Report of the Working Group Meeting on the Environment

Singapore
20 April 2009

Towards a Livable and Sustainable Urban Environment: Eco-cities in East Asia

I.   Preamble

1.   Global warming and climate change issues require governments, public and private organizations, and individuals to take a fresh perspective at how economic and social activities can best be organized particularly for those living in crowded urban areas. The traditional emphasis has been on the single-minded pursuit of higher economic growth with scant regard for environmental protection and social harmony. This orientation has to be adjusted as global warming and climate change are already affecting nature and the way we live, work and play.

2.   Cities, the world over, continue to grow and expand because of their attractive amenities and the abundant economic and social opportunities they offer. Per capita income gaps between urban and rural communities have increasingly widened since 1960s, causing outmigration of people year after year from rural areas. By 2007, half of the world's population was already living in cities. At the same time, as hubs of prosperity, cities also have to grapple with a host of problems such as over-crowding, traffic congestion, noise, pollution, slums and illegal settlers, water shortages, high energy usage as well as social crimes. Increasingly, such pattern of urban living is no longer considered sustainable.

3.   One important way where humans can reduce greenhouse gas emission and thereby protect the environment is to promote low carbon eco-cities that use less resource and reduces waste output. To be sustainable, an eco-city project should be able to generate economic growth; protect the environment; and, meet social needs such as building a sense of community and be socially vibrant. These three aspects have been commonly referred to as the "three harmonies", namely, economic harmony, environmental harmony and social harmony, or in current UN terminology, three dimensions of sustainability, economic, environmental and social.

4.   How to plan and build our cities more sustainably should be given greater emphasis in transnational cooperation among the ASEAN plus Three (APT) countries. The notion of "eco-city" proposes an innovative yet pragmatic approach to designing, building and managing cities in a way that the destructive impact of human urban activity upon nature and the environment will be

significantly reduced. With cities rapidly encroaching onto surrounding lands, environmentally-conscious urban planning and development in accordance with local features and cultural traditions will have tremendous positive impact upon the natural environment around us.

5.   In fact, as part of the global action against environmental degradation and climate change, ASEAN and their regional partners have set environmental protection, energy conservation and addressing climate change as among the most important topics on their agenda. At the 13th ASEAN Summit in November 2007, the ten member states adopted the *ASEAN Declaration on Environmental Sustainability* in Singapore with commitments made in the three main areas of environmental protection and management, responding to climate change and conservation of natural resources. At the same venue, ASEAN, together with its six regional partners at the Third East Asia Summit (EAS), passed the landmark *Singapore Declaration on Climate Change, Energy and the Environment* that reaffirmed "the need to take an effective approach to the interrelated challenges of climate change, energy security and other environmental and health issues, in the context of sustainable development". The inaugural East Asia Summit (EAS) Environment Ministers Meeting in Hanoi in October 2008 adopted the theme of achieving environmentally sustainable cities in East Asia.

6.   The NEAT Working Group (WG) on the Environment last year focused on global warming and climate change issues and how the APT countries could nationally and collectively deal with them. It pointed to the urgent need for improving energy efficiency, installing renewable energies, forest conservation and reforestation, 3Rs (reduce, reuse and recycle of wasted resources) and changing our energy- and waste-intensive lifestyles. Building on this foundation, the NEAT WG on the Environment this year is making specific policy recommendations related to the development of eco-cities as part of global efforts to fight climate change and meet other environmental challenges. In addition to the Japan-Singapore Joint Coordinators' meeting on 28th March 2009, the WG on the Environment met in Singapore on 20th April 2009 to deliberate on this topic and subsequently endorsed this report.

II.   Fundamental Concept of Eco-Cities

7.   The concept of "Eco-city" originates from the fundamental objective of sustainability and the application of ecological principles to urban planning, design and management. "Sustainability" and in turn "sustainable development" can mean different things to different people, making it challenging to provide a single definition.

8.   This report adopts the original and most widely used definition of sustainable development as contained in the 1987 Brundtland Report commissioned by the United Nations General Assembly. The report defines sustainable development as "development that meets the needs of the present without compromising the

ability of future generations to meet their own needs". More importantly, the report identifies three main components of sustainable development, namely, environmental protection, economic growth, and meeting social and cultural needs.

9. As an important model of sustainable development, an eco-city must be economically, environmentally and socially sustainable (see diagram below). First, the eco-city must be able to contribute to economic growth including attracting investments and generating employment. Second, the eco-city must be able to protect or, if possible, enhance the environment. Third, the eco-city must be able to meet social considerations such as reducing poverty or improving the safety and lives of ordinary people. In this way, there will be ground-level support for the eco-city, an essential ingredient if it is to last.

Eco-city for Sustainable Development
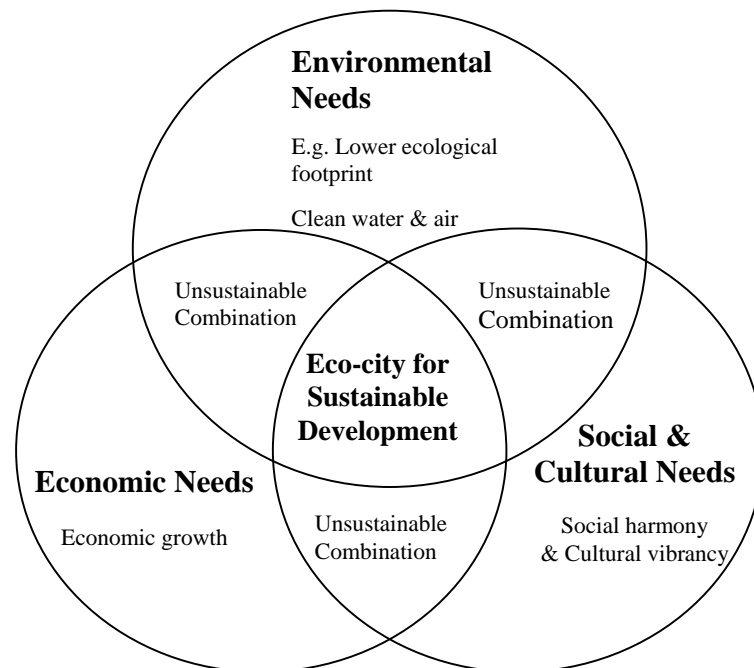
10. There is no single blueprint of sustainability as the political, socio-economic conditions and capabilities differ widely among societies and countries. Individual countries have to strike a balance among the three components. An eco-city would not be sustainable if any of the component parts is neglected. For instance, merely focusing on economic growth and environmental protection would not be viable if the cost involved is too high and the population is against it. Also, merely concentrating on achieving environmental protection and social and cultural needs without generating economic wealth and gainful employment will be unrealistic. Furthermore, merely emphasizing economic growth and social and cultural needs while neglecting the environment will be disastrous in the long run.

In pursuit of eco-cities, the three dimensions of harmony or sustainability must be met simultaneously.

11.   Taken together, a project that has a balanced mix of the economic, environmental and social and cultural needs will be in a good position to reduce the ecological footprint while improving the quality of life for current and future generations.

III   Priority Programs of Eco-Cities

12.   An eco-city requires a systematic and integrated approach to sustainability. Priority programs may include:

- **Green technologies**. Green technologies can be applied in a number of ways such as in the effective and efficient recycling of refuse, sewerage and wastewater; providing clean and renewable energy like solar and wind power, and even converting waste materials into power; and, in applying to buildings, both public and private, to ensure efficient and safe energy usage.

- **Environmentally sustainable transportation**. In addition to shifting away from gasoline-powered automobile engines to those fueled with electricity and fuel cells in urban transport, priority is given to environmentally friendly commuting and non-motorized transportation. This can be achieved by providing a good public transport network, cycling paths and walkways for pedestrians. The goal is to reduce the demand for fossil-fueled cars or to do away with them altogether.

- **Rational use of space.** A typical eco-city is compact in its layout. The city is usually divided into many centers or sub-centers where residents in each can have easy access to various facilities such as educational institutions, commercial areas, workplaces, medical care and recreational areas.

- **Green-belts and parks**. An eco-city should be a "garden city" with as many green parks located as possible in the city centres and residential zones and surrounded by green-belts and woodlands, with the preservation of local species and harmonious co-existence between humans and other creatures. All schools, public and commercial buildings could install green roof gardens. Residents should take full responsibility to ensure that their daily activities are in harmony with nature. This will raise the overall quality of life for residents.

- **Protecting water resources**. The eco-city should conserve and recycle water resources, and interfere minimally with the intrinsic patterns of the water cycle in the ecological system. Urban aquifers should be protected from overuse or pollution, while the soil's permeability should be safeguarded to ensure the absorption of groundwater from time to time. City streets could have side walks paved with water-absorbing bricks made of processed urban wastes.

- **Cultural and heritage conservation**. For an eco-city to retain its vibrancy and character, it may be worthwhile and necessary to engage in selective conservation of existing historical buildings and sites. The retention and adaptive re-use or retro-fitting of these historical structures and sites will provide a valuable link to the area's rich heritage as well as provide an important source of income generation for urban communities struggling for fiscal balance.

IV   Challenges and Problems of Promoting Eco-Cities

13.   The notion of a sustainable low-carbon city that offers a positive possible way out of the current model of high energy consumption and high wastage is certainly an attractive proposition. Yet the path to get there is wrought with numerous challenges and problems.

14.   There is often a gap between the conceptualization of an eco-city on the one hand and its actual implementation and outcome on the other hand. The conceptualization of an eco-city involves initial steps such as developing a vision, conducting feasibility studies, and drawing up designs and plans. What is often more challenging, however, is to translate what is on paper or in the plans into practice. In some instances, the euphoria surrounding the promoting of an eco-city begins on a high-note but then the momentum peters out when difficulties are encountered on the ground. In other instances, the eco-city that is being built fails to live up to its touted environmentally friendly or energy saving qualities.

15.   The following are some of the key challenges and problems encountered in championing the green agenda with specific reference to the development of eco-cities:

- **Green agenda not commonly shared among various stakeholders**

- **Lack of effective supervision and enforcement mechanisms**

- **Insufficient detailed local plan making and performance indicators**

- **Failure to meet local economic and social priorities**

- **Inadequate civil society and private sector participation throughout the entire process of eco-city planning, designing and building**

- **Lack of political support and sufficient funding**

V   Policy Recommendations

16.   As an important model of sustainable development, an eco-city must be economically, environmentally and socially sustainable (see diagram below). First, the eco-city must be able to contribute to economic growth including attracting investments and generating employment. Second, the eco-city must be able to protect or, if possible, enhance the environment. Third, the eco-city must be able to meet social considerations such as reducing poverty or improving the safety and lives of ordinary people. In this way, there will be ground-level support for the eco-city, an essential ingredient if it is to last.

<u>**Eco-city for Sustainable Development**</u>
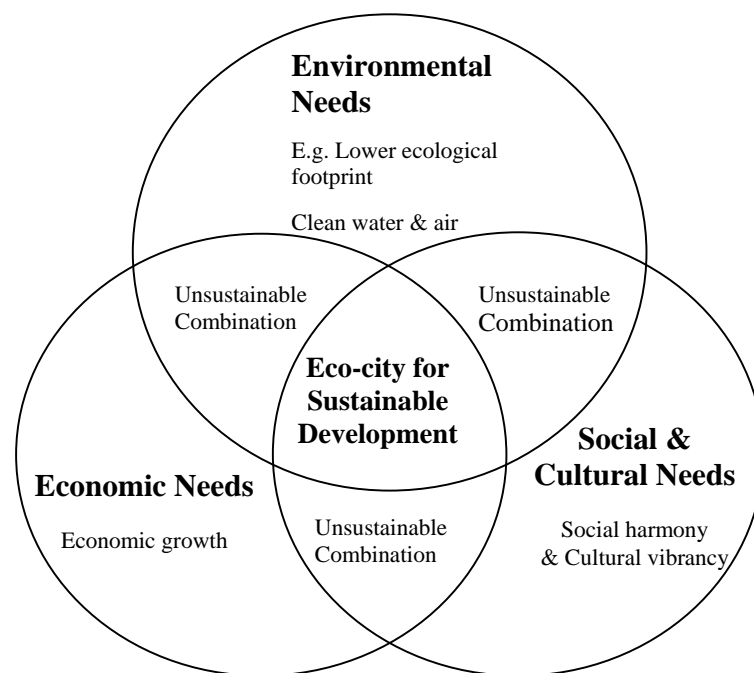
17.   Below are some key recommendations to APT governments on building eco-cities:

<u>Recommendation 1</u>: **Promote** the development of eco-cities in particular to tackle global warming and climate change.

<u>Recommendation 2</u>: **Incorporate** climate change mitigation and adaptation measures into eco-city development.

<u>Recommendation 3</u>: **Generate** greater awareness of the rationale and long-term benefits of promoting eco-cities among the <u>people</u>, <u>private</u> sector and <u>public</u> sector (or what is commonly known as the 3 Ps).

Recommendation 4: **Build up** human resource and institutional capabilities on environmental protection and eco-cities.

Recommendation 5: **Facilitate** the sharing of information, experience, expertise and technology related to eco-cities such as green building, environmentally sustainable transportation, water management, biodiversity conservation, urban greenery, sanitation and waste management based on the 3Rs (Reduce, Reuse and Recycle).

Recommendation 6: **Target** eco-city capacity building as a priority area for the ASEAN plus Three Cooperation Fund.

Recommendation 7: **Promote** and encourage private sector participation in the development of eco-cities.

Recommendation 8: **Encourage** member states to draw up action plans for the development of eco-cities.

Recommendation 9: **Extend** the existing ASEAN Initiative on Environmentally Sustainable Cities to include other cities in the region.

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