

SMU CITY DIALOGUES
White Paper

RECONCILING THE COSTS OF
SUSTAINABLE CITIES

17-18 January 2024



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ABOUT CITY DIALOGUES

In 2019, the Singapore Management University (SMU) inaugurated a series of engaged discussions involving business, government and experts from academia, on topics that matter to the city. “City Dialogues” aims to bring together invited delegates for frank and open discussions under Chatham House rules, to share ideas and best practices, at the end of which a White Paper is produced to summarise the key discussions and ideas arising that can create societal and community benefits. The views contained therein do not represent any official views from SMU.

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THE SECOND SESSION

The second “City Dialogues” session was held from 17 to 18 January 2024 and coincided with the launch of SMU’s Urban Institute, a new research institute dedicated to multi- and inter-disciplinary research on cities in Asia. Given the urgent task of addressing the climate crisis, and the inevitable challenge that developing sustainable cities demands large initial investments, while the benefits often only materialise many years later, the theme of this “City Dialogues” session was “Reconciling the Costs of Sustainable Cities”.

The Keynote Address was given by Dr Fauziah Zen, Chief Economist of the Nusantara Capital City Authority, a cabinet-level agency formed by the Indonesian government to manage and govern Indonesia’s future capital city. The keynote address covered some of the development principles behind Nusantara, and touched on the broad challenges associated with building sustainable cities.

A panel of experts consisting of Professor Stephen Cairns (ETH Zurich); Associate Professor Eka Permanasari (Monash University); Assistant Professor Fa Likitswat (Thammasat University); Ms Pritha Hariram (Ramboll Group); and Mrs Rewinnita Maretnoningtyas (Nusantara National Capital Authority) shared their varied experiences and insights in tackling the sustainability agenda from the perspectives of the private sector, government, and academia.

Following the keynote address and panel discussion, the diverse audience of local experts and international stakeholders who represented key Southeast Asian cities engaged in more focused roundtable discussions on the issues of water, waste, transportation, and buildings.

Given the diverse representation of experts from cities across Indonesia, Thailand, Vietnam, and Singapore, the following topics formed the subject of discussion:

- Since sustainable development is such an urgent and existential need, why is it so difficult to reconcile the costs of sustainability?
- What avenues for collaboration exist between industry and governments to foster the sustainable growth of cities, and how can academia bridge the gap between theoretical insight and practical implementation?
- What are the sustainability challenges associated with key issues in Southeast Asia, such as Water, Waste, Transportation, and Buildings, and how can we better understand them?

THE SUSTAINABILITY CHALLENGE:

WHY IS IT SO DIFFICULT TO RECONCILE THE COSTS OF SUSTAINABLE CITIES?

SUSTAINABILITY ISSUES ARE COMPLEX

One of the reasons as to why it might appear that governments or corporations are dragging their feet in terms of implementing environmentally sustainable solutions is because sustainability problems are not, and may never be, fully understood. There is no existing model for successful sustainable urbanisation to benchmark against. Sustainability issues are deeply interconnected and intersectional: rising temperatures can affect the water supply in turn causing food insecurity which may cause public health challenges. Air pollution caused in one country can easily drift across borders to other cities. In order to begin reconciling the costs of building sustainable cities, we must be comfortable with the ambiguity that surrounds the promise of sustainability.

RECONCILING WITH THE “INHERITED” PROBLEMS OF THE PAST

Every sustainability challenge we are facing today has a path dependency, and they are informed by specific infrastructural legacies and historical political processes. For example, Jakarta’s present day issues with water infrastructure and land subsidence can be traced back to the historic canals and groundwater extraction methods instituted by the Dutch in the seventeenth century. The inherent temporality of the sustainability challenge means that, sometimes, reconciling the costs of sustainability is also a matter of paying the ‘costs’ of past industrialisation, economic development, and decolonisation.

MORE THAN JUST FINANCIAL COSTS

Although the economic investments required and significant opportunity costs associated with sustainable development are often seen as the main barrier towards implementing sustainability solutions, these challenges often require paradigmatic shifts in societal behaviour and culture. As an example, the residents of many cities across Southeast Asia rely heavily on the private ownership of motorcycles as a means of transport because they are seen as safer, more convenient, and more accessible than public transit, so much so that it has become an inextricable part of the socio-cultural fabric of these cities. Even with heavy investment in public transit or policies to dissuade the use of private vehicles, these solutions will be ineffectual without first understanding and addressing their cultural and behavioural implications.

CITIES ARE CENTRES OF COMMERCE AND INDUSTRY

Because sustainability is often conceived of as a global, national, and societal effort, who pays the costs of sustainability can be unclear. Although sustainability challenges do indeed affect all of society and can be seen as a public problem, the root causes of many urban sustainability issues can be attributed more to private industry than to individual citizens. The energy and water usage in manufacturing, the excessive usage of concrete in building, and pollution and waste production by private enterprises far outweigh the individual citizen’s impact on the environment. The costs of sustainable cities must be borne by all stakeholders, and distributed according to each stakeholder’s impact on the environment.

HOW CAN WE BETTER RECONCILE THE COSTS OF SUSTAINABLE CITIES?

UNDERSTAND THAT SUSTAINABILITY IS A LONG TERM, YET URGENT ISSUE

A critical hurdle we face in reconciling the costs of sustainability lies in the fact that the outcomes of many sustainability goals are often deferred. Many environmental models, recommendations, and targets tend to use arbitrary future dates to project key milestones, which can mask the urgency of the situation. Whether it is 2030, 2050, or 2100, the challenge of becoming truly sustainable by definition requires reconciling with investing in an increasingly uncertain future. Even though the costs of sustainability might be incurred now, the benefits are rarely amortised until many years, if not decades, in the future. However, sustainability is not something that can be addressed later. Environmental problems are already causing severe challenges in all cities, with disastrous impacts on the economy and on human lives. As with any other form of 'investment', we must invest in sustainability solutions now, and the benefits will compound over time.

EMBRACE UNCERTAINTY BY PLANNING FOR REDUNDANCY

Given that sustainability is an incredibly complex problem that is still being understood, and that it is a problem that we will have to contend with for the foreseeable future, we must plan for redundancies and adaptability in our cities. We simply do not know what the city fabric will need to or will be able to support in the future, meaning sustainable development must leave room for future adaptability. Guided by the best available technology and knowledge of today, we must ensure that our solutions engage with broader contingencies to address the unresolved questions of the future. By leaving room for redundancy, we can take greater risks in our sustainability investments, allowing us to better reconcile the costs of building sustainable cities.

FACTOR IN THE NON-FINANCIAL BENEFITS OF SUSTAINABILITY

Sustainability solutions are never solely environmental, meaning a cost-benefit analysis of sustainability solutions must look beyond environmental benefits and economic costs, but account for social benefits as well. It is difficult and often unfair to assess environmental investments solely from the perspective of economic feasibility. Take the case study of Bishan-Ang Mo Kio Park in Singapore for example. Formerly the site of a massive concrete canal, Bishan-Ang Mo Kio Park now has a naturalised river that uses the surrounding park as a floodplain, in turn allowing it to carry 40% more water than before. This has translated to immediate tangible benefits, such as a reduction in flooding and thus protection against potential property damage. But beyond these direct benefits, the project also led to many more indirect benefits, such as improving the overall liveability of the area and the wellbeing of residents, an effect that was especially appreciated during the COVID-19 pandemic. While the project cost S\$76 million, and incurs potentially millions more in maintenance fees, the real benefits of such projects cannot be ascribed a quantifiable monetary value.



NECESSARY PRINCIPLES IN SOLUTIONING

Reconciling the costs of sustainable cities requires a reimagining of sustainability solutions. Sustainable solutions, from both an environmental and financial perspective, must adopt the following principles:

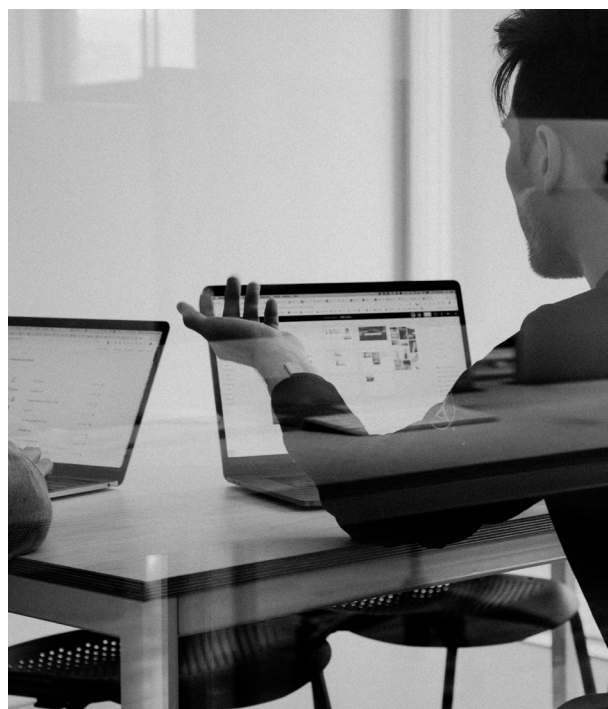
- **Learn from best practices, but be sensitive to local contexts.** Every city in the world is advancing its sustainability agenda one way or another, and some solutions have had more success than others. While we must actively engage in knowledge sharing and learn from the best practices of other cities, it is imperative to understand that the problems and circumstances of each city are unique. Southeast Asian cities face wildly different challenges and have very different resources compared to European cities. Even within the Southeast Asian context, each city is idiosyncratic, meaning that sustainability practices that may work in one city cannot simply be replicated in another. There is no one-size-fits-all solution for sustainability. Take for instance, the increasingly popular shift towards “car light” cities characterised by increased walkability and cycling infrastructure in the West. While these solutions may have seen great success, an attempt to replicate this in Southeast Asian cities would likely end in failure if local problems such as air pollution, the climate, or the quality of existing infrastructure are not considered. Sustainability approaches in Southeast Asia require sensitivity to the informality, and nuances, that often permeate the governance of urban space.
- **Innovation is possible only through collaboration.** The complexities of today’s sustainability challenges demand holistic solutions that address the entire value chain. Solutioning without collaboration will amount to isolated “patches” that will either be ineffective in the long-term, or prohibitively costly. The public sector, academia, and private corporations must capitalise on their different motivations, expertise, and resources to drive systemic and structural change. Collaboration amongst stakeholders in the form knowledge-sharing also needs to extend across national boundaries, as the challenges of sustainability are inherently cross-border.
- **Multi-stakeholder collaboration must extend to financing.** As with any other form of investment, investing in sustainability solutions comes with inherent risks. Collaboration between the government and the private sector through Public Private Partnerships can ensure that the risks of such investments are distributed equitably, while still allowing the private sector to profit.
- **Engage with the local community.** Although individuals’ contributions to urban and environmental problems may be tiny compared to that of industry, the effects of such problems tend to hit local communities the hardest. This means that local communities will have the greatest understanding of the complex issues that affect them on a daily basis. By encouraging participatory planning and leveraging on citizen science, sustainability solutions will be more targeted and better able to address the most urgent challenges with greater impact.



ROLE OF ACADEMIA

The role of academia is pivotal in the journey towards sustainable development. The difficulties of reconciling the costs of sustainable development stem from the lack of a clear understanding of the extent of the issues. Academia must contribute by:

- **Driving interdisciplinary research to improve technology and broaden our knowledge.** Given the complexity and urgency of sustainability challenges, research is critical in developing effective solutions. As sustainability solutioning is more than just about the physical or natural environment, academic research must look beyond the sciences and embrace interdisciplinary approaches that include fields such as social, cultural, political, and gender studies.
- **Bridging the gap between theoretical insight and practical implementation.** Academic research that is produced without any form of translational impact or insight into tangible, realistic solutions is arguably worthless. As an illustration, proving theoretically that bamboo is as strong as other building materials is very different from showing how and why it should be used for construction. Academia must pay close attention to the language it uses and the way it communicates ideas to ensure that the insights it generates can be understood and realised by practitioners and policymakers.



ROLE OF GOVERNMENT

Governments hold the greatest influence in terms of sustainability goals, stakeholder coordination, and the overall trajectory of sustainable development in a city. The duty of governments is to maximise the success and prosperity of their citizens, present and future. In a cost-benefit analysis of sustainable development solutions, governments must:

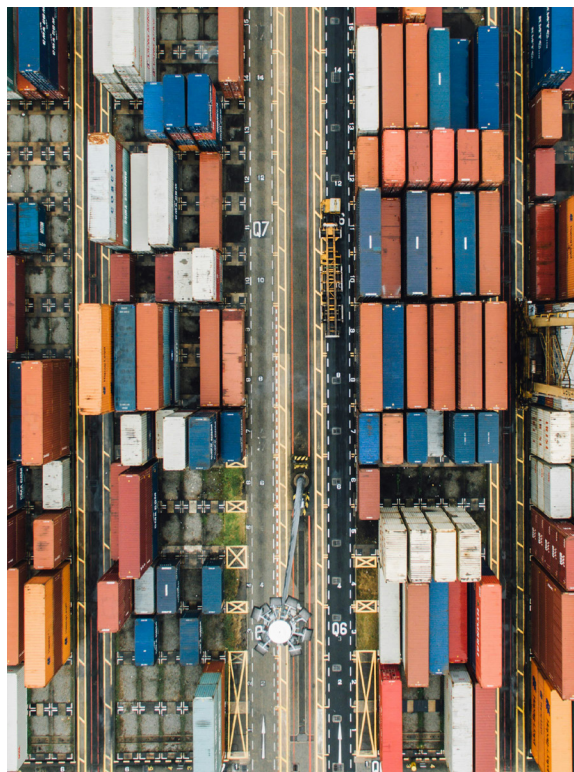
- **Prioritise the needs of the most vulnerable.** The effects of the climate crisis, public health challenges, and poverty manifest in socially and spatially unequal ways. While sustainability solutions should ideally tackle the root causes of the issues and lead to better outcomes across the board, it is also imperative that governments identify and support the needs of the most vulnerable first. Transitioning to renewable energy systems prior to ensuring that all households have access to basic electricity infrastructure, for instance, will lead to bigger and more expensive problems down the line.
- **Ensure that governance is not overly complex.** Strong and effective governance with institutional power is a necessary precursor to implementing and managing sustainability solutions. Having excessively fragmented levels of governance introduces unnecessary bureaucracy that can complexify simple municipal issues. An effective system of government should be clear, direct, and responsive to problems on the ground.



ROLE OF THE PRIVATE SECTOR

Sustainable city development is good not only for the city and the government, but for the private sector and the economy as a whole. An equitable discussion of sustainability financing must include the role of the private sector. While profit driven industry is sometimes seen as the historical cause of the climate crisis, innovative sustainability solutions also present a unique opportunity for new frontiers of investment and growth. Recommended guidelines for the private sector include:

- **Investing in sustainability innovation.** No longer just a compliance issue, sustainability is an industry disruptor that is an increasingly core part of all business functions. More recently, green finance has pushed the financial sector towards complete renewal. Today, investing in sustainability is no longer about ensuring a first mover advantage: it is critical to the survival of a business over the long term.
- **Working together with the public sector to form Public-Private Partnerships (PPPs).** The key advantage of PPPs is that it reduces the risks of a project by involving both the government and private sector partners. PPPs have a demonstrated potential to generate long-term profits through the implementation of innovative, essential, and large-scale projects.





EPILOGUE

These outputs from the SMU City Dialogues on reconciling the costs of sustainable cities will be shared with all delegates, and agencies and businesses when engaging and working with other partners on these themes. We look forward to developing a stronger sustainable culture in our city campus, as well as support follow-up actions by relevant parties towards a more sustainable Singapore.



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