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Climate change: is Southeast Asia up to the challenge?: is there an ASEAN policy on climate change?

Report

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Is there an ASEAN policy on climate change?

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Abstract

The ASEAN Heads of State/Government have proactively led ASEAN's efforts to address climate change issues in the region and beyond. They have issued a declaration to the 2007 Bali UN Climate Change Conference which set the two-year road map for the current negotiations, and on 24th October 2009 issued a Joint Statement to the December 2009 Copenhagen UN Climate Change Conference where a new climate change arrangement is expected to be concluded. The Road Map for an ASEAN Community 2009-2015 adopted by the Leaders situates the ASEAN climate change agenda in the context of sustainable development outlining strategies and actions in the ASEAN Socio-cultural Community Blueprint, ASEAN Economic Community Blueprint, ASEAN Political-Security Community Blueprint, and the Initiative for ASEAN Integration 2nd Work Plan. ASEAN is therefore addressing climate change, not just through a policy on climate change, but through the framework of ASEAN Community building, with strategies and actions rooted in the various development and sectoral areas. This paper highlights the ASEAN climate change agenda, and actions planned to address climate change.

ASEAN Region At a Glance

The ASEAN region lies within the waters of the Pacific Ocean, Indian Ocean, Andaman Sea and South China Sea, and stretches more than 3,300 kilometres from north to south (latitudes 30° North to 11° South) and 5,600 kilometres from west to east (longitudes 92° West to 142° East). ASEAN borders China to the north, India and Bangladesh to the northwest, and East Timor and Papua New Guinea to the southeast. The region also has a long coastline, measuring about 173,000 kilometres in total, and is surrounded by major seas and gulfs such as the South China Sea, the Andaman Sea and the Gulf of Thailand. In view of its proximity to the equator, the region enjoys a warm and humid climate throughout the year.

Natural Resources. The ASEAN region is endowed with rich natural resources that sustain essential life support systems both for the region and the world. The rich marine life and abundant mineral resources supports important economic activities such as oil exploration, commercial and small-scale fisheries, and tourism. Apart from providing water, food and energy, these natural resources play an important role in sustaining a wide range of economic activities and livelihoods. The ASEAN region is blessed with a variety of unique ecosystems such as the Mekong River Basin, Ha Long Bay and Lake Toba. The strategic location of ASEAN has also brought about numerous economic advantages to the region, particularly through international shipping and foreign trade.

Population. ASEAN is highly populated. The total population of AMS in mid-2008 was about 580 million (Fig. 1), which accounted for 8.7 percent of the world's total. In terms of regional distribution, the ASEAN region has the fourth largest population after South-Central Asia, Eastern Asia, and Sub-Saharan

Characteristics	Facts
Population	About 580 mil people (2008)
Population density	130 people per sq km (world average: 49 people per sq km)
Population in urban areas	44% of region's total population; projected to increase to 55% by 2020
Coastlines	173,000km (14% of the world total)
Forest cover	1,904,593 sq km (2007)
Mangrove	Over 52,000 sq km
Peatland	25 million hectares (60% of global tropical peatlands)
Coral reefs	34% of the world total
Poverty incidence (% of population living below respective poverty line)	Cambodia (34.7%), Indonesia (16.6%), Lao PDR (32.7%), Malaysia (3.6%), Myanmar (26.6%), the Philippines (30.0%), Thailand (8.48%), Vietnam (14.75%)

Figure 1. ASEAN Facts and Figures

Africa. Indonesia is the most populous country in the region with 229 million people and the fourth most populous country in the world after China, India, and the United States. Six AMS are among the top 50 most populous countries in the world, namely, Indonesia, Philippines, Vietnam, Thailand, Myanmar and Malaysia.

Climate Change as an Issue

Climate change has become a defining and most challenging sustainable development issue of the twentieth first century. It is defining in the sense that it is now dictating the pace and nature of economic growth, development and social progress, while potentially becoming the greatest threat to humankind and survival if left unchecked. It is challenging because of its multifaceted nature, affecting almost all sectors and the basic means and lifestyle of human existence. It is no more a mere environmental issue that can be fixed by technology or finite human and capital resources. It is more urgent in the sense that we are talking in terms of years or at most a few decades

to address climate change before the earth reaches a turning point at which stage the climate change devastating impacts becomes irreversible.

The climate change crisis aptly amplifies the consequences of not acting in a holistic and integrated manner. It cannot be fixed by technology or finite human and capital resources alone. It is also the most urgent in the sense that, if remedial measures are not taken, a point of no return would be reached in the next few decades. The climate change crisis is the embodiment of what can go wrong, if action is not taken globally based on the principle of common but differentiated responsibility.

The authoritative Intergovernmental Panel on Climate Change (IPCC), the scientific advisory body to the United Nations Framework Convention on Climate Change (UNFCCC) has estimated that globally, emissions reductions of 25-40% of 2000 levels are needed if the global temperature fluctuations are to be maintained within a range of 2°C, a level which is generally taken to sustain life without any irreversible damage. The Stern Review on the Economics of Climate Change has estimated that the cost of inaction could cost up to 20% or more of global GDP, while in contrast the costs of action undertaken now to address climate change to avoid the worst impacts can be limited to 1% of global GDP each year.

In the on-going negotiations for renewed and urgent actions on climate change, the debate on mitigating greenhouse gases, essentially carbon dioxide, is fast turning into a development issue – how much growth each nation can pursue given the constraints on the limiting capacity of atmospheric carbon space. The key argument is that the developed countries, with their historically unfettered industrial growth, have enjoyed these rights and have crowded out the carbon space, which is now limiting the development potential of developing countries, given that they too should have the right to equitable development. This draws attention to the stark reality that the environment cannot be separated from economic growth and social development. Each has to support and complement the other.

ASEAN is particularly vulnerable to the impacts of climate change due to the concentration of people and economic activities in the coastal areas, its rich biological diversity, resource-based economies, and the increased vulnerability of the people especially the poor. Due to its geological and geographical factors, the region is also one of the world's vulnerable regions to suffer from a range of climatic and natural hazards such as earthquakes, typhoons, sea level rise, volcanic eruptions, droughts, heat waves and tsunamis which are becoming more frequent and severe. In addition, the geophysical and climatic conditions shared by the region have also led to common and trans-boundary environmental concerns such as air and water pollution, urban environmental degradation and trans-boundary haze pollution.

ASEAN Region: Responding to the Challenge

The ASEAN Leaders have expressed their concern and commitment for ASEAN to play a proactive role in addressing climate change through their declarations to the 2007 Bali and 2009 Copenhagen UN Conferences on Climate Change. They view the protection of the environment and the sustainable use and management of natural resources as essential to the long-term economic growth and social development of countries in the region. The ASEAN Vision 2020 calls for "a clean and green ASEAN" with fully established mechanisms to ensure the protection of the environment, sustainability of natural resources, and high quality of life of people in the region.

To realise the ASEAN Vision, in October 2003, the Heads of State/Government of ASEAN Member States (AMS) declared that "an ASEAN Community shall be established comprising three pillars, namely political and security cooperation, economic cooperation, and socio-cultural cooperation that are closely intertwined and mutually reinforcing for the purpose of ensuring durable peace, stability and shared prosperity in the region". The Roadmap for an ASEAN Community 2009 - 2015 lays out the goals, strategies and actions to realise the ASEAN Community by 2015 – an ASEAN Community that is politically cohesive and peaceful, economically integrated and vibrant, and socially responsible and caring.

ASEAN has been actively engaged in international negotiations in ensuring a fair, effective and equitable outcome for a new climate change regime. The ASEAN Member States made a number of declarations and statements supporting climate change since 2007. These include:

- a. ASEAN Declaration on Environmental Sustainability (13th ASEAN Summit in 2007)
- b. ASEAN Declaration on COP-13 to the UNFCCC and CMP-3 to the Kyoto Protocol (13th ASEAN Summit in 2007).
- c. Singapore Declaration on Climate Change, Energy and the Environment (3rd EAS Summit in 2007)
- d. Joint Ministerial Statement of the 1st EAS Energy Ministers Meeting (2007)
- e. Ministerial Statement of the Inaugural EAS Environment Ministers Meeting (2008)
- f. ASEAN Joint Statement on Climate Change to COP-15 to the UNFCCC and CMP-5 to the Kyoto Protocol (15th ASEAN Summit in 2009)
- g. Singapore Resolution on Environmental Sustainability and Climate Change (11th AMME in 2009).

The 13th session of Conference of the Parties to the UNFCCC. Indonesia hosted the 13th Conference of Parties (COP13) of the UNFCCC in Bali in 2007, which set in place the Bali Roadmap initiating the current talks to conclude a new global climate change deal in Copenhagen in December 2009 at COP15. The

ASEAN Leaders at their 12th Summit in Singapore in November 2007 issued a Declaration highlighting ASEAN's concerns and expectations of the climate change talks for COP13 in Bali.

ASEAN, in the declaration on the 13th session of Conference of the Parties to the UNFCCC and the 3rd Session of the CMP to the Kyoto Protocol, was resolute in its commitment to address the issue and importance of climate change and achieve its objectives of sustainable development. In its continuing efforts to stabilise the concentration of greenhouse gases in accordance with the UNFCCC and Kyoto Protocol, ASEAN has pledged to address the issue of climate change beyond 2012 through realising an effective, fair, flexible, and comprehensive multilateral arrangement. ASEAN has also ensured their commitment towards effective bilateral, regional and global partnership to promote the development and transfer of low carbon technologies including cleaner and climate-friendly technologies.

Building partnerships with international financial and development cooperation institutions to encourage innovative financing options is predicted to stimulate investment in climate-friendly technology and development for ASEAN and the rest of the world. It is recognised within this context that economic and social development, including poverty eradication and environmental protection, are principal priorities of developing countries. It is also accepted in ASEAN that fossil fuel consumption underpin AMS's economies. It is devised within the declaration that the underlying goals in sustainable development, along with alternative fuel sources, will be a reality in the foreseeable future. Any action to mitigate climate change should be in a manner that complements and enhances sustainable development and sustained economic growth.

The ASEAN Leaders also issued an ASEAN Summit Declaration on Environmental Sustainability, and together with their EAS counterparts issued the Singapore Declaration on Energy, Climate Change and Environment. Thailand, the current ASEAN Chair played host to the Bangkok Climate Change Talks

for two weeks from 28th September 2009, a crucial event which will determine whether a new climate change deal can be reached in Copenhagen. The Prime Minister of Thailand attended the G20 Meeting in Pittsburgh in September 2009 where he articulated, among others, ASEAN's concerns and expectations on climate change.

The ASEAN Leaders who met at their 15th Meeting on 24th October 2009 issued a Joint Statement to the 15th session of the Conference of Parties to the UN Framework Convention on Climate Change and the 5th session of the Conference of Parties serving as the Meeting of the Parties to the Kyoto Protocol. ASEAN is committed to fully implement various measures to address climate change as outlined in the strategy and actions of the ASCC Blueprint 2009 – 2015.

The ASEAN Institutional Framework

The ASEAN Charter entered into force on 15th December 2008. The Charter bestowed a legal personality upon ASEAN, which for the past 42 years has operated as a coalition of nations born out of the Bangkok Declaration of 1967. To realize the purposes of the Charter, the ASEAN Leaders adopted a Roadmap comprising three community blueprints – political-security, socio-cultural, and economic – and the Initiative for ASEAN Integration 2nd Work Plan.

The ASEAN Charter while rationalizing and maintaining existing institutions, has created several new institutions to better coordinate enhance and streamline the work of the various sectoral bodies. The ASEAN Summit, the supreme policy-making body of ASEAN, now meets twice a year in addition to having special or ad-hoc meetings. The ASEAN Leaders provide the vision and broad thrust for co-operation in various sectors, including co-operation on environment.

A newly constituted ASEAN Coordinating Council comprising the ASEAN Foreign Ministers will, among others, coordinate with the ASEAN Community Councils to enhance policy coherence, efficiency and cooperation among them. Each of the three Communities will have a new ASEAN Community

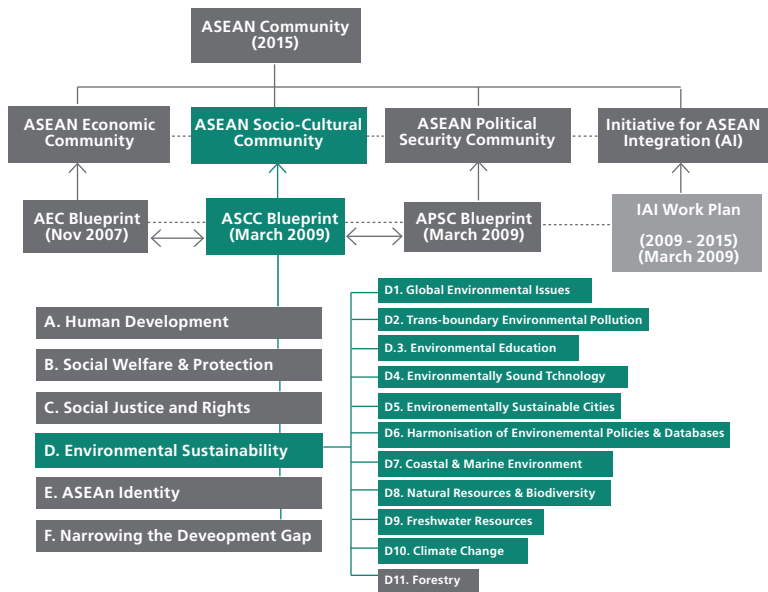


Figure 2. ASEAN Snapshot

Council which will, among others, ensure the implementation of the relevant decisions of the ASEAN Summit, and coordinate the work of the different sectors under its purview and on issues which cut across the other Community Councils. The ASEAN Socio-cultural Community Council will oversee the work of the ASEAN Environment Ministers.

The ASEAN Environment Ministers meet on a formal basis once every three years and since 1994, have also been meeting on an informal basis annually while the ASEAN Senior Officials on the Environment (ASOEN) meet annually and are responsible for supporting the ASEAN Environment Ministers in terms of formulation, implementation and monitoring of regional programmes and activities. ASOEN comprises heads of environmental ministries/departments/agencies that are responsible for environmental matters in their respective countries. The ASEAN Environment Ministers are primarily responsible for policy and strategic matters related to the environment.

The ASEAN Senior Officials of the Environment (ASOEN) also serve as the national ASOEN focal points for promoting ASEAN's activities in their respective countries. ASOEN is assisted by six subsidiary bodies, namely the ASEAN Working Group

on Coastal and Marine Environment (AWGCME), the ASEAN Working Group on Environmental Education (AWGEE), the ASEAN Working Group on Environmentally Sustainable Cities (AWGESC), the ASEAN Working Group on Multilateral Environmental Agreements (AWGMEA), the ASEAN Working Group on Nature Conservation and Biodiversity (AWGNCB), and the ASEAN Working Group on Water Resources Management (AWGWRM) (Fig.3). The ASEAN Secretariat coordinates and reports to ASOEN on all other activities that do not fall within the purview of the respective working groups, such as promoting environmentally sound technology and harmonizing environmental policies and databases.

The ASEAN Environment Ministers meeting as the Conference of the Parties (COP) is responsible for the implementation of the ASEAN Agreement on Trans-boundary Haze Pollution (Haze Agreement). In addition, considering the different circumstances and weather patterns in the southern ASEAN and Mekong regions, sub-regional institutional frameworks have been established to address the fire and haze situations in the respective regions. Environment Ministers from Brunei Darussalam, Indonesia, Malaysia, Singapore and Thailand meet regularly as the Sub-Regional Ministerial Steering Committee (MSC) on Trans-boundary Haze Pollution

Institutional Framework (Environment)

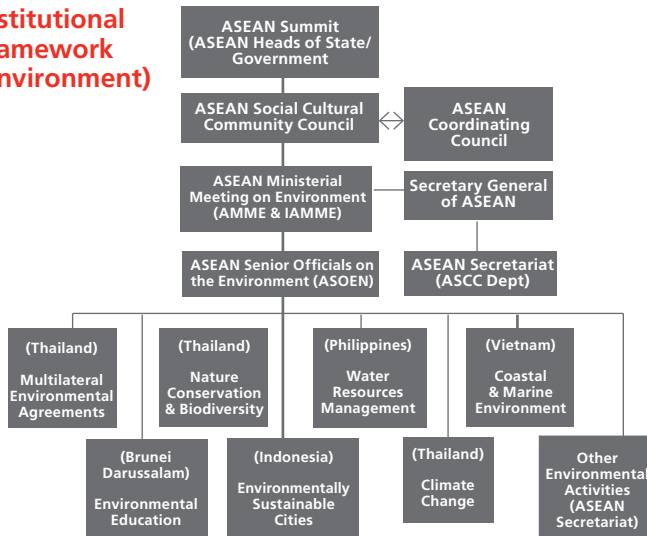


Figure 3. ASEAN Institutional Framework (Environment)

to undertake activities for the southern region. The MSC is supported by a Technical Working Group comprising senior officials.

There are two subsidiary bodies established under the COP, namely: (i) the Committee comprising senior officials to support implementation of the Agreement and provide relevant information to the COP for decision and guidance; and (ii) the Technical Working Group on Trans-boundary Haze Pollution in the Mekong Sub-Region to develop and implement programmes and activities to enhance cooperation among AMS in the Mekong sub-region, i.e. Cambodia, Lao PDR, Myanmar, Thailand and Vietnam on fire and haze pollution control.

The ASEAN Secretariat provides support for all these institutional bodies. In particular, the ASEAN Secretariat acts as a resource base, providing advice and information. The ASEAN Secretariat also coordinates the implementation of regional activities and programmes, in addition to providing support services for the meetings of the ASEAN bodies. The ASEAN Secretariat ensures proper coordination on related activities of various other sectoral bodies so as to promote synergy and avoid duplication. Another

important role played by the ASEAN Secretariat is the coordination between ASEAN bodies and its programmes with those of ASEAN Dialogue Partners and other international organisations in terms of resource mobilisation, programme implementation and in general enhancing institutional linkages.

The ASOEN recognising the need for regular, sustained and more structured engagement among CSOs and ASEAN bodies, has supported the process of creating such mechanisms, in particular an ASEAN Civil Society Organisations Forum on Environmental Protection and Sustainable Development. This would bring multiple mutual benefits such as enabling CSOs to bring up emerging issues and concerns on environment to ASEAN decision makers, support ASEAN in designing and implementing regional projects, effectively deliver people-centred programmes, gain formal recognition of CSOs as a key partner of ASEAN, and obtain the backing of ASEAN in mobilising resources for CSO initiated programmes. The ASEAN Secretariat has assisted in convening the first meeting of the proposed CSO Forum which laid the basic groundwork for establishing the Forum and remains committed to follow through on the initiative.

The ASEAN Strategies and Actions on Climate Change

Recognising the importance of environmental cooperation for sustainable and regional integration, ASEAN has since 1977 cooperated closely in promoting environmental cooperation focusing on ten priority areas of regional importance as reflected in the Blueprint for the ASEAN Socio-cultural Community (ASCC Blueprint) 2009-2015, as follows:

- D1. Addressing global environmental issues
- D2. Managing and preventing trans-boundary environmental pollution
 - Trans-boundary haze pollution
 - Trans-boundary movement of hazardous wastes
- D3. Promoting sustainable development through environmental education and public participation
- D4. Promoting environmentally sound technology (EST)
- D5. Promoting quality living standards in ASEAN cities/urban areas
- D6. Harmonising environmental policies and databases
- D7. Promoting the sustainable use of coastal and marine environment
- D8. Promoting sustainable management of natural resources and biodiversity
- D9. Promoting the sustainability of freshwater resources
- D10. Responding to climate change and addressing its impacts

The ASCC Blueprint provides priority actions in responding climate change and addressing its impacts under section D10 of the Blueprint. The section's main strategic objective is to enhance regional and international cooperation to address the issue of climate change and its impacts on socio-economic development, health and the environment, in ASEAN Member States through implementation of mitigation and adaptation measures, based on the principles of equity, flexibility, effectiveness, common but differentiated responsibilities, respective capabilities, as well as reflecting on different social and economic conditions. The same section identifies 11 priority actions responsive to climate change issues which will be implemented and pursued by ASEAN Member States from 2010-2015, namely:

- Encourage ASEAN common understanding on climate change issues and where possible, engage in joint efforts and common positions in addressing these issues;
- Encourage the efforts to develop an ASEAN Climate Change Initiative (ACCI);
- Promote and facilitate exchange of information/knowledge on scientific research and development (R&D), deployment and transfer of technology and best practices on adaptation and mitigation measures, and enhance human resource development;
- Encourage the international community to participate in and contribute to ASEAN's efforts in afforestation and reforestation, as well as to reduce deforestation and forest degradation;
- Develop regional strategies to enhance capacity for adaptation, low carbon economy, and promote public awareness to address effects of climate change;
- Enhance collaboration among ASEAN Member States and relevant partners to address climate related hazards, and scenarios for climate change;
- Develop regional systematic observation system to monitor impact of climate change on vulnerable ecosystems in ASEAN;

- Conduct regional policy, scientific and related studies, to facilitate the implementation of climate change convention and related conventions;
- Promote public awareness and advocacy to raise community participation on protecting human health from the potential impact of climate change;
- Encourage the participation of local government, private sector, non-governmental organisations, and community to address the impacts of climate change; and
- Promote strategies to ensure that climate change initiatives lead to economically vibrant and environment friendly ASEAN Community taking into account win-win synergy between climate change and the economic development.

The Climate Change Challenges & ASEAN Initiatives Across Sectors

The ASEAN Socio-cultural Community Coordinating Council in 2009 agreed to enhance coordination mechanisms to synergise efforts across the corresponding sectoral bodies, communities, and across issues such as climate change. Climate change impacts on almost all sectors and these are highlighted in the context of ASEAN regional cooperation areas as below:

- **Environment.** All areas particularly conservation of biodiversity, water resources management, coastal and marine environment, public awareness and environmental education, forest fires and trans-boundary haze pollution etc.
- **Agriculture and Forestry.** Food security, forest degradation.
- **Disaster Management.** More and severe weather related disasters such as floods, droughts, typhoons etc.
- **Science and Technology.** Weather monitoring and forecasting, research and development on climate related impacts and responses, vulnerability studies etc.
- **Health.** More and severe weather related diseases.
- **Human Development.** Impact on poverty, sustainable livelihoods, social development, and generally on the achievement of the MDG goals.
- **Economic Growth.** Affects production and transaction costs through internalising environmental costs, change in products, services and markets, drag on GDP growth, carbon taxes, allocation and trade of environmental rights, new market opportunities for environmental goods and services.
- **Energy Transportation.** Renewable energy, energy conservation, mass and efficient transportation, etc.
- **Political and Human Security.** Environmental security issues, political debate influenced more and more by environmental issues, in particular climate change.

1. Environment

ASEAN Climate Change Initiative (ACCI)

The ASEAN Environment Ministers have endorsed the Terms of Reference of the ASEAN Climate Change Initiative (ACCI). ACCI is envisaged to be a consultative platform to further strengthen regional coordination and cooperation in addressing climate change, and to undertake concrete actions to respond to its adverse impacts. The scope of collaboration through the ACCI will include: (i) policy and strategy formulation; (ii) information sharing; (iii) capacity building; and (iv) technology transfer. The ASEAN Environment Ministers

have also established an ASEAN Working Group on Climate Change (AWGCC) to implement the ACCI and D10 actions of the environment ASCC Blueprint.

The ACCI seeks to enhance regional and international cooperation to address climate change and its impacts on socio-economic development, health and the environment, in AMS through implementation of mitigation and adaptation measures, based on the principles of equity, flexibility, effectiveness, common but differentiated responsibilities, respective capabilities, as well as reflecting on different social and economic conditions. The ASEAN Climate Change Initiative is being coordinated by the ASEAN Working Group on Climate Change chaired by Thailand and shall be reporting to the ASOEN.

Cool ASEAN, Green Capitals Initiative

This is an initiative proposed by Dr. Surin Pitsuwan, Secretary-General of ASEAN and supported by the ASEAN Environment Ministers. The initiative aims to address climate change through environmentally friendly means in meeting the daily needs of cities such as transportation, waste management, energy conservation, etc through grass-roots actions and by the people. The Governor of Bangkok has agreed to take the lead on the implementation of the initiative. ASEAN Secretariat shall play an enabling and supporting role. World Bank has agreed to partner with ASEAN on this initiative.

Good Offices of the Secretary-General of ASEAN

A proposal is therefore made to make use of the good offices of the Secretary-General of ASEAN to facilitate and address the issues addressed above. This suggestion is made following the success of the role of the Secretary-General of ASEAN as the ASEAN Humanitarian Assistance Coordinator which greatly helped ASEAN's response to the Cyclone Nargis in particular, and disaster management and humanitarian assistance in general.

This proposal will allow the good offices of the Secretary-General of ASEAN supported by the ASEAN Secretariat to meet the demand for greater coordination and consultation, and in general to

better serve the interests of ASEAN and Member States by implementing the actions as articulated above, and responding timely to any emerging needs.

The ASEAN Agreement on Trans-boundary Haze Pollution

ASEAN continued to implement concerted and focused on-the-ground actions to tackle the smoke haze problem through the ASEAN Agreement on Trans-boundary Haze Pollution. The ASEAN Conference of the Parties (COP) comprising the ASEAN Environment Ministers, is responsible for the implementation of the ASEAN Agreement on Trans-boundary Haze Pollution (Haze Agreement). In addition, considering the different circumstances and weather patterns in the southern ASEAN and Mekong sub-regions, sub-regional institutional frameworks have been established to address the fire and haze situations in the respective regions. Environment Ministers from Brunei Darussalam, Indonesia, Malaysia, Singapore and Thailand meet regularly as the Sub-Regional Ministerial Steering Committee (MSC) on Trans-boundary Haze Pollution to undertake activities for the southern region.

ASEAN is also pursuing concrete on-the-ground activities in the Mekong and southern regions of ASEAN, including bilateral initiatives by Malaysia and Singapore with Indonesia. Regional and national plans of actions and targets have been set to reduce fires through monitoring of hotspot activities and preventive actions. The ASEAN Peatland Management Strategy is in place, and a major regional peatland project with activities in several pilot sites across the region is being implemented to address the major source of fires. As forest fires destroy ecosystem and biodiversity, and contributes to climate change by releasing carbon, it is important that the global community becomes more engaged and work with ASEAN to address this recurring problem.

The Rehabilitation and Sustainable Use of Peatland Forests in South East Asia Project

The Project aims to demonstrate, implement and scale up sustainable management and rehabilitation of peatland forests in Southeast Asia. This four-year

project focuses on four (4) main areas: 1) strengthening institutional capacity and frameworks; 2) reducing the rate of degradation of peatlands in Southeast Asia; 3) demonstrating integrated management and rehabilitation of peatlands at target sites; and 4) engaging the private sector and local communities in sustainable peatland management. It fits within the framework of the ASEAN Peatland Management Initiative, and directly supports the ASEAN Peatland Management Strategy, and associated National Action Plans on Peatlands in the participating ASEAN countries, namely: Indonesia, Malaysia, Philippines, and Vietnam. This project is financed by the Global Environmental Facility (GEF) and implemented by the International Fund for Agricultural Development (IFAD).

ASEAN Heritage Parks (AHP) Programme

The ASEAN Heritage Parks Programme is one of ASEAN environmental flagship programmes whereby member countries designate their selected national protected areas and reserves as ASEAN Heritage Parks (AHP). To date, 28 sites have been designated as AHP. Two National Marine Parks of Thailand are currently in the process to be inscribed as AHP. Philippines had recently nominated the Mount Kitanglad Range Natural Park as the 28th AHP.

ASEAN Strategic Plan of Action on Water Resources Management

Recognising the importance of freshwater resources, ASEAN has embarked on cooperation in integrated water resources management with the formation of the ASEAN Working Group on Water Resources Management (AWGWRM) in 2002. Following the endorsement of the ASEAN Long Term Strategic Plan for Water Resources Management in 2003, ASEAN has also adopted the ASEAN Strategic Plan of Action on Water Resources Management (2005) which aims to tackle issues relating to demand and supply allocation, water quality and sanitation, extreme events, and governance and capacity building.

ASEAN Marine Water Quality Management Guidelines & Monitoring Manual

To help build the capacity of ASEAN Member States to

implement the ASEAN Marine Water Quality Criteria, ASEAN, in cooperation with Australia, conducted the Project on "Capacity Building for the Implementation of AMWQC – Phase I (2004-2005) and "Capacity Building for the Implementation of AMWQC – Phase II (2007-2008). The ASEAN Marine Water Quality Criteria: Management Guidelines and Monitoring Manual was published as the outcome of the Project, which aims at providing a reference document for ASEAN Member States in coordinating marine water quality management policies and monitoring approaches within each and among the countries. The ASEAN Working Group on Coastal and Marine Environment (AWGCME) will discuss follow-up actions to the recommendations of the Project.

ASEAN initiative on Environmentally Sustainable Cities (AIESC)

With the increasing trend of urbanisation in the region, ASEAN is implementing the ASEAN Initiative on Environmentally Sustainable Cities (AIESC) which focuses on addressing urban environmental challenges such as air pollution due to vehicular emissions, solid waste management and water pollution along with access to clean water. Currently, 25 ASEAN cities are participating in the programme.

ASEAN Environmentally Sustainable City (ESC) Award Programme

To further provide incentive and value to the AIESC, ASEAN commenced an ASEAN Environmentally Sustainable City (ESC) Award programme. The conferring of the first ASEAN ESC Award was held in Hanoi, Vietnam on 8 October 2008, back to back with the 11th Informal ASEAN Ministerial Meeting on the Environment (IAMME). The ESC Award is expected to encourage ASEAN Member Countries to promote Clean Air, Clean Water, and Clean Land to realise environmentally sustainable cities in ASEAN region.

ASEAN Environmental Education Action Plan (AEEAP)

The ASEAN Environmental Education Action Plan 2008-2012, a successor plan to the AEEAP 2000-2005, was adopted by the ASEAN Environment Ministers in 2007 to serve a regional framework to

undertake coordinated action at the national and regional levels to promote environmental education (EE) in order to ensure that the people develop from their own social and cultural values a sense of civic responsibility to care for the environment. The focus of the action plans are in four areas, such as: (1) Formal Education; (2) Non-formal Education; (3) Capacity Building; and (4) Networking and Partnerships. The AEEAP 2008-2012 also supports UN Decade on Education for Sustainable Development (2005-2014).

Heart of Borneo Initiative (HoB)

The HoB is a collaborative regional partnership programme among the three (3) ASEAN Member States: Indonesia, Malaysia, and Brunei Darussalam in promoting effective conservation of protected areas, sustainable management of productive forests and sustainable land-uses.

Coral Triangle Initiative (CTI)

The CTI is a collaborative partnership between Indonesia, Philippines, and Malaysia working together with Papua New Guinea, Solomon Islands, and Timor Leste in implementing various interventions to protect the diverse marine and coastal resources covering the six participating countries.

2. Disaster Management

Disaster risk reduction measures are immediate response measures to adapt to climate change. The ASEAN Committee on Disaster Management (ACDM) has included climate change adaptation (CCA) as part of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) Work Programme, 2010-2015. As a cross-cutting issue, the intention is to take into account climate change adaptation (CCA) in the relevant strategic components of AADMER Work Programme (2010-2015), such as 'Prevention and Mitigation'; 'Risk Assessment, Early Warning and Monitoring', 'Preparedness and Response', and 'Recovery and Rehabilitation'. These core components represent the disaster risk reduction (DRR) components or provide windows of opportunities to mainstream DRR within AADMER. The AADMER Work Programme (WP) serve to operate the provisions in AADMER and to

realise the ASEAN vision of a disaster-resilient and safer community by the year 2015.

3. Energy and Transportation

Climate change has increasingly become an important element in energy policy in ASEAN. More attention has been given to the need to adopt integrated approaches to energy policy making by taking into account climate change issues to achieve greater energy security in the future. In fact at the 27th ASEAN Ministers on Energy Meeting (AMEM) held recently in Mandalay, Myanmar in July 2009, the new ASEAN Plan of Action for Energy Cooperation (APAEC) 2010-2015 was adopted with the theme of "Bringing Policy to Actions Towards a Cleaner, More Efficient and Sustainable ASEAN Energy Community."

The three key initiatives of the ASEAN energy security policy/plan within which environment and climate change appears as important elements in the next five (5) years include:

a. Energy Efficiency and Conservation (EE & C)

EE & C is considered as one of the most cost-effective ways of enhancing energy security in addressing climate change as well as promoting competitiveness in the ASEAN region.

The strategic goals of ASEAN's EE & C in APAEC 2010-2015 include: a) pursuing the aspirational goal of reducing regional energy intensity of at least 8% by 2015 based on 2005 level; b) achieving higher end-use energy efficiency for all sectors through regulatory and market approaches, where appropriate; c) enhancing institutional and human capacity emphasising the development of energy efficiency technology and service providers in the ASEAN region; and d) encouraging private sector participation, especially financial institutions to support EE & C investment and implementation.

b. Renewable Energy (RE)

In 2004-2009, ASEAN has met its 10% target to increase the installed RE-based capacities for power generation. For 2010-2015, ASEAN commits that renewable energies are crucially needed to increase

the diversity of energy supply and to reduce the environmental impact of energy use in the region. The strategic goals include: a) achieving a collective target of 15% for regional renewable energy in the total power installed capacity by 2015; b) strengthening of regional cooperation on the development of renewable energy and alternative energy including hydropower and biofuels; c) promoting the development of centres of research and development on renewable energy in the region; and d) promoting open trade, facilitation and cooperation in the renewable energy sector and related industries as well as investment in the requisite infrastructure for renewable energy development.

c. Coal and Clean Coal Technology

In the ASEAN region, coal is well-known as the fastest growing energy source due to the increasing demand of fuel for electricity generation as well as in the industrial sector since 2005. The energy plans of the ASEAN Member States indicate the rapid growth of coal utilization for power generation which presents an opportunity to promote and increase cleaner coal use and trade that could bring in mutual economic benefits towards regional energy security.

Despite the growing environmental controls, more coal power projects are moving forward with increasing preference for clean coal technologies. Collective action is therefore needed to strengthen cooperatives partnerships in the promotion and utilisation of coal and clean coal technologies among the ASEAN member States. The Strategic goals of ASEAN's Coal and CCT in APAEC 2010-2015, include: a) promoting and increasing cleaner coal use and trade for regional energy security; b) encouraging the use of clean coal technologies through regional cooperation; and c) building the perception of coal as a cleaner fuel as a result of clean coal technologies.

The following initiatives are being undertaken in the transport sector in addressing the issues of climate change and environmental protection:

a. ASEAN-Japan Action Plan on Environmental Improvement in Transport Sector (AJ-APEIT)

Under ASEAN-Japan Transport Partnership, the ASEAN-Japan Plan of Action on Environment Improvement in Transport Sector (AJU-APEIT) is currently being developed. The plan will serve as a basic framework for ASEAN and Japan to implement measures for environmental improvement with the objective of achieving sustainable development by realizing low-carbon and low-pollution transport systems in the ASEAN region. The Plan, which will be completed for adoption at the ASEAN-Japan Transport Ministers Meeting in December 2010, will cover human and institutional capacity development, compilation of best practices, infrastructure improvement, experiments and information sharing for 2010-2014.

b. Energy Efficiency and Climate Change Mitigation for the Land Transport Sector

The ASEAN-Germany technical assistance project on "energy efficiency and climate change mitigation for the land transport sector" is expected to limit the increase and ultimately reduce fuel consumption and greenhouse gas emissions through higher energy efficiency of land transport systems in ASEAN.

c. ASEAN Air Transport Integration Project (AATIP)

ASEAN-EC is in its final stage of concluding a technical assistance on AATIP, which is expected to commence in 2010. This project addresses the issue of limiting the environmental impact of aviation through exchanges of international rules and regulations, including collaborative research and development, and evaluation of other possible measures to reduce noise and CO² and other emissions from aviation.

4. Agriculture & Forestry

Responding to the urgent need to address the growing threat and impact of climate change, the 30th Meeting of the ASEAN Ministers on Agriculture and Forestry (AMAF) in October 2008 agreed to the development of an ASEAN strategic approach to address the issue in agriculture, forestry and fisheries sectors. This was followed by the ASEAN High-Level Seminar on “Climate Change Adaptation and Mitigation: Towards a Cross-Sectoral Programme Approach in ASEAN” held on 23-25 March 2009 in Berlin, Germany, wherein an “ASEAN Multi-Sectoral Framework on Climate Change (AFCC) and Food Security (AFCC-FS)” as a comprehensive program to address the emerging issues of climate change was recommended to be developed.

The overall goal of the AFCC is to contribute to food security through sustainable, efficient and effective use of land, forest, water and aquatic resources by minimizing the risks and impacts of and the contributions to climate change. To achieve its goal, sectoral activities will be carried out under the two major objectives of: (i) coordination on the development of adaptation and mitigation strategies and (ii) cooperation on the implementation of integrated adaptation and mitigation measures.

AFCC pursues a cross-sectoral program approach for effective policy making and implementation and also provides an arena for ASEAN to better coordinate the support from its partners. Along with its focus on the agriculture, fisheries and forestry sectors, it will coordinate with the environment, health and energy sectors. In particular, it complements to the efforts of current ASEAN Climate Change initiatives and is designed to work closely with the ASEAN Working Group on Climate Change under the ASEAN Senior Officials on Environment and other ASEAN bodies in energy sector.

Conclusion

This paper has elaborated the various policies, strategies, programs and actions being taken to address climate change. Responses to climate change should not be viewed in a narrow perspective, but every sector has a contribution to make to address climate change. The discussion here therefore has taken a broad based approach highlighting how actions in various sectoral areas could contribute to addressing climate change though the immediate linkage may not be apparent. ASEAN is committed to pursuing this broad based approach, to play its role in taking voluntary and appropriate mitigation actions, and adaptation measures enabled by technology transfer, provision of concessionary financial assistance, and capacity building to address climate change issues in a proactive and responsible manner. ■