OPEN MINDS, OPEN FUTURES

Asian-Pacific Communities Respond to Global Insecurity

"The stories that drove social action in the past relatively closed stories: simple linear stories that proposed one major problem, with one major cause (or scapegoat) and one major path of action. The youth of Asia-Pacific are not able, nor willing, to believe in these kinds of stories as in the end they do not provide the dynamism and flexibility that will be needed to face global challenges. We need open stories, stories that allow us to engage in the world and maintain hope despite inevitable failures along the way."

Dan Woodman, Workshop Participant

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List of previous Nautilus Scenario workshops can be found at:
https://www.nautilus.org/gps/tools.html

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Open Minds, Open Futures:
How will Asia-Pacific Communities respond to Global Insecurity?

Global Scenarios Workshop Report

Melbourne, Australia

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Australia 21

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2007

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I. INTRODUCTION

"We need to focus on uncertainty
because it's the only thing you know will happen."
Peter Hayes, Nautilus Institute

Insecurity – a global problem

The traditional view that "security" is only about the military balance-of-power between states is untenable today. Complex and multi-dimensional issues such as terrorism, nonproliferation, energy supply, and climate change all affect the perceptions of security held by leaders, whether of states, big organizations of whatever type, or local communities and individuals. These kinds of massive insecurities defy singular and state-centered solutions.

Modern communications technology allows information, money, people and commodities to move rapidly and often freely across borders, allowing transnational criminal and terror networks to work beyond state control. Energy is traded on a global market, so that reductions in supply (for example, Iraq) or increases in demand (for example, China) in one country have ripple effects worldwide. Climate change threatens every country with loss of arable land, natural disasters, and contamination of drinking water, to name only a few repercussions. Such truly global problems cannot be tackled nor defended against on a unilateral basis.

Such problems are not only global in scale. They are also highly interrelated; thus the solution to one may make another problem worse, and vice versa. Increased reliance on nuclear power, for example, may (or may not) reduce carbon emissions and help to mitigate global warming. But it may also lead to increased potential for nuclear weapons proliferation and even the next-use of nuclear weapons—itself likely to have negative impacts on efforts to curb climate change.

And then, there are the myriad "wild cards" -- events which, however, improbable and wholly unpredictable, lead to a systemic change that presents challenges to even the most comprehensive planning, overwhelming a community's ability to cope. Examples of these include the tsunami in Indonesia or the devastation caused by Hurricane Katrina in New Orleans. Addressing global problems requires dealing with global uncertainties. The impossibility of predicting such events means that any linear planning is bound to be inadequate when faced with such challenges.

Further, "global problems" stretch across different timelines, often well beyond the time horizons of states and markets. Those states which have pledged to meet the Kyoto greenhouse gas emission targets are finding it harder to meet these goals than anticipated yet the impacts of these emissions will last for millennia. While states debate how to respond, businesses struggle to stay competitive on a global market with varying and inconsistent environmental standards, often working to very short timelines to earn rates of return acceptable to their management and shareholders. Meanwhile, some

communities in the Pacific and the Arctic are already relocating under duress because their land is no longer habitable. Storms and extreme weather is increasing worldwide. Record-breaking temperatures are becoming a health hazard for inhabitants of big cities as well as a strain on agricultural crops. What does security mean in such a world?

The Scenarios Workshop

The Nautilus Institute focuses on developing and sharing tools that increase the resilience of states, organizations and individuals in policy and planning in a variety of different possible futures. The Institute has used the scenarios process to examine a number of different narratives of the future in order to better understand the driving forces of today, and develop the means to work towards preferred futures. Scenarios are used to order our thoughts amid uncertainty and build common ground among differing perspectives. In examining a number of different futures, scenarios impel us to reconsider our assumptions, challenge conventional wisdom, and explore creatively – and pragmatically - our options. Previous scenarios workshops have explored the future of Sino-American relations, Korea-American relations, nuclear next use, North Korean nuclear conflict resolution, corporate social responsibility, and sustainability in the Asia Pacific region.[1]

Perceptions of Insecurity

In 2006, Nautilus Institute partnered with Australia 21 to convene the 2006 Global Scenarios Workshop. Formed in 2001, Australia 21 fills a need for fresh and independent thinking about large and unsolved problems that confront us in the new century. The group promotes the development of new frameworks of understanding by creating networks between researchers, community and business leaders, and policymakers across all sectors of society and making sure the results of its research freely available to the public. (see: http://www.australia21.org.au/aboutus.htm)

The 2006 Global Scenarios Workshop in Melbourne, Australia brought together participants from Australia, the United States, South Korea, Indonesia, Japan, and Canada to examine perceptions of insecurity. In few fields is the gap between perception and reality as large as it is in security matters. This gap matters because democratic governments respond to the concerns of their constituents. The gap also affects international relations and alliance management. Threat perceptions in the Asia-Pacific region are shifting rapidly at elite and popular levels, albeit in different ways within each country. It is important that security scholars and policymakers share their understandings to realign these perceptions of security threats with reality.[2]

With such a view, participants were drawn from the fields of government, think tanks, academia, activism, the corporate world, social organizations, and the arts (see Appendix 1)

[1] The reports of previous scenarios workshops are found at: http://www.nautilus.org/gps/tools.html
[2] As argued in a companion report to Australia 21 prepared in advance of the 2006 Global Scenarios Workshop. See P. Monk, Enhancing Australia's Security & Prosperity in the 21st Century, available at: www.australia21.org.au/pdf/Security&Prosperity.pdf

Process

Prior to arrival at the workshop, participants were asked to define what "security" means to them, as individuals, professionals, and members of their community. Collated responses formed the basis for examining assumptions held by various sectors and nations. What constitutes security for youth in Australia may not be shared by a human rights advocate in Indonesia, or a climate change scientist from the United States. This process also helped define a common language necessary for the analysis of the issues at hand and the collaborative process of scenarios building and led to a Glossary being written and circulated to participants (see Appendix 2).

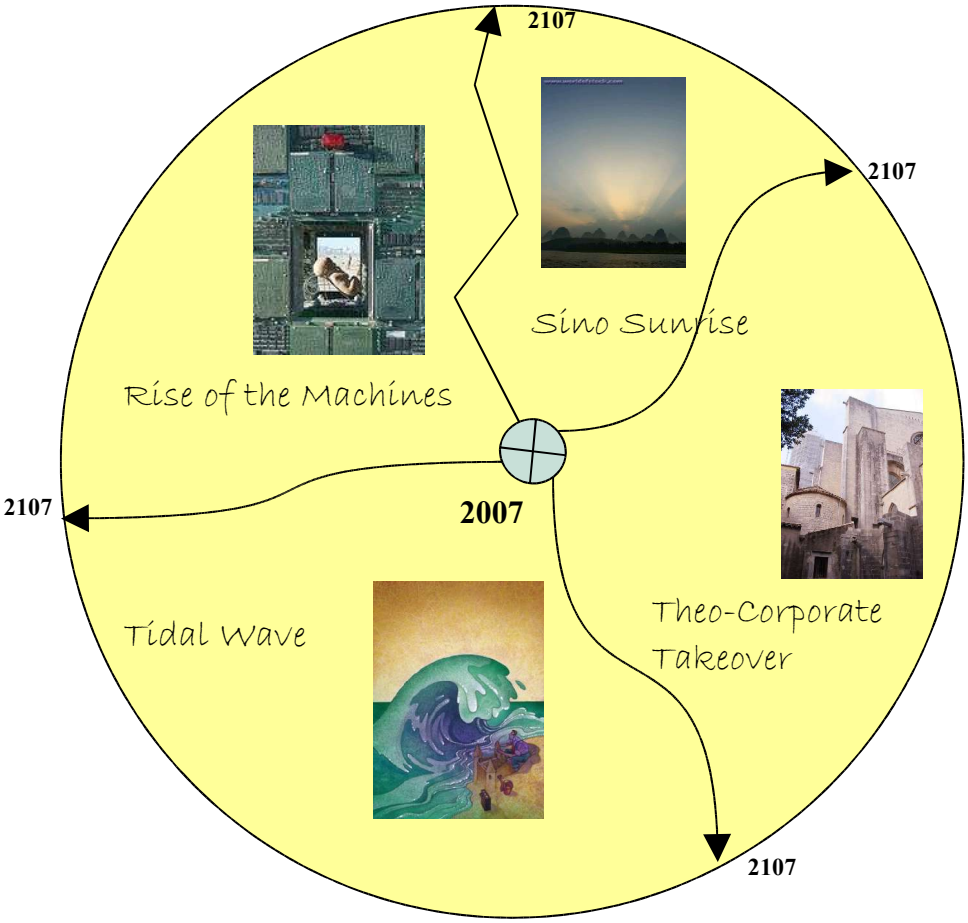
Upon arrival, participants were divided into four separate groups and asked to imagine the world 100 years into the future and to remember the world 100 years into the past. To some, this seems unimaginable. But in reality, some babies born today will still be alive in 100 years to experience the consequences of today's policies; and some people born 100 years ago are still with us as we construct the future today.

The groups identified critical uncertainties, including the pace and direction of climate change; the rise of China and India; the global role of the United States; the development and spread of communications technology; and military conflict. The result was four very different but plausible future worlds.

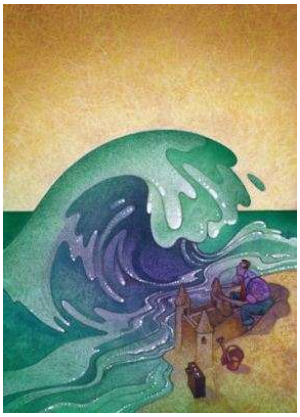
It is important to keep in mind that the scenarios as presented below are not meant to be predictive. The future will undoubtedly contain elements of all four scenarios, no matter how radical they seem today. Awareness of the potential for transformative and dramatic change also helps communities to coping strategies and anticipatory networks; and to imagine the possible consequences of various strategies and actions. In short, by helping us to think creatively beyond the world we now know, these scenarios help communities to become more resilient, no matter how the future unfolds.

II. SCENARIOS 2107

Four scenarios were created in the workshop in response to the focal question: "How Will Asia-Pacific Communities Respond to Global Insecurities?"
These were Tidal Wave, Machine World, Sino-Sunrise, and Theo-Corporate Takeover. Each of these worlds began in 2007 and ended in 100 years, 2107. These four worlds are shown in Figure 1.



Scenario I: Tidal Wave



"There is no security because of the almost superstitious attachment to cultural views and unspoken agreements about perception. Seeing they exist is not easy - seeing beyond them almost a miracle."
Workshop Participant

In this scenario, the effects of climate change result in mass dislocation of populations and conflict over scarce resources. A large war in Asia leads to Chinese dominance and withdrawal of the United States from international leadership. By the end of the century, new constitutional arrangements are emerging to deal with the new realities of a changed world.

By 2025, the rapid melting of the polar ice caps due to global warming causes sea levels to rise 1.25 meters, causing mass displacement from low-lying areas and contamination of potable water sources. Entire Pacific island nations are underwater, along with the coastal regions of most countries in the world. Many sources of biotic feedback not included in global circulation and climate forcing models used in the early 21st century contributed to this rapid warming which proved unstoppable.

National governments respond with large-scale engineering solutions such as building dikes and levies to stem the rising tides, while trying to cut down on carbon emissions through increased use of nuclear power. These measures slightly slow the pace of climate change, but ultimately prove ineffective in managing the impacts or reducing costs to an affordable level.

By 2040, a billion people are displaced from their homelands and forced to flee to other countries, straining the receiving countries' abilities to handle the inflow of refugees. Shortages of food and potable water lead to increasing civil unrest in several countries. Crowding, especially in urban areas exacerbated by the mass population movements, coupled with reduced immunities due to malnutrition, create perfect conditions for a bird flu pandemic. 500 million people worldwide die.

Nation states prove completely unable to handle the situation. Non-governmental players step forward to take the lead in providing humanitarian relief and adaptive reconstruction. International financial institutions, such as the World Bank and IMF, are restructured to respond to the new realities. Polluting companies are charged "carbon taxes" of $500 per tonne of carbon emitted to help pay for reconstruction in flood-affected areas. With increased funding for innovative infrastructure and engineering to build new, flood-proof cities, mega-engineering companies take economic leadership in the world. This newfound corporate wealth and influence affects policymaking in developed and still-developing countries alike—at least among those that survive or haven't collapsed already. Among the most important and tightly controlled innovations developed are cheap desalination methods to provide potable drinking water in the midst of drought and extreme floods.

Brazil, host to the largest remaining rainforest in the world, develops new technology for exporting rain to dry areas. Soon, however, North Korea obtains the technology and reverse-engineers it to “steal” rain from Japan. The technology spreads, and some displaced high-tech refugees become “rain pirates,” stealing atmospheric water and selling it to the highest bidders. Other risky technologies are developed in the biotech field to increase crop yields, but some of these backfire and lead to “Frankenstein” seeds wiping out native plants and animal species, accelerating the loss of biodiversity that has already been spurred by global warming.

2050. Faced with these new challenges, middle powers such as Australia, South Korea, India, and Canada band together to build an International Consortium for Climate Change Adaptation (ICCCA). The United States refuses to join the multilateral consortium, focusing inward and beefing up its military capabilities to prevent refugees from crossing its borders. China’s leadership recognizes an opportunity to assert global leadership, steps forward with large amounts of funding for the ICCCA, the headquarters of which are located in the Manchurian city of Harbin.

With the rise of sea levels, arable and habitable land becomes the new gold. Countries that have it grow in power and influence. Mountainous countries like South Korea and Japan see an opportunity to address the problem of their aging populations by allowing select immigration by displaced peoples who agree to fill needed occupations, such as construction for shoring up cities or the military forces. With their increased military capacity, these countries then focus on preventing other, unwanted immigrants from settling on their shores.

As nation states try to control immigration, large gatherings of “permanent boat people” ply the oceans in makeshift floating cities, surviving on handouts, theft, and piracy. Mortality is high, and the displaced masses gain a reputation as tough, aggressive gangs. Countries that can’t buy them off with food or fight them off with their militaries employ them as mercenaries to disrupt the shipping lanes of their adversaries. When they can’t beg, borrow, or steal, the "sea gangs" conduct raiding parties on coastal communities to take hostages to trade for supplies.

Meanwhile, as global temperatures rise, areas that were previously too cold for growing crops become the new “fertile crescents.” Canada’s Northern territories, for instance, have become the breadbasket of the world. Inuit fur trappers have become wealthy by switching their tribal land to agriculture and now are directors of the world’s largest agrobusiness consortium, while the cornfields of the American Midwest are now largely barren wastelands.

With the reduction in arctic sea ice, the Inuit agrobusinesses find it more profitable to ship their food across the Bering Sea to Asia than southward to the United States, and begin buying up port space in Alaska to accomplish this. The U.S. responds by nationalizing the ports and sending troops in 2075 to shut down the border between Alaska and the Yukon, leading to clashes between American and Canadian soldiers. PR China denounces “U.S. aggression” and declares war on Washington. The resulting war,

featuring heavy use of mercenaries on both sides, causes the death or displacement of nearly 1 billion people along the Pacific Rim.

With China gaining the advantage, the U.S. goes to the brink of a nuclear launch, but a military coup, supported by a large, now starving, population brings in a new government that instead sues for peace. In the 2081 Peace Agreement, Alaska is ceded to Canada, while the U.S. is given guarantees of annual amounts of food imports. After the restoration of civilian rule, the U.S. retreats into isolation, leaving China as the undisputed global hegemon.

As the century draws to a close, famines, wars, and pandemics of the 21st century have reduced the global population to around 4 billion, providing a Malthusian solution to the problem of displaced peoples. The mass migration of the century has led to a blurring of ethnic lines and the emergence of new forms of national identity. New constitutional arrangements are being formed to replace the old U.S.-led world order, with China as the central player. Included among these are new definitions of atmospheric rights to end the "weather wars" of the past decades. While tension remains, the world is entering a period of relative post-war calm: a 22nd century Pax Sinica.

Scenario II: Rise of the Machines

"It's freedom from want in exchange for loss of freedom."
Workshop Participant

In this scenario, technology spreads rapidly throughout the planet, leading to a flood of information and increasing the importance of filtering functions. As the use of computer implants rises, people are now able to access the Internet anywhere, anytime, with a consequent drop in direct human interactions. Most physical diseases have been wiped out, extending the average life span well past 100 years, but new psychological disorders arise as a result of this reordering of social interaction. Groups of "rejectionists" opt out of the new hi-tech society and carry out guerilla activities against information technology (IT) infrastructure. Nation states increasingly use robots in combat to reduce the loss of life. By the end of the century, artificial intelligence has replaced human agency to the point that computers sometimes overrule the decisions of their operators.

In 2010, Indian growth accelerates sharply in response to demand for computer and IT services. Flush with money for research & development, Indian IT companies drive the internet toward becoming a universally distributed system with "imbedded intelligence," capable of running with minimum interference from humans.

As people get more and more of their information online, traditional "distributed" news networks – radio, television, and especially newspapers – lose their relevance. Taking their place is "civic" journalism, the wiki movement and "citizen reporter" sites

like OhmyNews (www.ohmynews.com) gain in relevance. The key determining factor for where people get their news will be trust – people will gravitate to those websites that best reflect their own view of the world. Governments attempt to censor and control the internet, but the vast availability of information hampers their effectiveness.

The increased wealth in both India and China allows for both countries to increase their military spending, exacerbating tensions that are already strained over economic competition. By the end of the decade, this conflict is becoming serious, with skirmishes along their mutual border.

In 2020, following a series of negotiations aimed at easing tension, China and India announce an agreement to work together to provide free, unlimited bandwidth worldwide based on freeware and the increased availability of low-cost computers manufactured in China. The “100 Yuan computer” becomes more widespread in people’s homes than the television.

Technology now manages much of the distribution of social services, education, entertainment and the provision of goods. This reliance on technologically-provided services changes the very nature of social interaction and families experience a breakdown in traditional structure. Concerned citizens begin a “rejectionist” movement against the increased technological domination of most facets of communal life. By 2025, the rejectionists have started terror attacks against the IT infrastructure.

Governments respond to such attacks by mandating that everyone have a personal electronic identification to use the internet or travel. These are subsidized under medical insurance. By 2030, electronic IDs are spread to the use of all government and corporate services. Those who refuse to have the IDs implanted are essentially non-persons; driven to live “off the grid". The gap between the rejectionists and the rest of humanity widens.

Some nation states, like Australia, require genetic screening for immigrants, and insurance companies follow suit. Parents use genetic screening to “tailor-make” their children from the embryo stage.

Due to the growth of India and the spread of open-source software, Microsoft, which has been losing market share for years, files for Chapter 11 bankruptcy. It’s seen as a seminal event for America’s self-image, as it no longer is home to the world’s leading technology companies.

The world is increasingly seen as “techno-fascist” as inequality grows both among and between countries based on people’s ability to access both the information and the hardware that utilizes it. This gives further impetus to the rejectionist movement, driving a wedge both within and between societies.

Further attacks lead the governments in 2035 to create a self-policing internet technology which learns and can repair itself. Computer viruses have become a thing of the past, and there’s enough intelligence in the system to recognize and terminate a virus the minute it is identified. NGO movements and citizen journalism keep working in favor

of policing the system, claiming artificial intelligence is replacing human decision power, and publicize breaches of ethics on the part of the technology. The UN mandates ethical behavior on the internet, but rejectionists dispute the effectiveness of such measures.

As computer and biotechnology continue to converge, the ability to tailor-make children is creating massive gender imbalances in certain countries, creating serious social and political challenges in those countries.

By 2040, the biological enhancements have driven life expectancy past 120, with the first recorded case of a person living to 150. Shanghai and Beijing universities announce they will no longer accept non-biologically enhanced students. Conventional diseases have been defeated genetically, and the primary existing diseases are now psychological.

By 2045, neurologically enhanced people are increasingly engaging in problematic behavior, and many become passive consumers of information. Early intervention is attempted for “at-risk” youths, based on a combination of diagnosis of their use of information and their genetic makeup.

By 2050, the world reaches a singularity. For a quarter of a century, computers have been programming themselves, and for 15 years the internet has been a self-regulating system. Therefore, the internet becomes a sentient, highly intelligent being, capable of making decisions. In the most dramatic demonstration of this, the government of China decides to invade Taiwan, but the artificial intelligence disagrees and cripples the PRC’s military systems.

Because of its complete connectivity and control over all systems including health care, goods and services, there’s no way for humanity to simply "turn off" the internet. The singularity controls all communications, and all power systems. The nightmare of complete technological dependence which the rejectionists have been warning against has occurred.

Scenario III: Theocratic-Corporate Takeover

"We discovered one thing: hatred is so unifying."
Workshop Participant

As in scenario one, this scenario posits massive climate change and population dislocation. However, rather than resulting in military actions, faith-based organizations step in to cope with the social challenges. In a global social climate where despair, diminished resources and the erosion of national identity is increasingly widespread, allegiance around religious beliefs provides an attractive basis for community. Corporations also adapt, their internal culture evolves according to religious ideology. In this way, the theo-corporations gradually take over the roles traditionally fulfilled by states, from providing welfare for their "citizens" (employees and families) to holding a monopoly on the means of violence. Soon, these theo-corporations control their own security forces.

In 2015, Israel again invades Lebanon in an attempt to annihilate Hezbollah once and for all. Iran responds by declaring war on Israel, vowing its destruction. The result is a nuclear exchange between the two countries that leaves the entire Middle East devastated. As a result, oil exports drop to 10% of their current level.

Seeking an alternative to petroleum, nations begin developing biomass fuels. This leads to a mass shift of labor from oil-producing to bio-mass production. Workers migrate to biomass capitals, such as northern Australia. Tapping into a worldwide Islamic network, Muslim groups play a major role in organizing and managing this labor migration. These groups build strong relationships with Muslims in Indonesia and Western China. Israeli capital also moves into the biomass development.

In 2020, global warming causes the Gulf Stream to stall, triggering a new Ice Age. In Europe, Russia, and the East Coast of the US temperatures plummet, causing more people to move toward the tropics.

In 2030, a further major climate event takes place: a global deluge. Mass floods and landslides plague the world. Sea levels rise by one meter, and countries like Indonesia lose large amounts of territory. Their economic base is crippled. Faith-based groups step in to provide for the victims and begin reconstruction and other industries. Developed countries, for their part, move their focus more heavily into high-tech.

The massive rains help to solve California's water problems. Australia and China begin converting coal into diesel fuel. There is further migration southward. In China, Confucianism is revived as a mass organizing principle.

Around 2040, the outbreak of a global pandemic causes mass chaos, and governments, unable to cope with the need, begin losing control. Countries with tropical regions are emerging as power centers as people move to escape colder climes.

People gravitating toward cities as the areas of employment leads to a rise in urban slums. This concentration facilitates the religious groups' ability to organize people and provide them with basic welfare. With governments declining in influence, corporations need to negotiate with religious groups to get labor and resources. In order to access these resources, people increasingly take on the mores of the religious groups.

Increasing numbers of people are becoming dependent on this theocratic-corporate alliance to meet their basic needs. Only people with special skills are able to remain outside the system by providing their expertise across different groups on a free-lance basis. City-states begin to dominate the international system.

In 2050, conventional weapon conflicts break out between the different corporate groups over access to labor and raw materials. (Although nuclear weapons still exist, no one is quite sure where they are or who has them).

In 2060, an international peace settlement is negotiated by a combination of residual states and different religious organizations, creating a new world order to replace the now defunct Westphalian system.

In 2070, the world embarks on a period of stability, which allows for the negotiation of a global response to adapt to, and reverse, climate change.

Scenario IV: Sino Sunrise

"It's good to be Chinese."
Workshop Participant

This scenario focuses on the rise of China as the driving force in creating a new world order. The Communist Party's attempt to hold onto power while the economy expands runs into trouble when Taiwan declares independence. China moves to respond militarily, but is forced to back down due to outside pressure. This results in internal tension within that eventually leads to the rise of a "Chinese Gorbachev" who ushers in democratization. China begins to play a greater role in global affairs, leading to tension with its neighbors, but the United States steps in to help broker a new regional order.

This scenario begins at the opening ceremony of the 2008 Beijing Olympics. Entering the stadium, members of the Taiwan team suddenly pull out Republic of China flags that were hidden under their uniforms. China responds to this loss of face by secretly mobilizing troops to a war footing opposite the Taiwan Straits. U.S. spy satellites pick up the military movement, and the information is leaked to Bill Gertz of the *Washington Times*. Faced with calls from Republicans for action in an election year, Bush responds by withdrawing the U.S. Olympic team from the games. Japanese Prime Minister Abe Shinzo follows suit.

When this display fails to change China's posture, Bush orders the 7th fleet to the Taiwan Straits. Abe uses Japanese fears over Chinese aggression to push through a revision of the constitution that removes Article 9's restrictions on Japanese troops deployments. South Korean President Park Geun-hye, who won the previous year's election on a platform of reinvigorating the US-ROK alliance, announces that Seoul will provide support to any U.S. military action on Taiwan. The opposition party denounces Park as "chinilpa (pro-Japanese), like her father," and mass protests necessitate the reintroduction of tear gas for crowd control.

In Hong Kong, hundreds of thousands of pro-Taiwanese protestors take to the streets demanding that the mainland step down. Reluctant to crack down in the middle of the Olympics, Beijing allows the protests to take place. Mainland pro-democracy forces are then emboldened to begin their own demonstrations, which quickly move beyond issues of Taiwan to cover broader questions of political reform.

For two years, sporadic protests continue, with the government alternating between cracking down and permitting them. Increasingly, the middle class is supportive of the protests. In 2010, reformist forces within the Communist Party call for internal elections. The result is a landslide win for pro-liberalization cadres. The new premier, with his slogan "Freedom for all," begins moving China on the road towards a capitalist democracy, earning him the nickname "The Chinese Gorbachev."

Among the reforms introduced is the privatization of energy, which backfires when, in 2020, a poorly regulated nuclear power plant melts down, causing hundreds of deaths and contaminating a wide populated area. The result is further erosion of faith in the Communist Party's ability to govern effectively.

In 2026, Japanese Prime Minister Ishihara (one of the sons of the current Tokyo governor) announces that Japan will expand Yasukuni Shrine as part of five-year long preparation for 100th anniversary celebrations of the "Liberation of Manchukuo." China and both Koreas object vigorously, and vow to "stand together against renewed Japanese imperialist aggression."

Japanese peace groups join together with their counterparts in China and South Korea to promote Track II dialogue. As a result, when the Democratic Party wins the next election in Japan and promptly scraps the plans for the Manchukuo commemorations, China steps forward with a proposal of a regional security alliance among China, Japan, and South Korea.

The DPRK, angry at being left out of the talks, responds by deploying nuclear-armed ICBMs, which until now, had been kept out of sight in deep caves. The UN Security Council votes to support military intervention, and PRC troops wearing blue helmets cross the Yalu River. Within a week, they've occupied Pyongyang. South Korea introduces a UN resolution calling for the immediate withdrawal of foreign troops and nationwide elections for a unified Korea, but China vetoes the resolution.

South Korea withdraws from the regional security alliance in protest. Military veterans march through the streets of Seoul, calling for an invasion to drive the Chinese out of the DPRK and to "reclaim" the Yanbian region of Manchuria. The South Korean government passes a law requiring that all ethnic Koreans with overseas citizenship living in the country would have to register for the draft within 30 days or be deported and not allowed to re-enter.

Amidst all this rising tension, U.S. President Chelsea Clinton, in her 2030 State of the Union address, announces her "roadmap for peace in Asia." Among the provisions are: 1) reunification of Korea along its 1905 borders; 2) a regional consortium to finance the reconstruction of the northern part of the Korean Peninsula; 3) settling of overlapping maritime claims at the halfway point from each country's "closest major populated area"; 4) a permanent regional military dialogue; 5) a regional energy trading scheme; 6) joint monitoring and response for environmental disasters. China, Russia, South Korea, and Japan all quickly announce their acceptance in principle of the road map, and plans are made to hold a summit of all the leaders on Saipan Island to hammer out the details.

III. IMPLICATIONS FOR ADAPTIVE RESPONSE

"How we respond to threat affects our security as much as the threats themselves."
Workshop participant

Sources of Resilience

Once the scenario narratives were constructed, participants were asked to identify sources of resilience. Resilience, in this context describes the technical and social capacities of communities to cope with, and adapt to, the stresses of global insecurities without exceeding critical thresholds of change, beyond which communities suffer a systematic and often catastrophic change. The question therefore is: what are the technical and social capacities of communities to cope with, and adapt to, the stresses of global insecurities in each of the scenarios?

In some catastrophic events, resilience becomes impossible at the point that societies are simply overwhelmed and collapse. In two of the scenarios, this occurs when nuclear war and climate change overtake the narratives. In the former case, the sheer scope of the destruction is sufficient to preclude any attempts at adaptation in an area hit by a nuclear attack. The implication is that as concerns security with regards to nuclear weapons the focus must be on preventing their use.[3]

In terms of climate change, the impacts are highly uneven. Consequently, measures to increase resilience are also highly specific to locale and impact. In the narratives, those living in low-lying coastal areas (in the case of the sea-level rises envisioned in Scenario I), and northern climates (in the case of the Ice Age of Scenario III) will face extreme challenges – some catastrophic. Other areas, however, will gain through climate change. In Scenario 1, northern areas like Canada and Siberia become significantly more productive agriculturally with increased growing seasons, while in Scenario III dry areas like California benefit from increased rainfall. Some respond to this situation by pirating water by adopting new technology. Thus, the radical changes envisioned in the scenarios demand new forms of regulation and governance.

Adaptation

"There's a need for global civil society to step forward."
Workshop Participant

The scenarios imply that while it is not too late to reduce greenhouse gas emissions, it is already time to begin adaptation due to current climate change extremes due to the effects of past human behavior. Adaptation, in contrast to mitigation, is a process by which strategies to moderate, cope with, and take advantage of the consequences of global insecurities are enhanced, developed and implemented.

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[3] See *Who Will Stop Nuclear Next Use?* Nautilus Institute, at ttp://www.nautilus.org/gps/scenarios/index.html)

Such adaptation must be planned and implemented locally, but always with a global view. Climate change will affect every part of the planet, and attempts to adapt in one area could exacerbate problems in another. But because the effects will differ from place-to-place, adaptation strategies must be developed on the local or regional level. Conversely, the lessons gleaned from adaptation strategies can be shared across a global network and tailored to local needs, as can resources and knowledge.

Surprises

"If there are manmade problems, there are manmade solutions."
Workshop Participant

One important lesson of these scenarios is that "stem the tide" solutions - those which only address short-term threats without considering the long-term impact – are woefully inadequate at best, doomed to failure at worst. In the case of rising ocean waters, building bigger dikes and dams did not prove resilient strategy. Instead, resources would be better spent to prepare now for the contamination of potable water and salinization of arable land, or gradually moving populations to higher elevations. A great variety of different technologies to reduce emissions, increase efficiency, and capture carbon from the atmosphere will be needed. While some technologies will be more effective than others and rates of adaptation will vary greatly, diverse approaches will increase resilience against the effects of climate change.

Another aspect of climate change that was highlighted by participants is its effect on the availability of food and water. Water shortage, in particular, is already a factor in armed conflicts. The scenarios illustrate clearly how conflicts are set to arise from competition for scarce resources. Concerted efforts are needed to develop more sustainable agricultural and water use patterns worldwide.

The Global View

Climate change is increasing the scale and frequency of natural disasters, as seen already in the Southeast Asian tsunami and Hurricane Katrina. These disasters overwhelmed local authorities' capacity for coping. The most effective relief came not from governments, but from regional and global networks as non-governmental organizations, multilateral organs and governments cooperated to assist victims, especially after the first few days of headline-driven response. The greatest opportunities emerged in scenarios when cooperation was undertaken regardless of cultural, ideological or national divides. Global disasters have an equalizing effect, in that they strike rich or poor, regardless of political affiliation, even if the effects are felt disproportionately. If people migrate en masse after disasters, then even the well-off will be affected. Pandemic diseases also have no respect for social, economic, political or ideological divides. Strategies which take a global view are necessary.

Scourge or Opportunity?

Because some strategies are bound to fail, communities need to be prepared to deal with the consequences of these failures. Even a relatively modest rise in sea level, for instance, will inundate many of the low-lying coral atolls in the Pacific and force entire populations to relocate. Societies that have been traditionally reluctant to welcome immigration, such as South Korea and Japan, may wish to reconsider their asylum policies. Some aging communities welcome the influx of new people, which breathes new life into the area and provides needed labor.

In each scenario, players have found opportunity in the massive changes caused by events. Canadian Inuit populations adapt to warming climes by investing in agriculture in the Tidal Wave Scenario. Rise of the Machines Scenario "rejectionists" prove to be the unexpected source of resilience against a technological world designed to provide, as one participant put it, “the ultimate technological solution leading to the loss of humanity." The Theo-Corporations Scenario's massive deluge, which plagues some regions, provides a new source of water for previously drought-afflicted regions.

Communications technology proves to be an interesting case in terms of resilience. As illustrated in the Rise of the Machines Scenario, the more dispersed the Internet becomes, the less vulnerable it is to attack, yet the harder it becomes to control. This suggests that current attempts to regulate the internet, for example, in China, are not a resilient strategy. Networks of publicly trusted intermediaries, however – wikis, citizen journalism, civil society organizations– are growing in influence and importance for their ability to filter the “signals from the noise".

A related lesson from all the scenarios is the important role to be played by non-governmental groups, for good or for ill, in helping to build resilience. Organizations grounded in civil society play critical roles in all four scenarios as first responders, watchdogs, and filters for information. Faith-based groups can play positive roles as providers of succor or negative ones when fuelling sectarian strife. Corporations are vital sources of technological innovation, but are alternately a source of misery when they put their interests above the common good, as in the theocratic city state in one scenario. Clearly, security is not an issue that can be left to governments alone.

APPENDIX 1: **Workshop Participants**

Australia

BARRATT, Paul AO
Principal
CEO Collegiate Pty Ltd

BEHM, Allan
Security and Risk Management Consultant
Australia 21

BUCKLEY, Professor Ross
Professor of Law at Bond University
Australia 21

DEMURA, Peter
Chief Economist
BHP Billiton

GORICANEC, Jenni
Course Leader, Master of Sustainable Practice
RMIT University

PUNG, Alice
Author
University of Melbourne

CORK, Steve
Ecological and Futures Consultant
EcoInsights

SCRAFTON, Mike
General Manager
GAA Establishment Taskforce

WALLER, Mike
Director
Heuris Partners

LITTLEJOHN, Mark
Intellectual Property
RMIT University

WILKINSON, Marian
National Security Editor
Sydney Morning Herald

WOODMAN, Dan
Youth Research Centre
University of Melbourne

LAURIE, Robin
Freelance Theatre Director
Melbourne

JONES, Sally
Scenarist and workshop facilitator
Melbourne

TANTER, Richard
Senior Associate
The Nautilus Institute

Indonesia

SOEJACHMOEN, Kuki
Executive Director
Pelangi

Singapore

CHUA, Hearn Yuit Gavin
Researcher
Singapore Institute for International Affairs

Japan

KATSUTA, Tadahiro
Visiting Researcher
Graduate Schools for Law and Politics University of Tokyo

SUZUKI, Professor Tatsujiro
Senior Research Scientist
Socio-economic Research Center, Central Research Institute of Electric Power Industry

Republic of Korea

YI, Kiho
Director
The Nautilus Institute - ROK

SAVAGE, Tim
Senior Associate
(Korean translation)
The Nautilus Institute - ROK

One South Korean participant requested anonymity.

United States

MOON, Richard
Founder
ExtraordinaryListening.com

BRUCE, Scott
Branch Manager / Program Officer
Nautilus Fellow at the USF Center for the Pacific Rim

HAYES, Peter
Executive Director
The Nautilus Institute

PURI, Munish
Associate
The Nautilus Institute

WEINGARTNER, Miranda
Program Officer, workshop Associate Facilitator
The Nautilus Institute

APPENDIX 2: 2006 SCENARIOS GLOSSARY

GLOSSARY

Please read this glossary carefully as we will refer to these terms many times during the workshop. These definitions are not "correct"—they are simply the meanings we will use in this context to ensure that we have a common language.

'Asia-Pacific Communities'—communities defined by identity such as: multinational communities (for example, supranational entities such as APEC), sub-regional communities (such as ASEAN), subnational communities (such as cities), transnational communities (such as diasporas), national communities (such as nation-states), sectoral communities (such as a corporate, civil society or state agency transect of any of the above), or combinations of the above communities in networks, with no specific geographic definition of Asia-Pacific in mind as many such spatial scopes co-exist, co-mingle, and jostle for attention, but always used with notion of purposeful, self-aware, collective, norm-based activity that is associated with community at any level, wherever it is located or lived.

'Vulnerability'-- the extent to which communities are potentially affected negatively to internal and external stresses that exceed critical thresholds of change generated by global insecurities over a specific time frame: for example, a hundred-year time-frame from time zero is the minimum time-horizon over which to consider inter-generational equity and much infrastructure. Thus, reduction in vulnerability may be a short, medium, and long-term goal, all of which may demand action in the next 30 years.

'Sensitivity'— the degree to which a community is affected, either adversely or beneficially, by stimuli from global insecurities; in the case of climate change,, for example, including mean climate characteristics, climate variability, and the frequency and magnitude of extremes.

'Resilience'—the technical and social capacities of communities to cope with, and adapt to, the stresses of global insecurities without exceeding critical thresholds of change, beyond which communities suffer a systematic and often catastrophic change.

'Trigger events'—short, sharp events that may be internal or external to specific communities that bring about rapid and transformative changes to the whole system by exceeding thresholds of change to which a system is otherwise resilient. An example is the US bombing of the Chinese embassy in Belgrade during the Bosnian War that instantly degraded the US-Chinese security relationship. Trigger events often imply a cultural system that is predisposed to such change but its denizens do not realize that they are rapidly approaching or already at transformational thresholds. Trigger events often are associated with early warnings that whisper—if only we could hear them—that a dramatic change is underway.

'**Adaptation'**-- a process by which strategies to moderate, cope with, and take advantage of the consequences of global insecurities are enhanced, developed

and implemented.

‘**Adaptive capacity’**— the property of a system such as a community to adjust …to expand its coping range under existing or future conditions of global insecurity, used here to refer to community actions and institutional responses that are purposeful, anticipatory, proactive, and collective in nature in contrast to coping capacity, used here to refer to community responses that are ad hoc, incremental, reactive and often individual or unilateral in nature.

‘Infrastructure’—the hard material infrastructure of human settlements such as buildings, transport and telecom networks, and water systems; and the soft infrastructure that provides the institutional framework and social capital to operate the hard infrastructure.

‘**Global insecurity’**— the multiple insecurities that are global in nature, that is, they either arise in relation to a shared global commons (such as the international oceans or atmosphere, for example); or require a global response and regulation to reduce or resolve the insecurity (such as trade conflict or allocation of radio frequencies). While universal, human mortality or dog bites are not global insecurities by this definition. Global poverty, global climate change, global war, global dislocation, global biodiversity loss, and global pollution are archetypal global insecurities. An insecurity is a factor that causes individuals or communities to perceive a threat to their welfare or existence in a fundamental way by overturning the status quo, denying them access to sustainable livelihoods, exceeding critical thresholds of change, denying their cultural identity, etc., as defined by international law.

‘Risk and Uncertainty’ -- a causal factor (event, process, behavior) that has a known or estimable probability and a finite outcome poses a risk; if the probability is unknown the risk is indeterminate, in which case the outcome is uncertain. A causal factor therefore may be more or less predictable, depending on its probability; and may be more or less powerful (depending on its outcome, should it occur). Outcomes can be positive or negative.

Scenario: A narrative of the future driven by unpredictable drivers, an exploration of unknown conceptual terrain. Scenarios are used to expand insight into uncertainty that ambushes organizations and surprises leaders. There are different types of scenarios: technocratic scenarios that are oriented towards states and planning; anticipatory scenarios that aim to help organizations survive in an uncertain world; and generative scenarios that identify interventions that try to realize values and transform the future, often by embracing uncertainty as a basis of strategy. Scenarios usually have a timeline over which meaningful change is possible. Scenarios narratives should be plausible, internally consistent, and not incredible. Good scenarios often make experts feel uncomfortable because they demand that participants grapple with mind-stopping conclusions that are contrary to many closely-held beliefs about the future. Although fictional, the narratives incorporate highly analytical as well as intuitive thinking. Scenarios are often used in organizations engaged in change processes. They are also used to engage persons with divergent views and colliding perspectives to create a common understanding of a difficult or

contentious issue and to build a shared strategy to respond to the challenges in the focal question and scenarios. These are sometimes called "strategic conversations."

Focal question: sets in motion a probing enquiry into the overarching, common theme around which the different, uncertainty-based scenarios will be structured. The focal question is the guiding light of a set of scenarios and every word makes a difference. Focal questions lead to an understanding of who is accountable for responding to divergent outcomes and lead to clear definition of agency--who must act to respond to the challenge that is implicit in the focal question.

Uncertainties (as used in scenarios): in contrast to risk in which a probability can be assigned to an outcome or event, genuine uncertainty is not amenable to probability estimation or assignation. In scenarios, we are interested in exploring the unknown. Thus, we try to put aside the predictable drivers and outcomes and focus instead on highly unpredictable drivers/shapers and outcomes. Defining uncertain drivers/shapers and outcomes is inherently subjective.

Branching points: are forks in the road of each narrative where it is possible to make fundamental choices in the evolution of the story and outcomes. Branching points where strategic interventions are possible may be of particular interest, especially in generative scenarios that try to deflect narratives toward positive outcomes in terms of the values embedded in the focal question.

Drivers/Shapers: Drivers are powerful causal forces that result in outcomes that bear on the focal question. Thus, scenarios usually incorporate sociological, political, economic, technological, and ecological trends and drivers of such trends. Such drivers shape the future and do not stand alone. The driving force should be named, made as specific as possible (for example, not "Demographics" but "Aging workforce in Japan, Korea, China, Australia"), inhibiting and enabling attributes listed, and links to other powerful driving forces should be noted. How these affect the dominant ways people think is also useful to note because a driver may punch a hole in existing paradigms and let new thinking flood through into a narrative.

APPENDIX 3: PARTICIPANT COMMENTS/ OBSERVATIONS

Dan Woodman, Youth Research Centre, University of Melbourne
Echoing the other participants, the group was inspiring and taking part a privilege. It was stirring to see a group of analytically gifted people with a wealth of specialist knowledge whom were willing to engage in such a creative process and follow some possibly far fetched tangents in good faith. I'll reflect briefly on what it means for my own work within the sociology of youth. The young people I work with, as a generality, are concerned about many of the same global issues that were raised in the workshop. However, they lack a narratives that allow them tell their own story about who they are and what they stand for and how to take action. Some of the stories that drove social action in the past were relatively closed stories: simple linear stories that proposed one major problem, with one major cause (or scapegoat) and one major path of action. I don't believe, and hope, that Australia's young people are willing or capable of believing in these kinds of stories as in the end they will not provide the dynamism and flexibility that will be needed to face global challenges. We need open stories, stories that allow us to engage in the world and maintain hope despite inevitable failures along the way. And we need leaders who can tell these types of stories. Taking part in the workshop gave me hope that these stories can emerge, and renewed energy to look for spaces in which they might be emerging amongst our younger generations. Thank you for the opportunity to take part, it has reenergised me.

Paul Barratt, Co-chair, Australia 21
I found the whole exercise both enjoyable and very worthwhile, and a great bunch of people. It was immensely stimulating to find myself interacting closely over a couple of days with a multi-national group of people of diverse professional and cultural backgrounds, each of them high achievers in their own fields, and with this group to think imaginatively about what the future might hold, then plunge into thinking about the implications of the futures we postulated. The diversity of futures brought forth by the different groups gave us all a lot to think about. If I would sound a cautionary note, it is this - we all tend to be somewhat optimistic about the future, even when we are trying not to be. Perhaps it will all turn out worse than any of us is prepared to contemplate - we should contemplate the possibilities in that bleak space as well.

Peter Demura, BHP Billiton
In times of uncertainty, scenarios are a source of optimism. By thinking through the opportunities and challenges a future world may hold, society is better able to make informed choices which hopefully will avoid many of the downside risks while maximising the positive. Important in the ability to generate these outcomes, is the process and people. The scenario process takes us away from our immediate concerns and allows us focus on the alternatives. Where else could we contemplate futures as varied as Chinese democracy, mass migration of people due to climate change or a world dominated by IT and nanotechnology. A worthwhile project with the ability to make a difference.

Alan Behm, Director of Value Creating Policy Services; former Senior Advisor, Prime Minister's department

Alvin Toffler remarked that the greatest failure confronting the world is a failure in imagination, and that the best thing our education system could do was to free up the imaginative capacities of the young. The scenarios workshop was successful in encouraging us to apply imagination to the discontinuities that will certainly mark the future. I am not sure where the stimulating and enjoyable work we all did will take the A21 security study, since the scenarios were largely discursive rather than analytical. But the two days certainly provided excellent context within which we should be able to take our thinking forward, and begin correlating the various threat categories into something that might help policy makers be somewhat more discriminating (if one happens to think that $2 billion on terrorism is just a bit undiscriminating!) I am glad that you have recovered from the quartan ague, and look forward to another intellectual interaction with Nautilus.

Mike Waller, Director, Heuris Partners Ltd
It was most enjoyable to be able to think about long term global challenges in the company of a diverse group of intelligent, insightful and positive people.
The process worked well and generated some interesting perspectives for me:
· The most confronting issues of the day are not necessarily vital in the broader sweep of future history
· Human nature, motivations and culture persist while "technologies" change - understanding and managing this dynamic will likely make the difference between resilient/generative futures and the darker alternatives.

Richard Moon, Organizational Consultant
It was one of the highlights of my year. Hearing the concerns of others opened my eyes to things not seen (by me). Also I enjoyed everyone in my group so much, the childlike playfulness took us into a very creative space and everyone's scenarios felt like they will help me enter the future with greater openness. Curious to see where the thinking goes from here.

Alice Pung, Novelist and Lawyer
I found the workshop to be a very enlightening experience, and a very worthwhile one. The most fascinating thing about the workshop was that it was so productive due to the lack of inhibitions on the imagination.
The participants were experts and leaders in their respective fields. The workshop was structured so that this wealth of knowledge was shared in a way that was easy to understand for all participants, and culminated in some very possible outcomes that we could never have thought of alone. I am grateful for the experience.

Suzuki Tatsujiro, Tokyo University and Central Research Institute for Electrical Power Industry
My feedback to the Scenario Workshop is as follows.
1. Facilitator and all participants are both top class and I enjoyed the friendly atmosphere of the workshop as a whole.
2. It was difficult (probably for the facilitator) to focus on one big "critical uncertainty" reflecting diversified backgrounds of the participants. But the facilitator did manage the process very well.

3. Given the time constraints, the scenario building was very efficient, thanks to very effective assistance given by the staff.
4. I understand that scenario building has not ended (in fact it has just started) and I am sure that all of you will have a hard time as much of the scenario was very rough and imaginative without strong evidence.

Mike Scrafton, CEO Growth Areas Authority; former Senior Advisor to the Minister of Defence
The scenarios workshop remind me that it is often only when you let your collective imaginations take you into improbable places that you encounter the concrete issue of today that require attention. It also helps recharge and rekindle my passion for taking on the big policy issues and to my reignite determination to not get lost in the accumulated detritus of the daily grind. The exercise was immensely valuable.

Marian Wilkinson, Sydney Morning Herald
I just wanted you to know I had a very interesting time and appreciate the efforts to force the daily hack to think beyond the next few days. I appreciated the efforts of the follow participants and their wide and differing experience.

Katsuta Tadahiro, nuclear physicist, Graduate Schools for Law and Politics University of Tokyo
Thank you very much everything. I believe my good experience is useful in my future life!