Nautilus Institute Seoul

In partnership with ARI

and

DaSMI Sunghonghoe University

Civil Society Scenarios 2009

Northeast Asia 2050:

Is there a role for Civil Society in Meeting the Climate Change Challenge?

Sponsored by the Korea Foundation
Nautilus Seoul-ARI

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The Regional Council on Climate Change celebrates its 40th anniversary at a seaside resort in Japan, a resort that might be underwater were it not for the effectiveness of the Council as it aggressively addressed climate change, specifically adaptation in North East Asia. The original charter members, China, Japan and Korea are now joined by the Russian Federation and the nations of Southeast Asia. The discussion of such a council first surfaced in March 2009 at a conference in Paju City, South Korea ("Northeast Asia 2050: Is there a role for civil society in meeting the climate change challenge?") under the leadership of ARI- Nautilus and became fully functional by 2012. The council is widely held to be a model for regions around the world.

Is such collaboration possible? Can we protect our fragile eco-systems so that basic economic security is protected? Can NEA recover from the current economic crisis and invest in climate friendly policies and adaptive strategies? Could such coordination actually reduce the impact and disruption to human well being associated with uncertain but possible climate change events? Can we be prepared to respond to both the extreme and gradual effects of climate disruption that we are already too late to prevent? Can civil society help protect the most vulnerable communities and widening gaps between rich and poor?

These questions prompted ARI-Nautilus, the Nautilus Institute for Security and Sustainability's partner office in Seoul, Korea to convene a scenarios-based planning workshop that took place immediately following the research workshop *Interconnections of Global Problems in East Asia: Climate Change Adaptation and its Complexity from the Perspective of Civil Society.* In the scenarios workshop, scholars, activists, government officials, and critical and creative thinkers from China, Japan, and South Korea as well as Nautilus staff from Australia and the United States were challenged to grapple with these issues anew using a different methodology than those used in the more traditional research workshop. For over 25 years, the Nautilus Institute has been a leader in environmental, energy, and nuclear security issues, with a particular expertise in the Asia-Pacific region. Now with the original office in San Francisco complemented by independent partner offices in Melbourne, Australia and Seoul, Korea, the Institute has deepened its network structure to better leverage its security-oriented research and information services with more effective cultural and political responses to the issues threatening human welfare and security in the region. The two-day scenarios workshop focused on *uncertainty* and how we can best prepare for a volatile world challenged by economic instability, eco-system disruption and limitations, climate change, and a still growing population demanding more and more from the earth's resources.

Climate Change Disruption

The focal question for the workshop *"Northeast Asia 2050: Is there a role for civil society in meeting the climate change challenge?"* explored opportunities for the three countries to coordinate resources and strategies to build civil society capacity for anticipating, preparing for and responding to the potentially devastating effects of climate disruption, including floods, drought, transportation, famine, disease, and resource wars. The workshop did not address mitigation or how to best prevent climate change. Instead, it focused on responding to its positive and negative impacts -- that is, on adaptation. Another way to frame the question asked in the workshop is: *Who can possibly help us prevent the most devastating impacts of climate disruption and how can this be done given the great uncertainty associated with possible impacts? What motivates the creation of well-funded, fully developed public policies for highly*

uncertain events when more immediate and better known threats to human welfare are competing for the same funding?

Climate change is the challenge that may define the course of human history in the 21st century as it deepens our understanding of the implications of globalization. Climate change affects everyone and knows no geographic boundaries; its effect on the polar ice drowns islands thousands of miles away; the greatest contributors to the greenhouse gases (GHGs) that cause the climate change are not only the best protected economically from the effects of the changes in climatic patterns, but the least vulnerable geographically; the emerging economies are simultaneously creating more greenhouse gases and raising the economic welfare of their people—the issue of equity and co-benefits (increasing the rate of development while reducing GHGs) is one of the most complex in any discussion of climate mitigation/adaptation. The science and the economics demonstrate that climate change is a complex, global problem, pure and simple.

Despite the global nature of the problem, there is value in analyzing the issue from multilateral and regional perspectives. Certainly the refugee issue is one that remains fairly limited in geographic scope—refugees from floods go to the *nearest "s*afe" land; mutations in diseases and changes in disease vectors generally impact neighbors before travelling across the globe; food shortages force those in need to mine more deeply the shared oceans. Anticipation, interventions, and mutual political and social system support at the regional level has great potential for reducing climate-induced human suffering.

The Workshop

The two-day workshop consisted of four distinct components: framing strategic planning for climate-stressed environments; identifying the drivers of our responses to that stress; creating the scenarios; and analyzing the implications of the scenarios for strategic action *today*.

What is Civil Society:

Each group was asked to define "civil society" and then to rate the effectiveness of civil society in each country—China, Japan, and South Korea. Most were surprised by the different definitions, assessments, and perspectives and accepted that the concept was one where individuals used the term without a common definition. Generally speaking, the group agreed to use the term civil society to describe efforts to lift the voices of all people committed to a civilized (non-violent, peace seeking) world; and that civil society organizations are defined by a commitment to realizing collective and not merely individual self-interest.

Critical Issues:

Having grappled with the unpredictable character of the future which is amplified by the uncertainty associated with climate disruption, the participants turned their energy to an exploration of the critical issues that might shape our responses to possible futures. The drivers that surfaced as most critical included:

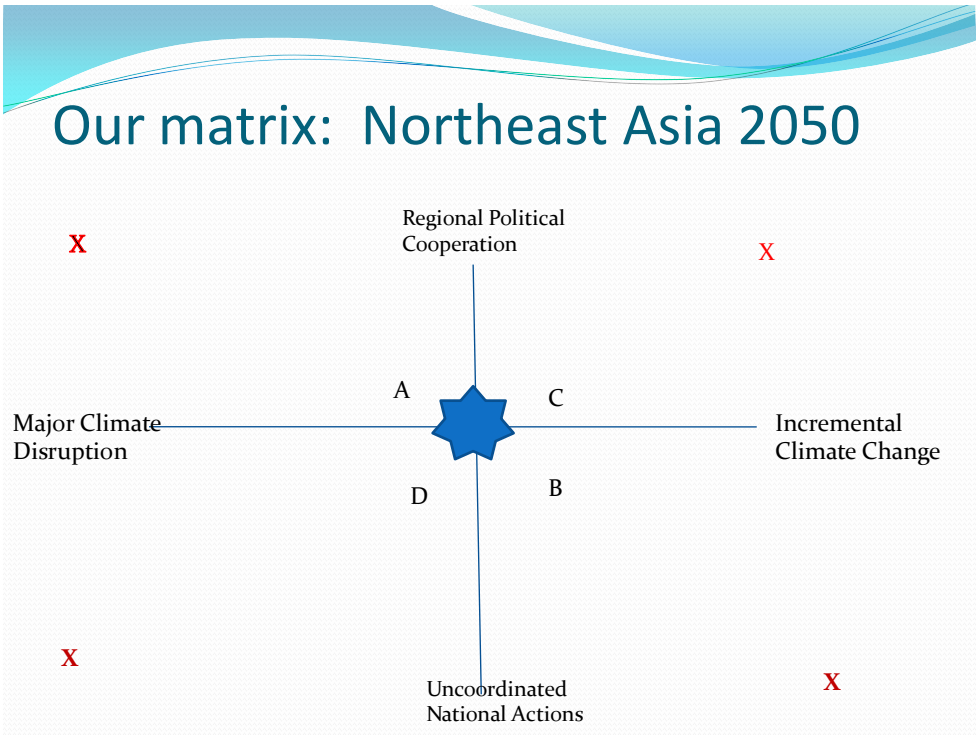
- Population: growth, migration, immigration
- Global economic stability, growth or collapse (*)
- Conflict: state, non-state, terrorist actions (*)
- Natural disasters, extreme weather event(s) (*)
- Eco-system resilience to climate change
- Change in government leadership

- Biotechnology
- Food insecurity
- Shifting global powers (rise of Asia) (*)
- Technological developments
- Global communications/networking
- Consumption and resource availability
- Energy: movement from fossil-based economies
- Loss of biodiversity (*)
- Global will to change and respond and adapt
- Governance effectiveness (*)
- Diseases caused by Climate Change
- Extent, nature and rate of climate disruption
- Public confidence/fear/trust (*)
  Balance among local vs. regional vs. global community identity (*)

The issues that were identified by the group as most unpredictable in either occurrence or magnitude of effect, consequently having greater impact on our ability to plan for a future that reduces the risk of further deterioration and inequity in human well-being, are marked above with an asterisk. Generally speaking, these were the most common issues addressed in the narratives.

The Scenarios

After developing a framework for climate change, adaptation, and uncertainty, the workshop participants moved on to creating the uncertainty scenarios which are designed to describe possible, plausible futures but not the "most likely" or probable futures. Each scenario is framed by a quadrant of a matrix created from two of the highly unpredictable drivers; in this case, in the interest of the tight time constraints, the workshop facilitator and sponsors chose the matrix.



The blue star represents the world today, the red "x"s represent the world in each quadrant in 2050; the scenarios are the narratives for what happened in each quadrant, taking us from today to that future time.

<u>The Scenarios: Narratives of Possible Futures</u>

Group A: Regional Cooperation and Major Climate Disruption

In this scenario, a series of catastrophic climate events force the countries of the region into greater cooperation to adapt to the new realities. The result is greater regional integration and a setting aside of historical differences. The two Koreas reunify after North Korea's collapse, and by the end of the period a common Asian currency has been established.

In 2012, the UN Conference of Parties in Cophenhagen adjourns with no agreement on a new Climate Change treaty. As a result, no coordinated worldwide mitigation effort is conducted, and climate change accelerates. Major climate events ensue.

In 2014, massive floods hit the DPRK, dwarfing those of earlier decades. The long-stressed North Korean leadership cannot survive yet another crisis, and quickly collapses when soldiers abandon their posts to try to save family members. Mass migration into China leads the Chinese government to send troops to stabilize the situation, setting up a puppet government in Pyongyang. South Korea responds with troops of its own, occupying Kaesong, Nampo, Wonsan, and the East Coast as far north as Rajin-Sonbong. The

US publicly backs South Korea's position and calls for China to withdraw, while behind the scenes pressuring both countries to avoid a direct military conflict.

Due to the loss of agricultural land to desertification, pig farming has become an urban occupation in China, with pigs kept indoors and fed on human garbage. The lack of control over this feedstock leads, in 2016, to the outbreak of a new “Mad Pig” disease that claims the lives of tens of millions of pigs in China. Hunger spreads.

In 2018 a new government takes power in Seoul that was elected on a nationalistic platform of immediate reunification. In his inaugural speech, the new president declares that the areas occupied by South Korea are already part of a de facto reunified Korea, and he pledges to hold local elections in September. He also promises to negotiate with China for a withdrawal of troops from the area under its control. At a summit meeting in June, China agrees to accept a reunified Korea, in exchange for food aid from the ROK, including Korea's newly cloned pigs that are immune to Mad Pig disease and more robust in drought conditions. The success of the reunification accord sets off a spate of greater regional cooperation, beginning with the establishment later that year of a regional disease cooperation group to monitor and respond to new disease outbreaks.

Japan uses this newfound regionalism to promote overseas engineering projects. After completing the new Tokyo seawall system in 2019, Japanese construction companies announce a new contract for a similar project in Shanghai.

Meanwhile, global warming is playing havoc with Asia's staple crop. In 2020 scientists from the International Rice Institute warn that rice production is projected to drop by 80% by 2050. That same year a super-cyclone hits eastern Asia causing massive damage along coastal regions, but Tokyo is largely spared thanks to the success of the seawall. This spurs further investment in engineering solutions to guard coastal cities in the region.

Such solutions prove inadequate in dealing with the climate change challenge, however. In August 2022, the Greenland ice sheet slides into the sea, making rapid sea level rise imminent. Soon, Shanghai, Busan and Tokyo are devastated by super cyclones that easily overwhelm the seawalls.

In 2024, Chinese President Yao Ming announces the signing of an Asian Agricultural Agreement (AAA) to optimize regional food production. Two years later Russia, which has seen a major expansion of its growing season with the advent of global warming, enters the Agreement as a means of opening up markets for its newfound agricultural sector.

As the AAA proves successful in curbing the chronic hunger that has plagued the region, President Yao in 2030 proposes that it be amended to add an Asia Carbon Agreement to cut greenhouse gases. After two years of intense negotiations, Asian countries in 2032 ratify an extended Agricultural and Carbon Agreement, popularly known as the Asian Carbon Union, and endow it with strong powers to regulate emissions.

In 2033, the ACU implements a massive carbon tax. The measure proves highly unpopular in many circles however, and comes in for intense criticism when, in 2035, 20,000 people die in a summer heat wave in Beijing while power use remains curtailed. In 2038, riots break out by unemployed workers in Seoul who blame the power limits imposed by the Carbon Union for the collapse of the country's electronics industry.

These events put pressure on the ACU to find new ways to increase the power supply while maintaining emission curbs. These finally pay off when, in 2040, a technological breakthrough funded by ACU investment leads to the deployment of super cheap, highly efficient solar cells.

In 2043 the ACU holds an international conference in Kuala Lumpur to bring together developing and developed nations to discuss how the ACU model on cooperation on climate change can be replicated worldwide.

With the increasing integration of the region, advocates of a common currency gain strength finally culminating in the creation, in 2049, of an Asian single currency union known as the WYY (combining the Korean Won, Japanese Yen, and Chinese Yuan). Finally, in 2050, the nations of the world meeting in Singapore sign the international agreement on emissions limitations modeled on the ACU.

Group B: Uncoordinated National Actions, Incremental Climate Change

Divided World, United Regions. In this scenario, global efforts to halt greenhouse gas emissions fail. This leads to a series of climate shocks that force the countries of Northeast Asia to work together on regional and/or bilateral levels to address environmental problems. This allows the countries to adapt so that by 2050, they are on the path to sustainable societies.

In 2009, the Copenhagen Protocol is adopted. It quickly falls apart, however, as Japan and the US decide not to ratify it because China did not commit to any emission reductions. With the prospects for a multilateral agreement now gone, political tension rises between Japan and China as each blame the other for the failure of the accord.

With the failure to curb emissions, in 2015 major typhoons hit Osaka and Tokyo directly, causing huge damage. A new government has come to power in China which sees this as an opportunity to pursue detente with Japan, and together with South Korea sends aid to Japan. The joint work with South Korea opens the door for a bilateral dialogue between Seoul and Beijing on the yellow dust problem, with the two sides agreeing to expand reforestation efforts.

In 2020, China and Japan with US cooperation make a sectoral agreement on technology transfer for cleaning up coal-fired power plants and steel factories based on green technology. The new Japanese government introduces a cap and trade emissions trading system linked with the US, as well as a new energy policy emphasizing renewable energy.

Meanwhile, the Chinese government is opening up to civil society in recognition of the need for non-governmental help in solving society's problems. Korean and Japanese civil society groups also lobby their governments to take a more proactive stance toward environmental issues not only in their own countries, but in China as well.

In 2030, China and Japan start technology transfer of renewable energy. Korea and China expand official forestation projects to prevent yellow dust problems. By 2050, the three countries are on the path toward a low-carbon society.

Group C: Cooperative actions/Incremental climate change

Out of the Ashes, a Lilly is Born. In this scenario, a series of climate shocks forces the countries of East Asia to come together to address climate change. Civil society and private enterprise take the lead in promoting adaptive strategies and developing green technologies. More sustainable lifestyles develop.

In 2009, the Democratic Party wins in Japan and announces a new North East Asia policy. At the same time, US President Barack Obama announces a new set of green initiatives as part of his economic stimulus package.

In 2010, engagement of North Korea takes a surprising turn when the Japanese Foreign Minister makes a secret visit to Pyongyang and achieves settlement of the abduction issue. One month later, North Korean leader Kim Jong-Il, at the invitation of the Japanese government, visits Tokyo Disneyland and declares his desire to develop tourism in North Korea, with Japanese help. This breakthrough in bilateral relations in turn spurs the 6-party talks forward, resulting in an agreement on complete and verifiable dismantlement of North Korea's nuclear weapons program. Thanks in part to the progress on the North Korean nuclear issue, but also the Obama administration's determination to push forward its nuclear disarmament agenda, China, India, and the US ratify the Comprehensive Test Ban Treaty. With his political capital at an all-time high, Obama declares in 2010 that the US will reduce greenhouse gas emissions by 30% within 10 years.

In 2011, Northeast China suffers a serious environmental shock as the long-buildup of air pollutants in China reaches critical mass, sending a vast cloud of particulate matter over the region, seriously affecting millions. This increases pressure on China both internally and externally to take more proactive measures to deal with its pollution problem, spurring Chinese interest in green technology. Meanwhile in Japan, a new company is established that is conducting research into more efficient battery technology for use in electric cars.

In 2012, China joins the post-Kyoto discussion on reducing emissions. This in turn gives rise to bilateral talks between Taiwan and China.

In 2014, a nuclear terrorist attack destroys the oil fields in Saudi Arabia. The plutonium used to make the bomb is traced back to Japan. This forces Japan to abandon its reprocessing program and move directly to permanent disposal of its existing plutonium stockpile. In the meantime, the price of oil sours, forcing countries to accelerate development of alternative energy sources.

In 2019, a group of hackers develop a method to make the Internet available for free worldwide. At the same time, the open source movement perfects software to provide free translation into all languages. This greatly facilitates civil society organizing.

That same year, the world slides into a depression as the stimulus plans put into place following the 2008-09 economic downturn lose steam. The resulting 10% reduction in worldwide energy demand facilitates emission reduction, allowing world temperature rise to be contained at 3-4 degrees. With the global depression and high oil prices, the demand for petrol-fueled cars drops and Jilly car company collapses in China. The Japanese battery research company purchases it and renames it “Lilly.”

The depression undermines the Chinese Communist Party's claim to one-party rule, and in 2021 the Green Party is established there. The party gains popularity in 2022 following the meltdown of a nuclear power plant in Jinshan. New nuclear power plant construction is halted, further spurring investment in renewable energy. The same year, a group of enterprising NGO activists convince 2 billion people worldwide to donate US$2 each to an online disaster fund, thus laying the foundations for the beginning of a Global Green Fund.

The fund is quickly utilized when, in 2025, massive tides flood several North East Asian cities. This leads, the following year, to the establishment of the Asia Center for Climate Change Adaptation. The center carries out a number of programs, including education programs for the mayors of Asian cities and housing initiatives for refugees from South Pacific islands that have been flooded by sea-level rises.

In 2026, Lilly company makes a breakthrough in green battery technology, and secures venture capital from the Global Green Fund to begin mass production of electric cars. Shares of the company skyrocket.

In 2030, China holds free elections for parliament, with the Green Party emerging victorious with 52% of the seats. The following year, the new Chinese government hosts a regional negotiation on unifying electricity grids. Russia is invited to join the discussions, at which Japan offers seed funding for mainland grid infrastructure. As a result of the success of this meeting, an annual East Asian green summit is established.

In 2032, civil society unites around a green car campaign. The success is such that in 2035, car companies in Northeast Asia that continue to produce fossil fuel-based vehicles collapse due to falling demand. Fulfilling an agreement made in the previous year's green summit, the first tracks are laid for a trans-Asian high speed train network.

With the aggressive investment in renewable technologies, by 2040 renewable energy is accounting for 30% of the total world energy production. Countries are promoting decentralization programs, moving away from large urban centers that require trucking in of resources toward a more self-sustained, rural lifestyle. Even urban dwellers are embracing the movement, planting rooftop gardens and growing more of their own food. A NE Asian Free Trade Agreement is reached, facilitating the transfer of green technologies.

In 2045, an Asian economic union is established, which two years later adopts a common currency. By 2050, Lilly has become the world's largest electric car company and has agreed to support the Green Party in return for Green Party promotion of its electric car. Lilly donates 25% of net profits to the Green Fund, further advancing the development of green technologies. As a result, Lilly and the Green Fund share the newly established Nobel Green Prize.

Group D: Uncoordinated National Action/Rapid Climate Change

The "Spring-Autumn Period" refers to continuous cycle of growth and decay. In this scenario, failure of countries to cooperate leads to a collapse of climate change mitigation efforts and a series of major climate shocks. States are overwhelmed by the onslaught, moving the focus of adaptation to cities. Cities develop autonomous identities built around fuel type.

In 2010, the Renminbi is allowed to float freely, reaching 15 to the dollar. The result is a collapse of the global trading system, and a huge drop in global demand. Countries increasingly turn inward, leaving little momentum for cooperative approaches on climate change.

In 2015, East Asia is hit with a series of super typhoons that devastate coastal cities such as Tokyo, Shanghai, and Busan. At first, people try to rebuild in the old places, but continuous typhoons and flooding force them to reconsider. By 2020, Tokyo is starts rebuilding to withstand hurricanes, but Shanghai is abandoned while in Busan, people move up into hillier areas and away from the seashore.

With the destruction of sea ports, global trade is now practically nonexistent. This in turn undermines the tax base and thus the power of central governments. Cities must therefore look to their own resources to survive, providing their own food and energy.

Three types of cities emerge, developing autonomous energy structures based on locally available resources. Cities with access to the sea, such as Tokyo, extract uranium from seawater to fuel nuclear power plants. Because of the focus on high technology, they develop highly technocratic and authoritarian systems. They also develop nuclear weapons as a means of defense. With widespread electrification, these cities rely on a combination of surveillance and electronic entertainment to keep the people pacified. Most people outside of the nuclear priesthood work in the service sector and entertainment industries.

Those cities located near coal deposits, like Wuhan in China, rely on coal, but with large-scale carbon capture and storage to prevent emissions. This carbon capture and storage requires massive infrastructure, with endless mazes of mines, factories, pipes, and tunnels to mine the coal, process it, burn it, and store the emissions. This requires large stores of unskilled labor, leading to frequent labor strikes and crackdowns on unions. The cities rely for defense on a kind of "doomsday device", whereby any attack on the city would release the carbon into the atmosphere, causing disaster for the attacker as well.

Cities with available arable land, such as Busan, develop biofuels to survive. Because environmental conditions have made large-scale agriculture of the past unsustainable, new methods to grow plants for fuel with a minimum of land or water need to be developed. This, together with the transformation of said plants into fuel, requires a highly-skilled, scientifically literate population. As a result, the biocities

have a highly educated population and more egalitarian system than in the other cities. But they too rely on the deterrence of weapons of mass destruction – in their case powerful biological weapons.

The reduction of arable land forces people to turn to alternative food sources, largely developed in the biofuel cities. New forms of high-protein mushrooms are introduced, providing high amounts of nutrition with a minimum of input. Scientist also develop "in vitro meat" – cloned tissue cultures that provide animal protein without requiring actual livestock; these are popularly known as "stem-cell burgers".

Outside of the cities is a sort of "wild west" of pirates, brigands, and rebels, disrupting trade between cities, or serving as cat's paws for particular cities in their battles against others.

The Scenarios: Roadmaps to the Future

The scenarios should not be interpreted as predictions of the future; instead, they create a spectrum of plausible events that may be the drivers of decision making in the future and shape policies. In the scenarios matrix quadrant described as *a world of uncoordinated national actions and incremental climate change*, we find regional and international climate agreements collapsing after which major typhoons trigger a recognition of the need for cooperation between countries. Of particular significance in this scenario, *Divided World, United Regions,* is the assumption that major changes in climate policy and cooperation will not occur until after a natural disaster forces governments to admit that when it comes to climate disruption, political borders have no meaning and that adaptation (as well as mitigation) will not be in anticipation of a problem, but after many have suffered and then designed to prevent *more* human disasters. This underlying theme of disasters prompting necessary action and adaptive behavior is a common one in the scenarios, and a discouraging one for humanity. The age-old question resurfaces: how can we act soon enough to prevent the loss of life and property?

In the world of "regional cooperation and major climate disruption" the *sole* driver of cooperation was the dramatic climate disruption that resulted in shifts in food supplies, labor movement, sharecropper farms, disease and breakdowns in social infrastructure: the focus is on food, health, and survival--the basics of human welfare.

The "world" of incremental climate change and regional political cooperation, the narrative *Out of the Ashes, A Lilly is Born* results in a world characterized by cooperation, a result driven by civil society and strengthened by technology and scientific achievement; this stability took mankind a hundred years post-WWII to achieve. Again, economic depression, climate disruption, and social instability are all precursors to the recognition that cooperation is the only way to achieve an acceptable level of human security. In this world, more than any of the others, economics is the major driving force and the most powerful mechanism for freeing the region from cycles of disasters, collapse, fear, and instability.

The scenario *Spring Autumn* framed in the world of major climate disruption and uncoordinated national actions is characterized by technology designed to respond to the crises in fuel and food systems driven by climate change. It is a story of states responding to severe climate events through aggressive adaptation and mitigation, possible only under a relatively authoritarian leadership; and in communities where the leadership does not reach, the social systems are chaotic, lawless and frightening places. Certainly the darkest scenario, it is not without hope as technological breakthroughs (in water, food, energy) provide some stability for citizens.

Using the Future to Make Plans for Today

After developing the scenarios, the groups were asked to identify places in their scenario where civil society might have intervened to change their world in 2050. Upon concluding that exercise, the groups worked together to filter the interventions which were relevant to all or most of the four future "worlds": actions that would improve human well-being regardless of the future—*robust strategies* that would benefit human security across the full spectrum of possible futures. These robust strategies illustrated the inter-related nature of a spectrum of climate driven problems and their respective solutions. The final responsibility of the very tired group was to develop action plans for each of the robust strategies.

Five *robust strategies* were identified as being most critical warranting civil society intervention and developing into action plans. These were:

1. Managing climate change through social structures, regulations and financing. For example, the three countries need to create and build up a ***Green Fund*** by 2015 in more than one scenario. This fund must be designed to shift consumers to green customer behavior. Civil society must be positioned to facilitate and monitor all of the actors including both regulatory and non-regulatory approaches, information networks, and create effective incentive mechanisms.

2. Strengthening and recognizing the role of local government. For example, locally driven green practices**,** especially in China, were also identified as high leverage endeavors in more than one scenario. By strengthening local civil society, shifts in factory, farming, education, and green development can be implemented and infused into practice much more quickly than waiting for central government to affect change at the small community level. Incentives for change were seen as being very important if behavior is to change.

3. Using and developing social networks on multiple governance, social and community levels. For example, multiple scenarios relied upon the expansion and formalization of **n*etworking of civil society groups,*** such as creating an A***s***ia Pacific Green Room network that will eventually create a "Civil Court for Climate Change."

4. Stabilizing food supplies/adequacy. For example, multiple scenarios identified as critically important that Japan, China and Korea develop and expand ***secure food production that is environmentally sustainable.*** Policy oriented activism, working with governments to develop incentives and capacity, was found to be especially important to achieving this transition.

5. Addressing the role of DPRK in a climate challenged region. For example, the ***DPRK*** must be positively engaged in the network, the establishment of a Green Fund, sustainable food production, peaceful uses of nuclear power, reforestation, and welcomed as an equal partner in the network. This is of course much more complex than it sounds since, given that with weak role of civil society in the DPRK, engagement must be directed towards and via mostly official channels.

In summary, Professor Yi Kiho concluded the workshop by highlighting the challenge of cooperation among the three countries. He noted the challenge of creativity and envisioning new ways of living and the need for more education about climate change. He suggested that civil society has the capacity and the opportunity to engage in projects that link mitigation and adaptation and share accountability with government and the corporate sector. Finally, he reminded us that all people inhabit civil society in some manner, wherever they are located in formal institutions. He suggested that to be effective, strategies must engage low- as well as high-profile civil society actors and players who are found in villages, on farms, or fishing the seas, and are doing the many invisible and forgotten jobs upon which we all depend. To be truly effective in solving linked global problems, everyone must be mobilized; everyone has a significant role to play, all voices must be heard, and no-one can be forgotten or left behind, for the simple reason that just as no-one can predict which butterfly causes a hurricane, no-one knows who will invent the solutions to a global problem.

Scenarios Participants

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Uncertainty Scenarios:

Uncertainty Scenarios are tools for ordering one's perceptions about alternative future environments in which today's decisions might play out. Unlike traditional forecasting or market research, uncertainty scenarios present alternative images instead of extrapolating current trends from the present. Ultimately, the end result of uncertainty scenario planning is not a more accurate picture of tomorrow, but better decisions today. On March 19-20, 2009, the Nautilus Institute convened its Seoul 2009 Global Scenarios Workshop that sought to identify specific policies and strategies for answering the question *Northeast Asia 2050: Is there a role for Civil Society in Meeting the Climate Change Challenge?*

The Nautilus Institute 2009 Seoul Global Scenarios Project was funded by the Korea Foundation and implemented in partnership with Nautilus Seoul-ARI and DA SMI Sunghoughoe University.

About Nautilus

For over 25 years, the Nautilus Institute for Security and Sustainability has been a leader in environmental, energy, and nuclear security issues with a particular expertise in the Asia-Pacific region. Now with the original office in San Francisco complemented by independent partner offices in Melbourne, Australia and Seoul, Korea, the Institute has deepened its network structure to better leverage its security-oriented research and information services with more effective cultural and political responses to the issues threatening human welfare and security in the region.

Our Mission and Vision

Vision: We hold that it is possible to build peace, create security, and restore sustainability for all people in our time.

Mission: To this end, we convene a community of scholars and practitioners who conduct research on strategies to solve interconnected global problems. With networks of partners, we develop and apply these strategies to the linked threats of nuclear war, energy insecurity, and climate change in the Asia Pacific region. We encourage civil society to strengthen regional governance of these common problems and shared solutions.

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