# Ministry of National Development





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# AN ENDEARING HOME, A DISTINCTIVE GLOBAL CITY

Over the past years, Singapore has been featured prominently in annual international surveys on living standards. For instance, Mercer's 2011 Quality of Living Survey ranked Singapore the most liveable Asian city. Monocle's 2010 Quality of Life Survey also named Singapore as one of the world's 25 most liveable cities.

Singapore's evolving landscape and physical infrastructure are the fruits of the Ministry of National Development's (MND) labour and showcases our careful long-term planning over the past 50 years. MND's policies on land use planning and infrastructural development are vital to sustaining Singapore's economic growth and the social well-being of all Singaporeans.

With the country's swift development and growth, MND's challenge has evolved from providing basic housing and infrastructure to creating a holistic living environment that meets the aspirations and expectations of an increasingly affluent, well-travelled and articulate population.

With this in mind, MND aims to make Singapore 'An Endearing Home and a Distinctive Global City' and is committed to fulfilling our Mission by:

- Developing a world class infrastructure
- Creating a vibrant and sustainable living environment
- Building rooted and cohesive communities

Given Singapore's limited resources, MND is aware of the imperative need for Singapore to maintain sustainable growth and create a living environment of outstanding quality.

At the same time, MND has placed growing emphasis on the softer aspects of the country's development by instilling a sense of belonging in Singaporeans. We involve Singaporeans in our efforts to build a world-class city and a better home which we are proud of and passionate about. We strive to leverage on the city state's unique distinguishing characteristics to develop Singapore into a global city of knowledge, culture and excellence.









# GROWING SINGAPORE INTO A DISTINCTIVE GLOBAL CITY

Established in 1959, MND is the key government agency responsible for national land use and development planning. We guide Singapore's physical development and optimise scarce land resources. At the same time, we actively pursue the conservation of heritage buildings and areas to balance the rapid development of the country.

Together with our statutory boards – the Agri-Food & Veterinary Authority (AVA), the Building and Construction Authority (BCA), the Council for Estate Agencies (CEA), the Housing & Development Board (HDB), the National Parks Board (NParks), and the Urban Redevelopment Authority (URA), MND makes a concerted effort to ensure Singapore remains the best home for all who live, work and play here.

In this book, we share how MND helps to shape Singapore into a distinctive global city through building up our infrastructure, raising our standard of living and strengthening social cohesiveness.

# Creating a 'City in a Garden' and a Home for All Singaporeans

MND is committed to providing a home for all Singaporeans by delivering affordable and quality public housing solutions. Strong communities are built so that residents have a sense of ownership









of their living environment. MND also regulates the real estate agency industry to raise professional standards and safeguard consumer interests.

We ensure the development of an excellent built environment for Singapore through enhancing the capabilities and productivity of our construction industry, so as to maintain a conducive space to live, work and play. We spearhead greening efforts in two ways – by making our buildings more energy efficient and environmentally-friendly and by transforming Singapore from a 'Garden City', into a dynamic city with pervasive greenery, thriving biodiversity and a passionate green community.

# Establishing a Brighter Tomorrow through the Centre for Liveable Cities

Faced with a rapidly changing global environment, there is a need to adopt a model of sustainable development. In April 2009, MND and the Ministry of the Environment and Water Resources (MEWR) formulated the Report of the Inter-Ministerial Committee on Sustainable Development – a set of strategies to make Singapore a liveable and lively city-state.

We facilitate discussions with other city leaders and experts on sustainable urbanisation through the Centre for Liveable Cities (CLC). Jointly established by MND and MEWR, CLC is a knowledge centre that creates and shares information on liveable and sustainable cities. CLC also co-organises the biennial World Cities Summit with URA. Participants at this premier event include international practitioners, policy makers, and leading experts who formulate innovative solutions to address the pressing challenges facing cities today.

In addition, MND co-organises the Urban Sustainability R&D Congress – a national platform for government agencies, research institutes and private sector companies to discuss responses to national urban sustainability challenges. Through this congress, we hope to promote the development of urban solutions to create a better quality of life for Singaporeans.

### **Ensuring Food Safety**

MND is also responsible for ensuring a resilient food supply for Singapore. We do this by diversifying overseas food sources and increasing local production. In addition, we maintain a high standard of animal and plant health.



### Driving High Standards of Professional Engineering

The building and construction industry comprises many players who contribute to the building process. The critical roles that professional civil, mechanical and electrical engineers play stretches over the entire building project life-cycle – from design to construction, operation and maintenance.

To maintain high standards in the professional engineering practice, the Professional Engineers Board (PEB) was set up in 1971 to develop and ensure judicious regulation of the practice. This is to safeguard the life, property and welfare of the public. The progress of our housing, building and infrastructure development over the last few decades is testament to the vital contributions that professional engineers have made. As Singapore continues to develop, new challenges arise. Through the PEB, the engineering profession stays relevant and prepares for the future by mastering and making use of new engineering technology.

### Mediation and Arbitration Disputes in Strata Titled Properties

The Strata Titles Boards was set up in 1987 as a tribunal to mediate disputes in strata titled properties between unit owners, or between unit owners and the management corporation. Common disputes include inter-floor water leakages, non-compliance with by-laws, and invalidation of by-laws or resolutions of the management corporations. The Board, made up of a panel of members consisting of lawyers and experienced practitioners from the building industry, also makes orders for collective sales of properties upon application and mediates cases where there are objectors.

# Co-creating a City Beyond our Shores – Sino-Singapore Tianjin Eco-City

In November 2007, Singapore's Prime Minister Lee Hsien Loong and the People's Republic of China Premier Wen Jiabao signed a Framework Agreement on the development of the Sino-Singapore Tianjin Eco-City. Under the agreement, Singapore will share with China our expertise and experience in areas such as urban planning, environmental protection, resource conservation, water and waste management, and sustainable development, as well as policies and programmes to promote social harmony in the Eco-City. MND is Singapore's lead agency for the Eco-City project.

Together with China, we aim to develop the 30 square kilometre Eco-City into "a thriving city which is socially harmonious, environmentally-friendly and resource-efficient". The Eco-City, which will have 350,000 residents when completed around 2020, will be a model for sustainable development.

To do so, experts from both countries have jointly formulated a comprehensive set of 26 Key Performance Indicators (KPIs) to guide the Eco-City's planning and development across key social, economic and environmental areas. Examples of these KPIs include requirements for all buildings to meet green building standards, for public and non-motorised transport to account for at least 90 per cent of trips within the Eco-City, and public housing to account for at least 20 per cent of homes.







### **EATING SAFELY, LIVING WELL**

Singapore is heavily dependent on food imports from all over the world, as only a small amount of food is produced locally. Maintaining stringent food safety standards is critical to upholding a high quality living environment in Singapore. MND, through the Agri-Food & Veterinary Authority (AVA), ensures the safety and resilience of our food supply. We also safeguard the health of animals and plants through a science-based, risk management system that utilises advanced technology in agriculture, fisheries, veterinary science, and the life sciences.

### Maintaining Food Supply Resilience

AVA adopts a diversification strategy to bring food in from as many sources as possible. Together with members from our Agri-Food Business Clusters, we jointly organise trade missions to explore new sources and investment opportunities in food production for local importers. For example, Indonesia is an ideal choice to source for vegetables due to its close proximity and fertile volcanic soil, which is excellent for vegetable farming. AVA continues to work closely with relevant stakeholders to develop Indonesia as a sustainable supply source for Singapore.

## Source Diversification and Local Production

In December 2009, to further strengthen Singapore's food supply resilience, AVA introduced the Food Fund to support food diversification and food capability development. Since then, \$6 million has been awarded to the first tranche of 15 projects approved by AVA. The scheme was well received and another \$10 million has been committed to the second phase.

We also co-fund feasibility studies on investments in overseas food zones, overseas contract farming, and the sourcing of food items from places that are not already major exporters to Singapore.

Local farming complements our source diversification strategy to ensure a degree of self-sufficiency in key food items such as eggs, fish and leafy vegetables. Currently, our farms produce seven per cent of the vegetables, seven per cent of the fish, and 22 per cent of the eggs consumed in Singapore. We aim to raise sufficiency in these products to 10 per cent, 15 per cent, and 30 per cent, respectively.

AVA's Food Fund supports local farms by co-funding research and development (R&D) on local food farming technology and the upgrading of production capabilities. In addition, by sharing our research expertise, we help local farms maximise limited resources and raise their productivity. Our support to the farms also includes encouraging consumers to buy local produce by raising public awareness of the food.

We also educate consumers on alternative food products through outreach events. For example, consumers learn about the use of egg powder and liquid egg as alternatives to shell eggs. Our public education programme also encourages consumers to use frozen meat as a value-for-money alternative to chilled meat.





### Developing Agro-technology Capability

AVA encourages the use of agro-technology, which can help farms maximise their output from limited land and manpower. These farms are mostly located in AVA's six agrotechnology parks that are well equipped with modern infrastructure and facilities. Comprising a total land area of about 1,465 hectares, these parks are found in Lim Chu Kang, Murai, Sungei Tengah, Mandai, Nee Soon, and Loyang.

We work with the private sector and various tertiary institutions to conduct R&D on agrotechnology. Our findings and expertise are shared with local growers, processors, traders and retailers through consultancy, training and audit services.

R&D on tropical marine food fish aquaculture is done at AVA's Marine Aquaculture Centre (MAC) on St John's Island. MAC is the first in the region to set up unique R&D facilities, such as spawning tank systems, live food micro-organism culture systems, large-scale hatcheries and seawater re-use systems. The major R&D programmes here include large-scale fish hatcheries and farming technology, which help improve the variety and quality of our produce and achieve higher yields and value.

For example, MAC successfully spawned pompano fry for the first time on a commercially viable scale in Singapore. Now, our local fish farmers do not need to be completely dependent on seasonal supplies of fry from overseas for the production of pompanos.

In horticultural R&D, AVA's capabilities contributed to the development of the Vertical Farming System, which can cultivate leafy vegetables in tiers and increase yield by at least five times more than that of conventional soil-based farms. R&D efforts helped to maximise production at AVA's Sembawang Research Station, while a private company provided the engineering solutions by building and modifying several prototypes.







### **Ensuring Food Safety**

As the national food safety authority, we have instilled an integrated system of accreditation, inspection and testing to ensure food, from farm to fork, is safe for consumption.

We also established a comprehensive and internationally recognised veterinary public health system. This involves the regular review of production systems and practices at source, labelling of food imports for traceability and recall, inspection of imported food products, rigorous pre- and post-slaughter inspection of imported livestock, and the licensing and inspection of local food establishments and farms.

AVA also conducts sampling and testing of imported and locally-produced/manufactured food. Laboratory testing is a critical component in AVA's food safety monitoring and surveillance programmes. Our Veterinary Public Health Laboratory (VPHL) is capable of detecting a wide range of food-borne hazards, particularly those of current and emerging importance. As an import/export testing and certification laboratory, VPHL ensures that its tests are accredited to international standards.

As the world becomes increasingly connected, AVA needs to keep a vigilant watch on the global food safety situation that could potentially threaten Singapore. Our horizon scanning and early alert function provides us with lead time to evaluate the impact of incidents on the safety of food in Singapore, so that we can promptly initiate mitigation measures.

In the event of unexpected food safety incidents, our crisis management structure enables quick responses to the threats. Keeping the nation's interest in mind, we often participate in international meetings to be in the vanguard of food safety policy and programme implementation worldwide.

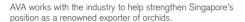
While AVA ensures that regulatory measures are in place and properly enforced, the food industry must also play its role in maintaining food safety.

Industry members are encouraged to adopt in-house food safety assurance programmes, such as the Hazard Analysis Critical Control Point System and AVA's Good Agricultural Practice scheme. Those who have consistently achieved high standards under AVA's Food Factory Grading Scheme are given recognition during our annual Food Safety Awards Night. In addition, AVA engages the industry in regular dialogues, which are a crucial platform for us to gather feedback, better understand each other's concerns, and work on the co-creation of pro-business solutions for mutual benefit.

Consumers need to be aware of food safety risks and what they can do to protect themselves. AVA conveys food safety messages through road shows, advertisements and other activities under its Food Safety Public Education Programme.



SH CHICHID FLOWERS





### Safeguarding Animal and Plant Health

To protect the health of our animals and greenery, as well as Singapore's public health against exotic pests and diseases, AVA implements science-based animal and plant health programmes that include monitoring, surveillance, inspection, sampling and quarantine practices.

Singapore's disease-free status is maintained through the strict surveillance and monitoring of imported and local animals and plants. Every consignment of animals, fish and plants imported into Singapore has to meet AVA's veterinary and plant health conditions. They must also be inspected and approved by AVA, and where necessary, be subjected to relevant quarantine requirements.

AVA's Animal and Plant Health Centre, the national reference laboratory for the diagnosis of animal and plant diseases, conducts diagnostic testing of diseases as well as the testing of animal vaccines. Its state-of-the-art facilities and high standards enable Singapore to stay at the forefront of animal and plant disease control.

As a result, Singapore has successfully kept out major plant pests such as the Southern American Leaf Blight and Khapra beetles, as well as animal diseases such as rabies and Bird Flu. In the prevention of Bird Flu, our multi-layered defence strategy covers vaccination of all at-risk birds at the bird park and zoo, surveillance and monitoring, as well as the control of imports at source, borders, local poultry farms and poultry slaughter houses.

In the event of a Bird Flu outbreak in Singapore, AVA has in place contingency plans for the rapid eradication of the disease. We conduct regular exercises to test and refine these plans. In addition, we are actively involved in strategic partnerships, such as the ASEAN Highly Pathogenic Avian Influenza Taskforce which adopts a coordinated regional approach for bird flu control with prompt reports of disease outbreaks.

We believe that animals should be protected from abuse. AVA has strict regulations for all veterinary centres, animal research facilities and pet shops in Singapore to prevent animal cruelty. We promote animal welfare through the responsible pet ownership public education programme. AVA collaborates with animal enthusiasts and animal welfare organisations to create a harmonious common living space for both people and animals.

### Facilitating International Trade

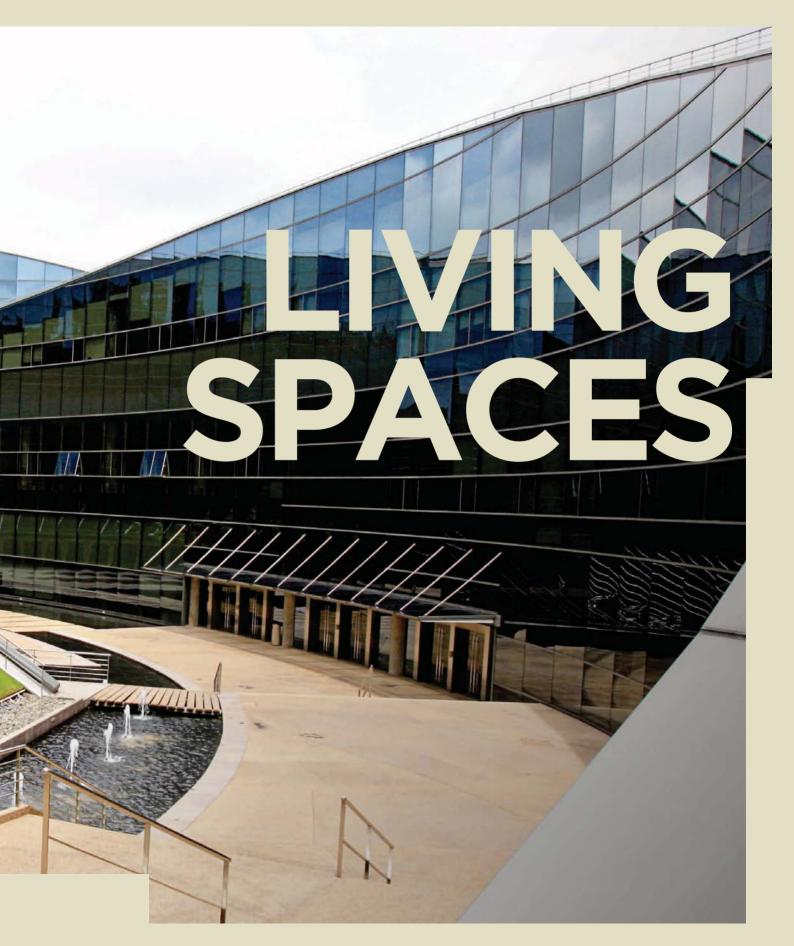
AVA facilitates the export of food, plants, and their products by issuing internationally recognised certificates, licences, and permits. We help further upgrade the export capabilities of our industries by engaging them in collaborations and dialogues.

For example, we formed the Ornamental Fish Business Cluster and Orchid Business Cluster with our industry stakeholders to strengthen Singapore's position as a renowned exporter of ornamental fishes and tropical orchids. Training courses and overseas trips are jointly organised to help our industries remain relevant and adaptable.

Our scope of work also includes preventing the exploitation of endangered animals and plant species through international trade. We implement and enforce the provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) to control trade in endangered species and their products.



School of Art, Design and Media – Nanyang Technological University
Winner of 2011 Building and Construction Authority Green Mark Platinum Award



### SHAPING THE BEST BUILT ENVIRONMENT

Singapore's built environment is known for its high safety standards, achieved by a robust regulatory system that governs the building and construction industry. The Building and Construction Authority (BCA) aims to develop and promote a productive industry that delivers a safe, high quality, sustainable and user-friendly built environment for Singapore.

### Creating a Safe Built Environment

Safety is a top priority when it comes to creating a thriving city for people to live, work and play in. BCA ensures that buildings in Singapore are designed, constructed and maintained to high standards of safety through its building regulatory system. We oversee the approval of building and structural plans, periodic structural inspection for existing buildings, as well as the regulation of excavation works, unauthorised building works, civil defence shelters, exterior features of buildings, and outdoor advertisement signs.

In addition, BCA oversees deep excavations and deploys supervision teams for structural works under the Building Control Act and Regulations. We also issue builders' licences to ensure the professional standards of building works.

As the regulator of amusement rides in Singapore, BCA works with the amusement ride industry to ensure the safety of ride goers. A regulatory framework for amusement rides was introduced in July 2011 to ensure that amusement rides are designed, installed, operated and maintained according to recognised international safety codes and standards.

### Promoting Quality Excellence

Over the years, we have raised the quality of our built environment through various initiatives, such as the Construction Quality Assessment System (CONQUAS) and the BCA Quality Mark. The CONQUAS,

introduced in 1989, is the de facto yardstick for measuring the quality of building workmanship in Singapore while the BCA Quality Mark assesses the workmanship of individual residential units.

The success of these initiatives and greater awareness of quality schemes encourage the building industry to improve construction quality.

### Championing Environmental Sustainability

As Singapore pushes ahead with new developments, there is also growing emphasis on environmental sustainability. We aim to green 80 per cent of Singapore's buildings by 2030.

To achieve this, BCA actively promotes the use of green building technologies and designs through our Green Building Masterplan and other various initiatives. These include the BCA Green Mark Scheme, which was launched in 2005 to assess the environmental friendliness and energy efficiencies of buildings, as well as the Green Mark Incentive Schemes and Building Retrofit Energy Efficiency Financing (BREEF) Scheme to encourage building owners to build with green features and retrofit existing buildings to achieve greater energy efficiency.

The MND Research Fund also supports private building owners' efforts to embrace green building features and intensify Research and Development (R&D) efforts in green building technologies.









Our flagship R&D project is the Zero Energy Building located at the BCA Academy of the Built Environment. The Zero Energy Building was retrofitted from an existing building and serves as a test-bedding centre for green building technologies. It is the first of its type in South-East Asia.

### **Enhancing Barrier-Free Accessibility**

Singapore's ageing population has made it imperative for buildings to become more user-friendly. We introduced the Code on Barrier-Free Accessibility in 1990 to reshape the accessibility landscape of the built environment by improving inter-connectivity between buildings and upgrade existing buildings to make them more accessible.

A \$40 million Accessibility Fund has been set aside to co-fund voluntary upgrading on basic barrier-free features. In addition, BCA introduced legislative measures to ensure continued compliance to the Code and to prevent misuse of barrier-free facilities.

We promote Universal Design (UD) for buildings to cater to the needs of all users, including the young, the elderly, persons with disabilities, and parents with infants. The BCA Universal Design Award recognises outstanding achievements by building developers and owners to incorporate barrier-free accessibility and UD in their developments.

# Transforming the Building and Construction Industry

The building and construction industry has to constantly enhance its capabilities to achieve Singapore's goal of an excellent built environment. BCA has put in place many schemes to raise the industry's skill levels and professionalism, design and construction capabilities, niche expertise, and the export of construction-related services.

Some examples are the Construction Registration of Tradesmen (CoreTrade) Scheme which establishes a core base of trade foremen and tradesmen, and the BCA Academy of the Built Environment which develops a professional workforce and encourage the adoption of innovative technologies. BCA International, a whollyowned subsidiary formed by BCA, paves the way for local construction companies to offer a full scope of expertise and value-added services to assist overseas governments and clients in developing excellent built environments.

In line with the Government's national productivity drive to ensure Singapore's sustained economic growth, MND and BCA actively spearhead efforts to raise productivity and capability levels in the construction sector. In 2010, BCA set up a \$250 million Construction Productivity and Capability Fund to help the construction sector progress in three key areas: building up a skilled workforce, adopting more advanced construction technologies, and enhancing building capability in niche areas.





We also established a Construction Productivity Centre to guide and advise construction firms on the latest construction technologies and re-engineering processes to attain time and labour savings. To build up manpower capability, we have been reaching out to attract new talents into the industry through various programmes and career promotion initiatives.

Singapore's journey towards a world-class built environment requires close partnership amongst all stakeholders. Together, we play a pivotal role in shaping the physical landscape of our future and realising our shared vision of making Singapore a distinctive global city.











# BUILDING A PROFESSIONAL REAL ESTATE AGENCY INDUSTRY

The real estate sector in Singapore is a significant pillar of our economy, with property transactions amounting to tens of billions of dollars a year. A unique characteristic of Singapore's real estate market is the high home ownership rate which is a result of our comprehensive public housing programme.

For many Singaporeans, their home is the largest single investment they undertake. As most Singaporeans buy and sell their properties through estate agents and salespersons, it is important they are well informed and given the best service in the decision-making process.

# Transforming Singapore's Real Estate Agency Industry

The Council for Estate Agencies (CEA) started operations in October 2010. As the newest statutory board under MND, we are entrusted with the legislative powers under the Estate Agents Act 2010 to regulate and raise the professional standards of the real estate agency industry, in order to better safeguard consumer interests.

To realise the vision of a professional and trusted real estate agency sector in Singapore, the Estate Agents Bill was enacted into law in September 2010. The Bill was endorsed after extensive consultation with key stakeholders, including estate agents, salespersons, buyers, sellers, industry associations, landlords, tenants, developers and relevant authorities.

In 2011, CEA licensed over 1,500 estate agents and registered more than 34,000 salespersons. Each salesperson is registered with CEA through an estate agent.





# A Three-Pronged Approach to Enhancing Professionalism

CEA is steered by a three-pronged strategy of effective regulation, industry development, and consumer education.

First, we administer the new regulatory framework which aims to foster a well-disciplined real estate agency profession. Underpinning this holistic framework is the requirement that all estate agents must be licensed and salespersons registered, as well as for them to be equipped with the knowledge and skills to provide client services that are in accordance with the Code of Practice and Code of Ethics and Professional Client Care. This framework requires estate agents to be responsible for the supervision and control of their salespersons.

In addition, CEA handles complaints against estate agents and salespersons who infringe on its Act and Regulations, and puts in place a dispute resolution scheme. Investigation and disciplinary proceedings are also conducted in relation to offences and unsatisfactory conduct in estate agency work.

Second, CEA focuses on industry development and enhancing accountability for the profession. In this respect, our roles include promoting the integrity and competence of estate agents and salespersons, administering of examinations and providing a professional development framework for the purposes of licensing and registration. We also collaborate actively with industry bodies on joint initiatives such as practice guidelines, forums and workshops to develop and raise the professional standards of the industry.

Third, beyond our regulatory role, CEA undertakes public outreach initiatives to inform consumers about their rights and responsibilities, empowering them with the necessary knowledge for their transactions. We provide timely information to consumers through various platforms such as CEA's website, consumer guides, news reports and educational seminars. We also work closely with government agencies and industry partners to engage the public through various traditional and online communications platforms. Through partnerships with other Government agencies and industry

associations, CEA also makes its consumer education programmes more accessible to the public.

CEA also provides a Public Register of estate agents and salespersons on its website at www.cea.gov.sg. Consumers who require the services of agents and salespersons are advised to request their respective registration numbers and verify that they are listed on the Public Register before engaging their services. This enables consumers to be more discerning of agents and salespersons.

### Delivering Real Estate Excellence

Close collaboration between the Government and real estate agents is critical to promoting strong qualifications and the highest standards of professional conduct in our real estate agency sector. This assurance of integrity, credibility and service quality excellence boosts consumer confidence and instils significant value in our real estate industry.



Treelodge@Punggol Winner of 2007 Building and Construction Authority Green Mark Platinum Award



### BUILDING HOMES, SHAPING COMMUNITIES

Public housing in Singapore has come to mean more than just providing affordable high quality homes; it is also about meeting the evolving needs and aspirations of all Singaporeans.

Today, more than 80 per cent of Singaporeans live in public housing. Beyond providing a roof over our heads, public housing plays a significant part in the collective experience of Singaporeans.

The Housing & Development Board (HDB) works closely with MND to build homes that encourage the growth of vibrant multi-racial communities. This involves the planning and development of new towns, management of HDB properties, and redeveloping older towns and estates.

### Promoting Home Ownership

Since the first rental blocks were built in the early 1960s, public housing in Singapore has made remarkable progress. Singapore's public housing programme has earned international accolades for setting a high standard of living.

The cornerstone of Singapore's public housing programme is the Home Ownership for the People Scheme. Started in 1964, the scheme aims to give Singaporeans a tangible stake in their country and its future. Today, HDB flats are a significant part of Singaporeans' assets, with about 95 per cent of HDB households owning their flats.

Affordability is critical to fulfilling the Singaporean dream of owning a flat. We ensure that prices of new HDB flats are kept within reach of the masses through substantial pricing subsidies. Lower income families are given housing grants to help them afford a home.

HDB has resumed building two- and threeroom flats to meet the housing needs of these lower income families. Subsidised rental housing is available for those who face extreme financial difficulties.

To enable more Singaporeans to be eligible for housing subsidy, the monthly household income ceiling for the purchase of subsidised flats was raised in August 2011 from \$8,000 to \$10,000. In addition, the monthly household income ceiling for purchase of new Executive Condominiums was raised from \$10,000 to \$12,000 and eligible first-time buyers can qualify for a CPF Housing Grant of up to \$30,000.

We have also increased support for singles who want to own a home. Under the Single Singapore Citizen Scheme, the monthly household income ceiling to purchase up to a 5-room resale flat, with a CPF Housing Grant and HDB loan, has been increased from \$3,000 to \$5,000. In addition, the CPF Housing Grant for single citizen has been increased from \$11,000 to \$15,000.





### Providing Variety in Housing

Approximately 914,000 flats are spread across Singapore, with a variety of sizes to suit the income and lifestyle requirements of Singaporeans. One- and two-room rental flats cater to lower income families while four-room and bigger flats meet the needs of higher income households and extended families who want to stay together.

To meet rising aspirations, HDB has engaged private sector architects to introduce new ideas into public housing design. For instance, under the Design, Build and Sell Scheme that was launched in 2005, private sector developers bid for the land, design, construct and sell flats to eligible buyers directly. A total of 13 sites and 11 projects have since been launched in various locations across Singapore.

In December 2009, HDB also launched two projects – SkyVille @ Dawson and SkyTerrace @ Dawson – to showcase new design initiatives such as paired units for multigenerational living, eco-friendly features and more flexibility in the configuration of internal layouts and loft units.

In June 2010, HDB launched the first housing parcel along the Punggol Waterway. The winning design from the Punggol Waterfront Housing Competition incorporates ecofriendly features that are in line with HDB's plans to develop Punggol as an Eco-Town.

### Maintaining Vibrant Towns

Whilst development plans are drawn up for young towns such as Punggol 21+, we have also put in place a multi-faceted estate renewal strategy for older HDB towns and estates like Yishun, Hougang, Dawson Estate in Queenstown and East Coast.

Several key rejuvenation programmes have been implemented since the 1990s. Some old flats have been acquired for redevelopment to optimise land use under the Selective En-bloc Redevelopment Scheme. The flat owners receive compensation at market values for their existing flats and are offered new homes at subsidised prices.

To meet the changing needs and aspirations of residents, HDB introduced two programmes in 2007. The Neighbourhood Renewal Programme focuses on making improvements to the neighbourhood, such as the upgrading of community facilities. The Home Improvement Programme addresses common maintenance problems in older flats. Under this programme, flat owners can opt for specific improvements to enhance fittings in their flats.

# Building Communities and the Singapore Identity

HDB towns and neighbourhoods incorporate unique design themes that reflect the area's heritage. Apartment blocks are grouped in precinct clusters to cultivate a sense of belonging and encourage greater interaction between residents. Every estate comprises a mix of households from different ethnicities and income brackets to maintain social integration and harmony.









Neighbourly interaction and gracious living in these high-rise, high-density estates are actively encouraged, especially amongst youth. An example is the ongoing education initiative where student Heartland Ambassadors share messages on neighbourliness and encourage residents to be environmentally friendly. HDB also recognises residents who make significant contribution to help create endearing communities by giving out annual Good Neighbour Awards.

### Caring for the Elderly

Longer life expectancy and low fertility rates have resulted in Singapore having one of the fastest ageing populations in the world. As such, meeting the housing needs of the elderly is one of our major challenges.

We started offering studio apartments in 1998 to expand the range of housing options for those aged 55 and above. Customised for independent living, these apartments come with elder-friendly safety features such as ramps at flat entrances, levelled

flooring throughout the flat and wheelchairaccessible common toilets. The sale of these flats has been stepped up in response to growing demand.

A key concern of the elderly is retirement adequacy. In efforts to help retirees monetise their assets for retirement, we have relaxed the policy on flat subletting. Other options for them to monetise their flat include selling the tail end of their flat lease to HDB.

### Promoting Research & Development

As the largest developer in Singapore, HDB plays a key role in leading the construction and real estate sector towards sustainable development. To this end, we have committed substantial resources towards research and development initiatives to create more cost-effective and endearing homes within sustainable living environments.

HDB also set up the Building Research Institute as a focal point to incubate and nurture new technologies. These include test bedding emerging technologies to enhance environmental sustainability in new and existing estates, and developing practical and cost effective solutions to solve daily living problems.







### SINGAPORE: A CITY IN A GARDEN

After five decades of active tree planting, and building parks and park connectors all over the island, Singapore is internationally known for being clean and green.

In spite of space constraints, the greenery in Singapore has not diminished even with our increasing population and urbanisation. Between 1986 and 2007, despite the population expanding by 68 per cent from 2.7 million to 4.6 million, the green cover in Singapore has grown from 36 per cent to 47 per cent.

Through the National Parks Board (NParks), MND aims to transform Singapore from a 'Garden City' into a 'City in a Garden' – a dynamic city with pervasive greenery, thriving biodiversity, and a passionate green community.

### Planting the First Green Seed

In the 1960s, Singapore's first Prime Minister Lee Kuan Yew envisioned Singapore as a Garden City in the heart of Asia. He pioneered efforts to green the island, recognising that greenery would help soften the harshness of urbanisation, improve people's quality of life and attract international investment.

Singapore's first tree-planting campaign was launched in 1963. Within a year, some 15,000 trees of 50 varieties were planted. Within five years, that number grew to almost one million.

The initial focus was to green up the island as quickly as possible, with plantings on retaining walls, pedestrian overhead bridges, viaducts and car parks. Open spaces were turned into parks and gardens, most of which were close to the city and residential neighbourhoods. Flowering plants and fruit trees were subsequently planted to add more colour to Singapore's burgeoning landscape.

Today, our network of gardens, parks, nature reserves, park connectors and tree-lined roads has made living in Singapore more pleasant and relaxing.

### City in a Garden

Singapore is being transformed from a Garden City into a City in a Garden. We aspire towards living in a home within a garden, rather than just having a garden outside one's home.

To achieve this vision, NParks has embarked on extensive public engagement efforts to gather ideas and suggestions. This has the dual aim of fostering a sense of ownership among residents, as well as helping to ensure the sustainability of this vision.

### Establishing World-Class Gardens

As Singapore enters the next phase of its greening campaign, there are several exciting projects and initiatives in the pipeline. One such project is Gardens by the Bay.









Comprising three waterfront gardens, it is a 101-hectare development situated on prime land in a new business district.

Bay South – the largest garden – provides an all-weather "edutainment" space. It includes two cooled conservatories displaying plants of high conservation value from the Mediterranean and Tropical Montane regions, two of the most endangered habitats in the world. Another Bay South highlight is the presence of tall tree-like vertical gardens called Supertrees.

Singapore is also home to the world's finest tropical botanical garden – Singapore Botanic Gardens. Founded in 1859, it has garnered international accolades such as TIME Magazine's "Asia's Best Urban Jungle" award and a three-star rating by the Michelin Green Guide. Going forward, NParks plans to showcase the Gardens' rich heritage, and strengthen its position as a premier botanical institution.

# Rejuvenating Urban Parks and Enliven our Streetscape

Our parks are havens where Singaporeans can all come together to play, celebrate, reflect, and connect. NParks will develop selected regional parks into leisure destinations and night attractions to draw visitors from all over the island. In addition, NParks will enliven our streetscape by incorporating more native plant species.

# Optimising Urban Spaces for Greenery and Recreation

NParks has developed about 200 km of greenways, or park connectors, linking housing estates to parks and nature sites. As park connectors make use of drainage and road reserves, it is an innovative way of creating more green corridors from otherwise unusable space.

As an extension of this Park Connector Network, NParks is also planning the Round Island Route, a 150km green recreational corridor that goes around Singapore.

# Enriching Biodiversity in our Urban Environment

By successfully balancing development and conservation, we have been able to conserve Singapore's rich biodiversity. For example, Singapore is home to 364 species of birds – about 75 per cent of the number of species found in France, and 295 species of butterflies – five times as many species as can be found in the United Kingdom.

To bring nature closer to Singaporeans, we have embarked on several projects to enhance the presence of native plants, birds, butterflies and dragonflies in urban spaces. One successful re-introduction is the Oriental Pied Hornbill which used to be extinct in Singapore. Today, there are more than 100 of them across the island. At the same time, NParks is improving access to nature reserves so that the public can experience the wonders of nature first-hand.







To help cities evaluate their biodiversity conservation efforts over time, Singapore has also collaborated with the Secretariat of the Convention on Biological Diversity to spearhead the development of a unique self-assessment index. Known as the Singapore Index on Cities' Biodiversity, this tool is used by over 50 cities all over the world.

# Enhancing Competencies of our Landscape and Horticulture Industries

To enhance the competencies of Singapore's landscape and horticulture industries, NParks engages our industry partners in a range of programmes to raise the skills standards of industry workers.

In 2007, NParks and the Workforce Development Agency jointly set up the Centre for Urban Greenery and Ecology (CUGE), a national training institution for the landscape industry.

Since then, CUGE has shared its expertise on urban greenery and ecology with overseas counterparts, serving as a regional repository of best practices on urban and green living environment.

# Engaging and Inspiring Communities to Co-create a Greener Singapore

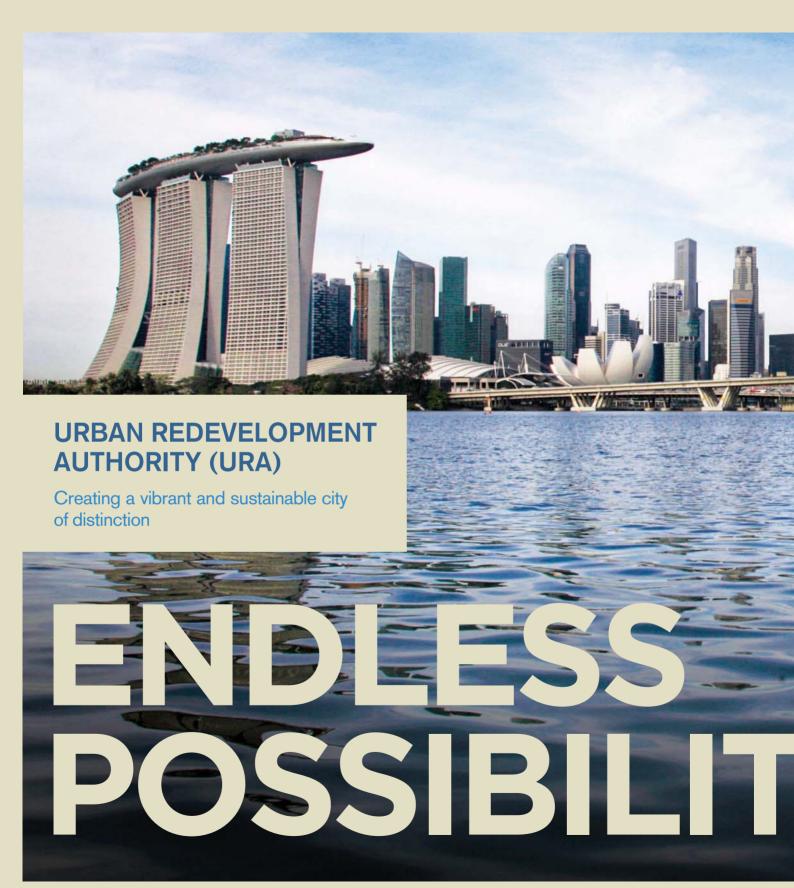
Over the years, NParks has been actively reaching out to all Singaporeans to promote the appreciation of greenery and nurture a gardening culture.

Through the Plant-A-Tree programme, over 18,000 individuals and organisations have played a direct role in greening Singapore by planting saplings in parks and nature reserves. This programme was initiated in 2007 by the Garden City Fund, a registered charity and IPC established by NParks.

The Community in Bloom programme, started in 2005, has successfully grown a network of active community gardening groups as well. As of 2011, there are more than 400 community gardens in residential and private estates, schools and organisations. NParks plans to increase that number to 800, and establish a similar network to harness the energies of people passionate about nature conservation.

# Our City in a Garden: a Home we can be proud of

The flourishing gardens and rich biodiversity of our island-state are valuable assets that contribute to improving our quality of life. We will continue to draw on the passion, energy and creativity of our community to make Singapore our City in a Garden, a home we can be proud of.









# BUILDING A VIBRANT & DISTINCTIVE CITY TO LIVE, WORK AND PLAY IN

Our challenge is to optimise every inch of Singapore's scarce land resources to meet current needs, safeguard land for future development, and deliver the best quality of life at each stage of growth. MND, with the Urban Redevelopment Authority (URA), carries out strategic planning of land use through the Concept and Master Plans to contribute towards maintaining a strong economy and good living environment in Singapore.

### Rolling Out the Concept Plan

The Concept Plan, developed in 1971, maps the long-term strategy for Singapore's land use and physical development to the vision for the country in the next 40 to 50 years. This plan is reviewed every ten years to ensure that it remains relevant, taking into account changing economic prospects and population trends.

Last reviewed in 2001, the Concept Plan went through a mid-term review in 2006 by MND, URA and various government agencies. More urban development is expected in Singapore as the country taps on the potential investment opportunities in high value-added industries, such as the financial, business services and tourism sectors. To accommodate a growing population, the plan needs to incorporate ample housing options and features that will enhance the living experience in Singapore.

### Fine-tuning the Master Plan

The Master Plan translates the macro visions of the Concept Plan into detailed land use plans and is reviewed every five years. The Master Plan 1998 was the first to divide Singapore into 55 areas and offered detailed plans for each area. The detailed plans provide a local perspective, setting guidelines on land-use zoning, and height and development intensity for each area. Together, the plans addressed housing needs as well as community, commercial, industrial, transport

and recreational facilities for the population of each area.

The current Master Plan, which was completed in 2008, features plans for three new growth areas – Jurong Lake District, Kallang Riverside, and Paya Lebar Central. A new island-wide Leisure Plan was also drawn up to showcase a variety of leisure opportunities for all to enjoy. The plans incorporated many innovative ideas from the public, gathered through numerous dialogue sessions and a public exhibition.

With the Concept Plan and Master Plan, URA coordinates and implements building work projects, and public infrastructure improvements for Singapore's continued growth.

# Guiding Development with Regular Feedback

One of URA's responsibilities is to provide and implement control guidelines to facilitate development works in an orderly manner and to be consistent with the Master Plan. We conduct regular reviews with industry professionals and the general public to ensure that our policies are probusiness, user-friendly and relevant to prevailing needs. This function has proven to be increasingly challenging, as we have to balance the needs of various stakeholders, such as businesses and residents, whose interests are often conflicting.





Over the years, many development control guidelines have been simplified and revised to give greater flexibility, and to be responsive to new trends. For example, to improve customer service, the Electronic Development and Application system was introduced for increased convenience and efficiency, enabling online submission of development applications and amendments.

# Supporting Growth through the Government Land Sales Programme

To realise our planning intentions and Singapore's socio-economic objectives, URA coordinates and releases State land for private residential, commercial and hotel developments through the Government Land Sales (GLS) programme.

The GLS programme forges partnerships between the Government and the private sector. The Government plans and implements key infrastructure before putting out land for sale, while the private sector provides the capital investment and market expertise to develop these sites.

As the main Government land sales agent, URA has facilitated the rejuvenation of the historic Singapore River area into a vibrant commercial, recreational and entertainment precinct, and transformed Tanjong Rhu into a quality waterfront living area. The successful development of Marina Bay, Singapore's new financial district with key developments such as the Marina Bay Financial Centre and Asia Square, and the development of new growth centres at Jurong Lake District and Paya

Lebar Central was also made possible through the GLS programme.

# Preserving Singapore's Architectural Heritage

The conservation of historic buildings and areas to preserve Singapore's rich architectural heritage is an integral part of our city planning. The Conservation Programme, initiated two decades ago to answer the need to preserve our built heritage, has resulted in the protection of more than 7,000 heritage buildings in over 100 areas. This is despite the constant challenge of meeting the development needs of a small city state. The programme is the first large-scale urban conservation programme in Southeast Asia, protecting areas, settings and vernacular buildings of architectural and historical value.

Buildings are selected for conservation based on historical and architectural significance, rarity in terms of building types and styles, and contribution to the overall environment. Aside from colonial and prewar buildings, significant post-war edifices are also identified for conservation. Our conservation programme was conferred the prestigious Urban Land Institute (ULI) Global Awards for Excellence in October 2006 for its successful public-private partnership, comprehensiveness, and market-oriented approach to conserving heritage districts.

Beyond conservation, we are also committed to creating attractive new iconic developments

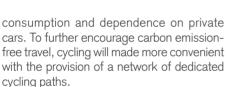
and spaces within Singapore. This is done by promoting an active design culture through Architecture and Urban Design Excellence initiatives. These include providing incentives, hosting world-class architecture exhibitions, organising talks by eminent designers and spearheading design competitions. Through these efforts, we aim to create the mindset and culture that will shape Singapore into an attractive and memorable city.

# Building the New City Extension at Marina Bay

Marina Bay is Singapore's most exciting and ambitious urban transformation project to date. The precinct will support Singapore's continuing growth as a major business and financial hub in Asia. It is envisioned as a vibrant 24/7, environmentally-friendly place where people live, work and play in.

Designed with sustainability in mind and adopting environmentally-sustainable strategies and technologies in its development, Marina Bay helps Singapore increase its water supply capacity as it is now a fresh water reservoir with the completion of the Marina Barrage. The Bay will be served by a comprehensive transport network, with almost 10 new train stations to be built to provide greater convenience for its residents and workers. The enhanced connectivity within Marina Bay and to the rest of Singapore is aimed at encouraging greater use of public transport in Marina Bay, reducing energy





All new developments at Marina Bay are required to achieve higher BCA Green Mark standards that are equivalent to the Gold<sup>Plus</sup> or Platinum ratings. This will help to reduce energy usage of the new developments by 25 to 30 per cent. A Landscape Replacement policy has also been introduced to ensure that greenery lost from the development site area will be replaced.

The Bay is served by a District Cooling System, a centralised cooling plant serving the area and a Common Services Tunnel, a purpose-built underground tunnel that houses and distributes various utility services to developments in the Marina Bay area. This makes the maintenance and upgrading of services more convenient.

Several major projects have been completed in the area, such as the Marina Bay Sands, Fullerton Heritage, the first phase of the Marina Bay Financial Centre and Asia Square Tower 1. The area is now established as a major business and financial precinct to complement Raffles Place and is home to major local and overseas financial institutions. This will continue to grow in the coming years with the completion of the Marina Bay Financial Centre Office Tower 3, Marina Bay Suites and Asia Square Tower 2,



as well as the four land parcels to be developed by M+S Pte Ltd.

The Bay is also fast becoming a popular community space following the opening of The Promontory@Marina Bay, The Lawn@ Marina Bay, The Helix Bridge, and the Marina Bay waterfront promenade. The 3.5 km waterfront promenade allows Singaporeans and visitors to enjoy the entire necklace of attractions and offers an ideal vantage point for events in and around Marina Bay.

### **Enhancing Strategic Areas**

Other parts of Singapore are also bubbling with plans for enhancement and redevelopment. Singapore's prime shopping belt Orchard Road saw the addition of new commercial developments such as ION Orchard, 313@ Somerset, and Orchard Central. The Bras Basah Bugis area is on its way to becoming Singapore's arts, cultural, learning and entertainment hub.

The physical environment of places with distinctive character such as Little India, Siglap Village, and Upper Serangoon were also improved. Other recently completed projects include Woodlands Waterfront, Punggol Promenade and Labrador Nature and Coastal Walk, which bring people closer to nature and the coastal areas in Singapore. URA was conferred the ULI Global Awards for Excellence in October 2010 for its transformation and development of the Southern Ridges, a 9 km-long chain of green, open spaces spanning the rolling hills of Mount Faber Park, Telok Blangah

Hill Park and Kent Ridge Park, before ending at West Coast Park.

New areas for development will be opened up to meet the growing demand for space in the business services sector. The decentralising of commercial activities from the city centre opens up new opportunities for businesses looking for space to set up or grow in.

The Tampines Regional Centre has been successfully developed into a vibrant business and commercial hub. We are also building up another regional centre in the west at the Jurong Lake District, which will become a unique lakeside destination for business and leisure in the next 10 to 15 years. Plans are also afoot to develop more commercial and mixed-use hubs at Kallang Riverside and Paya Lebar Central.

### Planning for the Future

MND faces the constant challenge of meeting the needs of a growing population. Our development plans must keep pace with the fast-changing needs of Singapore-based businesses, as well as the rising aspirations of Singaporeans seeking a better quality of life. The Government is fully committed to investing in strategic initiatives and partnerships to create a vibrant and distinctive city.

Together, we will shape the physical landscape of our future and ensure that Singapore continues to develop as an attractive and liveable city – one that provides not only economic opportunities but also a healthy and sustainable physical living environment and social stability for its people.

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