

# CLIMATE INSECURITIES, HUMAN SECURITY AND SOCIAL RESILIENCE



27-28 AUGUST 2009  
SINGAPORE



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# CLIMATE INSECURITIES, HUMAN SECURITY AND SOCIAL RESILIENCE

REPORT ON A CONFERENCE ORGANISED BY  
THE RSIS CENTRE FOR NON-TRADITIONAL (NTS) SECURITY STUDIES AT THE  
S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES (RSIS),  
NANYANG TECHNOLOGICAL UNIVERSITY, SINGAPORE

FUNDED BY  
THE MACARTHUR FOUNDATION

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S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES,  
NANYANG TECHNOLOGICAL UNIVERSITY  
2009

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*This report summarises the proceedings of the conference as interpreted by the rapporteurs and editors appointed by the Centre for Non-Traditional Security (NTS) Studies of the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University. Participants neither reviewed nor approved this report.*

*This conference adheres to a variation of the Chatham House Rule. Accordingly, beyond the speakers and paper presenters cited, no other attributions have been included in this report.*

## Executive Summary

The increasing relevance of climate change has called for both mitigation and adaptation strategies. Mitigation, being the focus of recent international debates, has left adaptation with less attention. In response to this gap in knowledge as well as policy, the Asia Security Initiative (ASI) project on climate change and environmental security, led by the RSIS Centre for NTS Studies and funded by the MacArthur Foundation, focuses on the importance of adaptation and building social resilience for the many communities and countries in the Asia-Pacific affected by climate change.

As a start to this project, this conference aimed to come to a better understanding of the specific climate change implications for Southeast Asia and Northeast Asia so that specific 'climate security' measures can be formulated. Bringing together reputable security and political analysts, economists and environmentalists, it examined climate change from a human security perspective to explore social resilience, at the national and regional levels. In the opening session, Associate Professor Mely Caballero-Anthony, Head of the RSIS Centre for NTS Studies and Ambassador Barry Desker, Dean of RSIS, stressed the importance of increasing awareness of climate change in Asia and measuring its potential impact on the region. The following session on Balancing Knowledge and Policy discussed the way in which policies in Asia have taken into account scientific findings and existing knowledge on climate change in the region. It also looked at the preparedness of societies, states and multilateral arrangements in the region to deal with the problems generated by climate change.

The conference further emphasised social resilience which reflects a non-traditional security approach. Building social resilience is pertinent for communities to cope with changes caused by climate change. The session on Vulnerabilities of Communities in Asia examined different

challenges faced by different communities in the region due to the impact of climate change. It drew examples from forestry communities, coastal area communities, the urban poor and also women in different parts of Asia. It was followed by a session on Understanding Human Insecurities in Climate-conflict which discussed the debate about climate change as a threat multiplier, the potential of forced migration in Bangladesh due to climate change, and cooperation on cross-border resource managements in Southeast Asia. Mapping out insecurities, vulnerabilities and also opportunities would be useful in formulating targeted adaptation measures.

Strategies for climate change discussed at the conference were multi-level as well as multilateral in nature, involving not only governments but also regional institutions, local communities and non-governmental actors. Session on stakeholders' roles and responsibilities discussed the roles of development agencies, non-governmental organisations (NGOs) and the military in addressing climate change. The session on Integrating Climate Change to Regional and National Policies examined the case of a water security regime, based on a case study of the Lower Mekong Basin, and the need to integrating adaptation strategies into a sustainable development agenda. Professor Emil Salim highlighted the importance of building regional cooperation among governments, business and civil society as well as sharing of knowledge.

The conference concluded that a new way of thinking is needed in addressing unconventional security consequences of climate change by taking into consideration existing societal layers within communities and power asymmetry within the region. It was acknowledged that there is an urgent need to translate this knowledge into policies and disseminate them to the wider public.

## Welcome Address and Opening Remarks



*Ambassador Barry Desker*



*Assoc. Prof. Mely Caballero-Anthony*

### Bringing Adaptation Strategies into the Debate

Ambassador Barry Desker, Dean of the S. Rajaratnam School of International Studies, opened the conference by informing the audience that the international community now considers climate change an indisputable fact, and that it must be addressed. He pointed out that two strategies exist for this purpose, each with its own advantages and disadvantages. Mitigation, which addresses the 'front end' of the problem, involves the reduction of greenhouse gas emissions. This strategy has dominated negotiations and discussions on climate change, which has led to the neglect of the other strategy of adaptation. Adaptation on the other hand addresses the 'back-end' of the problem by helping develop ways to live with the changes that climate change generates, which is relevant to many people directly affected by climate change because mitigation strategies will only produce meaningful results after several decades. Doing this will require examining the means to alleviate poverty, and to protect food security and health.

### The Elements of a Southeast Asian Adaptation Strategy

It was expressed that Southeast Asia should examine this strategy in unity, as regional capacity will be required to meaningfully solve the problems brought about by climate change. The region is particularly vulnerable to climate change, and needs to examine adaptation in three spheres. The first, food security, will require governments to ensure market access to food, its supply stability, and to examine the way food is utilised. Climate change could increase food insecurity by threatening small-scale agricultural systems, and aggravate poverty. As poorer farmers hold most of these smallholdings, issues of land ownership, gender, age and health also affect the degree to which the agricultural sector is vulnerable to environmental change.

Climate-related land loss is another source of vulnerability, which can be aggravated by natural factors and population density. Sea level rise is the most obvious manifestation of this phenomenon due to the potentially catastrophic

displacements it could cause, but it is not the only manifestation. Coastal areas could also be slowly eroded by climate-related events, and could become less usable due to increased salinity in the water table as a result of sea level rise.

Associate Professor Mely Caballero-Anthony and Ambassador Barry Desker both stressed the implications of climate change for human security. They pointed out that millions of people could become refugees as a result of climate change, which could compound the already serious levels of poverty experienced in the region. This is why awareness of climate change must be increased in Asia, and why its potential impact should be measured. The potential vulnerability of areas across

Southeast Asia varies according to each area's population, income, and technological development. This requires the mapping of regions to determine the respective adaptation measures.

In addition, the human security of neglected communities should be considered, as these groups are the ones directly affected by climate change. Protecting their human security is integral to ensuring social resilience, or the ability of societies to cope with change. Thus, creating a multilevel, comprehensive approach that avoids defensive responses and ensures the human security of all groups in society to deal with climate change will become critical for societies, which adopt adaptation strategies.



*From left to right, front to back:*

*Row 1: Prof. Koh Kheng-Lian, Assoc. Prof. Mely Caballero-Anthony, Prof. Emil Salim, Ms Susy Sadikin, Dr Lorraine Elliott, Ms Belinda Chng.*

*Row 2: Prof. Devanathan Parthasarathy, Ms D. P. A Putri Arga, Ms Sri Wahyuni Herly, Dr Keokam, Kraisoraphong, Prof. Tasneem Siddiqui, Dr Bernadette P. Resurreccion, Ms Sofiah Jamil.*

*Row 3: Ms Sharmini Blok, Mr Johny P. Kusumo, Dr Enrique Ibarra Gené, Mr Fitriani Ardiansyah, Dr Henri Bastaman, Dr Peter J. Davey.*

*Row 4: Prof. Chris Newhall, Dr Richard Fuchs, Prof. Richard Tanter, Mr Masakazu Ichimura, Prof. Zha Dao Jiong.*

## Balancing Knowledge and Policy on Climate Change

This session delivered a general overview of the insecurities faced by individuals and communities as a result of climate change, and examined the role of evidence-based policies in mitigation and adaptation strategies. Participants were also invited to discuss ideas on how to mainstream science into policy in order to build social resilience at numerous levels, from local to international.



*Dr Lorraine Elliott*

### **Climate Change is Taking Place: What Does This Mean for the Region and Are We Prepared?**

The session highlighted the reality that climate change is already occurring. Whilst it has been well-documented as an issue which intensifies traditional national security threats, United Nations Secretary General Ban Ki-moon recently drew attention to the catastrophic impact that climate change alone could have for humanity. Yet in much of the security literature and in the policy reviews undertaken by governments and think tanks, climate change is documented predominantly as a threat multiplier; overstressing societies' adaptive capacities and creating or exacerbating political instability and violence, to the extent of inter-state conflict. As a result, this session firmly placed people at the centre of the climate security debate.

As presented by the speakers, the facts are clear and demonstrable. The IPCC Report has shown that there has been an increase in global average temperatures and it will continue to rise. Furthermore, precipitation has decreased in many parts of the Southeast Asian region, with sea levels rising by between 1 and 8 millimetres per decade.

Extreme weather events are increasing rapidly, both in intensity and frequency of occurrence. These changes affect almost all sectors of society severely, often causing large number of loss in life and damage worth millions or billions of dollars.

### **Human Security Approach**

As well as providing details of climate change and its impacts, the session examined the vulnerabilities, or insecurities, of specific groups, societies, districts, nations and regions. In order to do so, this session provided an introduction to the human security framework and explored the importance, and the consequences — both intentional and non-intentional — of making human security central to the climate change debate. The human security model is the most prominent of the non-traditional security approaches to climate security and other forms of environmental security. Participants explained how it can be a powerful antidote to conventional views of interstate security.

Indeed, the session brought to attention the fact that framing climate change as a human security issue brings to the forefront questions about vulnerability, equity, conflict, cooperation, and sustainability. These issues were discussed extensively, and possible solutions were identified and explored. The human security framework therefore clearly also has something to contribute when responding to climate insecurity.

### **What Climate Change Means for the Southeast Asian Region**

In Southeast Asia, over 300 million people, accounting for over 40 per cent of the region's population, live on incomes that fall below US\$ 2 per day. Poverty vastly exacerbates climate insecurities. As stated by the panellists, these individuals are 'least able to buy their way out of the impacts of climate change'.

While most, if not all, countries are at risk, the Southeast Asian region is thought to be more vulnerable than the rest of world, due to its rising rate of urbanisation coupled with high levels of poverty. A further challenge in the region



*Assoc. Prof. Shreekant Gupta*

for dealing with climate change is that it contains long and often low-lying coastlines, with a high proportion of economic activity based around these coastlines. Lastly, many Asian economies are highly dependent on natural resources through agriculture and fisheries.

Extreme weather conditions, a direct result of climate change, destroy lives and livelihoods and could damage 'ecological capital', with the potential of fundamentally affecting the survival of many in the region. For example, the IPCC has estimated that a 40-centimetre sea level rise by 2080 could displace as many as 21 million people in Southeast Asia, and the World Bank has reported that in Vietnam alone, up to 11 million people could be displaced in the event of a 1-metre sea level rise. Poverty and climate change also exacerbate other kinds of insecurities in a feedback loop through decreased food security, water security and health security, loss of territory, agriculture, forestry, conservation and the displacement of millions of people. Indeed, one fifth of those affected by coastal flooding will be situated in Asia and the region may well be the central focus in generating climate refugees.

### **Mitigation, Adaptation: A Win-Win Situation?**

Climate change mitigation, as a preventive strategy, is high on the policy agenda in Southeast Asia and globally. However, participants noted that it is potentially too late to rely on mitigation alone. Indeed, publications in *International Affairs*, a peer-reviewed academic journal, have also emphasised the stark message that it is too late to rely on mitigation alone. Adaptation strategies are crucial to minimising social instability, inter-communal conflict and, in turn, regional insecurity and instability.



*Mr John Pearson*

It was argued that, in fragile states in particular, adaptation should be prioritised over mitigation if climate change, as well as climate-related violent conflict and its impact on local communities, are to be avoided or minimised.

Adaptation to climate change is a process by which vulnerability is reduced and resilience is increased. It serves as a traditional security response – to reduce the potential for conflict and instability – and a human security response – to support the lives of those who are most vulnerable to climate-induced conflict and to the social and economic consequences of climate change. The human security model for adaptation suggests that this cannot be a process of 'top-down' technocratic responses. Instead, in its report on climate change and conflict, the international NGO, International Alert, outlined an alternative 'peace building' model that requires dialogue and social engagement, inclusivity and transparency. Climate change crosses many sectors and should not be tackled as a silo within the range of environmental issues. Global collective action is required.

A recent Asian Development Bank report on the economics of climate change in Southeast Asia calls for countries to 'treat adaptation as an extension of sustainable development practices'. Economically, adaptation makes sense. Whilst there is much adaptation occurring already, it is mainly reactionary. Nations must therefore be more proactive and plan for future scenarios rather than for already existing ones. Participants argued that while adaptation is an extension of sustainable development, human security must remain prominent in the way in which adaptation is linked to sustainability. In essence, both adaptation and mitigation are necessary and a balance between them is essential — with participants identifying this as a win-win option.

Recognising that it is people and their communities who are most at risk from climate change and from the instability, incapacity, and social and economic stresses that might occur, a human security framework places equal emphasis on adaptation strategies that have the potential to save lives, increase individual adaptive capacity, build societal resilience and lessen the chances of conflict.

In order to enhance adaptive capacity, it is essential to increase the use of research and development and advanced technology to develop drought and saline resistant crops, efficient irrigation techniques, water conservation technologies and improved farming systems and practices. Other developments may include climate-proofed infrastructure as well as strengthening risk and vulnerability assessments, weather data collection and forecasts, early warning systems, and the development and dissemination of appropriate knowledge.

Whilst the Southeast Asian region has made significant efforts, to date, adaptation in Southeast Asia have been mostly reactive. Indeed, the current level of adaptation is still inadequate to cope with future challenges. There is hence an urgent need for Southeast Asian countries to develop and implement proactive climate change adaptation plans. Southeast Asian nations need to take timely action to adapt to climate change, build resilience, and minimise the costs caused by the impact of greenhouse gas emissions that have already been locked into the climate system.

### **Regional Responses: How Effective are the Measures?**

The global climate is a 'system,' which has inertia. Due to momentum in the system, one of the panellists likened 'trying to stop climate change' to 'trying to stop a supertanker'. Therefore, he called for deep, far-reaching and immediate action, stressing that the global average temperature at equilibrium will not equal the global average temperature at the time of climate stabilisation.

The Southeast Asian region could suffer damages equivalent to more than 6 per cent of gross domestic product (GDP) by 2100, more than two times as high as the global average. It was strongly recommended that Southeast Asia should, therefore, contribute to global efforts by implementing both adaptation and mitigation measures, as well as promote investment in non-carbon technologies. International funding and technology transfers are essential. The region should enhance its capacities to make better use of the existing and potential international funding sources.

It was proposed that Southeast Asian countries could address the dual threats of climate change and the global financial crisis by introducing 'green stimulus' programmes. This would enable the simultaneous strengthening of economies, job creation, poverty reduction and lower emissions, all of which would help to prepare for the worst effects of climate change. This could be done by a modified 'cap and trade' on per capital entitlements, stabilising the prices for buyers and sellers by adding a ceiling and floor. Such an agreement would necessarily be inclusive, by ensuring equity in allocation and by stabilising permit prices.

A modified cap-and-trade regime with initial allocation based on per capita entitlements therefore may offer a win-win opportunity for all. Volatility of permit prices can be addressed through a price 'ceiling' and a price 'floor', or pricing 'bands'. This would safeguard the interests of buyers and sellers and would promote investment into non-carbon technologies.

The session concluded with a suggestion that a paradigm shift might be required, in order to break the current impasse of the seemingly intractable positions of the global North and the global South.

## Vulnerabilities of Communities in Northeast and/or Southeast Asia to the Security Implications of Climate Change

This session sought to explore vulnerabilities by analysing how people in different parts of the spectrum of society are affected differently by climate change. While different sections of the population are affected by climate change, some are affected more than others.



*Dr Herminia A Francisco & Dr Arief Anshory Yusuf*

### Vulnerabilities Mapping in Southeast Asia

The challenge of climate change for developing countries in Southeast Asia requires strong action on adaptation strategies, which involves the transfer of financial resources and technology from developed countries and international organisations. However, due to a lack of resources, a vulnerability assessment is crucial as it identifies and maps out the areas that are most vulnerable to climate change, in order to facilitate targeted action.

The vulnerability assessment of Southeast Asia was done by overlaying climate hazard maps, sensitivity maps, and adaptive capacity maps, following the IPCC vulnerability assessment framework. The study concluded that Thailand, Vietnam, Laos, Cambodia, Indonesia, Malaysia, and the Philippines are most vulnerable to climate change. Central Jakarta and western and eastern Java are areas that face the highest risk of climate change due to exposure to almost all climate-related hazards and its high population density. Further, the study also confirmed that the Mekong River Delta in Vietnam and Bangkok are the most vulnerable due to their exposure to sea level rise, as well as the northern Philippines due to its exposure to tropical cyclones.

On a broader level, it is envisioned that the regional mapping exercise could act as a visualisation tool to convince high-level policymakers of the need to implement adaptation measures and improve the allocation of resources for the most vulnerable areas. However, in doing so, it is also important to note that adaptation and mitigation strategies are both essential and complementary in addressing the challenge of climate change.



*Dr Beverly Gob*

### Assessing and Managing Coastal Vulnerability Rise in Sea Levels

The coastal areas of Southeast Asia are increasingly vulnerable to the effects of sea level rise and climate change, which will impact on agriculture, water and forest resources, populations and the infrastructure of mega-cities. Therefore, it is important to assess the vulnerability risk faced by countries in Southeast Asia, and develop tools that will facilitate the decision-making process of policymakers in formulating adaptive and mitigation strategies.

The regional study of Southeast Asia was conducted using the Dynamic Interactive Vulnerability Assessment (DIVA), which integrates natural and social-economic variables with cases simulated using the six scenarios derived from the IPCC Special Report on Emission Scenarios, and also by using various combinations of adaptive strategies in the DIVA model. The study shows that adaptation measures could reduce climate-related migration by 40 to 95 per

cent. Engineering measures are required to limit damage to human populations and coastal resources; the most cost-effective for minimising loss of wetland areas, sand and land is to incorporate coastal cover by putting in sand and vegetation. In addition, the use of dikes as a form of protection works better in mitigating the number of flood victims, land loss due to submergence and damage due to flooding from the sea.

On a broader level, in an attempt to mitigate the impact of climate change on coastal areas, governments in Southeast Asia should focus efforts on reducing populations, work towards a balanced mix of energy resources, and increase equity among global regions.



*Dr Enrique Ibarra Gené*

**Vulnerabilities of Forest Communities: An Indonesian Case Study**

Indonesia is a leading country in efforts towards the design and testing of activities on Reducing Emissions from Deforestation and Forest Degradation (REDD). Hence the case study examines the challenges of implementing REDD in Ulu Masen, Aceh, with broader implications for REDD activities in Indonesia, and global REDD efforts on the whole.

The study suggests that the REDD project in Ulu Masen faces several implementation challenges. First, as Aceh is undergoing reconstruction after the 2004 tsunami, there is a high demand for timber, which makes the effort to reduce the supply of timber unrealistic. Second, there is insufficient involvement of the locals in consultative processes, thus raising concerns over one of the REDD criterion – that the locals are free to decide and consent

to REDD implementation efforts. Third, illegal logging is a traditional source of income for the villagers and is embedded within a broader problem of weak forest governance, hence resulting in a lack of official endorsement for the implementation activities of the REDD project.

In order to address these challenges, institutional and organisational reform is necessary to empower local institutions and strengthen forest governance considerably. This is done in order to avoid a situation where patrol units and wardens are hired to restrict local communities from accessing the forests and depriving them of their traditional livelihood and food sources.



*Prof. Devanathan Parthasarathy*

**Vulnerability of the Urban Poor to Climate Change in Northeast Asia and Southeast Asia: Security Implications**

Risk and vulnerability were analysed from a sociological perspective, which is more nuanced and appropriate for capturing the greater complexities of the social structures of Asian cities. Such an understanding is argued to be more appropriate in the context of Asian cities. Asian cities have exhibited ‘complex urban ecologies’ due to factors such as high-level economic growth, large numbers of urban poor, vulnerable cities given to adverse climactic events and other natural and human-induced disasters. The presenter then highlighted two prominent intellectuals: Mary Douglas and Ulrich Beck.

In explaining vulnerabilities and risk faced by societies, Mary Douglas argues that social and cultural factors shape the characterisation of risk, and risk management strategies. According to Douglas, decisions regarding risk

management are based on the way of life or world view of the individual, household or community. This explains why some risks are ignored and some emphasised, and why different groups perceive and tackle risk in different ways.

Ulrich Beck, on the other hand, argues that society today faces new and unprecedented forms of technological risk different in nature from those associated with the industrial phase of economic change in history. As such, risk tends to substitute class as an organising principle of society in the modern technology-driven 'risk societies', in which individuals reflect upon and appropriate expert knowledge in resolving risk-related problems on an everyday basis.

In most developing countries of Asia, risk overlaps with categories of race, gender, class and ethnicity, and these are not fully accounted for by Douglas and Beck in their theories because the context in which they theorise risk and vulnerabilities was based on 'Western' society which, in many ways, does not exhibit the characteristics of Asian and other developing societies. In most developing countries, the socially marginalised are more likely to be at risk and often lack adaptive capacity. They also do not have the capacity to influence policymakers owing to their marginalised status. Thus, in most Asian cities, risk and the ability to cope are shaped by existing patterns of inequality and discrimination.

In order to better appreciate the complexities involved in understanding the risks and vulnerabilities of Asian cities, the presenter called for the adoption of a sociological approach which would allow an enhanced grasp of sociological categories such as ethnicity, class, race and gender, the interconnections between these, and the larger relationships between forms of inequality and poverty on the one hand, and exposure and vulnerability to disaster on the other. Such an approach would enable the linking of poverty, inequality and discrimination to environmental risks.



*Dr Bernadette P. Resurreccion*

### **Vulnerabilities of Women in Southeast Asia: Gender, Human Security and Climate Change Adaptation in Southeast Asia**

The presentation explored how climate insecurities are gendered in that it affects men and women in different, uneven ways, thereby exacerbating their existing and respective economic, political, livelihood and resource vulnerabilities, and analysed the linkage between human security, gender and climate change adaptation in those areas. Climate change is a human security issue as it concerns the security of the survival, livelihood and dignity of people. Specifically, climate change threatens human security through, among others, crop failure, shortage of safe and clean water, fuel shortage, diseases, displacement and resource scarcity that could lead to severe consequences such as economic drawbacks, conflicts due to growing competition over scarce resources, etc. All of these insecurities affect men and women in different and uneven ways, which have manifested in the adaptation strategies employed. In most cases, adaptation strategies are shaped and influenced by women's and men's relative and differentiated capacities, power and social resilience, vulnerabilities, and resources.

To illustrate how gender issues play out in climate change adaptation, case studies of three countries, namely Cambodia, Vietnam and the Philippines were presented. These case studies showed that in adaptation processes, women are less involved in decision-making and planning, which results in the sidestepping of their specific needs and concerns over care and safety, and less access to land, early-warning devices and announcements. Also, in the process of adaptation, women are vulnerable to loan sharks, human trafficking and forced labour, and are exposed to sexual harassment, rape and intimidation.

In order to bridge the gender gap that arises in the implementation of adaptation strategy and to ensure equal adaptation capacity, it is important that policymakers pay greater attention to the specific needs and requirements of both men and women. In order to achieve this objective, and in order to bridge the gender divide, more policy-oriented research needs to be done in four areas of adaptation strategies aimed at improving the overall security of the people affected by climate-induced emergencies.

- Mobility and credit as autonomous adaptation strategies and the systems that support them — Provide women and men equal information on jobs and capacity building services to upgrade skills in order to enable their livelihood diversification; ensure equal access of women and men to networks of support (government and welfare agencies), etc.
- Livelihood security of small-scale subsistence farmers and fisher folk — Ensure proper representation of women and men from different classes and ethnic groups; provide accessible scale-relevant information on climate change equally to women and men who are affected, etc.

- Resilience to health related impacts — Engage affected women and men in the planning of water and sanitation systems to avoid breeding areas for disease vectors; build pathways for women and men to strengthen their claim-making abilities for better health systems.
- Governance of adaptation across scales — Equal representation of women and men at the intermediate levels of governance and in consultations regarding trans-boundary water governance during droughts and floods, capacity building of both women and men to take leadership roles at the intermediate levels of governance and in trans-boundary water governance, etc.

### **Technological Approach Versus Socio-ecological Approach**

A participant pointed out that although it is desirable to adopt a sociological approach to risk and vulnerability, current adaptation strategies are still techno-centric. The panellists agreed with this observation and added that recurring annual floods in Mumbai, for example, is considered to be a technological problem that requires a technological solution such as diversion of river flow, enhancement river embankments, etc. However, despite all these efforts, floods still occur every year, which displace hundreds of people. This is primarily due to a lack of understanding of the sociological dimensions of the settlements on both sides of the riverbanks, which are largely made up of slums. The slum dwellers constitute the marginalised sections of society in Mumbai and they are pushed to settle down in environmentally risk-prone areas. In the absence of viable alternatives, the slum dwellers continue to live in those areas despite the risk involved. The same can be observed in the case of the post-tsunami reconstruction in Aceh, where donors insist on a techno-centric approach, focusing on early-warning systems, etc. without placing emphasis on sociological aspects of people who chose to live in high-risk coastal areas.

## Understanding Human Insecurities in Climate-Conflict Nexus in Northeast and/or Southeast Asia

The session discussed the debate around climate change threat multipliers and the case studies of Bangladesh, the Greater Mekong Sub-region, Heart of Borneo and Coral Triangle areas.



*Dr Lorraine Elliott*

### Security Approaches to Climate Change

Traditional approaches to international relations have not seen the issue of climate change as something that is a significant threat to the nature of the nation-state. However, as climate change becomes increasingly apparent, scholars such as Barry Buzan have sought to re-engage climate change as a major policy concern through the process of securitisation. Buzan argues that as climate change becomes securitised, there is a greater allocation of resources, emergency measures and state action. The objective of securitisation is to push climate change up the policy agenda through speech acts to facilitate greater interest amongst actors of all levels, and provide an avenue for the promotion of sustainable development and the transfer of technology to affected nation states.

The human security lens seeks to rebalance debates by viewing contemporary global challenges from the perspective of the individual rather than that of the state. Within the scope of this conference, the human security lens reframes the climate change debate from being a threat to the nation-state to identifying climate change

as a source of insecurity for the individual. As a result, the traditional paradigm's approach towards climate change threat multipliers is recast as climate change triggers. For example, forced migration from unsustainable lands generates insecurity for those who can no longer sustain them, instead of presenting this migratory movement as a potential threat to the stability of the nation-state. A human security perspective explains the impact of climate change as a trigger for food insecurity, malnutrition and disease burdens. Climate change acts as a catalyst for poverty and hardship the world over for those affected, rather than explaining it as a source of civil unrest and political violence. Indeed, the impact of climate change creates increased vulnerability across society, but particularly for those on the margins who are most exposed to the consequences of climate change.

### Economic and Social Adaptive Capacity

The climate change consequences that communities face, not only includes the immediate humanitarian response, but also longer term economic and social changes, which can cause increased communal tensions, or tension towards the government. An example of this would be increased competition over natural resources, causing further human insecurity. The ability of economies and societies to adapt is all the more challenging where there are already pre-existing economic and social tensions, most notably in the developing world. As a result, the impact of climate change will be most visible in poorer nation states and poorer areas of rich nation-states.

Traditional approaches to climate change argue for greater cooperation between states to avoid cross-border tensions such as competition over natural resources, challenges posed by climate refugees, the need to protect strategic assets and supply lines and to assist in humanitarian emergencies. Adaptation serves as both a traditional response to reduce conflict and instability, and supporting the lives of those most affected by climate change — a human security response.

## Environmentally-Induced Migration: Key Factors

As a result of an increase in extreme weather patterns, there is an increase in the numbers of people moving from one place to another. The first phase refers to environmentally-induced migration. This phase focuses on four key influences, namely: Individual, vulnerability, functioning institutions or governance structures, and environmentally-induced conflicts. The individual influence refers to an individual's migration history and educational level. The vulnerability influence focuses on the per capita income and population growth of the community. This focuses on the sustainability of the community. The influence of functioning institutions and governance structures refers to the ability of the state to respond, including through its development of early-warning systems, water management systems, and land-use technologies. The fourth influence is the onset of environmentally-induced conflict. This can occur as a result of a decline in freshwater resources, food production, and increase in climate change-related disasters.

As a result of these factors, there is an increased chance of conflict at the point of origin and/or the recipient community, known as 'phase two migration-induced conflict'. This chance increases when there is a combination of competition for resources, change in the ethnic balance, the size of migrants' numbers and intensity of migration both locally and internationally, recipient community response, governance capacity, and political stability.

### Bangladesh

Bangladesh is one of the most densely populated and disaster prone nation-states. Scientists argue that the most likely impact of climate change in Bangladesh will be increased flooding, salinity intrusion and droughts, all of which will drastically affect crop productivity and food security. As a result of the drastic climate change and the resulting frequent natural disasters, communities face increasingly difficult prospects in coping or adapting.



*Dr Tasneem Siddiqui*

Strategies to adapt and capacity build are interrupted because their biophysical resources are highly sensitive to climate change; people's livelihoods and production system are at high risk, there is high population density, poor institutional capability and high levels of poverty. As a result, migration will occur in two distinct ways. The first is that those financially able to migrate overseas will do so. The second, however, is that those who are poor will migrate to urban areas, higher-level land, and neighbouring nation-states. There will also be a significant number of Bangladeshis who will be irregular migrants.

### Regional Developments: Greater Mekong Sub-region (GMS), Heart of Borneo (HoB) and Coral Triangle (CT) Areas

The observed and projected impact on the GMS, HoB, and CT areas are significant, which has led to increased cooperation between the affected governments in these cross-border areas. These climate change impacts include an increase in severity of coral bleaching, droughts, fires, flooding, sea level rises and extreme weather patterns. These impacts will add further pressure on these ecosystems, which currently face illegal logging, over-fishing and over-exploitation of natural resources. As these pressures increase, so will the tension between the stakeholders, increasing the possibility of conflict. Furthering the collaborative work between the stakeholders is necessary for climate change impacts to be addressed, conflict to be avoided, and sustainable economic progress made.



*Mr Fitriani Ardiansyah*

Recent models on the GMS suggest continued warming, climate variability and damaging extreme climate events threatening the area's food security, as well as rising sea levels, saltwater intrusion and water shortages. In the affected nation-states, land tenure rights are weak, and coupled with these climate change impacts, can increase the likelihood for communal conflict, forced migration and marginalisation of subsistence farmers.

A recent climate simulation identified the HoB as an area, which will be adversely affected by climate change. Of particular note was the simulated occurrence of increased drought and forest fires, which would affect local communities and the remaining orang-utan population. With the increase in forest fires, many neighbouring nation-states have become increasingly critical of government policy towards haze originating in, amongst other areas, the HoB. This has resulted in increased tensions and an increase in contribution to global carbon emissions.

Without effective action, the impacts of climate change on the CT will affect the livelihoods of around 100 million people as it will lose the ability to produce food from around 80 per cent of its area. A catastrophic combination of climate change and marine and coastal degradation will increase sea temperatures, acidity and sea levels, and the resilience of the coastal areas will decrease. Consequently, there could be an increase in conflict and migration, as people move from coastal areas to urban centres and neighbouring nation-states.

## **Mainstreaming Climate Change Mitigation/ Adaptation Strategies**

Currently there is a global window of opportunity for nation-states to produce an agreement that clearly plans and establishes effective rules for governing and reducing global carbon emissions, and to offer a sustainable development pathway. A new and stronger agreement will need to include technological development and transfer, as well as asset turnover, which in turn will reduce global carbon emissions.

There is a current regional push in Southeast Asia to have Asia's first regional climate adaptation agreement in the Greater Mekong Sub-region. This would provide a suitable framework by promoting cooperation and sustainable solutions across all sectors. It would establish common conservation and development targets and regional implementation mechanisms. It is hoped that a consensus will be agreed by 2011 and a legally binding Mekong Protocol to be put in place by 2014.

There are also sub-regional frameworks being developed which highlight the need to operate between and across different levels of government and other actors to provide responsible governance in addressing climate change. This includes the Three Countries, One Vision document which was announced in 2007 in Bali, Indonesia which develops a mechanism for collaboration and cooperation in the management of the Heart of Borneo, and a Regional Plan of Action for the next decade, launched at the World Ocean Conference in Manado, Indonesia in 2009 by the six Coral Triangle Governments.

Several themes were repeated throughout the discussion. There is an urgent need to address impacts of climate change on communities all over the world, particularly in Asia. These efforts will require significant commitments both to prevent and to adapt to changing circumstances. For these efforts to be realised, cooperation at all levels and between levels is needed to ensure that they are effective. With increased cooperation and commitment to responding to climate change, there will be greater community resilience and a sustainable future.

## Stakeholders' Roles and Responsibilities

This session examined possible roles that state and non-state actors can play in contributing to adaptation and building social resilience, by drawing on examples from the activities of UNESCAP, faith-based and environmental NGOs in Indonesia, and the military.



*Mr Masakazu Ichimura*

### **The Role of Donors in Asia and the Pacific in Integrating the Security Aspect of Climate Change in the Development Agenda**

There has been a significant amount of disagreement among countries on how best to mitigate and adapt to climate change, notwithstanding global consensus with regard to the possible impacts of climate change. One of the key reasons has been the difficult situation faced by most countries in trying to reconcile socio-economic growth and environmental security. Against the backdrop of such a dilemma, it was argued that 'Green Growth' could allow countries to achieve economic growth without compromising environmental security. Such an initiative was not developed specifically to combat climate change, but for environmental preservation in general.

The urgency for Green Growth is evident in the Asia-Pacific. Within Green Growth, the eco-efficiency concept implies the maximising economic outputs while minimising resource inputs. There is a need for a holistic/integrated approach rather than sector-by-sector response to promote Green Growth as a strategic response to climate change at the national and international levels. However, such an

approach requires coordination in resource management among national and international agencies. To this end, a move from a reactive to anticipatory approach is necessary for building social resilience against climate change.

Green Growth leads to sustainable development while enhancing both climate change mitigation and adaptation, as well as reducing vulnerability to climate change impacts. On the whole, this initiative enhances the overall human security dimensions. In fact, it was pointed out that there had already been increasing numbers of initiatives among donor communities, in particular the integration of climate change considerations into project formulation and appraisal processes. For instance, the OECD Policy Guidance: Integrating CC Adaptation into Development scheme incorporates as one of its objectives the identification of practical ways for donors to support developing partner countries. Another instance has been the Asia-Pacific Gateway to Climate and Development, which aims to provide web-based information platforms to assist countries in making concrete efforts to address climate and development.

National-level climate mitigation and adaptation measures most likely would already have existed even without the emergence of regional and global initiatives. It is on such a belief that one participant wondered if there were any successful national and regional cases of carbon emissions reduction, in the absence of regional and global initiatives. While noting that there are no known 'success stories' to share, it was observed that the emission intensity per GDP for most Asia-Pacific countries has been decreasing, lauding the example of China's domestic efforts towards reducing carbon intensity despite having disagreements with the advanced economies. The existence of some interesting policies in the Asia-Pacific region on improving eco-efficiency was also pointed out. While these national-level initiatives are indeed noteworthy, the need for a holistic approach to climate change issues — in order to maximise eco-efficiency — was highlighted, and it should be promoted worldwide to improve social resilience.



*Dr Henri Bastaman*

### **The Role of Faith-based and Environmental NGOs in Building Community Resilience to the Security Implications of Climate Change**

This presentation drew examples from the ongoing process in Indonesia for faith-based and environmental NGOs to pool efforts to address climate change at local levels. Being the most populated region in Indonesia, Java thus becomes the focal experimental case for such NGO efforts in building social resilience to climate change at the community level. In fact, discussions with local institutions on the issues of climate change have led to the identification of the social risks of climate change (e.g. political instability, food security, social tension, water access and shortage as well as poverty), in turn leading to the formulation of measures to improve local social resilience to climate change (e.g. impact resistance/adaptation; capacity to maintain basic socio-economic functions in the event of disaster; and post-disaster recovery capacity).

It was argued that, the characteristics of building social resilience comprised of good governance, risk management, and contingency preparations. These would have to be handled collectively by all stakeholders: The local community, and local faith-based and environmental NGOs. The Indonesian experience of collaboration between faith-based and environmental NGOs had demonstrated the need to emphasise networking and forum-building, community campaigns for local early-warning systems,

and minimisation of vulnerabilities through modifying food and energy consumption, as well as agricultural development patterns at the community level.

A four-by-four matrix table that categorises the relationship between environmental quality (EQ) and social resilience (SR) was introduced. According to the presenter's formulations, a high EQ and low SR meant that there would be attendant risks and this would be unsustainable in the long run. A high EQ and high SR, on the other hand, correspond to sustainability in adapting to climate change. A low EQ and low SR would lead inevitably to conflicts and chaos. Lastly, a low EQ and high SR would present a paradoxical situation, which leads to insecurities (growing awareness yet confusion over the allocation of responsibilities to mitigate potential problems). This last formulation is in fact the focus of local NGOs and government agencies – to improve EQ while maintaining a high SR in order to ease social insecurities.

In response to a question regarding the perceptions of faith-based NGOs towards climate change as opportunities to promote local development, the existence of conflicting perceptions among local stakeholders on climate change issues was noted. However, collaboration between local faith-based and environmental NGOs would eventually be able to address such conflicting perceptions in order to promote better understanding of the risks posed by climate change. In relation to this query, it was pointed out that there have been no problems with respect to building trust between local faith-based and environmental NGOs since collaboration has been proceeding smoothly to date, in the case of Java. Trust is a precondition to forge collaboration between diverse institutions in the first place. Further, on a question about local stakeholders, it was argued that the quality of information presented by the media could be further improved in order to facilitate better response measures at local levels. Due to different contextual backgrounds among diverse areas, there would certainly be some differences, which would require different solutions towards improving social resilience to climate change at local levels.



*Prof. Richard Tanter*

## **The Military and Climate Change**

In conceptualising the relationship between global politics, states' militaries and climate change, three issues were highlighted. First, the relationship between climate change and human security on the basis of a bilateral security framework. Second, salient aspects of the military, in particular the expansion of core traditional roles to Operations Other Than War (OOTW). Third, sources of uncertainty associated with climate change, which was deemed the most important aspect.

The role of global politics represents an inseparable linkage between the role of militaries and climate change processes. The relationship between military security and human security presents what was termed as 'unavoidable two-way ambiguities'. The crux of the issue lies in the timing, visibility and consequences of global climate change processes, which are largely characterised by uncertainty. On the international stage, there exist psycho-social frames for conflict, entailing consequences in climate politics, characterised by an attitude of denial in some countries towards climate change and, at some points of the negotiations, blame-pushing and scapegoating. These psycho-social mechanisms in global politics and militaries' roles are characterised by resistance among countries with vested national interests, as well as the splitting

and displacement of the concept of 'indivisible security'. In particular, the present and foreseeable core carbon governance models are marked by reluctance, partiality and incipiently failing interdependence among poor and rich nations. A new carbon regime was envisioned to — most probably — be marked by the abovementioned global conditions conceived at the birth of this regime, rather than by the characteristics of those problems this very regime was intended to solve, namely, the envisaged consequences of climate change.

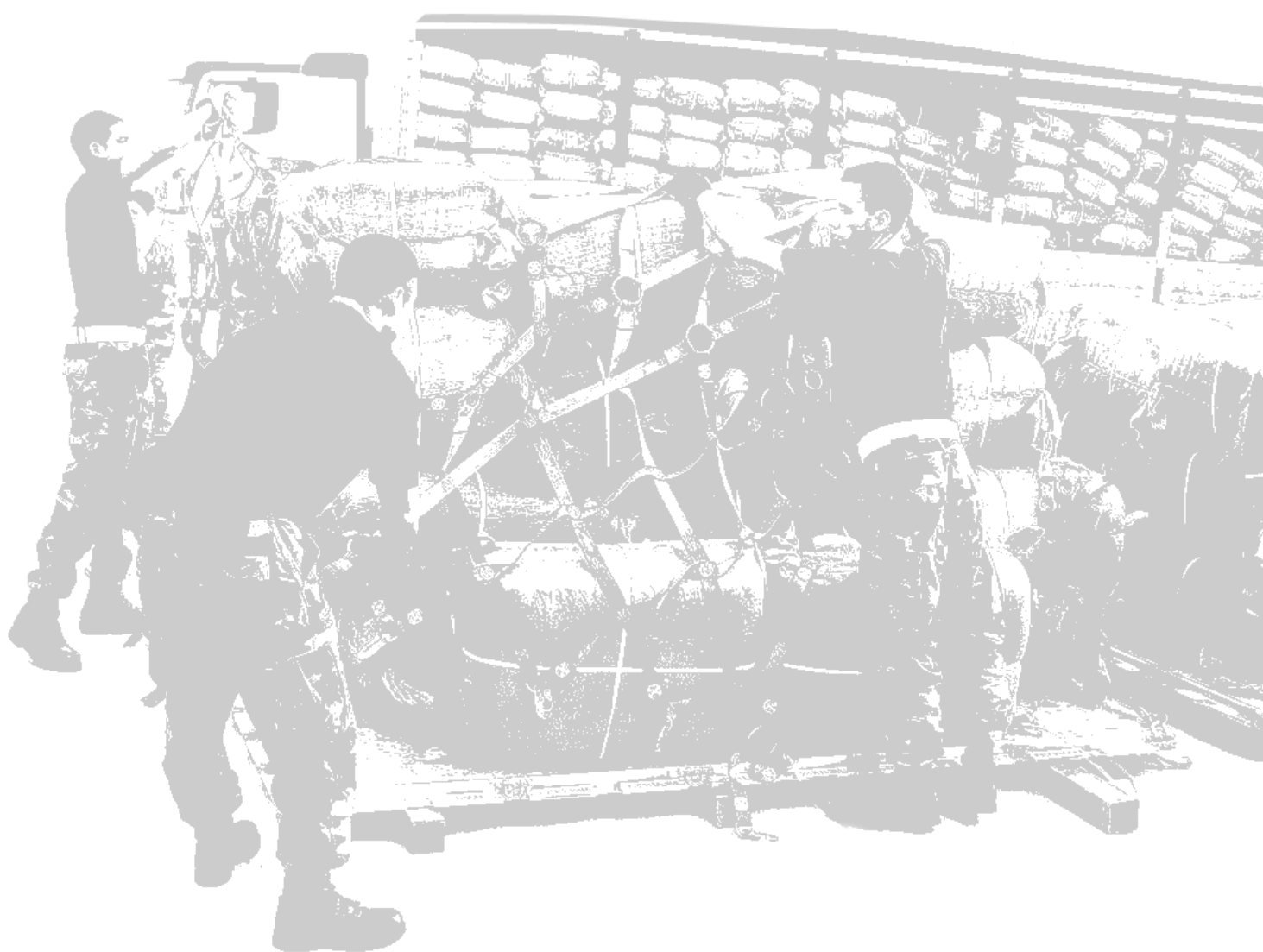
In sum, it was argued that the role of militaries in the fight against climate change would still depend heavily on the nature of global politics and variable threat perceptions among countries. The key to this issue lies in an understanding of the genuinely global character of climate change, which generates the rational cross-border basis and necessity for shared, cooperative solutions among countries towards mitigating and adapting to climate change.

With respect to the issues of South-South relations in the climate change context, and the roles of emerging economies in shaping regional relations and interdependence, as one participant had pointed out, the importance of looking at the roles played by regional actors and not just global actors, such as the major powers was highlighted. It was added that complexities would continue to exist within South-South relations, thus requiring further exploration of issues associated with such relations. A question was also raised regarding the problem of inflating threat perceptions towards climate change issues in some countries, mostly with the agenda of serving parochial business interests, for instance. It was argued that such problems would be inevitable due to the multiplicity of actors and interests involved.

Despite a more optimistic view due to the support of the Obama Administration given to addressing climate change, uncertainties still exist with respect to adopting a common

global consensus on the approach to a carbon regime. One participant wondered if it was possible to find global agreements on the likely consequences of climate change, pointing out the likelihood of more unilateralism rather than coalition-rebuilding as a possible future scenario of global climate-change politics. It was pointed out that the downward effect of global politics would continue to impinge on national security interests, much akin to what was observed during the Cold War. There is a need to ponder about ways to implement serious global governance reforms in order to promote interstate cooperation against climate change.

National security has become increasingly blurred in present times with the emergence of a multitude of threats, some of which transcend traditional security concerns, as some participants pointed out, thus necessitating a re-evaluation of the future role of militaries. It was argued that the role of militaries remain blurred in the era of newly-emerging security threats beyond interstate conflict, for which militaries were traditionally tailored. Therefore, the future roles of militaries require deeper discussion. It was further added that the future roles would be underpinned ultimately by the ability of militaries to undergo successful conversions in their mission roles.







## Integrating Climate Change to Regional and National Policies

This session assessed various policies needed in response to the existing knowledge on climate change impact on the region, the vulnerabilities of various communities, and potential tensions and conflicts due to the impacts of climate change.



*Dr Keokam Kraisonaphong*

### **New Challenges and Regime Resilience: Climate Change and Water Security for the People of the Lower Mekong Basin**

The presentation was premised on two core observations. First, the Mekong Basin would be most affected by hydrological changes such as floods, droughts and storms, as a consequence of climate change effects. Second, the potential loss of lives and overall impact on people are largely a function of the degree of dependency of these people (in the Mekong Basin region) on natural resources and eco-system services, which are sensitive towards any changes in the climate. This should be a great concern for policymakers, because approximately 85 per cent of the population who live in the low-lands around the Basin depends on its natural resources and ecological systems for sustenance. In addition to these challenges, it was warned that sufficient consideration should also be given to account for new challenges that may threaten social cohesion, especially for socially vulnerable groups who may lack the social capital and thus capacity to adapt to climate change.

Therefore, it was argued that the impact of climate change on social systems is an issue that could be studied from its effects on the social system rather than just on the environmental system. It was believed that such an approach is necessary to effectively link climate change to the concept of human security. For instance, climate change would increase the uncertainty and complexity for the people who live around the Mekong River. Climate change has the potential to cause eco-system, habitat and water quality degradation.

Nevertheless, it was opined that the people living around the Mekong River had always been able to adapt and adjust to any climate changes in the past and have in fact banded together, in the interest of sustainable development, to form the Mekong River Commission (MRC) in 1957. The MRC is an intergovernmental body charged 'to promote and co-ordinate sustainable management and development of water and related resources for the countries' mutual benefit and the people's well-being by implementing strategic programmes and activities and providing scientific information and policy advice.' Despite going through several periods of political, economic and social insecurities in past decades, the MRC has managed to continue with data collection, conducted surveys, forecasting floods, and early-warning systems.

Beneath the MRC's seemingly unifying regime, it was pointed out that the unilateral pursuit of state interests has meant that regional cooperation and interests, such as the regionalisation of development, has ceded priority to national interests. Most stakeholders question the MRC's notion of sustainability and whether it has the capacity and capability to run the necessary activities. But, perhaps more importantly, it was argued that the MRC faces the issue of a legitimacy crisis. There are concerns whether the MRC has the legitimacy to translate its institutional resilience into social resilience and, therefore, render any kind of meaning and help to vulnerable groups. It was

suggested that various interest groups, such as farmers and others who depend on the Mekong River for their livelihoods find a political champion who could actually represent their issues and interests. However, there is a need to develop an idea that is worth ‘championing’ for, in the first place.

Finally, it was argued that the issues and challenges of climate change call for greater cooperation and partnership amongst the riparian countries. However, in view of different states’ interests and the different degrees of vulnerabilities, it was proposed that a new form of governance is needed, one which is multi-layered and multi-level, and includes different state and non-state actors within one institution. The appeal of such an institution is that it is inclusive and promotes cooperation rather than competition, while simultaneously taking into account the intricacies of member states and greater participation of non-state actors.



*Prof. Emil Salim*

### **Climate Change Adaptation Measures in Sustainable Development**

Looking ahead to 2030, it was argued that governments should focus on developing adaptation policies on food, water and energy security in particular. It should also include a rethinking of ‘city-planning’, advocacy on the use of technology to mimic or imitate the biological technology, and the inclusion of ‘environmental costs’ in

the field of engineering and economics. The anticipation of what the future holds for the current generation, with regard to climate change and human security issues should thus determine the nature and direction of current development policies.

Elaborating on regional cooperation, being a region that is in the centre of natural disasters, it is strange that Southeast Asian states are not working together to address potential dangers. It was argued that there is a need to establish a regional research institute that studies and analyses the issues on, for example, the seas in the region. The need for capacity building on scientific cooperation between states in addressing climate change adaptation strategies was also pointed out. However, this requires a synergy between the scientific community, engineers and economists because to achieve any meaningful cooperation, scientific or otherwise, states must be able to believe that they have something in common. Thus, this requires the scientific community and policymakers to avoid the trappings of the ‘sector-ego-centric’ discourse, and instead move towards inter-sectoral cooperation – particularly between government, the business sector and civil society. Better cooperation between these three actors could ensure that vulnerabilities could be better managed.

Moving ahead on the issue of regional cooperation, climate change issues should be able to integrate and connect the different states in Southeast Asia. This requires a scientific networking community that is able to apply science and technology in mitigating the effects of climate change. A common goal amongst the states acts as a catalyst for regional cooperation. For example, a common desire to reduce CO<sub>2</sub> emissions and global temperatures should be sufficient to bind states together. However, this has to be done through a regional sustainable development policy which could ensure that Southeast Asia as a region would achieve economic development, while at the same time meet emission targets. The challenge to achieving this, however, lies in turning the ‘brain-drain’ to ‘brain-gain’.

A brain-gain situation can be materialised when research centres and institutes of the host countries do not monopolise the research outcomes and findings, but instead allow a certain measure of sharing with others. Inevitably, this requires the tweaking or rethinking of 'property rights' before such flexibilities can be exercised. An alternative is to allow these scientists to work in their countries of origin while they are being subsidised by centres and institutes from overseas. Indeed, a more creative approach is required.

Another noted challenge was political constraints, such as the need to tend to more immediate electoral concerns, bounds policymakers towards a short-term socio-political outlook, which unfortunately renders the long-term implications of climate change and the need for action as somewhat unnecessary. In addition, there are also the issues of the inherent conflicts between different sectors of expertise such as law, ecology and economics — sector-centred-ego — when climate change is perhaps best dealt with at the inter-sectoral level. The other challenge is to

convince policymakers that ecology and economy do not exist as dialectics, which means that economic and ecology development can be achieved in tandem. This is where an inter-sectoral perspective on climate change and economic development is required, and where scientific inputs can co-exist with economic and development theories. These theories, however, require a developmental model which can be used to garner political support. However, the trick is to depoliticise these issues so that they can be understood from an independent inter-sectoral perspective.

In implementing policies and recommendations from scientists, the major drivers of policy recommendations and developmental models are the politicians themselves. Therefore, it is necessary and also advisable for interests groups, such as political and natural science scientists, to lobby for support from amongst politicians. This cause has to be 'championed' by a politician. However, scientists would first need to produce a developmental model which the 'champion' could actually articulate.



## Closing Remarks: The Asian Way Forward



*Dr Lorraine Elliott*

In her closing remarks, Dr Lorraine Elliot conveyed that this project was meant to kick-start the MacArthur Climate Change and Human Security programme. Throughout the conference, one issue stood out in particular — the repeated call for a paradigm shift in thinking, which resonates with the United Nations Development Programme’s call for a change in thinking on climate change issues. Several issues such as governance, scale of implications and the unintended consequences of climate change were repeatedly brought up. Typically, the first two issues are those that one does not usually relate to non-traditional security discourse, particularly about constructing national, regional and global debates and then linking them together. The other issue of networks also forms an essential component of our contribution to the debate about non-traditional security and human security, in the context of this debate and within the different levels and layers of government structures.



*Assoc. Prof. Mely Caballero-Anthony*

Also of interest were the issues of the different kinds of unintended consequences within the context of adaptation and social resilience as security and human security strategies. Another important issue raised was the importance of cooperation through scientific endeavours. Additionally, she argued that there is a need to think carefully about the issue of climate migration and forced migration, which would actually enable us to challenge some of the more orthodox security responses to the issue of displacement, and also raise our concerns about social resilience and security strategies that deal with the issues.

To conclude, Associate Professor Mely Caballero-Anthony posited that the idea of this project is to add value to and highlight the whole issue of climate change and human security, and articulate them in a way that is understood by a range of people with different vulnerabilities and in different circumstances. This appeals to the need to transfer knowledge and be sensitive to the different types of vulnerabilities, navigate across different languages, and to establish trust.

## Programme

### Conference Day 1

Thursday, 27 August 2009

08:30 – 08:55 **Conference Registration**

09:00 – 09:25 **Session I**

#### **Opening Remarks**

##### **Welcome Address**

*Ambassador Barry Desker*

Dean

S. Rajaratnam School of

International Studies

Singapore

##### **Opening Address**

*Assoc. Prof. Mely Caballero-Anthony*

Head

RSIS Centre for NTS Studies

Singapore

and

Secretary-General, NTS-Asia

09:25 – 09:45 **Session II — Part 1**

#### **Balancing Knowledge and Policy on Climate Change**

##### **Climate Change and Human Security: An Overview**

*Dr Lorraine Elliott*

Visiting Senior Fellow

Lead Researcher for Climate Change

and Environmental Security

RSIS Centre for NTS Studies, Singapore;

and Senior Fellow

Department of International Relations

Australian National University

Canberra, Australia

09:45 – 10:00 BREAK

10:00 – 11:25

### **Session II – Part 2**

#### **Balancing Knowledge and Policy on Climate Change**

##### **Science-Based Policy for Climate**

##### **Change Mitigation: A Bridge Too Far?**

*Assoc. Prof. Shreekant Gupta*

Associate Professor

Lee Kuan Yew School of Public Policy,

Singapore

##### **The Economics of Climate Change in Southeast Asia: A Regional Review**

*Mr John Pearson*

Head

Southeast Asia Climate Change Network

British High Commission

Singapore

Discussion

11:25 – 12:30

### **Session III — Part 1**

#### **Vulnerabilities of Communities in Northeast/Southeast Asia to the Security Implications of Climate Change**

##### **Climate Matters: Vulnerability Mapping for Southeast Asia**

*Dr Herminia A. Franscisco*

Director of the Economy and

Environment Program for Southeast Asia

Singapore

and

*Dr Arief Anshory Yusuf*

Lecturer/Researcher at Faculty of Economics

Padjadjaran University

Indonesia,

and

A Senior Economist at Economy and

Environment Program for Southeast Asia

Singapore

	<p><b>Assessment of Coastal Vulnerability to Sea Level Rise in Southeast Asia: Some Management Considerations</b>  <i>Dr Beverly Goh</i>  Natural Sciences and Science Education,  National Institute of Education  Singapore</p>		<p><b>Vulnerabilities of Women in Southeast Asia: Gender, Human Security and Climate Change Adaptation in Southeast Asia</b>  <i>Dr Bernadette P. Resurreccion</i>  Associate Professor of  Gender and Development Studies  The Asian Institute of Technology  Pathumtani, Thailand</p>
	<p><b>Vulnerabilities of Forest Communities in Southeast Asia: Governance and Implementation Challenges to the “Reduced Emissions from Deforestation and Forest Degradation (REDD)” — The case of the demonstration activity of Ulu Masen, Aceh, Indonesia</b>  <i>Dr Enrique Ibarra Gené</i>  Forest Conservation Policy Researcher  Institute for Global  Environmental Strategies  Tokyo, Japan</p>		<p>Discussion</p>
		15:40 – 15:55	BREAK
		15:55 – 17:40	<p><b>Session IV</b>  <b>Understanding Human Insecurities in Climate-Conflict Nexus in Northeast/Southeast Asia</b></p>
			<p><b>Climate Change, Threat Multiplier and Internal Conflicts in Northeast and Southeast Asia</b>  <i>Dr Lorraine Elliott</i>  Visiting Senior Fellow  Lead Researcher for Climate Change and Environmental Security  RSIS Centre for NTS Studies  Singapore  and  Senior Fellow  Department of International Relations  Australian National University  Canberra, Australia</p>
12:30 – 14:00	LUNCH		
14:00 – 15:40	<p><b>Session III - Part 1</b>  <b>Vulnerabilities of Communities in Northeast/Southeast Asia to the Security Implications of Climate Change</b></p> <p><b>Vulnerabilities of Urban-poor Communities in Northeast and Southeast Asia</b>  <i>Prof. Devanathan Parthasarathy</i>  Professor  Indian Institute of Technology  Mumbai, India</p>		

**Climate Change and Population Movement: The Bangladesh Case**

*Prof. Tasneem Siddiqui*  
 Chair of Refugee and Migratory Movements Research Unit  
 University of Dhaka  
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**Cross-border Resource Management in Southeast Asia: The Cases of Greater Mekong Region, the Heart of Borneo and Coral Triangle**

*Mr Fitriani Ardiansyah*  
 Programme Director for Climate and Energy  
 World Wildlife Fund  
 Jakarta, Indonesia

Discussion

**The Role of Faith-based and Environment NGOs in Building Community Resilience to the Security Implications of Climate Change**

*Dr Henri Bastaman*  
 Deputy on Environmental Communication and Society's Empowerment  
 Ministry of Environment  
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**Climate Change, Human Security and the Role of the Military in the Coming Global Politics of a Carbon-constrained World**

*Prof. Richard Tanter*  
 Director  
 Nautilus Institute  
 RMIT University  
 Melbourne, Australia

Discussion

**Conference Day 2:  
 Friday, 28 August 2009**

08:30 – 08:55 **Conference Registration**

10:45 – 11:10 Group Photo-taking & BREAK

09:00 – 10:45 **Session V  
 Stakeholders' Roles and Responsibilities**

11:10 – 13:00 **Session VI  
 Integrating Climate Change to Regional and National Policies**

**Integrating the Security Aspect of Climate Change in Development Agenda: The Role of Donors in the Asia and the Pacific**

*Mr Masakazu Ichimura*  
 Chief of Environment and Development Policy Section  
 Environment and Development Division  
 UN Economic and Social Commission for Asia and the Pacific  
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**New Challenges and Regime Resilience: Climate Change and Water Security for the People of the Lower Mekong Basin**

*Dr Keokam Kraisoraphong*  
 Assistant Professor  
 Faculty of Political Science  
 Chulalongkorn University  
 Bangkok, Thailand

**Climate Change Adaptation Measures  
in Sustainable Development**

*Prof. Emil Salim*

Member of the Advisory Council to  
President Susilo Bambang Yudhoyono  
as the Adviser for Environment and  
Sustainable Development Issues  
Jakarta, Indonesia

Discussion

13:00 – 13:15 **Session VII**

**Closing Remarks****Closing Remarks:****The Asian Way Forward**

*Assoc. Prof. Mely Caballero-Anthony*

Head

RSIS Centre for NTS Studies

Singapore

and

Secretary-General, NTS-Asia

*Dr Lorraine Elliott*

Visiting Senior Fellow

Lead Researcher for Climate Change  
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and

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13:15-15:00 CLOSING LUNCH

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## About the RSIS Centre for Non-Traditional Security Studies

The RSIS Centre for Non-Traditional Security (NTS) Studies conducts research and produce policy-relevant analyses aimed at furthering awareness and building capacity to address NTS issues and challenges in the Asia-Pacific region and beyond.

To fulfil this mission, the Centre aims to:

- Advance the understanding of NTS issues and challenges in the Asia-Pacific by highlighting gaps in knowledge and policy, and identifying best practices among state and non-state actors in responding to these challenges;
- Provide a platform for scholars and policy-makers within and outside Asia to discuss and analyse NTS issues in the region;
- Network with institutions and organisations worldwide to exchange information, insights and experiences in the area of NTS;
- Engage policy-makers on the importance of NTS in guiding political responses to NTS emergencies and develop strategies to mitigate the risks to state and human security; and
- Contribute to building the institutional capacity of governments, and regional and international organisations to respond to NTS challenges.

### Our Research

The key programmes at the RSIS Centre for NTS Studies include:

- Internal and Cross-Border Conflict Programme
  - Dynamics of Internal Conflicts
  - Multi-level and Multilateral Approaches to Internal Conflict
  - Responsibility to Protect (R2P) in Asia
  - Peacebuilding
- Climate Change, Environmental Security and Natural Disasters Programme
  - Mitigation and Adaptation Policy Studies
  - The Politics and Diplomacy of Climate Change
- Energy and Human Security Programme
  - Security and Safety of Energy Infrastructure
  - Stability of Energy Markets
  - Energy Sustainability
  - Nuclear Energy and Security
- Health and Human Security Programme
  - Health and Human Security
  - Global Health Governance
  - Pandemic Preparedness and Global Response Networks

The first three programmes received a boost from the John D. and Catherine T. MacArthur Foundation when the RSIS Centre for NTS Studies was selected as one of three core institutions leading the MacArthur Asia Security Initiative\* in 2009.

*\* The Asia Security Initiative was launched by the John D. and Catherine T. MacArthur Foundation in January 2009, through which approximately US\$ 68 million in grants will be made to policy research institutions over seven years to help raise the effectiveness of international cooperation in preventing conflict and promoting peace and security in Asia.*

## Our Output

### *Policy Relevant Publications*

The RSIS Centre for NTS Studies produces a range of output such as research reports, books, monographs, policy briefs and conference proceedings.

### *Training*

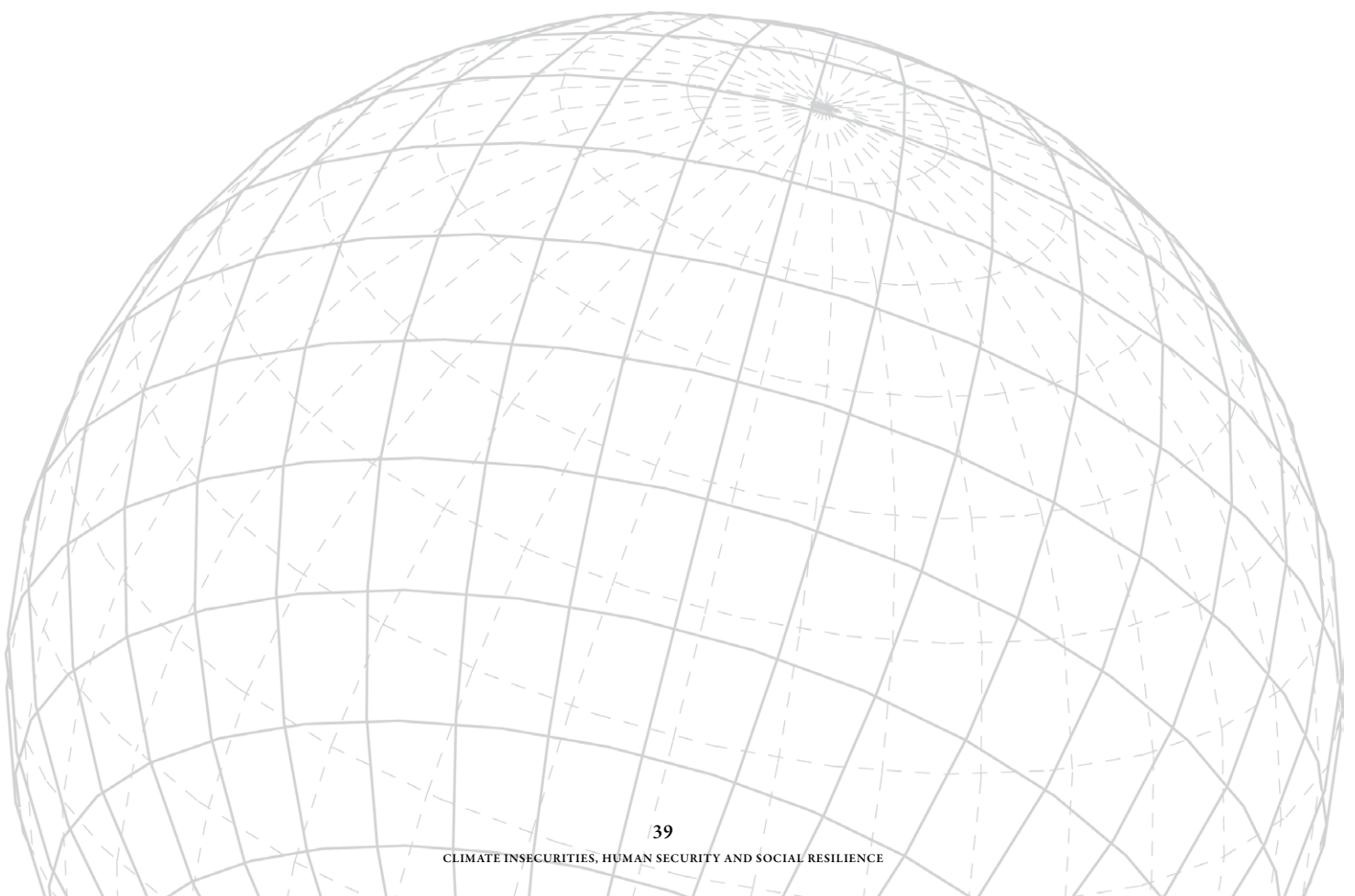
Based in RSIS, which has an excellent record of post-graduate teaching, an international faculty, and an extensive network of policy institutes worldwide, the Centre is well-placed to develop robust research capabilities, conduct training courses and to facilitate advanced education on NTS. These are aimed at, but not limited to, academics, analysts, policy-makers and NGOs.

### *Networking and Outreach*

The Centre serves as a networking hub for researchers, policy analysts, policy-makers, NGOs and media from across Asia and farther afield interested in NTS issues and challenges.

The RSIS Centre for NTS Studies is also the Secretariat of the Consortium of Non-Traditional Security Studies in Asia (NTS-Asia), which brings together 14 research institutes and think-tanks from across Asia, and strives to develop the process of networking, consolidate existing research on NTS-related issues, and mainstream NTS studies in Asia.

More information on our Centre and NTS-Asia is available at [www.rsis.edu.sg/nts](http://www.rsis.edu.sg/nts) and [www.rsis-ntsasia.org](http://www.rsis-ntsasia.org) respectively.



## About the S. Rajaratnam School of International Studies

The S. Rajaratnam School of International Studies (RSIS) was inaugurated on 1 January 2007 as an autonomous School within the Nanyang Technological University (NTU), upgraded from its previous incarnation as the Institute of Defence and Strategic Studies (IDSS), which was established in 1996.

The School exists to develop a community of scholars and policy analysts at the forefront of Asia-Pacific security studies and international affairs. Its three core functions are

research, graduate teaching and networking activities in the Asia-Pacific region. It produces cutting-edge security related research in Asia-Pacific Security, Conflict and Non-Traditional Security, International Political Economy, and Country and Area Studies.

The School's activities are aimed at assisting policymakers to develop comprehensive approaches to strategic thinking on issues related to security and stability in the Asia-Pacific and their implications for Singapore.



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