
This is a raw transcript of the **Lee Kuan Yew World City Prize and Singapore Water Prize Lecture** of the World Cities Summit, held at Marina Bay Sands, Singapore, on 2 Jun 2014. The panel comprised:

Moderator:

- **Kishore MAHBUBANI**
Lee Kuan Yew World City Prize Nominating Committee Chairman and Dean, Lee Kuan Yew School of Public Policy, National University of Singapore

Speakers:

- **ZHOU Naixiang**
Mayor of Suzhou, China
- **Cathy GREEN**
1st Vice President, Orange County Water District

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Prof Mahbubani: “Thank you. Good afternoon everybody. His Excellency Mayor Zhou Naixiang, Ms Cathy Green, distinguished guests, ladies and gentlemen, it gives me great pleasure to welcome you to the two prize lectures this afternoon. Indeed, we are honoured to be joined today by two praiseworthy laureates of the Lee Kuan World City Prize and the Lee Kuan Yew Water Prize who will share their outstanding achievements and experiences with us now.

Now by 2030, which is only 16 years from now, over five billion people or 60 percent of the world’s population will live in cities compared with 3.6 billion today, an increase of 1.4 billion. And according to a report by Mackenzie’s infrastructure practise, an estimated 57 trillion, let me repeat that, trillion dollars in infrastructure investment will be required globally between now and 2030 and that’s nearly 60 percent more than the US\$36 trillion that we have spent over the past 18 years and clearly the world will need to see significant investments in transport, electricity, water supplies, sanitation, solid waste management, telecommunication, just to name a few obvious areas.

As a result of this, it is clear that we need to put in place long-term sustainable development and growth strategies to tackle the immense challenge of developing our cities sustainably and responsibly for generations to come. This requires not only visionary leadership and good governance, but also innovative solutions and innovative technologies. And this is why in some ways the Lee Kuan World City Prize was set up to honour outstanding contributions to the creation of vibrant, liveable and sustainable

communities and the Lee Kuan Yew Water Prize recognises exemplary achievements towards solving the world's water problems by applying revolutionary technologies or developing and implementing innovative policies and programmes which benefit humanity. I would now like to very briefly highlight the key achievements of the prize recipients before inviting both of the winners on the stage to deliver their lectures today.

Now 2014 World City Prize laureate, as you know, was Suzhou of Jiangsu Province. It was successful in meeting the multiple challenges of achieving economic growth in creating jobs and a better standard of living for its people and at the same time while it was doing this, it was balancing rapid urban growth and at the same time protecting its rich cultural and built heritage for which as you all know the city of Suzhou is famous for, and at the same time coping with a large influx of migrant workers while maintaining social stability.

It is therefore clear that the city leaders of Suzhou have demonstrated strong leadership and commitment to develop the city guided by good governance and well-structured processes. We have absolutely no doubt that the success of Suzhou will provide many good lessons for the many rapidly urbanising cities in China and in other developing nations and it's clear that perhaps the largest processes of urbanisation in the world today as you know are taking place in China. And this is why I'm glad the Mayor, Zhou Naixiang, will share more about the city's achievements with us in a few minutes.

Now let me say a few words about the Orange County Water District, OCWD for short, which has been a pioneer in water reuse and ground water management and therefore a deserving winner of this year's Lee Kuan Yew Water Prize. In the 1970s, I guess that's over four decades ago, the district demonstrated the use of advanced water purification systems to produce potable grade quality recycled water through a process, through a programme called Water Factory 21, the first system in the world to inject recycled water into drinking, Aquaverse, to prevent seawater intrusion.

The Water Factory 21 project has since been replaced by the Groundwater Replenished System (GWRS), which came online in 2008 and uses a three-stage advanced water treatment process of micro filtration, reverse osmosis, and ultraviolet hydrogen peroxide to treat sewage effluent, and this system is capable of supplying 70 million gallons a day of water to meet the needs of nearly 600,000 people making it the world's largest indirect potable reuse facility. And we are glad that the first Vice President of OCWD's board of directors, Ms Cathy Green, will share with us more about the distinct success that Orange County has had in managing and protecting its ground water basin and providing an exemplary model for creating a sustainable water supply.

I will therefore first allow both laureates to come on stage. Each of them will speak for about 20 minutes each and then we will adjourn to the sofas here and have a Q&A and as the emcee said to you, please prepare your questions. We will be happy to try to respond to as many as possible in the time that we have today. And with that, it now gives me great pleasure to invite our first speaker, Mr Zhou Naixiang, Mayor of Suzhou Jiangsu Province to deliver the World City Prize lecture. Mayor Zhou please, thank you."

Mr Zhou: “Good afternoon, Mr Ma Kaishuo, ladies and gentlemen. I feel very honoured to be able to meet colleagues, professionals and friends of the same profession from all parts of the world to discuss a common topic.

I wish to use this opportunity to introduce to everyone, Suzhou, an impressionable city with a long history and share with everyone, our philosophy, practices and results regarding the process of city planning and development. Suzhou is a city in China renowned for its history, culture and scenery. A regional central city of China’s Yangtze River Delta, Suzhou has a total land area of 8488km² and a resident population of over 10 million. Here, there are four distinct seasons and the land is fertile and bountiful, giving it its reputation as a paradise on earth.

Suzhou, with its long history and splendid culture, is one of the important economic and cultural centres of ancient China. As early as 10 thousand years ago, our ancestors have thrived on this land. Ever since its establishment in 514 BC, the ancient city of Suzhou still maintains its original nature, basically retaining a structure that allows water to flow unimpeded, where streets are adjacent to each other and an idyllic setting reminiscent of the old times. Through the long rural era, it has developed a profound cultural background and amassed a rich historical heritage, with 9 of its classical gardens entering the World Cultural Heritage list. Kunqu Opera, the art of Chinese Guqin and another six were established as the representatives of the intangible cultural heritage of humanity.

Ever since China’s reform and implementation of an open policy, through continued promotion of urban renewal and development, the passing down and further development of culture, the optimization and development of economy, the preservation and improvement of ecology and the society becoming civilised and improved, Suzhou has gained more flavour and vibrancy, become more liveable and harmonious. Its economy is rapidly developing, with the total value of its asset steadily increasing at 14% yearly—the sixth highest among all cities of Mainland China and it has continued staying ahead of others in degree of openness. Their total amount of chromium production and foreign direct investment are 4th and 5th in China respectively.

The city has continued to develop itself, with its degree of urbanisation increasing to the current 73.2% from the 57.1% 2000 years ago and the continued improvement to ecological environment, has earned it the monikers of “International Garden City”, “the national model of environmentally-friendliness” “National garden city” and “national eco-city”.

There is evident improvement in the lives of the people and the income of the residents is one of the highest in China. A social security system that covers all of the city residents has also been established, providing adequate education, healthcare, transport, culture, fitness and other facilities, placing public service high on its list of priorities. For six years successively, Suzhou, being one of the regions in China with the best social security, has won the highest award for state social management and comprehensive

management. In the 30 over years of development, the active exploration and putting into practice of ideas, especially in urban planning and construction and management, has led to the development of many effective practices with gratifying results.

Here, I would like to introduce 3 representative case studies.

One of the case studies is the Jinji Lake Central Business district. A Central Business district is the product of a modern city and high-end businesses. It is the functional core of a city and an important landmark. Upon its establishment, the China-Singapore Suzhou Industrial Park has set aside an area as a Central Business District (CBD). Ever since 10 years ago, Suzhou Industrial Park has already had one of the most rapid developments, best economic performance, highest technology and is one of the most competitive development zone in China. Suzhou's economic power, reputation and influence are also among the top in mainland China. As we possess all the prerequisites for being a CBD, we commenced this project within the confines of the Jinji Lake area of 5.6 square kilometres. Currently, this district has already established its own distinctive features. In terms of its layout, construction and development revolves around the azure lakes. In terms of form, it has towering skyscrapers, medium-low-density business facilities and wide, pleasant green spaces. In terms of function, besides adequately fulfilling business functions it also serves as a centre for culture, tourism, dining, leisure and other aspects of services. Combining business activities, living facilities and a beautiful environment, Jingji Lake CBD has already become Suzhou's economic hub, the secondary business centre of Yangtze area and China's first pilot district for Business and tourism. The key factors that led to the success of the Jingji Lake CBD are adherence to the regulations; a stay-ahead formula and strict implementation of other related regulations. We have learnt from the experiences of Singapore and other developed nations and abide by the "plan first, build later" and bottom-up development principles, following a system that leaves future development space, and a system that adapts land use to time and degree to ensure the authority of the regulations and at the same time, address the needs of future development. The second is to formulate policies that facilitate and encourage clustering of functions, speed up residential development to make the city functions complete and improve the form of the city, encourage the clustering of corporate headquarters, financial institutions, professional service brands and top talents and continually improving development prospects. Presently, there are more than 3200 registered companies and organisations here. In particular, there are more than 500 financial institutions and 70 over headquarters. The third is to create a first-class environment, conforming to the topography, dividing the regions surrounding the lakes into 8 sub-regions based on the sources of their respective waterfronts to build tourist attractions, each having their own distinct, refined features and make use waterways and green corridors to create interconnectedness between them. The artificial islands in the middle of the lake lend an added level to the lake view. We can thus say that Jinji Lake CBD is the paradigm of a balance between economy and ecology with a fusion of architecture and environment.

The second case study is Pingjiang historic district. This district, which can be said to be the shadow of Suzhou ancient city, stands on an area of 1.17 square kilometres and is

teeming with many different types of cultural relics. Due to historical reasons, at one time, the area had primitive infrastructure, decreased environmental quality and lack of development potential. In 2002 we launched a series of environmental conservation and restoration projects, carried out a series of investigation, excavation and organisation works on the various types of relics and resources, preserved and restored old buildings and provided the complete set of basic infrastructure, achieving significant results in areas such as preservation of the traditional style of the region, improvement of citizens' quality of life and encouraging of development of the ancient city. The preservation of the Pingjiang historic district after remediation won the United Nations Asia-Pacific cultural heritage preservation honorary award and was elected to the list of top 10 historical and cultural streets of China. We have always showed reverence in the overall preservation process. In 1998, we developed a detailed control plan for the ancient city and in 2002, the Pingjiang historic district preservation and remediation plan was completed. We marked out core preservation areas, established controlled areas, strictly preserved the historical spatial pattern, and practised complete preservation of the ancient city, with its tangible cultural heritage like streets connected by water, monuments and building communities, and intangible cultural heritage like performances, traditional crafts and local customs. Number two is to utilise the concept of authenticity to guide the restoration of the district. Based on antiquated principles, the cultural relics protection units exerted control to protect these architecture and other valuable buildings. For normal districts that were more well-preserved, the exterior was restored to improve internal functions. While retaining a consistent style throughout, the citizens' living conditions and environment were effectively improved and there was overall improvement in basic infrastructure. Dredging of rivers, pier renovation, shore restoration, afforestation and reforestation, building of attractions and other such works were also carried out to create a realistic appearance of a pattern with consolidation of housing that leads to secluded, tranquil ancient alleys. Number three is continuing the thread of human culture with an innovative spirit, unearthing the cultural connotations embedded within the historic district, taking a modern approach in the interpretation of the gardens, Kunqu Opera, and Pingtan, representatives of Suzhou's traditional Arts, forming a series of quality and theme-driven cultural brands and promoting the clustering of cultural leisure forms such as specialty dining, art galleries, teahouses and inns. The indigenous people have been allowed to stay here to continue their tradition via welcoming and hosting visitors with their local ethnic flavour. The modern lifestyle and marketplace life form a delightful contrast to each other. The history behind cultural heritage and innovation allows the Pingjiang Historic District to display harmony between tradition and modernity and the rich blend of the romantic, leisurely experience and the cultural experience.

The third case study is the Stone Lake Scenic Area. With a scale of work of 5.6 square kilometres, it is a major ecological project in Suzhou. Here, the scenery is beautiful, with a picturesque countryside that lends a pastoral feel, making it well-liked by the literati of China since ancient times. At the boundary between the mountains and rivers lie numerous historical remains and folktales, entrusting to us, the lifestyle and spiritual pursuits of the ancient people encompassing the philosophy that Man is an integral part of nature. In the planning, regulation of and building of landscapes, we adhere to and

encourage the idea of returning to nature, preserving ecosystems, emphasise on abiding by the rules of ecology and the laws of nature, making full use of the mountains, rivers, countryside, four seasons and many other elements to promote harmony between Man and Nature.

Number one, we carry out restoration of ecology to reproduce the natural beauty of the landscape and to carry out remediation works for the ecological environment to restore and enhance the existing ecosystem. Factories surrounding the lakes and scenic locations are relocated, artificial breeding enclosures at the water surfaces are dismantled, dredging of the lakes is carried out, lake surfaces are expanded, and water quality is improved. We also focus on maintaining natural diversity and localization of plants, building scenic locations and greenbelts around the lake, restoring the mountain forests and its original features.

Number two is the restoration of a habitable environment, revitalisation of the pleasures of a pastoral lifestyle, retaining of the farmland surrounding the stone lake, preserving the ancient natural landscape, securing the lives of the relocated residents, providing them with employment opportunities and provision of basic infrastructure and other supporting facilities to provide comfortable public activity areas for the citizens. The scenic locations are the city's landscape and countryside areas, making it currently the ideal place for the citizens' recreational activities. The people live in the idyllic countryside and among the mountains and rivers in the midst of the city, thereby being able to reap the benefits of modern life and experience the idea of being among the mountains with the forest underfoot.

Number three is the protection of cultural records, exhibiting human cultural resources and the restoring and preserving ancient city, ancient towers, ancient bridges, and other ancient ruins and historical relics to maintain the historical flavour of the attractions. We unearth and make full use of the human cultural resources accumulated from a long time ago to highlight the characteristics of the rustic landscapes, enrich the connotations embedded within the cultural landscape, heightening the sophistication of the scenic locations. In any case, the Stone Lake Scenic Area is effective a fusion of the scenic landscapes, the countryside and the human cultural resources, becoming the outstanding prototype of the confluence of urban development, conservation of nature and spread of culture.

Ladies and gentlemen, a city contains the people's aspirations for a better life. The pursuit for city life is unending. We shall actively learn from and reference the experiences of successful urban development within the country and overseas, strengthen exchange of ideas and cooperation, and relentlessly try out new ideas to transform Suzhou into a high-end industrial city characterised by modern economy; the best and most liveable city in terms of the beauty of ecological environment; and a city of cultural tourism where green culture and modern civilization complement each other. My introduction will end here. Next, I would like for everyone to view a short video clip regarding Suzhou. Thank you everyone. Thank you."

[Video presentation]

Emcee: “I do love what was said in the video that it is a liveable magic in Suzhou and now I’m sure you enjoyed the video as much as I did. We like to thank Mayor Zhou for all that he has shared on the city, all the insights that he has presented to us. I think if I ever find myself over in Suzhou, it will give me a greater appreciation for your wonderful city. And right now we will like to welcome first Vice President Orange Country, Orange County Water District Board of Directors, Ms Cathy Green, to share with us more on its district success in managing and protecting the ground water basin in Orange County, an exemplary model in creating a sustainable water supply. Ms Green, please.”

Ms Green: “Good afternoon and thank you for this honour. In reviewing the past winners, we are flattered to stand among those who have received the prize before us. Our thanks go to the prize sponsor, the Singapore Millennium Foundations as well as the Lee Kuan Yew Nominating Committee and Prize Council for this selection. We recognise that we are only the second agency or institution to receive the prize, which has traditionally gone to individuals. So we appreciate this unique recognition for our accomplishments. As I begin today, I would like to first give you a bit of background and history about the Orange County Water District.

We were established in 1933 by an Act of the State of California. Our primary role is to manage our local ground water basin in Southern California. Our service area encompasses 925 square kilometres. We have a semi-arid climate averaging only 30 centimetres of rain per year and about 70 percent of the water supply for 2.4 million people comes from the ground water basin we manage. The district is guided by five core principles – water quality, leadership and innovation, sound financial management, water supply and reliability and environmental stewardship.

Spanish settlers were the first who made water diversions from the local Santa Ana River in the 1770s and accordingly they use Spanish law at that time, which meant no water rights for prescribed to individuals. Instead the law required that all water be managed for the common wellbeing of all. Orange County’s early development centred around agriculture. It featured significant open space as compared to the urban and suburban county of today. Important crops were beans, sugar beads and of course oranges and other citrus.

One of the district’s first major acts after forming was to purchase 10 kilometres of Santa Ana riverbed, which allowed for increased pecculation of river flows. But the Santa Ana River and our weather patterns in our regions caused infrequent but intense periods of rainfalls. A series of major floods occurred in the early 19th and, the late 19th and early 20th centuries, including the 1938 flood. The 1938 flood drowned significant crops and livestock, killed more than 50 people, left thousands homeless, carried home right off their foundations smashed railroad bridges and ushered in a new era of engineered control of the river.

After World War II, the area became urbanised as we saw land use shift away from agriculture. The Santa Ana River was channelized and dammed upstream for flood control. Major industries such as aerospace and entertainment took root and as you would expect demand for water also increased. In order to help balanced replenishment and pumping, the district and others have constructed engineered facilities to enhance the capture and diversion of the Santa Ana River. This includes upstream proto-dam, which is operated by the Federal army core of engineers primarily for flood control but also used cooperatively with the district for local water conservation. The district also extended its pecculation facilities beyond the riverbed to allow for expanded replenishment of the basin, using imported water supplies.

In the 1950s and 60s, the district purchased land, large volumes of imported water delivered from the distant Colorado River for pecculation in order to refill the basin. The district has recognised the need to understand the vast and complex ground water basin installing over 30 monitoring wells. This has allowed the district to map out underlying geology and water quality to support management decisions. I am off here. Managing ground water pumping became necessary. Eventually, managing the ground water basin pumping became necessary and was accomplished by annual safe yield determination, dis-incentives to pumping and the conjunctive use of ground water with the imported water. These procedures have enabled the long-term sustainability of the basin.

Somehow, taken together these investments and practices support effective use of the ground water basin as a managed reservoir. We can fill the basin up during wet years and then responsibly draw it down during periods of drought. Subsequently it was discovered that pumping near the coast wasn't effectively replenished by inland pecculation. A more localised solution was necessary. A series of injection wells were proposed to be placed between the ocean and the inland production wells, especially creating under, especially, essentially creating an ocean and inland production wells, essentially creating an underground pressure ridge barrier to stop the intrusion.

Treated wastewater was most readily available supply for the ground water supply for the seawater injection. I am off here, let's see. Treated wastewater was the most readily available supply for seawater barrier injection. Water Factory 21 was developed to provide the supplemental treatment necessary to inject recycled water into the potable Aquaverse system. Initial pilot testing was performed during the early 1960s using then the state of the art treatment including line clarification, air stripping, filtration and granular activated carbon. The project came online in 1976.

New technology was applied almost immediately to Water Factory 21. The project needed low salinity blend water. To meet this need, the Orange County Water District, pioneered reverse osmosis to treat for recycled water in 1977. Today, RO is the industry standards for potable reuse. Work by the district and university collaborators have led to enhanced understanding of contaminate removal of reverse osmosis. The district has been a pioneer in investigating membrane fouling and control measures. This led to the

validation of micro filtration as a superior pre-treatment for reverse osmosis, which is now the industry's standard.

Much of our applied research culminated with the development of the Ground Water Replenishment Project. GWRS is a 265,000 cubic metre per day advanced enough for the needs of 600,000 people. It produces about 89 million cubic metres of water per year, which is enough for 600 million, 600,000 people. It takes treated wastewater which would otherwise be wasted to the ocean and purifies it to near distilled water quality. The GWRS has been operational since January of 2008 effectively replacing, expanding and upgrading our Water Factory 21 facility.

Our strong partnership with the Orange County Sanitation District is the foundation of the project's success. OCSD provides the wastewater, source control, primary and secondary treatment. Then OCWD then provides the advanced water purification and ground water replenishment. Established by OCWD's long-term experience, the GWRS purification process has now become the industry's standard used around the world including here in Singapore. They consist of micro-filtration, reverse osmosis, an ultraviolet light with hydrogen peroxide, which provides disinfection, photolysis and advanced oxidation. The water is then distributed to our expanded seawater intrusion barrier and to our pecculation facilities.

The GWRS project provides multiple benefits. It creates a new local water supply, reuse of wasted resource, expands the seawater barrier, helps drought-proof our region, cost less than imported water and saves half the energy of imported water and improves the quality of the water in our basin. The district has received significant value from its GWRS independent advisory panel. The panel is appointed by the National Research Water Institute. The panel is comprised of experts in water science and engineering some of whom are in the audience today. The panel annually views GWRS operations, monitoring and water quality and it makes recommendations to OCWD and the regulatory agencies to assure for quality and reliability.

The district's advanced water quality assurance laboratory came online in 2009 and is the key to managing water quality. The laboratory allows us to proactively test for over 500 constituents with over 400,000 individual analyses per year. There had been many keys to our success with GWRS, including extensive outreach, which started 10 years before the project even opened. We secured commitments in writing. The project meets Orange County's needs - the insistence on the highest water quality, comprehensive testing and monitoring, an independent advisory panel, public trust based on the history with Water Factory 21 and towards and water-tasting. We have found, when people see it and taste it we have found they trust it.

The project has been so successful that we are expanding the facility by 40 percent to a new annual capacity of 127 million cubic metres per year. This initial expansion will be completed in 2015. In the area of education, we annually put on the Children Drinking Water Festival. It is the largest event of its kind in the United States. It reaches 7000 students representing 20 cities. It is comprised of 400 volunteers and presenters. Its

been an annual event for 18 years and we've engaged more than 100,000 children to date. It consists of educational activities about water and how to protect the environment. Presentations are done by distinguished experts in many fields, some of which have included NASA and National Geographic, and Disney Resort has been a partner since the very beginning.

The district is a recognised leader in environmental stewardship in the water shed. One example of our work helping to restore a song bird that had become endangered, the least Bells vireo, as part of our storm water capture efforts. The vireo was on the brink of disappearing from our local water shed in the mid-1980s. However largely through the district's habitat restoration and management of invasive predators, the vireo has made an outstanding comeback from 26 pairs to 561 pairs. Much of our applied research, oops sorry, as we look to the future we see the following opportunities and challenges before us. Ocean desalination to broaden our local water portfolio, increasing treatment efficiency, improve pecculation, protecting our ground water from legacy industrial contamination and the effect of extreme weather on local and imported supplies and direct potable reuse.

A few, in closing I would like to recognise a few of our many contributors to our success. My Orange County Water District board predecessors who have shown unparalleled vision, dedication and commitment, our local repairs who provide us with the resources to manage our ground water basin, our local ground water producers on whose behalf we manage the basin, those within the research community with whom we collaborated to advance science and engineering understanding. And finally our district's dedicated professional staff who worked tirelessly to board's policies and vision a reality. I would like to introduce our General Manager, Mike Marcus; our Assistant General Manager, Mike Weiner and our Director of Water Production, Bill Donovan, all seating in the second row here.

The district intends to develop an applied water research fellowship with the prize. We like to give back to the research community who has provided us with so many benefits over the years. I would like to close with a quote from one of our greatest local innovators, Walt Disney. He said, around here we don't look backwards for very long. We keep moving forward opening up new doors and doing new things because we are curious and curiosity keep leading us down new paths. Thank you."

Emcee: "Thank you, Ms Green. We like you to invite you to remain on stage and ask you to take your seat as we will be having our panel discussion in just a bit. Thank you for such an insightful presentation as well. It is very inspiring to know about the current expansion plans and also heartening to know about all that, how passionate you are about educating the younger generation as well. And here we have back on stage Professor Mahbuhani as well Mayor Zhou for the Q&A discussion.

Once again you can take part in the Q&A discussion by posting your questions using the pigeon hole live. If you happen to have any mobile devices, your laptops, you can just connect to the wifi network called pigeonhole, wcs and siww. Search for that network

and then launch your Internet browser. From there open your browser and hit to phlive.at. You want to key in our event passcode which is 6123, click go and there you will be able to send in all your questions. You can also vote for any question that interest you as well. We do have our assistants throughout the ballroom so if you like to ask the question just raise your hand and our assistants will come to you with a microphone. So with that I would like to handover to Professor Mahbubani who will moderate the Q&A discussion. Sir, if you will.”

Prof Mahbubani: “Thank you very much and let me begin by once again thanking both the presenters for your excellent presentations and for the wonderful pictures that you showed of that too. We have about 30 minutes or so for a Q&A session. As the moderator announced, there will be questions from the floor and questions from the screen here. So let me maybe begin and ask Mayor Zhou the first question. You know as the result of winning the Lee Kuan World City Prize, there will be lots of mayors from other cities coming to Suzhou and say, so tell us, what are the principals that you applied that led to your winning the Lee Kuan Yew World City Prize. So what would your answer be to the other mayors who come to you and say how do we prepare for the Lee Kuan Yew World City Prize in the future?”

Mr Zhou: “I think that the Lee Kuan Yew World City Prize wants us to answer a question, which actually, I think, is a common question that many other cities have to answer, which is how we can have sustainable development and create a liveable environment. I think that this is the main reason why Suzhou is able to win this prize this time. We did a few things, including what was presented in the few case studies. Firstly, for many years, we placed much emphasis on learning from and referencing the success experiences of Singapore in the cultural heritage conservation, environmental conservation, ecological conservation, industrial upgrading, including Singapore’s business operations philosophy. Of course, there are also other experiences of cities of other countries as well. We pay a lot of attention to making full use of our advantages and combining our skills to achieve urban transformation. Just now, we introduced that Suzhou is a city with 2500 years of history. The history of planning and regulation of Suzhou started 1000 years ago. You will know just by taking a look at the map of Pingjiang, Suzhou. The city of now still retains the historical flavour of the city a thousand years ago. In the developmental process, we place special emphasis on preservation of the old living areas in the city. Of course, this is not just simply preservation, but also revitalization, reorganising and promotion. At the same time, we also pay special attention to the managing the relationship between the development of the new city areas and the old city areas, in particular, to integrate the new city areas with the old city areas. If you visit Suzhou, you will see that it has been divided into 3 portions. Many treat the new and old areas as the old Suzhou, the collaboration between Singapore and China, China-Singapore Suzhou Industrial Park, as the foreign, westernised Suzhou and the west, high-income areas as the new Suzhou. That is to say, the new, old and westernised areas are all integrated together. This is one of the things we have done.

The second thing is that we pay special attention to ecological conservation and restoration. Everyone is aware of the fact that to be honest, Suzhou, in the midst of rapid industrialisation, has caused considerable damage to the environment. That is why, in the recent few years, be it in system design or major construction works, we have put in great effort in environmental protection, which includes an eco-civilisation project, the Stone Lake project that was mentioned today and many others. Thirdly, we emphasise on learning from the experiences of Singapore and other cities, which is to advance industrialisation through technological innovation, specifically, the development of traditional industries, new industries and modern tertiary industries. I think this is mainly the few areas that we worked on and of course, there is still much room for improvement. We still have to continue learning from the progress of Singapore and the other countries to improve and perfect ourselves. Thank you.”

Prof Mahbubani: “Thank you, Mayor Zhou. Now Cathy for you, I am going to take a question from the machine here and see whether it works. And it should come out on the screen, it says for Orange County, how long would it take to push forward the use of treated wastewater for direct potable reuse? Would it ever become socially acceptable in United States and other countries worldwide to drink the water that you now feed to the basin?”

Ms Green: “Well, it took us 10 years of preparation before, our outreach to other people, before ground water replenishment came online. We spoke to elected officials, health professionals, policymakers and how long it took, at least 10 years we are still in the process, we are still outreaching. We speak to any group who asks us to and we do tours almost once a day, every day of the month. So we are still doing that. Is it acceptable? You bet it is, we use it and it is very successful. We do not have the problems on, that are caused by the drought in our area. We have had, we have been in a drought situation for five years and this year we had less than five inches of rain more like close to four. So I think the closer you get to experiencing real problems, the quicker people do accept and when they come and as I said they see it, they taste it, they believe in it, and so our water is near distilled quality. It is the highest quality in the basin and makes our basin water even better. So I think it has become more and more acceptable and people I think believe that all water is recycled.”

Prof Mahbubani: “Just a quick technical point. I think what the question that was asking now you take the recycled water and you pump into the basin.

Ms Green: “Yes.”

Prof Mahbubani: “Am I correct? Can you take the water and pipe it straight into the houses?”

Ms Green: “No, because of regulatory agencies. We are working on doing that now and so as time goes by, I think it is becoming more and more acceptable.”

Prof Mahbubani: “So it will take some time yet.”

Ms Green: “It takes time.”

Prof Mahbubani: “Okay, I think I see question from the floor. A lady, sorry? Same question, okay. You have posted the question here. Okay, I see a hand at the back there. Can you please pass a microphone over there? Can you ask a very short sharp question please because we don’t have much time.”

Question: (In Mandarin)

Prof Mahbubani: “To make it faster, let me, in fact I was going to do this. I was going to place this question, which has been asked by 27 people, a question to Mayor Zhou. I’ll read it out to you. It should come out there. How does Suzhou manage waste? What obstructions are there when building incineration plants? How do you compensate the residents nearby, living near incineration plants? And Taihu was dirty in the past, how did China treat it? These are the questions for Mayor Zhou. We got 30 votes, the largest number of votes.”

Mr Zhou: “Thank you. I will try to answer your questions as briefly as possible. Suzhou is considered one of the earliest to implement waste management, which is of course, due to our collaboration with Singapore. On the whole, the building process of waste management facilities, I should say, has been quite stable. There weren’t any major problems, because firstly, our procedures were more properly put in place. Prior to building the facility, we did extensive planning and communicated with the citizens living in affected areas. One of the important points is that we let them know how we public waste is managed, such that they understood why we were doing this. Secondly, we relocated the residents of those areas on a voluntary basis. Thirdly, which I think is most important, is that our waste incineration plants or other waste management methods must be very safe and have reliable procedures. This is very important.

The second question is regarding Taihu. There was once serious environmental pollution in Taihu, but there has been a great change in the situation after many years of continued management and control. If you visit Suzhou city, you will find that the source of our drinking water is mainly from Taihu, which reflects our great determination and confidence in managing Taihu. I think that answers the two questions. Thank you.”

Prof Mahbubani: “Thank you. Now let me take a question now that is posed in a sense to both of you and I will start with you Cathy first. It should appear on the screen now. If humans are serious about liveability in our cities, we must tackle energy. How are we going to wean ourselves off finite fossil fuels and harness the endless supply of sun, wind and wave power? And as you know even in the case of recycled water, you do use a lot of the energy, so how do both of you address the energy challenge?”

Ms Green: “Essentially you start using technologies that use less energy. In our reverse osmosis, we are doing that more and more, our microfiltration. We use much less energy than we did in the beginning and we keep working for it. This is what our staff

has done. We have tried using solar and it has not been really been cost effective. I keep fighting for it though. And I think as technology gets better, the RO will also get much less energy intensive.”

Prof Mahbubani: “Mayor?”

Mr Zhou: “Regarding the energy shortage problems, a common problem faced by everyone, Suzhou is also not an exception. Actually, Suzhou’s total electricity consumption is the second highest among all the cities in China. This may not be known by everyone. Last year, with regards to our electricity consumption, just the electrical bills alone were more than RMB 70 billion dollars. So this is a pressing problem for Suzhou. Firstly, I feel that in many ways, including generation and use of energy and all the other aspects, we have to advocate and implement green and low-carbon emission methods. The second point is that it is vital for the participation and efforts of the society, including businesses and citizens, to work towards energy-saving business and day-to-day operations. I will keep my reply brief. Thank you.”

Professor Mahbubani: “Yeah, I see a hand over there. Can you please stand up if you don’t mind and the microphone will come to you, over here, over here, over here. Again, a short sharp question. Yeah, I think it’s on. Technology, another one coming.”

Question: “Thank you. This question is for both recipients. How have you been able to translate the vision that each of you have come up with and integrated that with the urban planning that the city has to manage because the water shed sits in the context of other cities. Vision is planned for 10-20 years, the same thing for the city of Suzhou and the water district because in developing countries, the rapid urbanisation is actually eating into the water sheds. How do you manage that how have you been able to get the city department and the planning department in the city to take your vision and integrate that into the land use plan?”

Prof Mahbubani: “Okay. Cathy, you want to start first and then I will come to Mayor Zhou, yeah.”

Ms Green: “We have a policy where we call, where we set the amount of pumping our cities or customers can, can take out of the ground water basin. So every April, that becomes a board, a board policy and so right now they can take 70 percent of their water needs and they buy the rest of the water from imported sources, which is much more expensive. So if we were in a situation where we didn’t have enough water or couldn’t refill our basin, that rate will go down as we have more water, then we’ll allow them to pump more.”

Prof Mahbubani: “So you’re more powerful than the city, you can decide.”

Ms Green: “Yes, yes.”

Prof Mahbubani: “That’s very important.”

Ms Green: “Yes.”

Prof Mahbubani: “Mayor Zhou, what is your answer to his question about integrating city planning and water management?”

Mr Zhou: “I think what he asked was how we can make city planning a reality. I will answer this question from the planning perspective. I think, in Singapore, I still have to talk about the China-Singapore collaboration. The most important thing that Suzhou has learnt or referenced from the China-Singapore collaboration is planning aspect. Today, I am very happy to see the founding member of the China-Singapore collaboration, who is also the pioneer of our new development area, Lee Yi Shyan, Minister for Trade and Industry. We are very grateful to Minister Lee. In the planning aspect, I feel that firstly, there must be a high starting point that takes the future into consideration. I have already mentioned it previously when I talked about the new development area. The main reason why the new development areas have seen such great success is due to the planning 20 years ago, which has now become reality. Of course, we retained a certain degree of flexibility in the actual implementation, adapting to the times. However, on the whole, we have not deviated much from our original plan.

Secondly, there is a need for laws and regulations. I feel that this is especially important as after the plan has been put in place, it has to be implemented by the generations of leaders that follow. Citizens and enterprises also have to participate in the implementation as well. So no matter who they are, everyone has to the rules and regulations must be followed in the implementation of the plan. Thirdly, in the process of the implementation of planning, we have to adapt to the times and listen to the viewpoints from all aspects to perfect the plan that we are implementing. These are the three main points. Thank you.”

Prof Mahbubani: “I have a small follow-up comment to make to Mayor Zhou to say I’m glad you’re mentioning the wonderful cooperation Singapore had with Suzhou. But as the chairman of the nominating committee, I want you to know that they won it because of many other things apart from their cooperation with Singapore. You did much better than what Singapore did in some areas. So we believe you earn the prize in many other ways too. Now Ms Erna Witoelar I believe has a question. Can you please?”

Question: “Thank you, thank you. I have a question for both of you. How do you decrease or lessen the run-off water from your rivers to the sea because that is now known more and more it’s also increasing sea level besides emission of carbon emission. That is one and also second, more and more seaside cities are experiencing flood from the sea while actually in our effort to protect flood control, we are making it easier for the sea, for the water from our rivers to go to the sea. So this is a dilemma we are facing especially in countries, archipelagic countries. How do you do that? And for you Cathy, you mentioned about seawater intrusion? How do you solve that? Do you push it back or do you just desalinate it? Thank you.”

Prof Mahbubani: “Okay, Cathy and then Mayor Zhou. Cathy first.”

Ms Green: “Okay, I’ll start with the last question. With the seawater intrusion, we push it back by injecting water into the, it doesn’t for whatever reason, it does not flow to the, to the ocean. So as a result of that, we have to push the water in to make a barrier and that’s how we protect against that as a seawater barrier. And now I’ve forgotten the first part of your question.”

Prof Mahbubani: “No, it’s about the managing of river water right and seawater and how you handle...”

Question: “The water run off to the sea.”

Prof Mahbubani: “Rising sea levels intruding into river water.”

Ms Green: “We, we protect the river and we take, we divert the water from the river coming down and that water the Orange County Water District oversees. So we divert it off the river to percolate into our ground water basin. Is that what you’re asking?”

Prof Mahbubani: “Yeah, yeah.”

Ms Green: “So we try to divert as much as we can so that none of it is wasted to the ocean.”

Prof Mahbubani: “Mayor Zhou you have any response to this or you’re not directly affected?”

Mr Zhou: “Even though we do not have a coast line, we have the Yangtze River and Taihu, and the same problem exists as well. To address this problem, we cannot just look at it from a single aspect. We need to have many types of measures. However, on the whole, I feel that there are a few points to take note of. The first is that the shoreline has to be reinforced, that is a must. Of course, the coastline is another matter. However, we have carried out shoreline reinforcement for the Yangtze River and Taihu to prevent situations like flooding. However, I feel that much more important, is to take an ecological perspective, including the restoration of the land and others. In fact, water and land are a complete system, we should think more from this perspective while looking for solutions. Thank you.”

Prof Mahbubani: “Let me now take another question which also received a lot of votes and I put it up on the screen. It says, for both cities how were the citizens engaged to contribute ideas and work together with the government to achieve balance and sustain growth for the long-term? It’s about citizen engagement and I was going to start with you, Cathy, and then come to Mayor Zhou. What was your strategy for citizen engagement?”

Ms Green: “I am a former mayor of the city of Huntington Beach and we were engaged not, first the city council people, public health and all of our elected officials and then went out to our citizens to get them onboard and involved in in-ground water replenishment. And that’s where we have become so successful. But had we not gotten those commitments, if we had not done the outreach, and remember we did started this 10 years before we came online, I don’t think it would have happened. We had seen in other cities in California where the citizens have said no and our citizens said yes and still are very much involved and some of our biggest boosters. They really believe in it and as I said, we have people coming not only from all over the world but all over our area including our colleges who want to study this and no more.”

Prof Mahbubani: “Mayor Zhou you have anything to add about citizen engagement?”

Mr Zhou: “Okay. I think that without citizen participation, none of our government’s work will produce good results and the plans will not become reality. As mentioned earlier, planning will not produce good results and become reality without citizen participation. Similarly, with regards to waste management, sorting out of waste has been a long and slow process of 20 to 30 years in many countries, especially in China, in Suzhou. All these require citizen participation. So, from our perspective, firstly, we have to educate the public in areas such as planning, building of waste incineration plants and many others, such that they understand the government’s intentions. We have always used this method, giving considerable time for discussion and even objections. It is very important for both sides to be engaged in dialogues. Secondly, we have certain channels to communicate with the public. This has also been done very well by the community centres in Singapore. We also have community centres in the area, but we have many other channels as well, for example, we have dialogue sessions with the mayor, called “Suzhou Dialogue”, which can be viewed live from the Internet. We also have a 24-hour hotline 12345, and Suzhou’s Han Shan Wen Zhong and many other hot lines, which can be used to directly make complaints to the government. Thirdly, which I also think is very important, is to start from the younger generation. The younger generation is very important. We must inculcate these ideas via the schools. Fourthly, is to reach out to the community, which is what Singapore has done very well, and that we should emulate. Thank you.”

Prof Mahbubani: “I must tell Mayor Zhou I am very, very, impressed. Very few cities would allow their citizens to vote where to put the incineration plant. They always say not in my backyard, put it in somebody else’s backyard. So Suzhou is very brave to allow voting on incineration plants. I think you are ahead of the rest of the world. There’s a lady here, maybe you will get the last question. My apologies to all of you. I’m sorry but I’ll give the lady here a question and I’m sorry because we’re running out of time. Sorry.”

Question: “Thank you. Well, my question is for the Dean. I’m a journalist from China, Caixin Media. How much do you think the cooperation between Singapore and Suzhou place in giving Suzhou this prize because you know compared with other Chinese cities, Suzhou seem to enjoy more cooperation with Singapore and is more familiar to Singapore? Thank you.”

Prof Mahbubani: “Well, I’m not supposed to answer questions but that’s a relevant question to ask me. Since I was chairman of the Nominating Committee for the Prize, I can tell you that when we chose Suzhou for the prize, we tried to be very objective about it. We took it to consideration the fact that Suzhou had cooperated with Singapore but we saw that Suzhou had gone far, far ahead. And this, the award is not just in recognition of the Suzhou-Singapore industrial project. It’s in recognition of the larger things that Suzhou City has done. And my colleagues Ms Chong Koon Hean may want to add, yeah, maybe one of my colleagues Marilyn Taylor, a member of my committee will say a word, just one second. Let Marilyn Taylor, a member of the Nominating Committee, please. Marilyn, say a quick word, yeah.”

Ms Taylor: “Okay, it’s a great question everyone because I think that when the proposal came in, it was a consideration for the nominating committee to ask is this separate enough from the relationship with Singapore. And you know it’s really hard to find a city in the world that doesn’t have some kind of relationship with Singapore. But in this instance, we on the nominating committee found that it was an extraordinarily strong proposal, a place that balance the consideration for an old city with a wholly new one 10 times the size of the original and that the city deserves to be, to move forward on the basis of that proposal. I think we were also clear in our discussion that at a certain moment in the process of the partnership between Singapore and Suzhou Industrial Park, a decision was made that Suzhou would move ahead and complete the project on its own and that the shares held by Singapore would moved back into Singapore leaving the dynamics to Suzhou. From that point forward on a very good basis of design guidelines, undergrounding utilities and thinking about the future in a very, very positive way, the success really belongs to the Suzhou industrial park and to the city of Suzhou. So we were very pleased to make that recommendation and I have the Prize Council support it. So thank you very much for asking.”

Prof Mahbubani: “So you can see that I’m actually very glad that we had that last question and I’m very glad that we have that answer by my colleague, Marilyn Taylor, because I can tell you that a lot of work, an incredible amount of work goes into the selection of the two prize winners and they didn’t get here very easily. It was a very thorough comprehensive process of scrutinising which led to them to having this very well-deserved prizes and so once again please join me in congratulating them and thanking both of them for their presentations today. Thank you.”

Emcee: “And thank you to Professor Mahbubani, Ms Green and Mayor Zhou for the enlightening session and we also like to thank all our audience members for your active participation and sharing as well. So I believe for our distinguished panellists on stage, maybe you can take a step forward. I do believe the photographers would like to take a group photo of the three of you. Now ladies and gentlemen, we like to remind everyone that if you have used one of the headsets for the simultaneous interpretation to return it to the very same counter where you picked them up initially. And the next session in this room is the Lee Kuan Yew World City Prize Forum and that will begin at 3:30pm.

We also welcome you to view the Water Convention Poster Presentation. That is taking place at level three at the foyer area from now till 5:30 pm.

And for the delegates attending the Lee Kuan Yew Prize award ceremony and banquet, it will be held at Ritz Carlton at 6:30pm tonight. Now coaches are provided at the drop-off point in front of Hall C, at level one starting from 5:30pm onwards and the last bus will depart at 6:45 pm. So once again we like to remind everyone if you had used the interpretation headset to remember to return to the collection counter before leaving this floor. My name is Lavinia Tan and thank you so much for allowing me to be your emcee for today, and we wish you a very, very pleasant evening indeed. Take care, ladies and gentlemen. Thank you.”

[End of Transcript]