

DISEASE AND SECURITIZATION IN THE ASIA-PACIFIC
(DRAFT; PLEASE DO NOT CITE WITHOUT AUTHOR'S PERMISSION)

INTRODUCTION

Environmental degradation is one of the most commonly cited areas of non-traditional security (NTS) currently impacting on the integrity of the Asia-Pacific (A-P). However, one other issue that is beginning to attract increased attention is the spread of new and re-emerging diseases. Well-publicized influenza outbreaks in Hong Kong during the latter part of the 1990s together with the recent regional Severe Acute Respiratory Syndrome (SARS) pandemic across China, Taiwan and Singapore have galvanized concerns in this regard, graphically highlighting the “ease” by which pathogenic organisms can transcend across state boundaries and detract from erstwhile notions of local, national and even international stability. Despite on-going developments in medical science, regions such as the A-P (in common with much of the rest of the world), have not gained any decisive immunity against disease strands, which in certain cases, have been rendered even more opportunistic by modern conditions.

This paper examines the scope and dimensions of the contemporary infectious disease challenge in the A-P. It begins by discussing the changing geo-political landscape in the post-Cold War era, examining the evolving concept of securitization and how it relates to general NTS assessments. The study then delineates the main factors associated with disease spread in Asia, focusing on such triggering influences as globalization, the adverse effects of modern medical practices, accelerating urbanization, environmental degradation and changing human and social behavioral patterns. The analysis finally looks at the specific consequences of pathogenic outbreaks in the A-P and the nature and extent to which they have impacted across individual, communal, state and regional configurations of security.

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DISEASE AND SECURITY

The Changing Nature of Security in the Post-Cold War Era

With the collapse of the Soviet bloc in Eastern Europe in the late 1980s/early 1990s, it appeared that the international system could be on the threshold of an era of unprecedented peace and stability. Politicians, diplomats and academics alike began to forecast the imminent establishment of a new world order, increasingly managed by an integrated international system based on the principles of liberal democracy and the free market.¹ As this new world order emerged, so it was assumed that serious threats to international stability and security would decline commensurately.

However, the initial euphoria that was evoked by the end of the Cold War has now been replaced by a growing sense of unease that non-traditional challenges – so-called “gray area phenomena (GAP)”² – may soon come to assume greater prominence. Such concern has been stimulated by the remarkable fluidity that now characterizes international politics – an environment in which it is no longer apparent exactly what can be done to whom and with what means. Moreover, it appears that in this new “world order” turmoil and chaos are increasingly emanating from non-defined sources while violence, itself, is largely being used by the “weak,” not so much as a means of expressing identity, but as a way of creating it.³ Such dynamics are likely to reduce inter-state conflict only at the expense of an increase in pandemic threats that fall below the level of conventional warfare.⁴

Stated more directly, the geo-political landscape that now faces the global polity lacks the relative stability of the linear Cold War division between East and West. There is no large and obvious equivalent to the Soviet Union against which to balance the United States, the world’s sole remaining superpower. By contrast, security, conflict and general threat definition have become more diffuse and opaque, existing in the

¹ A detailed survey of these proposed changes was provided by The International Monetary Fund, *The World Economic Outlook* (Washington D.C.: IMF, 1991). See especially pp. 26-7.

² For a detailed account of the notion of gray area phenomena see Peter Chalk, *Non-Military Security and Global Order. The Impact of Violence, Chaos and Disorder on International Security* (London: Macmillan, 2000), Chapter One. See also Jim Holden-Rhodes and Peter Lupsha, “Gray Area Phenomena: New Threats and Policy Dilemmas,” *Criminal Justice International* 9/1 (1993): 11-17 and their “Horsemen of the Apocalypse: Gray Area Phenomena and the New World Disorder,” *Low Intensity Conflict and Law Enforcement* 2/2 (1993): 212-26.

³ See, for instance, “Terrorism and the Warfare of the Weak,” *The Guardian* (UK), 27/10/93.

⁴ Richard Latter, “Terrorism in the 1990s,” *Wilton Park Papers* 44 (1991): 2.

absence of the simple dichotomies that underscored the Cold War era.⁵ In commenting on this new strategic environment, former Central Intelligence Agency (CIA) Director, James Woolsey, has remarked: "We have slain a large dragon, but are now finding ourselves living in a jungle with a bewildering number of poisonous snakes. And in many ways, the dragon was easier to keep track of."⁶

A common thread running through many of the threats currently facing the global community, including the drugs trade, the spread of disease, environmental degradation and terrorism, is their transnational character: they cross international borders but generally cannot be linked directly to the foreign policies or behavior of other states.⁷ Indeed, few of today's dangers have the character of direct military aggression emanating from a clearly defined sovereign source. Rather they tend to evolve as "threats without enemies," with their source internal, rather than external to the political order that the concept of "national interest" has traditionally represented.⁸ Moreover, unlike the challenge posed by traditional concerns such as overt aggression, the threat emanating from contemporary gray area influences is far more ambiguous in its patterns, processes and effects. In many cases, this obfuscates the perceived need for rapid policy responses, with action typically initiated only after a major crisis destabilizing stage has been reached within the state(s) concerned.⁹

Making sense of these changes will require a holistic, non-linear approach to security that goes beyond the relatively parsimonious assumptions of *realpolitik* that has informed international politics for so many years. Traditional spatial notions of security, of national stability defined purely in terms of territorial sovereignty and integrity – reflected on a larger scale by the containment policies of the Cold War –

⁵ See David Abshire, "US Foreign Policy in the Post Cold War Era: The Need for an Agile Strategy," *The Washington Quarterly* 19/2 (1996): 42-4; and Simon Dalby, "Security, Intelligence, the National Interest and the Global Environment," *Intelligence and National Security* 10/4 (1995): 186.

⁶ James Woolsey, quoted in John Ciccarelli, "Preface: Instruments of Darkness: Crime and Australian National Security," in John Ciccarelli ed., *Transnational Crime: A New Security Threat?* (Canberra: Australian Defence Studies Centre, 1996), xi.

⁷ Richard Matthew and George Shambaugh, "Sex, Drugs and Heavy Metal," *Security Dialogue* 29/2 (1998): 163.

⁸ Abshire, "US Foreign Policy in the Post Cold War Era," 42-4; Dalby, "Security, Intelligence, the National Interest and the Global Environment," 186.

⁹ Chalk, *Non-Military Security and Global Order*, 3; Holden-Rhodes and Lupsha, "Gray Area Phenomena," 12; and William Tow "Linkages Between Traditional Security and Human Security," in William Tow, Ramush Thakur and In-Taek Hyun eds., *Asia's Emerging Regional Order: Reconciling Traditional and Human Security* (Tokyo: United Nations University Press, 2000), NEED PAGE NUMBER.

simply do not work in today's more complex geo-strategic environment. Such state-centric paradigms are clearly unable to deal with issues that originate within national borders but whose effects transcend international boundaries and impact on the security of people worldwide.¹⁰

The Copenhagen School and Securitization

Securitization provides a more relevant framework for understanding developments in the contemporary era, an evolving concept that is largely derived from the Copenhagen School (CS) of thought. According to this latter view, security encompasses five general categories - political, economic, environmental, societal and military. An issue becomes a matter of concerted policy attention and action when it crosses one, some or all of these dimensions and emerges to pose an existential threat to a designated referent object. Because security is not pre-defined in exclusive state terms, the theory allows for more comprehensive, inclusive assessments that can embrace both traditional and NTS areas.¹¹

Securitization enriches the CS paradigm by fleshing out the process through which a particular threat contingency is actually securitized. The concept starts from the assumption that security has relevance across several analytical categories of concern - from the international community and the state to the ethnic group, village and ultimately the individual him/herself. Speech acts are the main medium through which existential or inter-subjective threats to these groups are identified and/or constructed - a process that may or may not involve domestic political gains for the securitizing actor in question (for example, using the threat of terrorism to justify a crack down on legitimate domestic opposition). Securitization, itself, tends to be influenced by a plethora of intervening variables, including, notably, the nature of the issue area and the challenge that it is seen to pose (immediate, long-term, complex, simple, acute, delayed), prevailing distributions of power (domestic and global), the make-up of a particular state's political system and prevailing norms at the local and international

¹⁰ Chalk, *Non-Military Security and Global Order*, 2. See also Dalby, "Security, Intelligence, the National Interest and the Global Environment," 186; and Alan Dupont, "Regional Security Concerns into the 21st Century," in Ciccarelli ed., *Transnational Crime: A New Security Threat?*, 72-3.

¹¹ Barry Buzan, Ole Waever and Jaap de Wilde, *Security: A New Framework for Analysis* (Boulder, CO: Lynne Rienner, 1998); Ole Waever, "Securitization and Desecuritization," in Ronnie Lipschutz ed., *On Security* (New York: University Press, 1995).

levels. Responses - which can be either reactionary and short-term or institutionalized and long-term – generate outcomes that feed back into the policy cycle depending on whether results are judged to be positive, negative uncertain/unintended or mixed.¹²

The securitization model differs from traditional conceptions of security in three important ways. First and most importantly, the main agent of analysis is not pre-supposed to be the state and the principal goal does not simply revolve around safeguarding territorial sovereignty *per se*, often embracing wider objectives that can emphasize societal, communitarian and even individual viability (although, of course, these various objectives may not necessarily be mutually exclusive). Second, traditional security stresses structured, militarized inter-state violence stemming from the existence of an anarchic world as the main threat to international/domestic order. By contrast, securitization tends to focus on unstructured chaos and turmoil - which can occur as a result of any number of socio-economic, political and environmental factors - as the chief challenge to global and internal stability. Finally, whereas traditional security regards states as competitors whose interactions will *always* be of a zero-sum nature (one “wins” only at the expense of another), securitization leaves open the possibility for individual/communitarian cooperation that achieves (absolute) gains of benefit to all.

Although not intended to be comprehensive, the following table presents a comparative exploration of these various dimensions between traditional security and the more complex and inclusive concept of securitization.

Table 1.1: Traditional Security and Securitization: Comparative Aspects

TRADITIONAL SECURITY	SECURITIZATION
Main actor: State	Main actors: International society, community, individual

¹² Amitav Acharya, “Securitization Theory: A Framework for Analysis,” paper presented before the Institute of Defense and Strategic Studies (IDSS) Workshop on Non-Traditional Security in Asia, Singapore, September 09-10, 2003.

Main security objective: National viability and integrity	Main objectives: Global, national and societal stability
Main threat to security: Structured violence	Main threat to security: Unstructured chaos/turmoil
State interactions: Competitive and zero-sum	State interactions: Collaborative and can be mutually beneficial

While important differences exist, there is one crucial similarity between traditional security and securitization theory: both stress the need to reduce the vulnerability of the security subject in question. Although the two perspectives differ in their precise account of the source and nature of insecurity and the process by which it is conceived and articulated, each nevertheless emphasizes the need to employ instruments that can be used to foreclose threatening behavior and influences.¹³

Disease and Security

The transnational spread of disease represents one issue that warrants especially close attention within this evolving context. Although not new – viruses and bacteria are as old as human life itself – the nature and magnitude of the challenge posed by infectious microbes is greater today than they have ever been in the past, developments in modern science notwithstanding. Not only have deadly and previously unimagined illnesses, such as Acquired Immune Deficiency Syndrome (AIDS), Ebola, variant Creutzfeldt-Jakob disease and SARS emerged in recent years, established diseases that just a few decades were thought to have been tamed are also returning, many in virulent, drug-resistant varieties.

The argument that the transnational spread of disease poses a threat to security rests on the simple proposition that it poses a fundamental threat to both the stability of the international system and its component states as well as the quality of life that an individual is able to attain in a wider societal setting. Pathogenic organisms not only directly impinge on human health and wellbeing; if left to spread they can further: (1) weaken public confidence in a government’s ability to respond; (2) distort productive

¹³ Tow, “Linkages Between Traditional and Human Security,” 2.

economic growth; (3) destroy the underlying fabric that holds a given polity together; (4) promote regional tension and mistrust; and (5) strategically challenge the status-quo (if not extant ordering principles) of regional and international systems through the specter of bio-warfare (BW) and bio-terrorism (BT).

In short, disease impacts across all categories of security identified by the CS – military, environmental, political, economic and societal – and one whose effects manifest a quality that is inherently detrimental to a wide variety of given referent objects. While this complex mosaic has been identified and articulated in the speech acts of many actors on the international stage – ranging from the (globally pre-eminent) United States, to prominent international organizations (including, notably, the United Nations and Centers for Disease Control and Prevention) and leading philanthropists – it has yet to be given expression in the Asia-Pacific beyond the narrow context of bio-warfare and/or Bioterrorism (although there are signs that certain states are beginning to adopt a more holistic outlook as a result of the recent SARS epidemic). This is problematic as new and emerging diseases have clearly exhibited a multi-faceted impact on stability in this part of the world. What is the nature of this threat and why has it not been factored into viable policy responses at either the national or trans-regional levels?

THE SPREAD OF DISEASE IN THE A-P

Like many other parts of the world, the A-P has been significantly affected by the impact of new and re-emerging diseases. Age-old scourges such as tuberculosis (TB), malaria, dysentery, cholera and typhoid are all endemic to this part of the world. In addition, several, highly debilitating pathogenic organisms that are new to medical science have hit the region, including the AIDS virus and, most recently, SARS.

The underlying root causes for the outbreak and subsequent spread of these diseases is complex and multi-faceted. However, most relate to one or more of the following conditions: globalization, modern medical practices, accelerating urbanization, environmental degradation and changing social and behavioral patterns. Each of these “disease-force multipliers” are discussed below.

Globalization

The present international system is now more globally interdependent than at any other time in history. Indeed no part of the planet remains inaccessible to human penetration, with current estimates of the number of people crossing international frontiers on board commercial flights at more than 500 million every year.¹⁴

Thanks to developments in transportation technology, this movement has become progressively more rapid and affordable, meaning that fewer people are being restricted to localized business, employment and leisure activities. At the same time, differentials in labor, production and operating costs as well as comparative advantages in resource allocations has led to an increasingly vibrant and active global economic system characterized by the largely unimpeded flow of goods and commodity-related services.¹⁵ While it is not necessary to spell out these developments in terms of specific statistics – the trends are both clear and well known – the consequences for the spread and emergence of infectious diseases do require some elucidation.

On one level, the growing rate of commercial live-stock movements around the world have increasingly brought people into contact with exotic and foreign animal diseases that have subsequently "jumped" across the species line to infect humans. This has been particularly the case in the Asia-Pacific, which sits at the cross-roads between the East and West and which, alone, accounts for roughly 20 percent of all global trade in agricultural commodities.¹⁶ The dramatic outbreak of H5NI influenza A virus, which spread through parts of southern China during 1997, for instance, has been directly attributed to the transshipment and sale of contaminated poultry stocks originating in Hong Kong.¹⁷ Another case concerned the emergence of the Nipah

¹⁴ Derek Yach, "The Globalization of Public Health I: Threats and Opportunities," *American Journal of Public Health* 88/5 (1998): 737.

¹⁵ Contagion and Conflict. Health as a Global Security Challenge. Report of the Chemical and biological Arms Control Institute and the CSIS International Security Program (Washington D.C.: CSIS, January 2000), 3.

¹⁶ Joshua Lederberg, "Summary and Assessment," *Emerging Infectious Diseases from the Global to the Local Perspective: Workshop Summary*, the National Academy of Sciences, 2000, available on-line at <http://www.nap.edu/openbook/0309071844html/64.html>

¹⁷ Kwok Hang Mak, "Emerging Infectious Diseases in Hong Kong and their Public Health Significance," *Emerging Infectious Diseases from the Global to the Local Perspective: Workshop*

virus in Malaysia and Singapore during 1998. In this instance the source of the disease, which ultimately claimed the lives of 117 people, lay with commercial swine operations in the province of Negri Sembilan.¹⁸

On a more direct level, the speed of modern air transport has greatly facilitated the global transmission of disease between humans. Travelers experiencing either fully developed or incubating endemic or emerging diseases from their departure location can rapidly carry microbes into non-endemic areas. The 2003 SARS outbreak provides a clear case in point, spreading as it did through major airports in Singapore, Hanoi, Taiwan, Beijing, Shanghai and Guandong. By the end of March, airline passengers from all five cities were being subjected to stringent health checks and questioning, with the World Health Organization (WHO) specifically mapping regional (and international) manifestations of the disease to aviation routes either originating in or passing via these hubs.¹⁹ As Laurie Garrett has observed:

In the age of jet travel, a person incubating a disease...can board a plane, travel 12,000 miles, pass unnoticed through customs and immigration, take a domestic carrier to a remote destination, and still not develop symptoms for several days, infecting many other people before his [or her] condition is noticeable.²⁰

Compounding the problem is the fact that overcrowded, poorly ventilated and (sometimes) unsanitary aircraft constitute ideal environments for the transmission of viruses and bacteria, particularly on long-haul flights. Reflecting this, travel-health guidelines issued by WHO now specifically refer to the possibility of catching in-flight infectious TB as "realistic", especially on routes over eight hours. The WHO has recorded several instances where individuals flying on planes with other TB-

Summary, the National Academy of Sciences, 2000, 63, available on-line at <http://www.nap.edu/openbook/0309071844html/64.html>

¹⁸ See, for instance, Sai-Kit Lam, "International Smart Partnership in Emerging Diseases: Sense and Sensibility," Emerging Infectious Diseases from the Global to the Local Perspective: Workshop Summary, the National Academy of Sciences, 2000, available on-line at <http://www.nap.edu/openbook/0309071844html/64.html>; "Malay Troops Slaughter Pigs in War on Virus," *CNN Interactive World News*, March 20, 1999; "Pig Borne Epidemic Kills 117," *The Sydney Morning Herald*, March 10, 1999.

¹⁹ "WHO Issues Advice on Air Travel," *The Age*, 29 March, 2003.

²⁰ Laurie Garret, "The Return of Infectious Diseases," *Foreign Affairs* 75/1 (1996): 69.

infected travelers have been infected with the bacterium that causes the lung infection.²¹

Modern Medical Practices

While scientific progress has certainly helped to offset the effects of certain infectious ailments, overuse and misuse of antibiotics- both in humans and the agricultural produce they consume - has contributed to a process of "pathogenic natural selection," which is helping to generate ever-more resilient, resistant and powerful disease strains. Much of this evolution stems from the rapid manner by which microbes are able to adapt and replicate plasmid in their DNA and RNA codes, the genetic dynamic of which commands mutation under stress. Individuals who fail to complete prescribed treatment courses further aggravate the problem by allowing a residual, more resistant viral or bacterial base to survive and flourish.²²

The result has been the systematic emergence of microbial "super" genes that either offer resistance to several families of antibiotics (or dozens of individual drugs) at any one time or confer greater powers of infectivity and virulence.²³ Very much indicative of this was the emergence of a previously unknown and highly potent derivative of the *Staphylococcus aurea* bacteria in Japan and Hong Kong during the late 1990s. The microbe has proved so resistant that it is able to survive exposure to vancomycin - a so-called "silver bullet" drug that is typically used to treat infections when all other recourses fail. It is believed that part of the reason for the emergence of the enhanced *aurea* strain was an over-willingness to prescribe antibiotics for routine illnesses that could be cured by natural immune systems.²⁴

²¹ Smith, "The Threat of Infectious Diseases," 376; "WHO Cites Air Travel Risk," Associated Press (AP), 18/12/98.

²² Garrett, "The Return of Infectious Disease," 67; *The Global Infectious Disease Threat and Its Implications for the United States*, 23; "Wonder Drugs at Risk," *The Washington Post*, 19/04/01.

²³ Garrett, "The Return of Infectious Disease," 67. Microbes have appeared, for instance, that can grow on a bar of soap, swim in bleach, ignore exposure to higher temperatures and survive doses of penicillin logarithmically larger than those effective in 1950.

²⁴ See, for instance, Smith T.L., M.L. Pearson, and K.R. Wilcox KR, et al. "Emergence of vancomycin resistance in *Staphylococcus aureus*," *New England Journal of Medicine*, 1999;340:493-501; "Antibiotic Resistant Germ Kills Woman, Hong Kong Officials Say," CNN Interactive World Wide News, 22/02/99. See also CDC, Preventing Emerging Infectious Diseases, 1.

Unfortunately, multiple antibiotic resistance and/or increased virulence and tolerance are developing in some of the most prevalent and lethal diseases of our time. Highly resilient varieties of cholera, pneumonia, Leishmans disease, malaria, dysentery and typhoid have all emerged throughout the Asia-Pacific, with certain ailments - such as malaria in Thailand - recording drug-resistant ratios in the range of 45 percent.²⁵ Influenza, in particular, has exhibited a remarkable ability to genetically change. Termed "antigenic drift," mutations occur nearly every year, making it extremely difficult for the body to mount effective and/or comprehensive defenses (as antibodies to one viral type confer little or no immunity to other strains or sub-strains).²⁶ Forecasts from the Centers of Disease Control (CDC) postulate that this process will generate a new, deadly version of so-called "Asian flu" within the next ten years, quite possibly triggering an infectious pandemic at least as serious as the infamous 1918 Spanish outbreak, which killed 21 people in a matter of months.²⁷

Modern medical science and/or associated practices are helping to heighten human vulnerability to viral and bacterial pathogens in other ways. Invasive treatment procedures are exposing people to hospital-acquired infections, including the *Staphylococcus aureus* bacterium noted above. This is particularly true in the developing world where typically only the sickest - and, therefore, most vulnerable - are hospitalized. The use of contaminated blood to make clotting agents and anti-body plasma proteins such as gamma globulin has similarly exposed patients to highly

²⁵ See NIC, *The Global Infectious Disease Threat and Its Implications for the United States*, 23; Lederberg, "Summary and Assessment"; and the World Health Organization, *Report on Infectious Diseases: recovering Obstacles to Healthy Development*, available on-line at <http://www.who.org/infectious-disease-report/pages/textonly.html>. In certain parts of India, over sixty percent of visceral Leishmaniasis cases no longer respond to first-line drug treatments.

²⁶ The National Intelligence Council, *The Global Infectious Disease Threat and Its Implications for the United States*, National Intelligence Estimate 99-17D (January 2000), 23. See also Thomson American Healthcare Consultants, "Guidelines for Prevention and Control of Pandemic Influenza in Healthcare Institutions, March 23, 2000, available on-line at http://www.ahcpub.com/ahc_root_html/breakingnews/flu03232000.html Antigenic shift, which is a more dramatic genetic change, is potentially more serious as it could leave a large proportion of the world's population without any effective protective immunity.

²⁷ Comments made by Scott Lillibridge during the "Biological and Chemical Preparedness: The New Challenge for Public Health" meeting, Decatur, July 19-20, 2000. See also Armelagos, "The Viral Superhighway," 24; and Jack Chow, "Health and International Security," *The Washington Quarterly* 19/2 (1996): 63.

debilitating diseases such as AIDS and hepatitis C - a problem that has been particularly evident in China where there exists a thriving illegal trade in blood.²⁸

Accelerating Urbanization

In 1950 roughly eighteen percent of the population of developing states lived in cities. By 2000, the number had jumped to forty percent and by 2030 is expected to reach 56 percent. Several of these conglomerations will have populations in excess of ten million inhabitants. Indeed according to the United Nations (UN), 24 so-called "megacities" have already surpassed this demographic threshold, including Jakarta, Calcutta, Lagos, Karachi and Mexico City.²⁹

The reasons for the high rate of rural-urban migration throughout the developing world are complex and varied. However, they typically incorporate factors such as drought, flooding and other natural disasters; an excess of agricultural labor; socio-political unrest generated by civil war; a lack of employment opportunities; and rural banditry. Fleeing these types of conditions (or variations of them), millions of dispossessed workers have moved to squalid shanty towns on the outskirts of major third world cities, swelling urban populations and overloading already inadequate water, sanitary, medical, food, housing and other vital infrastructural services. These expanding metropolitan hubs are proving to be excellent breeding grounds for the growth and spread of infectious bio-organisms.³⁰ According to one study, a lack of clean water, sanitation and hygiene alone account for an estimated seven percent of all disease-related deaths that occur globally.³¹

Asia has been particularly severely hit by the negative interaction between unsustainable city growth and disease spread. The region's urban population is currently estimated to be 1.1 billion. By 2025, it is expected to have risen to 3.8

²⁸ See, for instance, "In Rural China, a Steep Price for Poverty," *The New York Times*, October 28, 2000; "Out in the Open," *Newsweek*, December 4, 2000; Rosenthal, Elisabeth, "With Ignorance as the Fuel, AIDS Speeds Across China," *New York Times*, December 30, 2001, 1A.

²⁹ These figures come from the UN's Population Division and are based on 2000 estimates. Data in "Around Globe, Cities Have Growing Pains," *The Washington Post*, 11/06/01.

³⁰ Last, Public Health and Human Ecology, 347-48; Armelagos, "The Viral Superhighway," 28; Garrett, "The Return of Infectious Disease," 71.

³¹ "Polluted Environment Causing Worldwide Illness and Deaths," *The Manila Times* (Philippines), 24/05/98.

billion, by which time the A-P will contain half the world's people – over half of which will live in cities. Nine of the aforementioned "megacities" already exist in the region, including Beijing, Calcutta, Jakarta, Mumbai (formerly Bombay), Osaka, Shanghai, Tianjin and Tokyo.³²

Many of these cities lack the basic infrastructure funding necessary to provide proper roads, sewers, housing and sanitation systems – all essential if economic productivity and a minimal standard of living are to be sustained. According to the Asian Development Bank (ADB), thirteen of the world's fifteen most polluted cities currently are located in the Asia-Pacific region, some of whose rivers are thought to carry up to three to four times average world levels of fecal pollutants.³³ The infectious consequences of these developments have been inevitable, with widespread outbreaks of typhoid, malaria, dengue fever, dysentery and cholera a common occurrence.

Unsustainable urbanization can impact on the spread of disease in other ways. Rapid intrusion into new habitats has disturbed previously untouched life forms and brought humans into contact with pathogens and contaminants for which they have little, if any tolerance.³⁴ Mushrooming cities in the developing world are also helping to transform oceans into breeding grounds for microorganisms, something that, again, has been particularly evident in Asia. Epidemiologists, for instance, have repeatedly pointed to regional toxic algal blooms fed by sewage, fertilizers and other industrial and human contaminants flowing from coastal metropolises, which they warn contain countless viruses and bacteria. Mixed together in what amounts to a dirty "genetic soup," these pathogens can undergo countless changes, mutating into new, highly virulent antibiotic strains that can be quickly diffused by nautical traffic.³⁵

Environmental Factors

Over the past century, humanity has dramatically impacted the global biosphere in deep and complex ways. One important effect of such actions has been a gradual increase in

³² Figures are from the Asian Development Bank (ADB) as cited in "Rise of the Megacity," April 24, 1997. See also "Chinese City Portrays Good and Bad of Rapid Growth," The Bangkok Post, 12/10/97.

³³ "Cleaning Up in Asia," The Australian, 19/05/97.

³⁴ Armelagos, "The Viral Superhighway," 28. This occurred during the early colonization of the United States as well as in Europe at the height of the Industrial Revolution.

³⁵ Armelagos, "The Viral Superhighway," 28; Linden, "The Exploding Cities of the Third World," 57.

the earth's average surface temperature, a change that many scientists now believe has the potential to actively contribute to the transnational spread of disease. According to two 2001 UN studies by the Intergovernmental Panel on Climate Change (IPCC), the Earth's temperature could potentially rise between 1.4 and 5.8 degrees Celcius over 1990 average surface temperature during the next century.³⁶

Climate change could expose millions of people for the first time to malaria, sleeping sickness, dengue fever, yellow fever and other insect-borne illnesses. Of particular concern are the studies that show an association between climactic events and disease occurrences that have already occurred in several parts of the world. A rare summertime outbreak of mosquito-borne encephalitis that hit the Indian state of Andrah Pradesh during 2003, for instance, has been linked to sudden meterological and precipitation shifts in the country's southern arid regions, from intense summer heat to monsoon rains.³⁷ Epidemics of cholera, typhoid and dengue fever throughout the sub-continent have similarly been linked to major shifts in vector and infectious agent distributions caused by altered regional weather patterns.³⁸ Equally it is now believed that the 1998 outbreak of Japanese Encephalitis in Australia was directly associated with an extensive drought in Papua New Guinea (PNG), which led to increased mosquito breeding as rivers began to dry into stagnant pools.³⁹

Global warming and climate change may also influence the spread of disease in the A-P by potentially increasing the incidence and magnitude of natural disasters such as landslides, storms, hurricanes and flooding. Like war and conflict, these events

³⁶ See Harvell, C.D., C. E. Mitchell, J. R. Ward, S. Altizer, A. P. Dobson, R. S. Ostfeld, and M. D. Samuel, "Climate Warming and Disease Risks for Terrestrial and Marine Biota," *Science* Jun 21 2002: 2158-2162; Cifuentes, L., V.H. Borja-Aburto, N. Gouveia, G. Thurston, and D.L. Davis, "Hidden health benefits of greenhouse gas mitigation," *Science* 2001 August 17; 293: 1257-1259; J.T. Houghton et al., eds., *IPCC Third Assessment Report. Climate Change 2001: The Scientific Basis*; and James McCarthy et al., eds., *IPCC Third Assessment Report. Climate Change 2001: Impacts, Adaption, Vulnerability*. Both reports available on-line at <http://www.ipcc.ch/pub/reports> htm. See also "U.N. Report Forecasts Crises Brought on by Global Warming," *The Washington Post*, February 20, 2001; "Two Studies Affirm Greenhouse Gases' Effects," *The Washington Post*, April 13, 2001; "Scientists Issue Dire Prediction on Warming," *The Washington Post*, January 23, 2001.

³⁷ "Encephalitis Kills 110 in southern India," *The Vancouver Sun*, July 16, 2003.

³⁸ Day, "Malaria: A Global Threat," 485; "Changing Climate," *The Australian*, 15/07/96; "Raining Misery: Millions Marooned in Bangladesh," *The Sydney Morning Herald*, 19/09/98; "A Needy Nation Struggles with Disaster," *The Sydney Morning Herald*, 19/09/98.

³⁹ John Mckenzie, "Emerging Diseases in the Australasian Region," *Emerging Infectious Diseases from the Global to the Local Perspective: Workshop Summary*, the National Academy of Sciences, 2000, available on-line at <http://www.nap.edu/openbook/0309071844html/64.html>

invariably lead to the destruction/disruption of vital communication, health and sanitation infrastructure as well as the displacement of people into overcrowded makeshift shelters and camps. Such consequences are likely to have direct adverse effects on public health, transforming a disaster area into a potential "epidemiological time bomb."⁴⁰ Within the region, these effects have already had a decisive impact on, among others, India, Bangladesh, the Philippines and the islands of the South Pacific.

Changes in Social and Behavioral Patterns

Changes in human and social behavioral have had a profound impact on the spread of infectious illnesses. HIV and AIDS represent a case in point. Although the precise ancestry of immunodeficiency virus is uncertain, early transmission of the disease was undoubtedly facilitated by greater acceptance of multiple sexual partners and permissive homosexuality, particularly in states such as the US. Today, almost 1.4 million people are living with HIV throughout North America and Western Europe, with some cities such as New York amongst the most prevalent anywhere in the world.⁴¹ While the rate of new infections in the developed world slowed during the 1990s (especially in the U.S.) – largely due to the initiation of effective sex education campaigns and the availability of effective anti-retroviral drugs⁴² - the disease continues to decimate parts of the A-P, particularly in South and Southeast Asia where over 6.1 million are currently living with the virus.⁴³

⁴⁰ See, for instance Contagion and Conflict, 21-22; James Logue, "Disasters, the Environment, and Public Health: Improving Our Response," *The American Journal of Public Health* 86/9 (1996): 1207-1210; M. Gregg ed., *The Public Health Consequences of Disasters* (Atlanta: CDC, 1989); M. Lechat, "The Epidemiology of Health Effects of Disasters," *Epidemiological Review* 12 (1990): 192-198; A. McMichael, "Global Environmental Change and Human Population Health: A Conceptual and Scientific Challenge for Epidemiology," *International Journal of Epidemiology* 22 (1993): 1-8; and P. Epstein, "Emerging Diseases and Ecosystem Instability: New Threats to Public Health," *American Journal of Public Health* 85 (1995): 168-72.

⁴¹ D. Fitzsimons and A.W. Whiteside, "The AIDS Epidemic: Economic, Political and Security Implications," *Conflict Studies* 251 (1992): 7; "Young Bear the Brunt as AIDS Spreads Through the World on a Biblical Scale," *The Independent*, 25/11/98; Garrett, "The Return of Infectious Disease," 72.

⁴² It should be noted that the increased availability of effective anti-retroviral drugs has, to a certain extent, negatively impacted on safe sex awareness, particularly among young women and men who are once again beginning to engage in potentially risky behavior (such as multiple sex partners).

⁴³ UNAIDS, "AIDS Epidemic Update – December 2001," available on-line at <http://www.unaids.org/publications/index.html>

In Thailand, Cambodia and India, thriving sex industries have served to compound already serious problems stemming from greater sexual promiscuity. In the early 1990s, roughly 32 percent of sex workers in Thailand were HIV-positive, with more than 100,000 cases of full-blown AIDS reported across the country between 1994 and 1998. Although an intensive campaign initiated by the government has helped to slow the overall rate of new infections in major centers such as Bangkok, the disease remains a residual problem in northern cities such as Chiang Rai, and, according to UNAIDS, could be set to return to other metropolitan areas as a result of growing civilian apathy.⁴⁴ In Cambodia, nearly half of *all* the country's sex workers are known to have the immunodeficiency virus that causes AIDS. Based on current trends, a staggering 25 percent of the country's population could be infected by 2010.⁴⁵ Figures for India are equally as serious. In Bombay alone, three quarters of the city's 60,000-70,000 prostitutes have contracted the disease, up from just one percent in 1990.⁴⁶ In total, roughly 3.5 million people are currently thought to be living with the disease in India, a rate of infection that owes much to commercial sex and the high levels of STDs in the country.⁴⁷

The increasing prevalence of intravenous (IV) drug use has also been extremely important in encouraging the regional spread HIV/AIDS. Burma, for example, which sits at the heart of the infamous opium-producing "Golden Triangle"⁴⁸ and which was free of HIV only a few years ago, now has an estimated 200,000 people carrying the virus, 74 percent of whom are intravenous drug users.⁴⁹ Equally as indicative is India, where intravenous drug use is now the second most common method of transmission for the disease (behind heterosexual sex), something that is especially true in the northeast

⁴⁴ See, for instance, Christine Gorman, "Sex, AIDS and Thailand," *Time Asia*, July 12, 2004; "More Thai Patients Progress to Full-Blown Disease," *The Bangkok Post*, 22/03/01; "Thai Army Winning AIDS Battle," *The Far Eastern Economic Review*, 30/05/98; and "AIDS Epidemic Continues to Grow, U.N. Reports," *Los Angeles Times*, July 7, 2004.

⁴⁵ UNAIDS, "AIDS Hits Asia Hard," December 1997, accessed via <http://www.thalidomide.org/FfdN/Asien/asia.html>; "AIDS Begins To Widen Its Reach In India," *The Washington Post*, June 11, 2003.

⁴⁶ UNAIDS, "Aids Hits Asia Hard"; UNAIDS, *HIV/AIDS. The Global Epidemic* (Geneva: UNAIDS Publication, December 1996); UNAIDS, *The Status and Trends of the Global HIV/AIDS Pandemic* (Geneva: UNAIDS Publication, July 1996).

⁴⁷ Quinn and Fauci, "The AIDS Epidemic," 336; Whiteside and FitzSimons, "The AIDS Epidemic. Economic, Political and Security Implications," 7.

⁴⁸ The Golden Triangle is composed of eastern Burma, northern Laos and northern Thailand. During the 1980s and first part of the 1990s, the region constituted the world's main source of refined opiates, after which it was superceded by Afghanistan.

⁴⁹ Peter Chalk, "Low Intensity Conflict in Southeast Asia," *Conflict Studies* 305/306 (1998): 12.

regions that border Burma.⁵⁰ China has been especially hard hit. The Beijing Government freely admits that the outbreak of an AIDS epidemic in the country's south is directly related to drug addicts sharing needles to inject heroin. In Kunming, 40 percent of IV drug users are estimated to be HIV positive, and because immunodeficiency education in the country is extremely poor, many of these abusers are unknowingly spreading the virus to the general population through sexual encounters and contaminated blood donations.⁵¹ Combined, this has resulted in a 67 percent increase in reported AIDS cases throughout China.⁵²

CONSEQUENCES OF DISEASE SPREAD IN THE ASIA-PACIFIC

As noted at the outset of this paper, the argument that the spread of disease has been effectively securitized as a NTS issue area is based on the generally accepted proposition that pathogenic organisms undermine both the stability of the state as well as the quality of life that an individual is able to attain in a wider societal setting. The following section takes up this analysis more fully, exploring the specific ramifications of disease spread throughout the A-P in terms of human casualties, socio-economic stability, perceived regime legitimacy, regional inter-state relations and internal national security considerations pertaining to WMD.

Human Casualties

From a purely numerical point of view, infectious diseases have had a significant impact on stability and human welfare throughout Asia. Roughly twenty six percent of all fatalities in Southeast Asia and the Western Pacific currently result from infectious microbes, inflicting a toll that equated to an estimated 6.9 million deaths in 2002. The most pervasive killers include TB (three quarters of all global cases typically occur in the

⁵⁰ World Bank Group, "India's National AIDS Control Program," September 1999, accessed via <http://www.worldbank.org/aids>.

⁵¹ The vast majority of blood in China is not donated voluntarily. Unsterilized needles, improper practices at blood collection centers, and inadequate laboratory capabilities for blood testing make the blood donation system in China hazardous, although the government has been working to reduce the risk over the past five years. "Keeping China's Blood Supply Free of HIV/AIDS," U.S. Embassy, April 1997, accessed at <http://www.usembassy-china.org.cn/english/sandt/webaids5.htm> on March 13, 2002.

⁵² Rosenthal, Elisabeth, "With Ignorance as the Fuel, AIDS Spreads Across China," New York Times, December 30, 2001

A-P), acute respiratory infections and gastro-intestinal disorders.⁵³ During the next decade, AIDS-related deaths are also expected to soar across Asia, particularly in countries such as India and Bangladesh, which are already being referred to as immunodeficiency viral “time bombs.” United Nations (UN) health experts expect the sub-continent to have surpassed southern Africa in terms of HIV incidence by 2010, with India alone projected to have an infected population of between 20 and 25 million.⁵⁴ To put this figure in perspective, prevalence rates in South Africa – which currently serves as the principal global epicenter of the epidemic – stood at around five million people in 2000.⁵⁵

Political Stability

Unchecked, infectious diseases have also weakened popular confidence in the state’s general custodian function, negatively impacting on a polity’s overall governing legitimacy and perceived effectiveness. A case in point was the outbreak of severe food poisoning epidemic in Japan during 1996, which was caused by *Escherichia coli* 0157. Over the course of two months, eight people died and thousands of others were chronically sickened. Tokyo’s inability to enact an appropriate response generated widespread condemnation, compounding popular dissatisfaction with an administration that was already reeling from the effects of the previous year’s Kobe earthquake.⁵⁶ Equally as indicative has been the recent SARS outbreak in China. Beijing’s failure to quickly verify the existence of the virus and/or institute remedial action is largely considered to be one of the main factors that contributed to the diseases’ early spread across the country, galvanizing domestic (and international) criticism of the central leadership as well as prompting unprecedented calls for an overhaul of the governing structure to make it more transparent and accountable. Particularly scathing was the *China Business Times*, which directly accused provincial authorities of making false

⁵³ World Health Organization, World Health Report, 2002, available on-line at <http://www.who.org>.

See also USAID, Asia and the Near East: sector Overview,” available on-line at NEED DETAILS

⁵⁴ “AIDS Begins to Widen Its Reach in India,” The Washington Post, June 11, 2003.

⁵⁵ Jennifer Brower and Peter Chalk, The Global Threat of New and Reemerging Infectious Diseases: Reconciling U.S. National Security and Public Health Policy (Santa Monica, CA: RAND 2003), 34.

⁵⁶ Brower and Chalk, The Global Threat of New and Reemerging Infectious Diseases, 8; “Japan Declares E. coli Epidemic an Outbreak: Citizens Accuse Government of Slow Response,” CNN Interactive News, August 01, 1996.

reports and providing incomplete and tardy information in order to avoid blemishing the public face of prominent officials.⁵⁷

Economic Stability

Just as significantly, infectious diseases have demonstrated a proven ability to undercut the economic foundation upon which governments throughout the A-P have based both their security and popular legitimacy. During September 1994, the Indian city of Surat suffered a major outbreak of bubonic and pneumonic plague, which ultimately cost the country over \$6 billion in curtailed tourism, trade and export earnings. At the height of the epidemic, national hotel chains were reporting drops in occupancy rates of around sixty percent as many governments suspended travel to the sub-continent altogether.⁵⁸ Between 1997 and 1998, lost worker productivity, government treatment expenditures and elevated private medical insurance premiums brought about by the HIV/AIDS virus combined to “hemorrhage” an estimated US\$2.5 billion from the Thai economy.⁵⁹ Most recently have been the knock-on fiscal effects brought about by the SARS crisis in Southeast Asia, which the ADB predicts will have cost the region over US\$50 billion once economic figures for the first half of 2003 become available. Hardest hit has been Hong Kong, which could eventually suffer as much as US\$11 billion in lost income as a result of the disease.⁶⁰

Social Stability

On a more intrinsic level, microbial organisms have had a profound, negative impact on the social order, functioning and psyche of many states in the A-P. In PNG, for example, AIDS has severely distorted the *wantok* system – which formalizes reciprocal

⁵⁷ “China Wakes Up,” *The Economist*, April 26, 2003.

⁵⁸ World Resources Institute, “The Black Death Revisited: India’s 1994 Plague Epidemic,” *World Resources 1996-1997. A Guide to the Global Environment*, available on-line at <http://www.wri.org/wri/r-96-97.html>; “The Morning After,” *India Today*, October 31, 1994.

⁵⁹ Lederburg, “Summary and Assessment,” 4.

⁶⁰ “Virus to Cost Asia \$50bn,” *The Australian*, May 13, 2003; “In Intensive Care,” *The Economist*, April 26, 2003. According to the *Economist* four months of the SARS virus had decimated Hong Kong’s tourism and aviation industry, caused luxury rental prices to fall by 10 percent, triggered a deflationary spiral of around 2.1 percent and generated losses in excess of \$6.5 billion in the traditionally profitable watch and jewelry sector.

responsibilities, ensuring that those who hit hard times will be taken care of by extended familial networks – because of the fear and stigma attached to the disease.⁶¹

In common with other parts of the world, epidemics have also led to severe forms of post-traumatic stress in the region. A number of analyses have assessed the long-term psychological effects of those who have been continually subjected to poor sanitary conditions and outbreaks of disease. The studies consistently document the extreme emotional stress suffered by these people and the difficulty of integrating them back into “normal” society. Such effects have been especially evident with several stigmatized ailments, including plague, AIDS and leprosy.⁶²

Disease and Its Impact on State Security

Beyond these human, political and socio-economic effects, infectious diseases have also impacted on A-P security in more “traditional” ways, generating adverse effects that have manifested both within and between states. The aforementioned outbreak of plague in Surat, which during September 1994 was killing at the rate of ten per day, provides a case in point. The terror that the epidemic engendered was so intense that within four days a quarter of the city’s population had fled. The ensuing demographic exodus fueled an unprecedented level of anxiety and across India, with fear and ignorance combining to freeze out even basic inter-personal sentiments of caring and civility (something that was particularly evident in terms of popular reaction towards the departing refugees). So great was this national hysteria that the Delhi government was forced to bring in a police Rapid Reaction Force to effectively quarantine Surat and ensure that those being treated for plague were prevented from abandoning the hospitals where they were being treated.⁶³

Disease can also assume a highly significant strategic dimension through the conduit of BW and/or BT. Indeed, considerations of virulence, morbidity and rapidity of infectious spread all lend bio-weapons a far more aggressive quality than that manifested in either

⁶¹ M. O’Callaghan, “PNG-Positive,” *The Australian Magazine* [The Weekend Australian], November 13-14, 1999.

⁶² Chalk, *Non-Military Security and Global Order*, 113-114; David FitzSimons and Alan Whiteside, “Conflict, War and Public Health,” *Conflict Studies* 276 (1994): 28.

⁶³ World Resources Institute, “The Black Death Revisited: India’s 1994 Plague Epidemic.”

conventional or even chemical munitions.⁶⁴ Pre-occupation with this particular aspect of the microbial threat has increased in Asia over the last several years for a number of reasons:

- The legacy left by *Aum Shinriyko's* 1995 sarin nerve gas attack in Tokyo, which although not specifically associated with a biological agent was the first bona fide use of an unconventional weapon designed to cause mass casualties,⁶⁵
- Bin Laden's explicit endorsement of chemical, biological, nuclear and radiological (CBRN) weapons as integral to the self-defined jihad he has declared against the United States and western-oriented polities,⁶⁶
- Revelations that *al-Qaeda* has established an entrenched trans-border presence in Southeast Asia through the conduit of *Jemaah Islamiya (JI)*;⁶⁷ and
- Fears that rogue regimes such as the Democratic People's Republic of North Korea (DPRK) – which was singled out as part of the so-called "Axis of Evil" (along with Iraq and Iran) in President Bush's State of the Union address in 2002 - may be seeking to compliment suspected nuclear weapons development programs with BW capabilities for offensive purposes.⁶⁸

The consequences of a mass, successful biological attack would be catastrophic. Where as the spread of most infectious pathogens occurs slowly through the natural process of

⁶⁴ Peter Chalk, *Non-Military Security and Global Order. The Impact of Violence, Chaos and Disorder on International Security* (London: Macmillan, 2000), 111.

⁶⁵ It should also be noted that it is now known that Aum was trying to acquire and disseminate biological agents – including anthrax and Ebola – both prior to and after the 1995 sarin gas attack. For an excellent account of Aum and its attempts to acquire and disseminate unconventional CBRN weapons see David Kaplan and Andrew Marshall, *The Cult at the End of the World* (London: Hutchinson, 1996).

⁶⁶ Bin Laden has specifically affirmed seeking and disseminating CBRN is a duty beholdent on all true Muslims seeking to propagate the Islamic world vision that he represents.

⁶⁷ JI seeks to establish a transnational Islamic caliphate (to be known as the Nusantara Raya) in Southeast Asia embracing the southern Philippines, southern Thailand, Indonesia, Malaysia and Brunei. The group has been connected to several terrorist attacks in the region, notably the Bali bombings that killed 202 civilians in October 2002, and is widely suspected of acting as al-Qaeda's main operational wing in Southeast Asia. For further details see Rohan Gunaratna ed., *Terrorism in the Asia-Pacific* (Singapore: astern Universities Press, 2003), chapters 7, 100 and 11; Sidney Jones, "Al-Qaeda in Southeast Asia: The case of the 'Ngruki Network.'" *International Crisis Group (ICG) Briefing* (August 2002); and Zachary Abuza, "Tentacles of Terror: Al Qaeda's Southeast Asian Network." Paper delivered to the Asia Pacific Center for Security Studies (APCSS) Biennial Conference on Asian Security Issues, Honolulu, 17 July 2002.

⁶⁸ According to the South Korean government, the DPRK first turned to the development of biological (and chemical) weapons during the 1980s in line with Kim Il-sung's directive that "poisonous gas and bacteria can be used effectively in war." See The Ministry of National Defense, *Defense White Paper, 2000* (Seoul: Ministry of Defense, 2000), 57-58 and General A. Thomas Schwartz, "Statement before the Senate Armed Services Committee," March 7, 2000.

contagion, deliberate large-scale viral or bacterial releases, especially if they occurred among unvaccinated populations, would immediately expose a specific target audience to high concentrations of (possibly enhanced) infectious organisms. The result would be a widespread, largely simultaneous outbreak of disease after an incubation period of only a few days. This would not only cause extensive loss of life and panic, in so doing, it would severely strain and possibly collapse entire public health and response capacities.

DISEASE AND SECURITIZATION IN THE A-P

While A-P states have begun to recognize the security dimension inherent in the contemporary “microbial era,” most continue to conceive and articulate this particular NTS in traditional terms, emphasizing its impact on state stability but paying comparatively little attention to its more pervasive and insidious societal effects. More specifically, the regional process of securitization effectively recognizes only one facet of the overall disease threat – its use as a weapon for offensive purposes.

This normative bias has become progressively marked in the post-9/11 era largely in reaction to the growing reality that *al-Qaeda* has not only penetrated the A-P, but has also moved to consolidate logistical and operational links with several pre-existing groups in Southeast Asia. Large-scale attacks that have deliberately sought to maximize civilian casualties, such as the 2002 Bali bombings, combined with Bin Laden’s own call to use pathogenic agents in whatever manner possible has clearly heightened the perceived fear that the region will witness an act of biological terrorism in the near future.

Indicative of these concerns is the heightened significance that BT has assumed on national and international security agendas across the A-P. A number of countries in the region have already moved to set up integrated homeland security structures complete with dedicated bio-response components, including, notably, Singapore, Australia, South Korea and Japan. Just as indicative are government-to-government deliberations in multilateral forums such as the Association of Southeast Asian Nations (ASEAN), the ASEAN Regional Forum (ARF) and Asia Pacific Economic Cooperation (APEC),

which now routinely focus on BT threat contingencies and the need to aggressively counter-act potential proliferation of offensive microbial technologies.⁶⁹

Should the above initiatives be taken as evidence of the successful securitization of disease? In short, no. As this paper has argued, the threat potential of microbial agents extends well beyond the relatively parsimonious *realpolitik* assumptions and paradigms, carrying direct implications for broader human, political and socioeconomic considerations. This reality has yet to figure prominently in the policy and decision-making architecture of A-P governments, the vast bulk of which continue to conceive disease - writ large - as a public health *problem* that necessarily belongs outside the strictures of national and international security. Such a cognitive stance has been evident in three main respects:

- The failure to institute effective responses to diseases that have been widely documented in terms of their debilitating effects, including, notably, AIDS (particularly with regards to China and India, both of which are regarded as the Asian equivalent of South Africa in terms of the extant and latent spread of the virus)
- The prevalence of risk-vulnerability assessments that continue to emphasize militaristic-oriented and strategic threats rather than “softer”, more fungible contingency areas
- The absence of health and medical officials from wider national security, homeland defense and intelligence structures (other than those dealing with BT and/or BW)

What accounts for this lack of securitization, particularly when the pain and suffering caused by naturally occurring pathogens far outstrips anything that has been associated with BT and BW (which in the case of the A-P, continues to exist in the realm of the hypothetical)? While it is always difficult to delineate the precise normative triggers responsible for security policy and prioritization – a problem that reflects the generally closed nature of the communities associated with these decisions - it is possible to identify several explanations that would seem to have salience for the A-P.

⁶⁹ Author interviews, Canberra, Brisbane and Singapore, March-May 2003. See also “Australia Posts Terror Warnings on Nation’s Fridges,” *The Gulf News*, February 04, 2003; “APEC Officials to Discuss Anti-Terror,” *The China Daily*, February 24, 2003; and “Australia Boosts Special Forces,” *The Financial Times*, December 02, 2003.

First, outbreaks of disease often result in directed attention on domestic conditions of state viability and public management, which runs directly counter to the strong norm against internal interference that extends across the A-P region.⁷⁰ Second, the effects of microbial spread, while significant, do not pose an immediate strategic threat to the state concerned (the transition from HIV, to AIDS to death, for example, can take many years to eventuate) and therefore typically tend not to evoke the sense of urgency that often drives decision-making (and resource allocation) among security planners and decision-makers. Third, as noted above, the major preoccupation of domestic preparedness and consequence management since 9/11 has oriented around transnational Islamic terrorism and its potential for mass destruction violence; it is thus hardly surprising that contingencies involving bio-weapons – particularly those that have the potential to kill both quickly and en-mass (such as smallpox) - have figured most prominently in the calculations and deliberations of government officials. Fourth, many A-P states are characterized by security and intelligence establishments that are inherently conservative when it comes to threat perception, with most simply unwilling to adopt new operational mandates that extend beyond traditional areas of hard security. Finally, those epistemic communities best placed to stimulate more innovative thinking about the destabilizing potential of disease, such as public health officials and bio-scientists, have generally not focused on the security-relevant aspects of microbial challenges - orienting their attention, rather, to such issues as vector transmissibility, pathogenic epidemiology and vaccine research and development.

Of course, none of these possible explanatory factors should be viewed as absolute or un-surmountable. In fact recent outbreaks of highly contagious and virulent pathogens, such as SARS, have, arguably, already started to impact the attitude of policy-makers and decision-makers towards disease. In Singapore, for instance, it was the Office of Homeland Security (OHS) that was ultimately given the lead role for coordinating incident response and management, with the department continuing to play a significant role in subsequent viral tracking and monitoring activities.⁷¹

⁷⁰ One of ASEAN's three founding norms, for instance, is non-interference in the internal affairs of member states; such a provision effectively negates issues such as disease from assuming a prominent place on Southeast Asian multilateral security agendas.

⁷¹ Author informal discussions with officials from the Office of Homeland Security, Singapore, May 2004.

If disease does assume a more significant place on regional security agendas – beyond the narrow focus on BT/BW – A-P states will face a series of subsequent challenges. Institutional structures that have traditionally focused on narrow, state-centric concerns, for instance, will have to be expanded and developed to accommodate challenges that impact on broader societal interests. Increased cooperation among agencies that have historically had little to do with one another – including defense, justice, intelligence, public health, agriculture and environment – will also be required, as will new executive functions to coordinate such multidimensional responses.

One specific area calling for drastic change will be the field of national intelligence. Information collecting agencies will have to become familiar with new operational contexts that require different analytical techniques, skills, mandates and data-handling methods. Threat assessments and forecasts will need to be more closely grounded on scientifically formulated models that both recognize and integrate the work of the medical research community on new and reemerging diseases. Just as critically, security analysts will need to devote greater attention to epidemiological literature as part of their regular reading “diet.” Finally, overseas monitoring activities will need to become more bio-centric in focus, embracing, at a minimum: (1) the effectiveness of national medical screening systems; (2) prevailing geopolitical, social, economic and environmental conditions that affect disease incidence; and (3) state compliance with international health conventions and agreements. To be sure, countries that do not pose an obvious military security danger may be the ones most likely to pose a disease risk owing to poorly developed and under-funded health systems.

It remains to be seen whether disease will be successfully (and holistically) securitized in the A-P and whether developments and innovations such as those discussed above will be implemented. Given the multifaceted manner by which infectious pathogens threaten peace, security and stability in the region, however, both are questions that cannot bear much prevarication, either in terms of forward, judicious public policy or, more intrinsically, as matters of basic civic responsibility.