

issue 1/2005

Quarterly DOE Update on ENVIRONMENT, DEVELOPMENT & SUSTAINABILITY http://www.jas.sains.my

Green City, Green Consumerism

Bandar LESTARI - Noor Baizzura Azizan, Department of Environment Promoting Sustainable Cities

he Department of Environment (DOE) has taken a step forward in promoting sustainable cities with the introduction of the **Bandar Lestari–Environment Award** to cities in Malaysia that fulfil the category of a sustainable city. The purpose of the award is to accord recognition to cities that integrate environment in planning, operations and administration with emphasis on the importance of environmental conservation.

Besides the environment dimension, the Bandar Lestari-Environment Award incorporates other strategic imperatives such as economic growth, provision of shelter and urban services, efcient transportation, public safety, good governance and community stakeholder participation. Important outcomes emanating from this concept are:

Sharing of environment-development information, expertise and building inter-agency partnership Building environmental planning and management capacities Leveraging on environmental resources and managing risks for achieving sustainable development

Cities vying for the award will be evaluated on environment-related categories.

The Award was launched by the Honourable Minister of Science, Technology and the Environment in conjunction with World Environment Day on 5 June 2003. The

continued on page 3



Inside this Issue				
01	Bandar Lestari - Promoting Sustainable Cities			
02	FROM THE DIRECTOR-GENERAL'S DESK Going Green Makes for Sustainable Development			
04	WATER Water and City Planning			
06	AIR & CLIMATE Clean Development Mechanism - A Potential Economic Benefit for Malaysia			
	ENVIRONMENT & HEALTH			
08	Environmental Law to Protect Our Health			
	ECO FORUM			
10	Green Consumerism			
	NATURE & BIODIVERSITY			
12	Planning for a Green City: The Putrajaya Experience			
	GLOBAL NEWS			
14	Going Green			

GOING GREEN Makes for Sustainable Development

he global community has shown keen awareness and concern over environmental issues these past decades. This community includes thankfully the man-in-thestreet, governments and the corporate world. This bodes well for all of us and Mother Earth. Those formerly opposed to environmental conservation are slowly but surely becoming proponents advocating going green to ensure economic sustainability.

To the sceptical observer there will be times the direction taken by governments and corporations is not as sure-footed as they would like it to be. At other times it would appear to be a case of two steps forward and one step backward. But reality tells us that on this matter, we can stumble but we cannot afford to fall. If we do fall, it will be disaster and doom for all of us in the global community singularly and collectively. Going green is not a choice but an imperative.

We must all seek and nd new and innovative solutions to address the manifold environmental issues and problems that have arisen given human activities and economic development. Harmony between humankind and nature hangs in the balance. Some would say it hangs by a thread. The challenge clearly then is to protect the interest of future generations while living, creating wealth and progressing technologically in the present. Much must be done and sadly much more needs to be undone. Clearly we cannot go green without more creativity in thought, deed and action if we are to preserve the environment to ensure sustainable development.

At this juncture, it will be timely to point out that in Malaysia, the government authority entrusted with environmental protection is the Department of Environment, Ministry of Natural Resources and Environment. However, other environmentrelated agencies include those within the purview of the Ministry of Health, Ministry of Housing and Local Government as well as State and local authorities Between us we regulate some 45 environment-related pieces of legislation which are impressive and on par with international standards and norms. In the course of developing, implementing and enforcing various green policies and legislation it is becoming increasingly clear that a complex interplay and interlinking of efforts and awareness is required. Government agencies, NGOs, citizens and Industry must work in tandem to ensure Malaysias future development is sustainable on the basis of a strong green foundation. Which then begs the question: How green is Malaysia, presently?

For a start, the health of the marine environment especially nature of unrivalled beauty and uniqueness remains threatened. This includes the corals of Terengganu, the gem called Tioman and the divers paradise



Dato' Hajah Rosnani Ibarahim Director-General Department of Environment Malaysia

of Sipadan. The state of water quality throughout our land remains threatened clearly indicating a need for a massive effort to integrate management of water supply with waste water treatment and to treat water as a valuable resource by reducing demand for it. In the area of waste, the average recycling rate last year was 5% which is well below the targetted rate of 22% by year 2020. Protecting our wetlands including the mangrove belt so startlingly demonstrated by the recent Tsunami disaster is an environmental concern. Coastal erosion, storm surges, and natural disasters will thwart our progress if urgent efforts are not made in replanting mangroves on a large scale. The highlands as we know it today. especially the exotic, bucolic and cool feel of the Cameron Highlands will be a thing of the past if conversion of forested land for agriculture goes unchecked. We must balance this state of affairs with many positive developments here and the world over.

Green consumerism is a global force. It seeks to demonstrate that a balance can be achieved between the expectations of consumers and business prot motives. More and more corporations are taking heed of this message. Strategies are being developed to factor in green consumer needs in products and commodities. Of course as in all new ways of thinking, there are the hay-sayers as well as

its ardent proponents. There is now a keen awareness of and a move for green city planning, including urban water management, waste management and utilisation of space that can comfort the human soul. It is estimated that by 2030, more than 60% of the worlds population will live in cities. And whether cities are livable would be governed by key environment-related attributes such as the physical environment, ecological initiatives, urban services, environmental governance and education/awareness of city dwellers. Kuantan in Malaysia scored high in this list of attributes and was the proud recipient of the Bandar Lestari-Environment Award 2003/2004. Syabas Kuantan!

Malaysia, Malaysians, and Malaysia Inc. can and must pull together to ensure going green and sustainable development are here to stay. In environmental issues as in other crucial challenges facing the world, our country must strive to be a shining beacon. from page one



EVALUATION CRITERIA OF CITIES

- Physical environment
- Ecological initiatives
- Urban services
- Environmental governance
- Education and awareness

programme is supported by the Local Council Committee (JKT), Ministry of Local Housing and Local Authorities (KPKT) and Institute for Environment and Development (LESTARI), Universiti Kebangsaan Malaysia. DOEs initiative is seen as timely with the recent announcement of the United Nations on the World Environment Day 2005 theme of Green Cities.

The award giving ceremony was ofciated by the Deputy Prime Minister, the Right Honourable Datuk Seri Mohd Najib Tun Razak on 7 July 2005 followed by a half-day seminar on 8 July 2005 attended by 148 representatives from various local councils and residence associations.

Six cities had participated in the programme: Johore Bahru City Council, Malacca Historical City Council, Shah Alam City Council, Penang Municipal Council, Kuantan Municipal Council and South Kuching City Council. Kuantan City Council emerged as the rst recipient of the **Bandar Lestari** - Environment Award 2003/2004. Among the significant efforts carried out by Kuantan Municipal Council that saw them scoring the highest marks were:

Initiating and conserving the mangrove swamps along Sungai Kuantan as a recreational area.

River and beach beautication programme including a tree planting programme as seen in Pantai Teluk Chempedak.

Effective management of the municipal solid waste system through twice daily pick-up of domestic solid waste and the management of the Jabor-Jerangau landll area.

Establishing a special environmental unit within the council namely Division of Services and Environment and providing continuous training to officers on environment-related matters and a on-line public complaints system.

Successful implementation of the 3R Programme in schools, housing areas and commercial ofces.

As the winner of the award, Kuantan Municipal Council is given the right to use the Bandar Lestari logo in all its communications as well as promote Kuantan as Bandar



Lestari the ecofriendly tourist destination.

Other Special Mention Awards were given to several towns in recognition of individual strengths:

Johore Bahru City Council -Ecology Initiative (Urban Forest) South Kuching City Council -Physical Environment Initiative (Landscape)

Shah Alam City Council - Physical Environment Initiative (Innovative Planning Balanced Quality Living) Malacca Historical City Council Centralized Transportation Initiative

Penang Municipal Council Education and Awareness Initiative

Congratulations to all the winners! We hope that other municipal councils will participate in the programme and adopt the concept of sustainable cities.







Water City PLANNING - Assoc Prof Dr Zelina Zaiton Ibrahim, Universiti Putra Malaysia

n early times, city layout planning took into consideration the disposition of the natural elements of weather, availability of healthy food and water, and whether the location was strategically defensive. Such elements are also important in many traditional site planning approaches like *feng shui* or *vaastushastra*.

Naturally, in the early days many cities developed along coasts and rivers as they provided a means economic activities brought water

of transport as well as support for food and water. As the populations of the cities grew, it quickly became apparent that the health of the city was closely linked to the health of the waterways. Many epidemics were spread by waterborne diseases.

Water Crisis

Population growth and ensuing

economic activities brought water resources under increasing pressure from users. In recent years, water use has increased more than twice as fast as population growth. As a result, approximately one-third of the worlds population experiences a medium to high water stress. In urban and industrial settings, water pollution further exacerbates water scarcity by reducing water usability. City planners must therefore recognise water as a limited and renewable resource subject to ever increasing demands in an urban setting. Conservation and efcient use besides the supply, use and disposal of water should be anchor considerations. Other important considerations will include projected water demand, water recycling and even a water shortage contingency plan.

Water in the Green City

On World Environment Day, 5 June 2005, the United Nations urged better green city planning to control rapid urban growth resulting in air pollution, fouled rivers and poor sanitation. UN Secretary-General, Kofi Annan, said that by 2030, more than 60 % of the worlds population will live in cities compared to almost 50% at present and only 30% in 1950. Urban growth raises huge problems ranging from clean water supply to garbage collection. City planning needs to be greener and less haphazard if the Millennium Development Goal, 2000, of halving poverty by 2015 were to be met.

The Urban Environmental Accords, Green Cities Declaration, 5 June 2005, proposed 21 actions



Putrajaya Lake and the City





Kuala Lumpur Lake Gardens



Kuala Lumpur Lake Gardens



Taiping Lake Garden



Putrajaya Wetlands (illustration)



6 Mines Resort City Lake

including three water issues related to water access and efciency, source water conservation, and waste water reduction. These are:

Action 19

Develop policies to increase adequate access to safe drinking water, aiming at access for all by 2015. For cities with potable water consumption greater than 100 litres per capita per day, adopt and implement policies to reduce consumption by 10% by 2015.

Action 20

Protect the ecological integrity of the citys primary drinking water sources

(i.e. aquifers, rivers, lakes, wetlands and associated ecosystems).

Action 21

Adopt municipal wastewater management guidelines and reduce the volume of untreated wastewater discharges by 10% in seven years through the expanded use of recycled water and the implementation of a sustainable urban watershed planning process that includes participants of all affected communities and based on sound economic, social, and environmental principles.

City Water Features

The presence of water ways in

cities as an aesthetic landscape feature forms an important education and motivation tool for green city management. The health of the water body reæects the health of the surrounding catchment as all pollutants will quickly result in visible change in the water ecosystem. Some examples of water bodies in Malaysian city design are the Lake Gardens in Kuala Lumpur (Photos 2 & 3) and Taiping (Photo 4), and of course the Putrajaya Lake and Wetlands (Photos 1 & 5). Water body maintenance by the private sector is also becoming popular as evidenced by the water features in the Mines Resort City development (Photo 6) and the KLCC complex (Photo 7).



The KLCC Complex

Clean Development Mechanism - Azman Zainal Abidin, Pusat Tenaga Malaysia

A Potential Economic Benefit for Malaysia

he Intergovernmental Panel on Climate Change (IPCC) defines greenhouse gases (GHG) as those radioactively active gases present in the atmosphere which dictate the efficiency with which the Earth-Atmosphere system cools in space through outgoing (i.e. long wave) radiation. Rising concentrations of greenhouse gases generally produce an increase in the average temperature of the Earth. Rising temperatures may, in turn, produce changes in weather, sea levels, and land use patterns, commonly referred to as "climate change."

Realising the effect of GHG to our environment, and the fact that those principal greenhouse gases concentrations have increased over the years, in 1997, the Kyoto Protocol was adopted. It called for stronger actions in reducing GHG emissions in the post-2000 period. Under the Protocol, developed countries have a legally binding commitment to reduce their collective emissions of specied greenhouse gases by at least 5% compared to 1990 levels by the rst commitment period (2008-2012). The Protocol also establishes emission trading mechanisms to facilitate those countries in fullling their commitment. One of these mechanisms is the Clean Development Mechanism (CDM). The CDM allows developed nations to achieve part of their reduction obligations through projects in developing countries that reduce greenhouse gas emissions. It assists developing countries in achieving sustainable development by promoting environment-friendly investments. The CDM also provides opportunities for developing countries to voluntarily reduce their emissions under the Protocol. It should be mentioned too that the CDM can be a tool to help turn economically-constrained projects into attractive investments. The institutional arrangement for the CDM in Malaysia has been put in place with the formation of the National Committee on Clean Development Mechanism (NCCDM) in 2002, chaired by the Ministry of Science, Technology and the Environment. The main function of the NCCDM is to vet through the project proposals submitted to ascertain if they qualify as CDM projects. For a project to be accepted as a CDM project at the national level, it has to full the following requirements:

There has to be sustainable development.

There has to be technology transfer or technology enhancement.

There has to be a bilateral agreement between an Annex 1 country (i.e. a developed country) and the project developer.

The project has also to satisfy international criteria.

Currently, projects in the energy sector, especially those on renewable

energy (RE) and energy efciency (EE), have been given priority for CDM implementation in Malaysia. Besides contributing to GHG reductions, these projects are in line with sustainable development strategies in the energy sector.

The success of the CDM rests on its contribution towards national sustainable development goals, particularly so from the perspective of a developing country like Malaysia. As the mechanism deve- lops, there will be greater potential for such benets.



What is the Basis of CDM?

AIR & CLIMATE

Greenhouse Gases under Kyoto Protocol SIX types of gases with different Global Warming Potential (GWP). Usually expressed in CO2-equivalent: Carbon Nitrous Methane dioxide oxide GWP: 21 GWP: 310 GWP: Sulphur hexafluoride GWP: 23,900 Hydrofluorocarbons Perfluerocarbons GWP: 11,700 GWP: 9,200



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7

Epsige Acceleration, Universiti Putra Malaysia Jamal H Hashim, Universiti Kebangsaan Malaysia

E nvironmental protection has become a national as well as an international issue in recent years. Though scientists and environmentalists have recognised the magnitude and significance of environmental problems for decades now, it is only recently that the media spotlight has turned to issues like Bhopal, Chernobyl, the greenhouse effect, deforestation, ozone depletion and toxic waste generation.

The UNCED conference in Rio de Janeiro in 1992 also further promoted global awareness of environmental problems. Public awareness and concern over these environmental threats have, in turn, caught the attention of the corporate world. Those formerly opposed to environmental conservation are slowly becoming proponents of green development and environmental friendliness.

Environmental Health Management in Malaysia

The Department of Environment has the biggest role and has been given the bulk of the responsibility for environmental protection of the

country. However, other environment-related agencies include the Ministry of Health, Ministry of Housing and Local Government, as well as state and local authorities. Between them, they regulate 45 environment-related pieces of legislation which, even by international standards, is impressive.

At present there is no clear demarcation as to the roles and responsibilities of government agencies in environmental health management in Malaysia. This is because while environmental conservation, environmental protection and pollution control are part of the operational policies and strategies of various government agencies, environmental health has not been the main focus of any particular agency.

Environmental health management has been the traditional preserve of the Ministry of Health. This was when environmental sanitation was a major problem in many rural areas of Malaysia, and environment-related infectious diseases were significant health problems in the country. The Ministrys Environmental Sanitation Programme was launched in 1974 as a national programme. It covered the entire rural areas of Malaysia. In 1983, the National Drinking Water Quality Programme was incorporated into the programme.

ENVIRONMENT & HEALTH

The principal objective of the programme is to provide adequate supply of safe drinking water, and sanitary excreta and garbage disposal systems for the rural areas.

Three pieces of legislation with a bearing on environmental health entrusted to the Ministry of Health for enforcement are the Destruction of Disease Bearing Insects Act 1975, the Food Act 1983 and the Food Regulations 1985, and the Prevention and Control of Infectious Disease Act 1988. The rst Act is concerned with the control of vectors and vector-borne diseases, the second Act is for the control of food quality, hygiene and safety, and the third Act is for the prevention of the spread of infectious diseases. We can see that the Ministry of Health is essentially equipped with programmes and legislations to combat infectious diseases, whether indirectly through the improvement of environmental sanitation or directly through actual control of infectious disease. This is because a great proportion of environmental health management activities, especially those related to pollution control, are not within the legislative powers of the Ministry of Health. Moreover, the newer generation of environmental threats the nation is currently facing are chemical and physical pollution of our waters, air and soil. These would require the combined efforts of various government agencies and private bodies. The Department of Environment has the most authority which is mainly prescribed through the Environmental Quality Act 1974 and its various regulations and orders.

The Environmental Impact Assessment (EIA)

Most of the legislations enforced by the Department of Environment concern pollution control, which is essentially a curative process. It calls for identifying existing environmental pollution sources and acting upon them. The reaction to this type of legislation is rather slow. Conforming to these legislations normally involves modifying businesses or manufacturing practices to reduce environmental pollution and waste generation to acceptable levels. This simply means

increased capital and operating costs and thus reduced prots.

One exception to the curative type of legislation is the Environmental Impact Assessment (EIA) requirement specied under Section 34A of the Environmental Quality Act, 1974 (Amendment, 1985) and the related Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987. It is essentially a preventive piece of legislation. Even though it is not the only preventive type of environment-related legislation in Malaysia, it is undoubtedly mainly responsible for the promotion of corporate awareness.

With EIA, companies are required to plan their business strategy ahead of time to ensure that the environmental impact that will emanate from their business activities is minimised, and that environmental benefits that will accrue are maximised. For once, a piece of environmental legislation speaks about environmental conservation in terms of costs and benets which people in the private sector can identify with. EIA is often compared to an economic feasibility study because it is essentially an environmental feasibility study.

The EIA has a public health component. For some projects, the Department of Environment has prepared guidelines. The health impacts are mainly secondary impacts upon the human community that emanate from primary impacts upon

the physical, biological and social environments. Thus, Environmental Health Impacts Assessment (EHIA) rely heavily on data generated by other sources such as the area map, air quality modelling and morbidity statistics. Uncertainties inherent in air quality modelling will also be translated into uncertainties in the EHIA outcomes. The purpose of the EHIA is to minimise these uncertainties related to human health risks, but the fact that must also be accepted is that these uncertainties can never be removed.

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ECO FORUM

Green Consumerism

Prof Dr H M Ibrahim, Universiti Putra Malaysia

he rise of green consumerism is largely an outcome of proactive environmental awareness and can be traced back to the late seventies. It rooted debates during the eighties following global concerns over the state of the world's environment. Subsequently, numerous new concepts and ideas were floated so as to find solutions for the emerging crisis of environmental degradation and sustainable development. The new millennium gave birth to "Green Consumerism" and has been embraced as the new way to ensure world environmental health.

Following closely the advent of Green Consumerism is Green Productivity, Green Labeling and Green Procurement. Green consumerism incorporates the entire life cycle of a product from the raw material to the nal disposal of the product. It also covers marketing and services. Green consumerism creates a balance between the expectations of consumer behaviour, and prot motives of a business. It is aimed at creating a balance between the demand for a green product and motivation of the producer in terms of protable businesses.

Important considerations for green consumers:

- Everyone has a part to play, at various levels of administration, manufacture and use.
- A consumer has to realise that he/she does not just buy a product, but everything that goes into its production and everything that will happen in the future as a result of the product.
- All products have an environmental impact, however small. The idea is to reduce it to the minimum.

"Even green products have an environmental impact

Green Productivity is a strategy for simultaneously enhancing productivity and environmental performance for overall socio-economic development leading to sustained improvement in the quality of human life. In other words, it is an attempt to harmonise economic growth and environmental protection for sustainable development.

Green labelling or more commonly known as eco-labelling makes a form of positive statement that identies a certain product or service as less harmful to the environment than other similar products. Most present eco-label schemes are cradle to grave, that is they involve some form of analysis based on the environmental impact of the manufacture, use and disposal. Green-labelling is certication awarded to products that comply with the standards set for green products. Examples are consumer products such as household cleaners or refrigerators where assessment

and evaluation are made to certain environment attributes such as energy usage, bio-degradable feature, packaging, efæuent discharge etc.

Green Procurement is a policy that strives to purchase products and services that have less negative impact on the environment.

Green Labelling in Timber Trade Issue

At the United Nations Conference on Environment and Development(UNCED), international communities have reached an agreement to carry an equitable share of responsibility over the deterioration of the global environment and broaden the perception of the global forest. The global forest will now look into all type of forests such as tropical,

ECO FORUM

temperate, boreal and others. The responsibility will not be squarely placed on the developing countries or focus on tropical forests alone. Besides, all countries will now take into account agreed standards and criteria for sustainable forest management.

Although the end of the Rio Summit saw a more holistic approach towards the global forest issue, in Europe and North America, legislative action, environmental groups, environmental programmes, certication and eco-labelling organisations continue to work in concert to prohibit usage of tropical timber. In United Kingdom, several DIY stores and retail outts have taken steps towards green consumerism by organising the CLUB 1995. The Soil Associations and SGS Silviconsult are offering services for timber certication. Meanwhile, the Canadian government has set up the Environment Choice Programme (EPC) with Canadian Standards Association to offer labels for products that comply with green product standards and criteria.

Will Green Consumerism be the Solution to the Ecological Crisis?

Some say no. Why? Because it creates new markets and thus increases growth. Green consumerism had rst been initiated as a means to stop the growing global environmental issue. However, it has backred in some cases resulting in adverse impacts on the environment. Where has it gone wrong? Although using green products and technologies are important, such measures have very limited use as solutions to the ecological problems we face for several reasons:

Big corporate polluters sometimes employ slick advertising campaigns to hype band-aid measures as concern for the environment. They also engage in **green washing** in which a company lavishly funds PR campaigns to paint themselves green without altering their current polluting practices. Secondly, the growth of green consumerism is presently limited to developed countries where markets are far smaller. Pricing rules in these countries limit green consumerism. Green consumerism cannot challenge the grow-or-die nature of capitalism. Even green companies must make a prot and expand in order to survive.

In the capitalist world, companies can produce and sell non-green products elsewhere. Many of the products banned or boycotted in developed countries nd their way into developing countries.

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Planning for a **GREEN CITY: The Putrajaya Experience**

Zaharah Salamat, Putrajaya Corporation

Green City' may be defined as a city where environmentally sustainable solutions have been found for major aspects of human activity, economic development and environmental management in the urban area. Though it may be conceived of in many different ways depending on the needs of the urban population and environment, the challenge is to achieve lasting harmony between man and nature so as to safeguard the earth for future generations.

Putrajaya, Malaysias new Federal Government Administrative Centre, is the outcome of a vision to build a city capable of meeting these challenges. Putrajaya is being developed as an intelligent city and a city in a garden within the context of a Green City. Malaysians are justiably proud of the city as it epitomises the coming of age of Malaysia as a dynamic and progressive member of the global community.

Planning a Green City

Built on a green eld site, Putrajaya presents enormous opportunities for a quality living environment and sustainable human settlement that many could only dream about. From the onset, the planning of Putrajaya was based on the Total Planning Doctrine, which among others, recognises the important relationship between man and his surrounding environment. What this means is that environment and sustainability are viewed holistically as part and parcel of the planning and design process.

In planning 'The City in a Garden, particular attention was paid to land use planning in relation to the following aspects of the environment:

- The preservation of trees, natural topography and environmentally sensitive areas such as hill land, natural water courses, æora and fauna.
- Neutralising the micro-climatic/heat island impact by the creation of a lake and wetland system.
- Creation of a constructed wetland to further facilitate water quality control.
- Creation of green lungs to act as buffer zones against potential sources of environmental problems such as vehicle emissions.

NATURE & BIODIVERSITY

Introduction of Use Class Order in which service industries are located in the Service Industry Zones to optimise pollution treatment facilities as well as to efciently monitor environmental compliance arising from these activities. Creation of a wildlife habitat

for fauna and æora including aquatic life.

Creation of parks and open spaces covering some 37% of Putrajaya land, providing vast greenery, and creating a rich and beautiful setting.

Connecting all domestic wastewater to the Central Wastewater Sewerage System direct discharge into the stormwater drainage system is not allowed.

Indirect surface run-off pollution control through an efcient drainage system i.e. construction of wetlands, installation of gross pollutant traps (GPTs), riparian streams and retention ponds and installation of control structures at discharge points.

Introduction of an integrated public transport system network to minimise the level of air pollution.

Building Design and Material

Before any building is constructed, building design and materials selection are carefully considered so as to reduce or minimise its impact on the environment. State-of-theart technologies and systems that promote low energy consumption and efciently designed buildings have been used in Putrajaya to pre-empt environmental degradation and increase the comfort and productivity of building occupants. A system used in Putraiava is the Gas District Cooling System, a centralised energy plant using natural gas to generate chilled water for air-conditioning requirements of buildings.

In Putrajaya, sustainable building construction has also saved the Government millions in operating costs. People are being made aware that appropriate use of natural resources and proper management of buildings will contribute to saving scarce resources, reducing energy consumption and improving the quality of the environment.

Community Lifestyle

In Green City planning, community development plays a pivotal role. Putrajaya, therefore, strives to encourage a lifestyle that revolves around a secure, caring and healthy community strengthened by ties of tradition and a spirit of unity. This approach is very much inspired by the Malaysian tradition of a 'kampung

lifestyle where the wellbeing of the community is the main motivation that drives its members.

To achieve this there is a move to foster a more pervasive involvement of the residents in community wellbeing activities. Some approaches taken are outlined below:

Residential areas are planned based on a neighbourhood concept where the layout of residential areas and public amenities are designed to encourage greater interaction and foster an abiding sense of neighbourliness among residents. Plazas, squares and recreational areas are essential and integral components of this scheme. Each precinct has its own community centre, a resource centre, a food court, a *surau* and a neighborhood commercial complex.

Introduction of the concept of a 'fenceless community to promote a caring society that accepts responsibility for the security and wellbeing of the community.

Construction of pedestrian walkways and bicycle lanes to encourage residents to take to walking and bicycling for short trips in their neighbourhood.

Environmental Management

Putrajaya adopts the partnership approach to environmental management in which all project stakeholders (developers, consultants, project managers and contractors) are expected to adopt a pro-active and self-regulatory approach and provide sufcient resources for the environmental management of their project.

Cross-boundary environmental management is managed through close cooperation between the Corporation and neighbouring states as well as Federal agencies such as the Department of Environment, Depart-

ment of Drainage and Irrigation, Department of Town and Country Planning, Selangor Water Management Authority, neighbouring local government authorities and land owners.

In line with the concept of Sustainable Development Index (SDI), Putrajaya Corporation is looking into the possibility of initiating an urban Quality of Life Index for Putrajaya. This index will serve as a guide to monitoring sustainability performance over a period of time as the city develops. It should also allow for intercity comparisons.

Greening the Nation

Putrajaya is the outcome of a labour of love, love of nature, culture, people and human dignity. It reæects our growing self-condence and the aspiration to give expression to our identity. Putrajaya is being built for posterity, a city for the millennium and beyond without compromising its environment.

The invaluable experience of Putrajaya Corporation in building the nations administrative capital on a fast track basis can actually serve as a model of a professionally executed endeavour that did

not compromise on quality and compliance to standards, rules and regulations.

In short, an important un-derlying theme throughout this endeavour has been the planning and development towards achieving a Green settlement, with sustainability as the tenet.

GLOBAL NEWS

Going GREEN

Kamsiah Md Ali

World Marks Green Day; Big City Mayors Sign Pacts

B ig city mayors from around the world signed a series of pacts on 5 June 2005 to improve the conditions of urban centres, capping a ve-day UN World Environment conference in San Francisco. The signing ceremony committed more than 50 of the worlds largest cities to build an ecologically sustainable, economically dynamic, and socially equitable future for our urban citizens, organisers said. The Accords call for 21 actions aimed at putting cities on a path to greener, cleaner, healthier environments for their current residents and the estimated 1 million people moving to cities each week. They covered energy, waste reduction, urban design, urban nature, transportation, environmental health, and water improvement programmes to be implemented by mayors and delegates from cities like Jakarta, London, Seattle, Rio de Janeiro, Lausanne, and Calcutta.

Among the goals to develop global Green Cities, the programmes seek to reduce greenhouse gas emissions by 25 % by 2030, set a policy of zero waste going to landlls and incinerators by 2040, ensure public parks within a half mile of every city resident by 2015, and safe drinking water for all by 2015.

http://www.planetark.com/dailynewsstory.cfm?newsid=31110&newsdate=06-Jun-2005

Urban residential environments and senior citizens' longevity in megacity areas: the importance of walkable green spaces

Research results of a ve-year follow up cohort study of 3144 older people in Tokyo shows that senior citizens who lived near to, and walked regularly in parks or tree-lined streets were healthier and lived longer than those from densely-populated urban areas. To promote the health of senior citizens, it is thus important to create greenery lled public areas that are near to residences and easy to walk in, especially in a megacity.

Source: Takano,T, Nakamura,K and M Watanabe, M. 2002. Urban residential environments and senior citizens longevity in megacity areas: the importance of walkable green spaces. *Journal of Epidemiology* 56:913-918.

America's Top 10 Green Cities

hat makes a city green? The Green Guide criteria are good water-and air-quality, efcient use of resources, renewable energy leadership, accessible and reliable public transportation, and green building practices. It also looked for parks and greenbelts and access to locally-grown fresh food through farmers markets and community supported agriculture groups. Another criteria included is affordability, since the health benets, public parks, and other amenities of living in a greener city need to be available to more than just the wealthy.

Based on these criteria, the Environmental Protection Agency (EPA) rates the ten cities as Americas top 10 green cities. These cities set green examples for other American cities to follow. The cities are listed alphabetically and are not ranked among themselves. They are Austin, TX; Boulder, CO; Chicago, IL; Honolulu, HI; Madison, WI; Minneapolis, MN; Oakland, CA; Portland, OR; San Francisco, CA; Seattle, WA.

http://www.thegreenguide.com/doc.mhtml?i=107&s=cities

¹⁴|IMPAK

Green Spaces Influence Behaviour

A July 2001 study by Frances Kuo and William Sullivan, directors of the Human Environment Research Laboratory at the University of Illinois, Urbana-Champaign, suggests there is evidence that green spaces reduce crime. The study demonstrated that exposure to nature may reduce aggression and violence in inner-city neighborhoods. Compared to residents living near barren areas, those nearer to green spaces were typically friendlier and more social, creating stronger community ties and offering more opportunities for a healthier neighborhood. The study documented the following:

Children with Attention Decit Disorder (ADD) function better indoors after they have been outdoors in green areas and among trees and greens. Landscaped settings in inner cities can help reduce stress and restore focus that everyday issues related to poverty and urban congestion can foster. Exposure to green spaces can mitigate chronic mental fatigue, which can lead to irritability, inattentiveness and impulsive behaviour. http://www.wateractionguide.org/share7.htm

Natural Treatment for Attention-Deficit/Hyperactivity Disorder (ADHD)

P arents may nd some help for their childrens ADHD symptoms by going back to nature, new research suggests. The study of 452 parents of children with attention-deficit hyperactivity disorder found that activities in green spaces such as farms, parks and even backyards often seemed to temporarily quell the childrens symptoms. Children were more likely to show improved symptoms in the hour after an outdoor, green activity than after activities performed indoors or in concrete-and-steel settings, according to parents reports. The study authors speculate that daily doses of green time, such as simply taking a greenery-splashed route when walking to school, or playing on grass instead of concrete, could aid in managing ADHD.

Source: Kuo FE and Taylor AF. 2004. A potential natural treatment for attentiondecit/hyperactivity disorder: evidence from a national study. *Journal of Public Health* 94(9): 1580-1586.

Growing **GREEN** Communities

he nonprofit Enterprise Foundation of Columbia, Maryland, announced recently that it plans to build 8, 500 environmentally friendly, affordable homes through its *Green Communities Initiative*. Launched in September 2004, the Green Communities Initiative commits USD 550 million over five years to developers to construct housing units that promote health, conserve energy and natural resources, and are located near public transportation, jobs, social services, stores, and schools. The initiative is led by the Enterprise Foundation and the Natural Resources Defense Council, with the support of several other organisations.

A shining example of what can be achieved through the Green Communities Initiative is the Denny Park Apartments, being built in Seattle, Washington. The six-storey building features numerous energy-saving features. It is located along an east-west axis to allow the units to capture more natural light through their oversized windows, reducing electricity bills. A central gas boiler will supply hot water and heat to all the units. Ventilation fans will run continuously to reduce humidity amd mold growth. The building is being constructed with sustainable building materials such as metal roong and metal sliding, which should last 50 years. These durable materials eliminate petroleum-based products which must be replaced every 10 years or so. The project is using caulks, paints, adhesives, and other construction materials with low levels of volatile organic compounds to

ensure healthy indoor air. Carpets are made from recycled plastic products. Rainwater will be captured off the metal roof, puried by gravel Itration, and recycled to irrigate the landscaping, including a communal garden for the tenants.

According to Dana Bourland, the senior programme director of Enterprise Foundation, the Green Communities Initiative is not an ordinary green housing programme. Each project has to meet certain levels of greenness. Her groups criteria include meeting standards for water conservation, healthy indoor air, use of environmentally friendly materials, good operations and management and optimal location. The group aims to transform the marketplace and shift the way houses are being built.

Source: Carol Potera. 2005. Environmental Health Perspectives 113 (5): A300

Activity Highlights (Year 2005) Department of Environment, Malaysia

	DATE	PLACE	EVENT
JAN	IUARY		
	27	Bandar Baru Bangi, Selangor	Launching of Sekolah Lestari-Anugerah Alam Sekitar
	13	DOE, Putrajaya	Study Visit by Senior Ofcials from Ministry of Population, Nepal
FEBRUARY			
	21-25	Nairobi, Kenya	23rd Session of the Governing Council / Global Ministerial Forum of UNEP
	28	DOE, Putrajaya	The 4th Malaysia-Japan Information Exchange on Environmental Technology
MARCH			
	14	Singapore	8th Meeting of the Expert Group on Vehicular Emission Under Malaysia Singapore Joint Committee on Environment (MSJCE)
	15-17	Singapore	3rd Simulation Organising Committee (SOC) Meeting 16th Meeting of Sub-Regional Fire Fighting Arrangements for Sumatera and Borneo (SRFA)
	24-29	Korea	Ministerial Conference on Environment and Development in Asia and the Pacic
APRIL			
	6-8	Nairobi, Kenya	Steering Group Meeting for GEF/UNEP Project: Development of National Implementation Plans for the Management of Persistent Organic Pollutants (POPs) in Malaysia
	18-19	Siem Reap, Cambodia	ASEAN Working Group on Multilateral Environmental Agreements (AWGMEA)
	20	Singapore	The Agreement Signing Ceremony between Malaysia-Singapore on the Settlement of
			Land Reclamation Activities by Singapore
MAY			
	9-11	Bangkok, Thailand	First Regional Partners Workshop on Regional Coordination Mechanisms in the
			East Asian Seas Region Decisionaries Musica of National Facil Decision of Neurophysics Direction of CODDEA
	0.0		Brainstorming Meeting of National Focal Points on New Strategic Direction of CUBSEA
	2-0	DOE Dutroiovo	
	31/3-1/0	DUE, Fullajaya	VISIL by the Minister of Environment of Laos
001	21-23	Jakarta, Indonesia	Regional Training Workshop on Inventory of Hazardous Wastes Generation
	28-29	Hanoi. Vietnam	3rd ASEAN Working Group on Environmental Sustainable Cities (AWGESC)
	27/6-1/7	Montreal, Canada	25th Meeting of the Open Ended Working Group and 2nd Extraordinary Meeting of the Parties
JUL	Y		
	7	Putrajaya	The Bandar LESTARI-Environment Award 2003/2004 Ceremony
	20-22	Jakarta, Indonesia	Working Visit of the Minister of Natural Resources and Environment to Indonesia
	18-21	Ninh Han, Vietnam	6th Working Group on Land-based Pollution of the UNEP/GEF Project

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