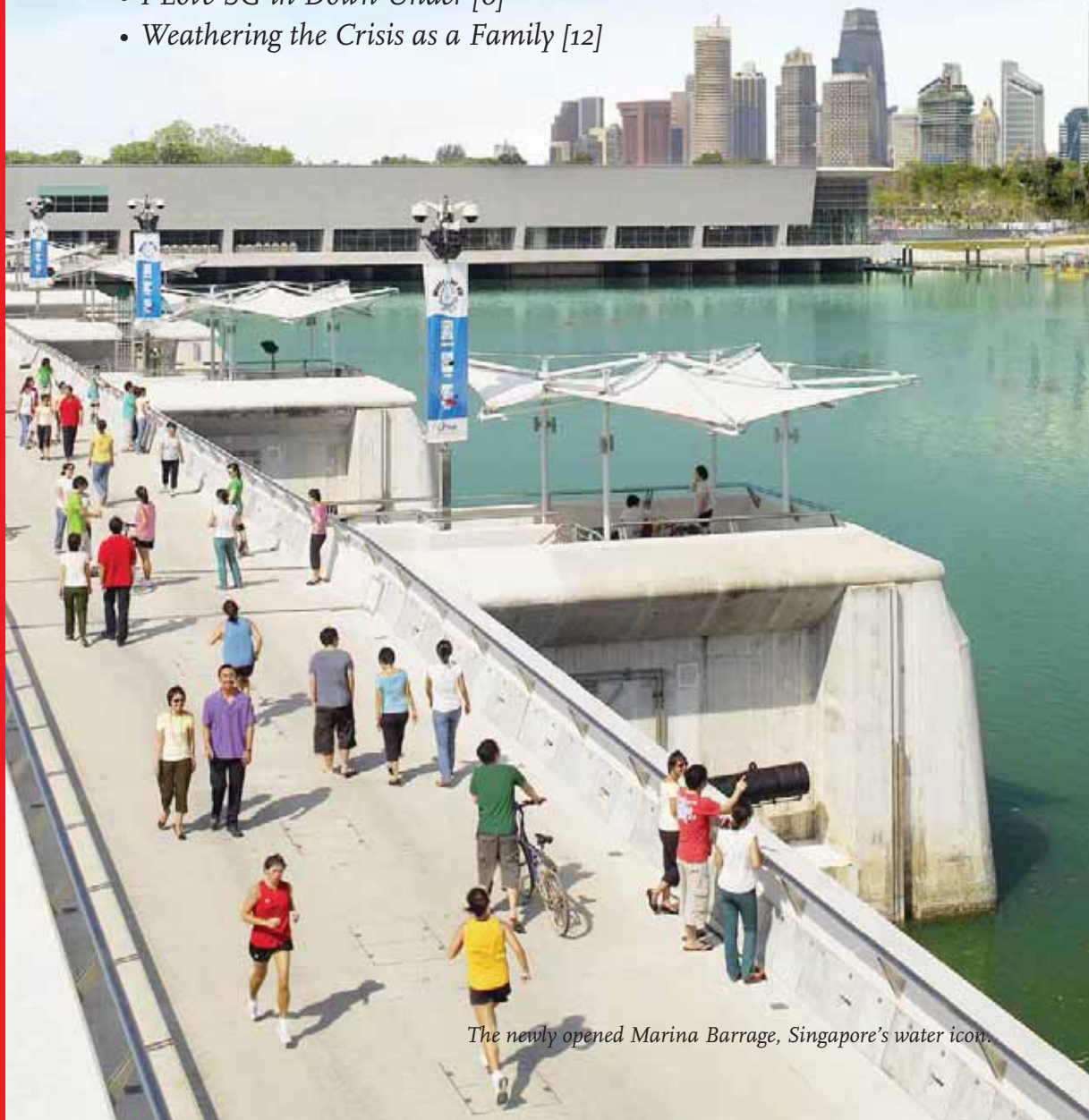


Singapore's First City Reservoir: A River Runs Through It

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The newly opened Marina Barrage, Singapore's water icon.

Breathing New Life into Ancient Treasures

ANCIENT *stupas* still stand proud in Bihar, India, where centuries ago, the brightest scholars from around Asia and the world once gathered to share expertise in subjects such as Buddhism, astrology, mathematics and science. The smoothed surfaces of buildings bear testament to the golden era during which the Nalanda University – the world’s first residential university – provided a safe haven for intellectuals to come together to learn.

At its peak, the Nalanda University had housed some 2,000 teachers and 10,000 students, mostly monks. A magnificent campus with a 9-storey library with towers reaching into the clouds, was the lyrical description by 7th century Tang Dynasty Buddhist monk Xuan Zang. Xuan Zang stayed in Nalanda for 12 years, and his odyssey from China to India and back was mythologised in the Chinese classic *Journey to the West*. Unfortunately, Xuan Zang’s beloved Nalanda was destroyed by Afghan invaders some 800 years ago. It laid forgotten in the dust, until the Indian Government started excavation works in 1951, in an attempt to restore Nalanda’s past glory.

In June 2007, the Nalanda Mentor Group – a panel of experts and eminent persons from various countries – was established to conceptualise the



Top: (L-R): Bihar Planning Commission member Shri N. K. Singh, Minister George Yeo, Nalanda Mentor Group (NMG) Alternate member Professor Wang Gungwu, NMG members Professor Wang Bangwei at the Nalanda site.

revival of the Nalanda University.

Singapore’s Minister for Foreign Affairs, Mr George Yeo, in his personal capacity, was appointed one of nine members of the Group, which is headed by Nobel Laureate Professor Amartya Sen. The inaugural meeting of the Nalanda Mentor Group was held in Singapore in July 2007. Subsequent meetings were held in Japan (December 2007), New York (May 2008) and New Delhi last August.

This February, Minister Yeo visited Bihar, India for the fifth Nalanda Mentor Group meeting, which also marks the completion of the conceptualisation phase of the project.

During his trip with Prof Sen, Minister Yeo visited the Buddhist holy city of Bodh Gaya, where Gautama Buddha was said to have attained enlightenment. Along with nearby Buddhist sites such as Nalanda and Varanasi, Bodh Gaya attracts thousands of visitors yearly.

Minister Yeo also called on Mr Nitish Kumar, Chief Minister of India’s eastern state of Bihar, who graciously offered Singapore, on behalf of his state, two plots of land in Bodh Gaya for the construction of a Singapore Pilgrim House. “We will choose one and I hope work on this will begin very quickly. I want to thank the Chief Minister on behalf of the entire Singapore Buddhist community,” said Minister Yeo, in appreciation of the kind and generous offer by the Bihar Chief Minister.

Minister Yeo also explained the significance of Singapore’s involvement in the project: “The idea of globalisation, of men living in harmony with men and nature, of human beings exchanging freely, travelling along the modern silk route of the world. It is an idea of Singapore...It is an idea whose time has come as part of a much larger Asian renaissance. We are caught in the flow and it is right that we should participate in the flow.”

Wrapping up their discussion, the Nalanda Mentor Group collectively concluded that the Nalanda University should be a secular, postgraduate university. Mr Yeo explained the rationale behind the decision: “It should be universal in its orientation; it should be secular so that the emphasis is not on Buddhism but on Buddhist studies and other subjects. From the beginning, (it should) be conceived as an international project and not purely as an Indian project.”

Prof Amartya Sen added: “If we succeed in setting out to do what we hope we can do, this

A Most Beautiful Friendship



President S R Nathan flipping through the *Michelangelo: La Dotta Mano* with Mr Andrea Griminelli, ambassador of San Marino.

TIPPING the scales at just over 20 kilogrammes is what has been dubbed “the most beautiful book in the world”, the *Michelangelo: La Dotta Mano*. The 13th copy of a limited run of 33 prints was recently presented to Singapore’s President S R Nathan by the Ambassador of San Marino to Singapore Mr Andrea Griminelli, as a symbolic gift of a most beautiful bilateral relationship between Singapore and the Republic of San Marino, which established diplomatic ties in 2005.

The book symbolised art’s contemplative and powerful way of connecting people across cultures,

said Mr Griminelli at the presentation ceremony at the Singapore Art Museum on 22 January 2009. Among the guests were Professor Tommy Koh, Chairman of the National Heritage Board, Ms Jane Ittogi, Chair of the Singapore Art Museum, and members of the diplomatic corps.

Professor Koh told reporters at the ceremony that this book is a ‘masterpiece’ that “reminds us of the rich tradition of craftsmanship that we seem to be losing today”.

The *Michelangelo: La Dotta Mano* is dedicated to the artistry of the 16th-century Renaissance master Michelangelo Buonarroti and showcases black-and-white photographs of Michelangelo’s creations by leading Italian photographer Aurelio Amendola. Also encased

university will help to create understanding among people across the whole of Asia, maybe in the world, and help in the cause of peace, which is really something we should never take for granted."

The Bihar state has acquired approximately 182 hectares of land for construction of the new Nalanda International University and the school will be situated just a 10-minute drive away from the original site. The Nalanda Mentor Group estimates that the entire project may take anywhere from 10 to 20 years to be finally completed.



The Chief Priest of the Mahabodhi Mahavihar Ven. Bhikkhu Chalinda gives Minister George Yeo a night tour of the Mahabodhi Temple, said to be where Siddharta Gautama (Buddha) attained enlightenment.

within the book are detachable reproductions of Michelangelo's drawings on handmade folios created according to old traditions.

The book features a cover that is a scaled reproduction of the "Mardonna della Scala" ("Madonna of the Steps") sculpted from marble from the Polvaccio quarries in Tuscany, Italy. The book measures 70.5cm by 45cm and the pages are made from pure cotton, handmade paper with roots traced from one of the world's oldest paper-mills, the Cartiere Magnani in Pescia, Tuscany. The Michelangelo: La Dotta Mano was published by fine art publishing house FMR-Marilena Ferrari.

President Nathan has since donated the rare book to the Singapore Art Museum, where it is currently on display for visitors to view. The Michelangelo: La Dotta Mano will move to Singapore's National Library in the later part of 2009 before touring the various regional Singapore libraries and being permanently housed at Singapore's National Art Gallery when it opens in 2013.

Aid for Gaza



In a warehouse in Cairo, members of Mercy Relief paste stickers on pallets of flour and sugar meant for civilian victims in Gaza.

ORANGE juice, pasta and lentils. Cooking pots, drinking mugs and even rubbish bins.

Everyday items that most people take for granted, but necessities for the people of Gaza now seeking to rebuild their lives.

A three-week standoff between Israel and its neighbour Palestine last December, has led to thousands of civilians from both sides left homeless and injured. The Gaza strip, in particular, suffered the brunt of the attacks with reportedly nearly 1,400 lives lost, 4,000 families without shelter, 400,000 Gazan homes without running water and a further 16,000 other houses in desperate need of repairs.

Two weeks after the ceasefire, the United Nations (UN) assessed damages to stand at US\$613 million (\$920 million) for the initial recovery phase, with a sombre warning that long term reconstruction could even run into the billions.

And when the UN made its urgent global emergency appeal for aid in January, both the Singapore Government and its people responded swiftly.

The Singapore Government pledged US\$50,000 towards international efforts to provide emergency food, shelter, healthcare and protection needs of civilians affected by the recent conflict in Gaza. And in a collective effort by both religious bodies in Singapore and Singaporeans – organised by local humanitarian organisation Mercy Relief – a further US\$90 million in aid was raised.

In early February, a team of eight from Mercy Relief had gone to the Gaza strip to deliver the aid, consisting of medical and food supplies like juice and pasta.

Strict security measures by border authorities there made the delivery of aid far from easy and Mercy Relief had to work closely with agencies like the United Nations Relief and Works Agency, the Egyptian and Palestinian Red Crescent Societies and Hommes de Parole (a Swiss-based organisation of Jewish rabbis and Muslim imams), to ensure that the provisions did cross into Gaza.

Fortunately, the good work of Mercy Relief was given a much-needed boost by the UN Under-Secretary General Ibrahim Gambari, who had written a note of support for Mercy Relief to help enhance the goodwill and working relations

between the NGO and the UN agencies that it is partnering. Mr Gambari had been on a stopover in Singapore while en route to Myanmar when he met Mercy Relief officials.

And encouraged by their earlier success, Mercy Relief has since sent over a second tranche of supplies worth US\$80,000 to the Gaza Strip. The supplies this time consisted of household items like cooking pots, floor mats and water cans.

In March 2009, Singapore also renewed its commitment to providing the Palestinian National Authority with US\$1 million worth of technical and capacity-building courses under the Singapore Cooperation Programme, at the International Conference in Support of the Palestinian Economy for the Reconstruction of Gaza in Sharm El Sheikh in Egypt.

SCP COURSES FROM MAY TO JUN 2009

Course **ATS Safety Management and Investigation**
 Programme **Singapore Cooperation Programme Training Awards (SCPTA)/Small Islands Developing States Technical Cooperation Programme (SIDSTEC)**
 When **18 – 29 May 2009**
 Agency **Singapore Aviation Academy, Civil Aviation Authority of Singapore**

Course **Executive Course in Disaster Management**
 Programme **SCPTA/SIDSTEC**
 When **26 May – 5 June 2009**
 Agency **National University of Singapore**

Course **IT & Knowledge Management in Organisations**
 Programme **SCPTA/SIDSTEC**
 When **1 – 12 June 2009**
 Agency **National University of Singapore**

Course **The Art of Trade Negotiation**
 Programme **SCPTA/SIDSTEC**
 When **1 – 12 June 2009**
 Agency **Civil Service College**

Course **Sustainable Urban Transport Policy and Planning**
 Programme **SCPTA/SIDSTEC**
 When **14 – 24 June 2009**
 Agency **Land Transport Authority**

These Training Awards are part of the Singapore Cooperation Programme (SCP) of technical assistance to developing countries. For more information on application procedures and terms of awards, contact the Technical Cooperation Directorate, Ministry of Foreign Affairs, at tel: (65) 98199353 or fax: (65) 64793357. You can also visit our website at <https://app.scp.gov.sg/index.asp>.

Vietnamese Officials in Singapore to Learn English

TO Vietnamese weightlifting trainer and coach Mr Tran Duy Kham, we say, "Give the man a Tiger!" A Tiger beer, to be exact.

Three months ago, Mr Tran was already quite the linguist, with three languages – Vietnamese, Chinese and Russian – under his belt. Today, Mr Tran has added another feather to his cap by picking up the English language. And Mr Tran has been celebrating this achievement, as well as putting his new-found skills to good use, by ordering his well-earned favourite drink Singapore's own Tiger Beer at the neighbourhood coffeeshop he now frequents in the western part of Singapore.

Mr Tran was one of 28 Vietnamese officials selected to undergo the International English for Administrators course conducted by the Nanyang Technological University in Singapore. The course was organised under the Singapore Cooperation Programme, administered by Singapore's Ministry of Foreign Affairs.

The intensive English programme adopts a communicative language teaching approach, in which students pick up English language skills through real-life communication in both professional and social contexts. Students even have the opportunity to visit a Singaporean family at their home and learn about the social life and culture of a typical Singaporean family. Apart from classroom lessons, small conferences and workshops, the participants also engage in leisure activities such as early morning swims, gym workouts and the Vietnamese must-have – a strong cup of coffee. Mr Tran said: "Coffee is the most important way to start the day for all of us. We like ours very strong, very black and with just enough sugar."

The Vietnamese participants are separated into groups of about five to six and each group stays together in a serviced apartment. Keen on practising their English-speaking skills, some groups even impose fines on their housemates for using their native tongues to converse.

Mr Nguyen Chien Dung, another participant of the programme and a journalist for the Vietnamese Sai Gon Giai Phong Daily Newspaper, joked: "One of our coursemates is a Chinese teacher, but we also tell him "No speaking in Chinese. Only English!"

This is the 10th time that the Ministry of Foreign Affairs is organising the International



Mr Tran Duy Kham (second from left) with his fellow coursemates.



Mr Nguyen Chien Dung sharing a moment with another fellow coursemate.

English for Administrators course and the programme runs from February to May. For the Ho Chi Minh City participants, there is an interval in May to return home to visit their families and loved ones before they continue for another three months of English language training that is funded by the Ho Chi Minh City government.

For first-timers in Singapore like Mr

Nguyen, this programme has offered him an eye-opening experience of the island-state. When asked about his thoughts on Singapore, he said: "Orchard Road is a very nice stretch to walk along. We went window-shopping on one of our first weekends here. We are going to the IT show too because of the big selection of electronics. But I must say that the best part about Singapore is still the Tiger Beer!"

A NEW ERA IN SINGAPORE'S R&D



Prime Minister Lee Hsien Loong electronically dotting the eye of a Chinese robotic lion at the opening of Fusionopolis as Mr Lim Chuan Poh, A*STAR chairman watches.

Two soaring towers of polished glass glitter like gems in the sunlight, with an auditorium that looks like a futuristic “egg” nestling snugly in between them – welcome to Fusionopolis, Singapore’s latest addition to her expanding Research and Development (R&D) space.

Fusionopolis was one of the last projects that the late Dr Kisho Kurokawa, an internationally acclaimed Japanese architect, worked on. Dr Kisho’s other significant contribution to Singapore’s architectural landscape was the iconic Singapore Flyer, which took him three years to finish.

Fusionopolis, which was opened on 17 October 2008 by Singapore’s Prime Minister Lee Hsien Loong, has been designed as an integrated innovation ecosystem and spans 30 hectares. Situated at the R&D hub called ‘one-north’ in the south-western part of Singapore, Fusionopolis offers a community space of work, live, play and study elements. The development comprises five levels of retail and food and beverage outlets, fitness facilities that include a rooftop swimming pool, a 50-unit serviced apartment and 13 sky gardens.

It will house a few public sector agencies, and both public and private research institutes all under one roof, including technology experts from the public laboratories of the Agency for Science, Technology and Research (A*STAR). As Mr Lim Chuan Poh, Chairman of A*STAR and of the Fusionopolis Steering Committee, said: “Fusionopolis offers a unique and powerful model for research and innovation.” Mr Charles Zukowski, Chairman

of A*STAR’s Science and Engineering Research Council, added: “With Fusionopolis, we are trying to create a new model of doing research that cuts across many different borders (and) it is a unique environment that I do not see anywhere else in the world.”

Prime Minister Lee assured guests at the grand opening of Fusionopolis that Singapore’s path for R&D was a steady and well thought-out one. “The Government remains fully committed to investing in R&D, in order to develop a key capability that will keep our economy competitive in the long term. Our steady commitment will continue

to draw researchers to set up and root their research activities in Singapore, and give investors the confidence to establish high-tech industry and corporate R&D centres here.”

Bringing the arts to the sciences, the “egg” at Fusionopolis is Singapore’s newest entrant to the performing arts venue scene. Costing a cool S\$20 million to construct, the oval-shaped Genexis Theatre, built by Singapore’s largest industrial landlord JTC, provides an experimental space for users. The Genexis is not simply unique in its exterior appearance, but also holds 560 fully movable seats. Lining the interestingly curved walls are 400,000 timber beads that act as acoustic padding.

Speaking to journalists, JTC’s Assistant Chief Executive Officer Mr Philip Su said: “We wanted to position this theatre together with the common area here to be a science-based, arts-based location. So now you can have a science festival here and an arts festival here.”

The hub will be Singapore’s icon for R&D in interactive media, physical sciences, engineering and technology and there will be a total of 800 scientists, engineers and game developers employed under Phase One of the development. In all, there will be six phases of development for Fusionopolis, with two of the research institutes having already moved in.

The researchers will be joined by at least 13 corporate laboratories including Vestas, the world’s leading wind turbine company, Ubisoft, one of Europe’s largest game publishers, and Linden Lab, creator of the popular online social platform Second Life.



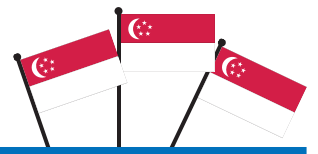
Fusionopolis, Singapore’s future epicentre for a global science and technology research and development hub, is set to be a melting pot of innovations and inventions as infocomm, media, research institutes and businesses.

IN SINGAPORE



There's chicken soup for the soul, and then there's chicken rice for the homesick Singaporean.





I ♥ SG

Singapore Day in Melbourne



Top left: Singapore Day 2008 held at Melbourne in October drew an enthusiastic crowd of 11,000 visitors. Top right: Visitors to the Singapore Day 2008, held at the iconic Sidney Myer Bowl in Melbourne, were treated to a sumptuous spread of Singaporean cuisine. Opposite page (in some boxes): Singapore's well-known comedian Phua Chu Kang was part of the 200-strong Singaporean team flown down especially for the event.

Singapore's national dish, Hainanese chicken rice, was among the favourite dishes served at the Singapore Day held in Melbourne, Australia on 4 October last year. The event was the second successful instalment of the Singapore Day events organised by the Overseas Singaporean Unit, aimed at reaching out to the estimated 150,000 Singaporeans working and studying around the world.

Under clear blue skies and a light spring breeze, the iconic Sidney Myer Bowl – a 49-year old outdoor multi-purpose park – was transformed into a mini-Singapore, with areas set up like the popular hawker centre in Singapore called Newton Circus, and the entertainment and lifestyle hub Clarke Quay.

And in keeping with the Singaporean national pastime of dining out, visitors to Singapore Day were treated to a sumptuous spread of sorely missed Singaporean cuisine such as chilli crab, laksa, roti prata and char kway teow. Hawkers from the Singaporean food court chain Food Republic were flown in to whip up the culinary delights and spicy aromas filled the air.

Tucking in gustily to chicken rice, which took half an hour of patient queuing to get, was Melbourne-based auditor Mr Lim Thiam Seng, 35. He told reporters: "I cook a lot of Singapore food here but the taste is always

different from home."

Besides the hometown favourites, Singapore's well-known comedian Phua Chu Kang also dropped by for a visit. The TV Singaporean team flown down especially for the event. The team also included Singaporean singer-composer Dick Lee, Singapore Idol and Asian Idol winner Hady Mirza and cutting-edge rock band Electrico.

Apart from the lively entertainment by the Singaporean acts, visitors also had the chance to view Singapore's evolving cosmopolitan landscape through interactive display models, as the event's theme was "Rekindle and Rediscover".

In addition, children at the event had the opportunity to experience the new learning environment Singapore offers with interactive classroom sessions demonstrated by four Singaporean primary school teachers. Students and professionals considering moving home also met prospective employers from various industries to discuss opportunities back home.

The day's event concluded with a gala dinner at the Melbourne Town Hall, where 400 invited guests, including Melbourne Deputy Lord Mayor Gary Singer and other Australian officials, were treated to a specially-created dinner menu by the Singapore Chefs Association.

Singapore Day 2008 at Melbourne drew a crowd of 11,000, nearly double that of the inaugural Singapore Day at New York's Wollman Rink in Central Park in the USA in 2007. Singapore's Deputy Prime Minister and Minister for Home Affairs, Mr Wong Kan Seng, who was Guest-Of-Honour at the event, was heartened at the overwhelming response.

He said: "Singapore Day has received overwhelming response and support from our Overseas Singaporeans since it started last year. I am glad that many Overseas Singaporeans in Australia and even New Zealand have made the effort to join us here. With globalisation, more Singaporeans are venturing overseas for professional or personal pursuits. But wherever they are, they will always be part of the larger Singapore family."

The Overseas Singaporean Unit is already planning for Singapore Day 2009 in London on April 25. The one-day event is to be held at Hampton Court Palace. There are currently about 40,000 Singaporeans living in Britain, with about 9,000 based in London.

And once again, food will be big on the agenda. The organisers have planned a menu of 22 different local items to be cooked by a team of 20 authentic street food vendors flown from home.

COVER STORY



SINGAPORE'S FIRST CITY RESERVOIR:

The newly opened Marina Barrage. It is designed and built on green principles and its iconic green roof serves as an insulation layer to lower indoor temperature, thereby reducing the building's air-conditioning requirements. Marina Barrage's stylish curves and romantic lights make it an ideal place to share with your special someone.

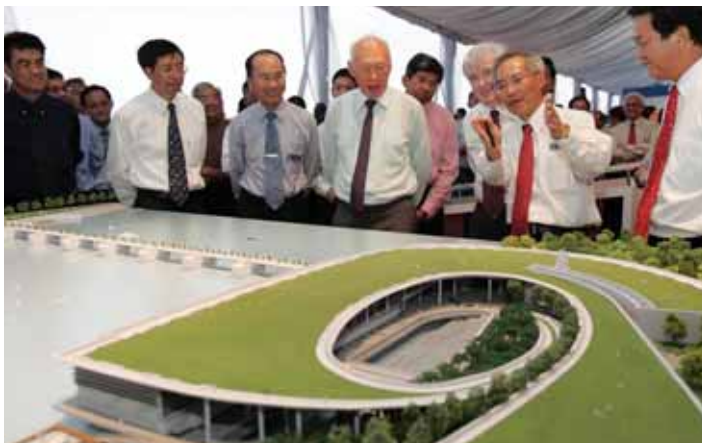
A CITY RUNS THROUGH IT



COVER STORY



The Marina Barrage is set to play host to many recreational activities as part of Singapore's next phase of development to be an exciting "live-work-play" destination.



Above left: Minister Mentor Lee Kuan Yew (centre) listening to the briefing by Mr Yap Kheng Guan (second from right), Public Utilities Board (PUB) director for 3P Network, at the ceremony to mark the construction of the \$226m Marina Barrage. Above right: High-efficiency solar panels at the Marina Barrage. Singapore was lauded for pumping \$170m into research on clean energy such as solar power.

Back in the early days of Singapore when the Singapore River was the pulsating artery of trade with cargo carried by bumboats, no one would have thought of swimming in the water, much less drink it. Mud, waste, scrap materials, heavy traffic and oil spills clogged up and polluted the river. Then in 1977, one man had a vision for this river that flows through the heart of the country's city centre. The then-Prime Minister of Singapore Lee Kuan Yew, proposed that the river – which had long been the country's "lifeline" for trade and urbanisation – be cleared of pollution and a dam be built across it to create a freshwater reservoir.

Putting forth what was seen as a near-impossible challenge to public sector agencies in Singapore, Mr Lee said at that time: "It should be a way of life to keep the river clean, to keep every culet, rivulet, free from unnecessary pollution. In 10 years, let us have fishing in the Singapore River and the Kallang

River." To the naysayers of his ambitious plan, Mr Lee only had this to say: "It can be done."

His words proved true. Today, this vision of Mr Lee, who is now Minister Mentor in the Singapore Cabinet, has gone from dreams to reality. On 31 October last year, his son, Singapore's current Prime Minister Lee Hsien Loong, officially opened the Marina Barrage – a dam built across the mouth of the Marina Channel to create the country's 15th reservoir set right in the heart of the city.

A guest at the opening event, Mr Daniel Ee, Chairman of Tiger Aviation, recalled his early impressions of the River: "I can still remember how in the 1960s, the Kallang Basin and Singapore River were unkempt, polluted and unsightly. With the damming of the River, this has been transformed and the sight of a clean, clear mass of water set against the picturesque Singapore skyline is truly visually stunning."

Looking back towards the city to the north, the Barrage is set against the beautiful

Singapore skyline as a backdrop. The clean waters are complemented by the colourful fountains at night that light up the surroundings. During the weekends, the Barrage is crowded with happy families eager to visit the country's first city reservoir. Children run freely amidst streams of water shooting from the fountains in the ground and even pets stroll leisurely by their owners along the long 350 metre-long bridge across the mouth of the Marina Channel.

This central reservoir is now the island's largest catchment of water, with an area of about 10,000 hectares which is roughly one-sixth the size of Singapore, and stretches from Alexandra (Central West) to Ang Mo Kio (Central North) to Paya Lebar (Central East). Apart from being an expansive water catchment area, the S\$226 million dam will serve up to three separate benefits as summarised in the catchphrase: "Recharge, Regulate and Relax".

LOCATION, LOCATION, LOCATION

The Marina Barrage is ideally and prominently located next to Singapore's Gardens by the Bay – three distinctive waterfront gardens set in the heart of Marina Bay that will define Singapore as the world's premier tropical garden city. It is also situated next to the upcoming Marina Bay Sands Integrated Resort. With these two future tourist attractions on the fringe of the reservoir, the Barrage is able to play host to many recreational activities as part of Singapore's next phase of development to be an exciting "live-work-play" destination.

As Prime Minister Lee describes it, "the barrage ensures a constant water level and calm waters all year round, making the Marina reservoir a beautiful and convenient venue for recreation activities". Just last year, the Wakeboard World Cup Singapore 2008 was held at the Marina Reservoir where avid

competitors of the sport jumped and spun high against the iconic Singapore city skyline. Apart from being an outstanding venue for a variety of water sports such as wakeboarding and kayaking, the Marina Barrage will also be a place where families and couples can wine and dine on weekends. Visitors keen on escaping the fast-paced world we live in can opt to have a 'back to nature' outdoor picnic on the grassy 'Green Roof' of the Barrage whilst enjoying 360-degree unblocked views of the Central Business District, the Singapore Flyer, Benjamin Sheares Bridge and the South China Sea. In time to come, the 'Green Roof' will also be home to open-air concerts or even be available for private party bookings. Mr Darren Yio, an architect with SCDA Architects, said to reporters that "it's a good idea that they've created more public spaces; this will add to our urban lifestyle".

SEEING THE GREEN IN BLUE

The Marina Barrage is also designed and built with green principles in mind. Its roof is covered entirely with grass; this feature acts as an insulating layer to lower indoor temperature, and thus, reduces the building's air-conditioning requirements.

Visitors can also visit the Solar Park at the Marina Barrage which features 405 solar panels stretching over an area of 1,200m², the largest collection of solar panels in Singapore. These panels generate electricity used for indoor lighting and power points at the Barrage.

In addition to these green aspects of the reservoir, the Marina Barrage also houses the Sustainable Singapore Gallery which runs free guided tours daily. The gallery strives to educate visitors on fundamental environmental and water issues through the employment of multi-media displays, exhibitions and fun games.



FROM WATER-SCARCE NATION TO GLOBAL HYDRO HUB

Singapore, known to many as an extremely water-scarce nation with limited access to freshwater supply, has taken significant strides forward towards self-sufficiency in water. The country has even positioned itself towards becoming a global hydrohub one day through its active research and development in water treatment technologies. As Mr Khoo Teng Chye, Chief Executive Officer of PUB, Singapore's national water agency and Executive Director of Environment and Water Industry Development Council, said in a media interview, "perhaps one day, when the world thinks of 'sustainable water solutions for cities', they will think of 'Singapore'".

With the construction of the Barrage, the Marina Basin will be transformed into a body of freshwater through a process of natural flushing over the course of one to two years. The PUB will then have to treat the freshwater, using advanced membrane technology, before supplying to households.

In addition to upping the supply of water in Singapore, the Marina Barrage also serves as a flood control device for seasons of heavy rain, especially during the monsoons. As a tidal barrier, the dam will keep seawater out and lessen chances of floods in low-lying areas such as the central and eastern parts of Singapore. According to the PUB, when heavy rainfall occurs and the tide is low, the series of 9 crest gates at the dam will be activated to release excess storm water into the sea. During times of high tide, giant pumps can

pump out water equivalent to filling one Olympic-sized swimming pool per minute.

Mr Yap Kheng Guan, PUB's Director in charge of the Marina Barrage, said "*the Marina Barrage brings along with it many exciting possibilities. While we are able to treat every drop of water to high drinking standards, we hope that everyone will learn to appreciate and cherish water, and take ownership of our waters.*"

Due to its limited land mass and water resources, Singapore has had to learn to engage innovative methods for increasing its water supply. And the country's strategy and efforts have gained recognition internationally.

SINGAPORE'S "FOUR NATIONAL TAPS" STRATEGY

The PUB devised a "Four National Taps" water strategy to ensure that its large urban population of about 4.48 million and its future generations will have a sustainable supply of water. The Four National Taps are as follows: (1) Water from local catchments which is collected in the various reservoirs spread across the island; (2) Imported water from Johor, Malaysia; (3) NEWater, Singapore's brand of reclaimed water; and (4) Desalinated water.

Dr Yaacob Ibrahim, Minister for the Environment and Water Resources, has explained the significance of creating this synergy in this way: "As we open up our waterways, we beautify them. It's not a place that we just go, have fun and go back. You must feel that you are part of it."

Singapore has received international accolades too. The island-state was given the

Stockholm Industry Water Award in Sweden in August 2007 at the World Water Week for the PUB's efforts to transform Singapore from a water-scarce city into a model city for sustainable water management. The Marina Barrage has also won international recognition, bagging the top award at the American Academy of Environmental Engineers' Excellence in Environmental Engineering Competition in May. It was also bestowed the Grand Conceptor award at the American Council of Engineering Companies of Massachusetts' 2009 Engineering Excellence Awards.

The PUB has also devised a second part to its strategy to engage Singapore's people, public and private sectors to "conserve, value and enjoy" the nation's water bodies. In 2007, PUB developed its "Active, Beautiful, Clean" Waters (or ABC Waters) Programme which effectively worked to integrate Singapore's important waterways into the country's landscape.

The aim of the programme is to ensure that by the time two-thirds of Singapore has been transformed into a water catchment area, there will be a greater synergy created between the community and these catchment areas.

Prime Minister Lee was also at another event at the Barrage to launch the Clean and Green Singapore 2009 campaign, and in his opinion, "effective water management is just one example of how Singapore has achieved strong economic growth while protecting and even enhancing the environment. Besides access to clean water, we have ensured that Singaporeans can breathe clean air and enjoy green spaces."

Weathering the Crisis as a Family By Lee Hsien Loong

The Year of the Rat ended on a difficult note for Singapore. The global financial problems have precipitated a worldwide recession. The last few months have brought a steady stream of worsening news in the US, Asia and Europe. With all our major markets in decline, our exports are falling sharply.

The Government has just presented its 2009 Budget, and delivered a “Resilience Package” to help Singaporeans in this difficult period. On top of tax measures and business grants, we have announced two special schemes to tackle the crisis – a “Jobs Credit” to help companies with their wage costs; and a “Special Risk-Sharing Initiative” to help them keep their access to much-needed financing. These measures will help businesses to stay afloat, so that they can continue to provide jobs for Singaporeans. We will also give additional support to households, with more for low and middle income families. Hopefully, with some Government help, Singaporeans can continue to provide for themselves and their families.

To tackle this unprecedented economic crisis, we are for the first time seeking the President’s approval to draw on our reserves. This is a major decision, which the Government has thought over very

carefully. Our reserves are a key asset for Singapore. We have built them up patiently over the years, so that in a critical situation we have the wherewithal to mount a vigorous response. The present crisis is clearly such a moment. By using our reserves for the two special schemes, we are making clear that we intend to respond to the crisis decisively and with all means at our disposal.

We are able to do this unlike most other countries, because we have prudently saved and invested our surpluses over many decades. When things return to normal, we must resume our habit of putting something aside in the reserves whenever we can. Then when we next face a serious crisis, which is bound to happen one day, we can again meet it with confidence.

These Budget measures will mitigate the downturn, but they will not instantly lift the economy from recession. The recession is a global one, and we must expect to see exports contract, unemployment rise, and growth remain negative for more months, and perhaps for the whole year.

We must brace ourselves for a challenging Year of the Ox. But there is no need to be despondent. Singapore has strengths which will let us outlast this recession. We have the resources, the programmes, and the tenacity to ride the storm.

For all that the Government is doing, we must remember the important roles that the community and family play in

helping us weather the crisis together.

Community and welfare organisations are expanding their schemes to help more needy Singaporeans. Grassroots organisations are also coming up with new and innovative ways to help residents. The Government will support such community efforts. We are giving voluntary welfare organisations and self-help groups more funding to do more good work. We have also increased tax deductions for charitable donations, to two-and-a-half times the donated amounts. With many helping hands, every Singaporean can survive the storm.

The family is our most important life-raft in times of crisis. When we face difficulties, families give us comfort, hope and practical help. In these hard times families must draw closer together, including our extended families.

Indeed, the family unit is the bedrock in all

communities, whatever their race or religion. The world may have changed drastically, and Singaporeans may be better educated and more affluent. But the family will always be core to our human instincts and our social fabric. In this festive period, let us remember that Chinese New Year is a time for togetherness. It is the time for

families to come together to rejoice in the company of their loved ones and to build lasting memories and bonds.

Even in hard times, we should not neglect the need to bring up a new generation. If you remember, every time there was a recession, birth rates went down. But I hope this time we can buck the trend and keep the birth rate steady. We have implemented many measures to encourage marriage and help you in supporting and bringing up your children. There is also a lag time in procreation, so with luck your babies will arrive in time to enjoy the upswing. What really matters is the prospects in Asia and in Singapore over the next decades, which I believe are still bright despite the current gloom.

Meanwhile, let us be grateful for what we have in Singapore – a stable society, a sound economy, and a reputation which draws talent, investment and jobs to our shores. We must continue building on these strengths, so that we will emerge stronger from this crisis, ready to thrive in what will be a very different and more challenging world.



Above: Prime Minister Lee Hsien Loong giving out Chinese New Year goodies at an event on 11 January 2009.

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