Redefining Security," *Foreign Affairs* 68, no. 2 (1989): 162-177; Barry Buzan, Ole Waever and Jaap de Wilde, *Security: A New Framework for Analysis* (Boulder, Colorado: Lynne Rienner, 1998); Ole Waever, "Securitization and Desecuritization," in *On Security*, ed. Ronnie D. Lipschutz (New York: New York University Press, 1995); and Mely Caballero-Anthony, Ralf Emmers and Amitav Acharya, eds., *Non-Traditional Security in Asia: Dilemmas in Securitisation* (London: Ashgate, forthcoming).

[4] Caballero-Anthony, Emmers and Acharya.

[5] What constitutes an existential threat is viewed by the Copenhagen School to be a subjective question that depends on a shared understanding of what is meant by such a danger to security. Securitization thus refers to the classification of and consensus about certain phenomena, persons or entities as existential threats requiring emergency measures. For a more detailed discussion, see Buzan, Waever and de Wilde; and Waever.

[6] Buzan, Waever and de Wilde, 18.

[7] See, for example, Mely Caballero-Anthony, "SARS in Asia: Crisis, Vulnerabilities, and Regional Responses," *Asian Survey* 45, no. 3 (2005): 475-495; Melissa Curley and Nicholas Thomas, "Human Security and Public Health in Southeast Asia: the SARS Outbreak," *Australian Journal of International Affairs* 58, no. 1 (2004): 17-32; Elizabeth Prescott, "SARS: A Warning," *Survival* 45, no. 3 (2003): 162-177; and Jennifer Brower and Peter Chalk, *The Global Threat of New and Re-emerging Infectious Diseases: Reconciling U.S. National Security and Public Health Policy* (Santa Monica, Calif.: RAND, 2003).

[8] See, for example, Lincoln Chen, Jennifer Leaning and V. Narasimham, eds., *Global Health Challenges for Human Security* (Cambridge, Mass.: Harvard University Press, 2003); and Sarah Macfarlane, Mary Racelis and Florence Muli-Muslime, "Public Health in Developing Countries," *Lancet* 356, no. 2 (2000): 841-46.

[9] Heinz Feldmann et.al., "Emerging and Re-Emerging Infectious Diseases," *Med Microbial Immunol* 191 (2002): 63-74; Jeffrey Arnold, "Disaster Medicine in the 21st Century: Future Hazards, Vulnerabilities, and Risk," *Prehospital and Disaster Medicine* 17, no. 1 (2002): 3-11, http://pdm.medicine.wisc.edu/Arnold.pdf; Rene Snacken et.al., "The Next Influenza Pandemic: Lessons from Hong Kong, 1997," *Emerging Infectious Diseases* 5, no. 2 (1999), http://www.cdc.gov/ncidod/EID/vol5no2/snacken.htm.

[10] "What Ails Asia," *Asian Wall Street Journal*, 22 April 2005, 3.

[11] See "Cumulative Number of Confirmed Human Cases of Avian Flu A/H5N1 Reported to WHO," World Health Organization (WHO), Epidemic and Pandemic Alert and Response (EPR), 1 March 2006, http://www.who.int/csr/disease/avian_influenza/country/cases_table_2006_03_01/en/index.html. Recent reports have included avian flu outbreaks in Nigeria, Iraq and parts of Europe in "Disease Outbreak News," WHO, Epidemic and Pandemic Alert and Response (EPR), http://www.who.int/csr/don/en/ (accessed 9 February 2006).

[12] "Avian Flu Pandemic Could Halt Asian Growth, ADB Report Says," Asian Development Bank (ADB), 3 November 2005, http://www.adb.org/Documents/News/2005/nr2005169.asp.

[13] "Summary of Probable SARS Cases with Onset of Illness from 1 November 2002 to 31 July 2003," WHO, EPR, http://www.who.int/csr/sars/country/table2003_09_23/en/index.html.

[14] The tsunami that hit parts of Southeast Asia and other states along the Indian Ocean rim on 26 December 2004 had a death toll of over 250,000 people and displaced roughly 1.5 million people, not to mention causing massive devastation to properties and sources of livelihood. Estimated cost of the Indian Ocean tsunami was about $10 billion. See "Preliminary Assessment of the Macroeconomic Impact of the Tsunami Disaster on Affected Countries and of Associated Financing Needs," International Monetary Fund, 4 February 2005, http://www.imf.org/external/np/oth/2005/020405.htm.

[15] "What Ails Asia."

[16] For an excellent discussion of the interrelatedness of these factors, see Brower and Chalk.

[17] See, for example Mary Kay Kindhauser, ed. *Global Defence Against the Infectious Disease Threat* (Geneva: WHO, 2003).

[18] Brower and Chalk.

[19] Ibid.

[20] David L. Heymann, "The Evolving Infectious Disease Threat: Implications for National and Global Security," in Global Health Challenges for Human Security, ed. Lincoln Chen, Jennifer Leaning and V. Narasimham (Cambridge, Mass.: Harvard University Press, 2003): 105-124. For more details on the WHO's public health response to biological and chemical weapons, see also J.P. Perry Robinson, ed., Public Health Response to Biological and Chemical Weapons: WHO guidance, 2nd edition (Geneva: WHO, 2004), www.who.int/csr/delibepidemics/biochemguide/en/.

[21] Commission on Human Security, *Human Security Now: Protecting and Empowering People* (New York: Commission on Human Security, 2003): 97.

[22] "Banks Preparing for Bird Flu Epidemic," *Consumer Affairs*, 9 November 2005, http://www.consumer-affairs.com/news04/2005/bird_flu_banks.html; "HSBC Sees Bird Flu Hitting Staff," *BBC News*, 10 January 2006, http://news.bbc.co.uk/1/hi/business/4597754.stm.

[23] Inge Kaul et.al., *Providing Public Goods: Managing Globalisation* (New York: Oxford University Press, 2003), 95. Kaul is also a member of the International Task Force on Global Public Goods, established in 2003 under the leadership of France and Sweden. The task force's mandate is to assess and prioritize international public goods, global and regional, and make recommendations to policy makers and other stakeholders on how to improve and expand their provision. See http://www.gptaskforce.org.

[24] See UN Millennium Development Goals, http://www.un.org/millenniumgoals/.

[25] Kaul et al., 6.

[26] Meghnad Desai, "Public Goods: A Historical Perspective", in Kaul et al., 74.

[27] See Emma Rothschild, "What is Security?" *Daedalus* 124, no. 3 (1995), 53-98.

[28] Kaul et.al., 5.

[29] In the securitization framework, a political concern can be securitized through the "speech act," which refers to the representation of a certain issue as an existential threat to security. See Waever, 55.

[30] "Macapagal Bares Tough Measures to fight SARS," *Inquirer* (Philippines), 25 April 2003, http://www.inq7.net/nat/2003/apr/text/nat_2-1-p.htm (accessed 25 April 2003); "SARS: A National Security Matter," *Star* (Malaysia), 5 April 2005.

[31] For an excellent account of Singapore's securitization of SARS, see "The SAF SARS Diaries (May 2004)," *Pointer: Journal of the Singapore Armed Forces*, Supplement (May 2004), http://www.mindef.gov.sg/imindef/publications/pointer/supplements/supplement2004.html.

[32] For a more detailed analysis of the SARS crisis and its impact on the region, see Mely Caballero-Anthony, "SARS in Asia: Crisis, Vulnerabilities and Regional Responses," *Asian Survey* 45, no. 3, (2005).

[33] ASEAN, *Joint Statement of ASEAN + 3 Ministers of Health Special Meeting on SARS* (Kuala Lumpur, 26 April 2003), http://www.aseansec.org/sars1.htm; ASEAN, *Joint Statement of the Special ASEAN Leaders Meeting on SARS* (Bangkok, 29 April 2003); ASEAN, *Joint Statement on the Special ASEAN-China Leaders Meeting on SARS* (Bangkok, 26 April 2003).

[34] Peter Chalk, "Disease and the Complex Processes of Securitization in the Asia-Pacific," in Caballero-Anthony, Emmers and Acharya.

[35] Ilavenil Ramiah, "Securitizing the AIDS Issue in Asia," in Caballero-Anthony, Emmers and Acharya.

[36] "HIV/AIDS: A Truly Global Response Needed for a Global Scourge," *YaleGlobal Online*, 29 November 2005, http://yaleglobal.yale.edu/article.print?id=6565.

[37] Joint United Nations Programme on HIV/AIDS (UNAIDS), *2004 Report on the Global AIDS Epidemic* (Geneva, UNAIDS: 2004), 38, http://www.unaids.org/bangkok2004/GAR2004_html/ExecSummary_en/ExecSumm_00_en.htm.

[38] "China on the Verge of AIDS epidemic," *Straits Times Interactive*, 6 September 2002.

[39] "When Silence Kills," *Time* 165, no. 22 (6 June 2005).

[40] John Raedler, "Cambodia's New Killing Field," *CNN Interactive*, 24 July 1997,

http://www.cnn.com/HEALTH/9707/24/cambodia.aids/.

[41] "More than 500,000 Aids Victims in Cambodia by 2010," *Straits Times Interactive*, 30 September 2002.

[42] UNAIDS, 43.

[43] "Indonesia on Cusp of AIDS Epidemic: UNAIDS Chief," *Channelnews Asia*, 28 November 2005. In the report, Peter Piot, UNAIDS chief, warned that given the increasing number of people in Indonesia infected with HIV, the country could be on the brink of an HIV/AIDS epidemic, and thus urged authorities to act quickly to fight its spread.

[44] Peter Piot, "AIDS: The Need for an Exceptional Response to an Unprecedented Crisis," cited in Ramiah.

[45] Barry James, "Besides Malaria, SARS Pales as a Killer," *International Herald Tribune*, 26 April 2003.

[46] "Healthcare Reforms, Growth-Stifling Diseases in Asia," *Philippine Star*, 20 September 2005, http://www.philstar.com/philstar/NEWS_FLASH090520021_1.htm (accessed 20 September 2005).

[47] "WHO Says Attention Must Not Be Shifted from 'Ground Zero' in Southeast Asia," *Straits Times*, 18 October 2005.

[48] In June 2005, the Singapore government put into place its avian flu plan. See "Influenza Pandemic Readiness and Response Plan," Singapore Ministry of Health, 29 June 2005, http://www.moh.gov.sg/corp/hottopics/influenza/index.do#32112653 (accessed 15 September 2005). Since February 2004, it has also established tight surveillance and control over local poultry population.

[49] For a more extensive discussion, see Mely Caballero-Anthony, "Health and Human Security in Asia: Realities and Challenges," in Chen et al., 233-255.

[50] ADB, "Proposed Technical Assistance: Strengthening Epidemiological Surveillance and Response for Communicable Diseases in Indonesia, Malaysia, and Philippines" (Technical Assistance Report, ADB, Manilla: 2005), http://www.adb.org/Documents/TARS/Reg/39068-REG-TAR.pdf.

[51] "Government to Seek US Help on Bird Flu," *Bangkok Post*, 19 September 2005, 2.

[52] "Jakarta Govt System Hurts Bird Flu Fight," *Straits Times*, 26 January 2006.

[53] "Lack of Infrastructure Hampers Virus Monitoring," *Nature* 427, 5 February 2004, http://www.nature.com/nature/journal/v427/n6974/full/427472a.html.

[54] "US Official: Preventing Pandemic Impossible," *Straits Times*, 15 October 2005.

[55] "Poor Farmers Are Weak Link in Bird Flu Fight," *Reuters AlertNet*, http://www.alertnet.org/thenews/fromthefield/217440/113958632035.htm (accessed 20 September 2005).

[56] "China: It's Cooperating Now: by WHO," *Straits Times*, 8 April 2003.

[57] "Jakarta 'Covered up' Bird Flu for 2 Years," *Straits Times*, 22 October 2005.

[58] For a more extensive discussion, see Caballero-Anthony in Chen et al., 233-255.

[59] *UNDP Human Development Report 2004* (New York: Oxford University Press, 2004), 202-205; *UNDP Human Development Report 2005* (New York: Oxford University Press, 2005), 284-287.

[60] See also International Institute of Strategic Studies, *The Military Balance 2003/2004* (London: Routledge, 2003).

[61] Nirmal Ghosh, "Bird Flu: The Next Pandemic?" *Straits Times*, 29 October 2005, S2.

[62] Marwaan Macan-Markar, "Health-Asia: Thai Ruler Takes Blame for Fast Spreading Flu," *Inter Press Service*, 2 February 2004.

[63] "Asian Nations Step-Up Fight Against Bird Flu," *Straits Times*, 26 October 2005, 22.

[64] "On Bird-Flu Front Line, Vietnam Attacks the Virus," *Reuters AlertNet*, http://www.alertnet.org/newsdesk/B409466.htm (accessed 20 September 2005).

[65] Tamiflu is the only flu vaccine approved in the United States, which makes the antiviral drug shortage even more severe.

[66] In October 2005, the United States called for a stockpile to treat 20 million Americans, yet only had enough supply to treat 2.3 million. Meanwhile, it is reported that it will take Roche two years before it can complete the United Kingdom's stockpile order to treat 14.6 million of its citizens. See "The Battle for Bird-Flu Profits," *Nation* (Bangkok), 3 October 2005, 6A.

[67] Michael Perry, "World Has Slim Chance to Stop Bird Flu Pandemic," *Reuters*, 20 September 2005, http://in.news.yahoo.com/050920/137/60803.html.

[68] Ibid.

[69] Luz Baguiro, "Fund Set Up to Fight Flu in S-E Asia," *Straits Times*, 1 October 2005.

[70] Ibid.

[71] The Commission on Macroeconomics and Health (CMH) was established in 2000 under the initiative of former WHO Director Gro Harlem Brundtland. The goal of the commission is to place health at the top of the development agenda. See also Jeffrey Sachs, "Financing Global Public Goods: Approaches to Health," United Nations Development Programme (UNDP), Office of Development Studies, http://www.undp.org/ods/monterrey-papers/sachs.pdf.

[72] "Global Outbreak Alert & Response Network," WHO, EPR, http://www.who.int/csr/outbreaknetwork/en; "Global Outbreak Alert and Response Network – GOARN: Partnership in Outbreak Response," WHO, EPR, http://www.who.int/csr/outbreaknetwork/goarnenglish.pdf.

[73] Leading the list of contributors were the World Bank with $500 million and ADB with $470 million. Among the leading state and regional contributors were the United States with $334 million, European Union with $260 million, Japan with $159 million and China with $10 million. "World Unites to Fight Bird Flu," *Asia News Network*, 19 January 2006, http://www.asianewsnet.net/level3_template4.php?13sec=1&news_id=51341&key_w...

[74] Elizabeth Rosenthal, "Better Planning Is Needed for Flu Drugs, Experts Say," *New York Times*, 19 October 2005.

[75] "Question Marks Over How Well Flu Drugs Will Work," *Straits Times*, 21 October 2005.

[76] Inge Kaul and Michael Faust, "Global Public Goods and Health: Taking the Agenda Forward," *Bulletin of the World Health Organisation* 79, no. 9 (2001), 873, http://www.undp.org/ods/worddocs/gpp-health.doc.

[77] Gardiner Harris, "Bush Plan Shows US is Not Ready For Deadly Flu," *New York Times*, 8 October 2005, http://www.nytimes.com/2005/10/08/politics/08flu.html.

[78] Remarks by Rita R. Colwell, Director, National Science Foundation at the Interagency Meeting on Disease and Homeland Security, National Science Foundation, 25 September 2002, http://www.nsf.gov/od/lpa/forum/colwell//rc020925dishmlndsecmtg.htm (18 February 2006).