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the resilient city

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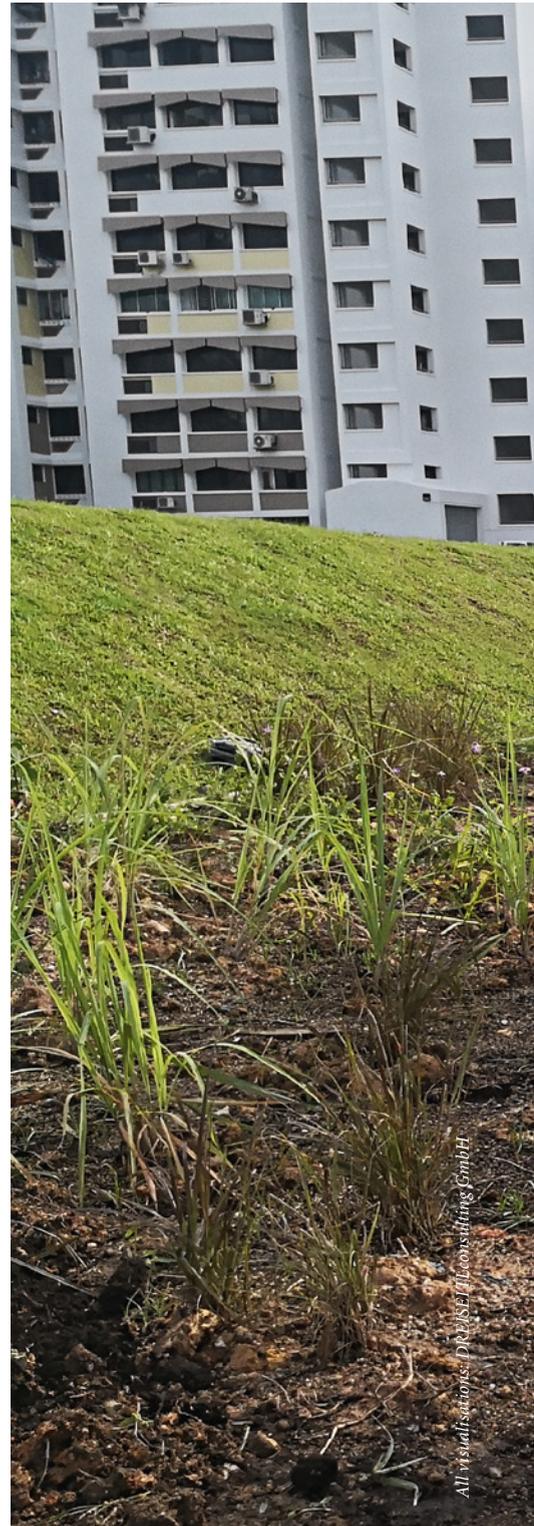


Bottom-Up Resilience

In order to achieve climate-resilient and liveable urban design, Singapore has numerous excellent projects. Developments of this nature appear to be mainly the result of top-down decisions, design and implementation. Yet things are starting to change. The Resilient Cambridge Road pilot project is an innovative Singapore experiment of engagement. Its goal: To distil, create and share knowledge on liveable and sustainable cities in the flood- and heat-prone area of Cambridge Road.

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in Singapore



Participants working on site for The Resilient Cambridge Road pilot project in Singapore.



Early sketches by Herbert Dreiseitl to illustrate possible interventions at special places. Big steps are needed to widen perspectives and the imagination of locals towards climate-resilient and liveable urban design.



Cambridge Road before and after first hands on activities by local participants to reshape the streetscape.

The area of Cambridge Road was formerly developed around the time of World War II in one of Singapore’s older settlements. Cambridge Road is geographically low-lying and is one of Singapore’s flood-prone areas, frequently devastated by floods, especially in the 1960s and 1970s. Extended drainage canals have since been built and the land was rebuilt on higher ground. It has been said that Singapore’s late founding father Lee Kuan Yew gave the order to hide rice in sandbags to prevent the Japanese predators from finding the food. An old flood level gauge can still be seen along Cambridge Road today, a reminder of the difficulties faced by the residents during the flooding. It was a dreaded scene of overflowing muddy waters, sometimes as high as knee-level, submerged corridors, water-logged furniture and helpless residents waiting for the rains to cease.

Cambridge Road bears much historical significance to Singaporeans and was identified by the Centre for Liveable Cities (CLC), whose mission is “to distil, create and share knowledge on liveable and sustainable cities” as a pilot project. CLC asked me, as a formal CLC-Fellow, to bring in my years of international experience and to take the lead in public involvement and the design process.

Water-related risks are now less of an issue for the residents; they are instead witnessing an increase in heat levels. The project explores the synergies among various agencies to reinforce public infrastructure and open up opportunities to encourage communities to form citizen-initiated campaigns and community-scale projects to build resilience towards climate change.

As the COVID-19 pandemic took its toll on us, we had to change the concept of physical public engagement and reorganise the process, transferring almost every aspect to an online platform. Surprisingly, this has not deterred the engagement process. A clear timeline and milestones of community engagements were well planned and forecast, weekly meetings were conducted and ran very smoothly; community leaders have been

quick to adapt and reach out to their social networks in order to sustain their efforts. Together with the CLC and my team, the process of public involvement and planning was carried out over a period of several months in 2020, ranging from vision workshops with respective community leaders to round-table discussions. Due to COVID-19 travel restrictions some sessions were even moderated from Germany, where we are based. Now, in 2021, the project’s implementation with citizen participation is successfully ongoing and still in progress for future community undertakings.

The need for adequate citizen’s perspectives

Citizens are certainly game-changers in the world we live in, as by 2050, 2/3 of the world’s population is projected to live in urban areas. They are very well informed of their local issues, being the first on the ground to experience current and future challenges. Nonetheless, locals often hold on to solidified perceptions that need to be broken down so that they can be transformed. Building cities that work – inclusive, healthy, resilient and sustainable cities – requires intensive policy coordination and anticipatory investment choices. For residents like those in Cambridge Estate, the key is to discover that the climate crisis cannot be tackled by one single action. Instead, we must start by leveraging new nature-based technical solutions, new valuable resources such as social capital and strong community networks. Instead of just waiting for institutions to come, every individual could play a role in the planning of their city towards a sustainable, resilient and liveable future.

The Resilient Cambridge Road project highlights and enables characteristic skills that could help the Singaporeans on Cambridge Road to withstand future challenges. Identifying such possibilities and parameters is crucial in developing a range of dimensions and reactions to improve resilience to unforeseen events caused by climate change in an urban location.



The implementation of the public engagement process

During several meetings and site visits the existing locality, the overall conditions and technical, social and cultural details were carefully studied. First, options were developed as test design solutions. This turned out to be very helpful as all different stakeholders were able to discuss and visualise common ideas and pictures.

In order to focus on precise locations and practical real cases, it is essential to be credible and inspire and motivate residents to share their creative ideas for their community.

After this first phase in the area, a Vision and Sketching Workshop was held during the pandemic as a virtual workshop on a long Saturday afternoon, enabling many people to take part after work. It involved phases of brainstorming, communication, hands-on sketching, and round-table discussions to encourage free-thinking, co-creation and team cohesion.

Around 60 locals from different echelons of society participated in the sessions, spearheaded by my team and me to share their visions, dreams and ideas for their neighbourhood. It was amazing to see the commitment of the citizens taking part in what was then a new virtual

format, sharing opportunities and challenges, joining forces to find better solutions. The workshop was broken down into four segments:

- Introduction,
- Brainstorming techniques to unlock team creativity,
- Building on the ideas of others,
- Round table discussion and
- Documentation.

The involvement of young and old residents, people of different backgrounds with regard to ethnicity, religion, culture and socio-economic status helped to balance interests and influence. Together with the multi-agencies and group leaders these breakout groups turned out to be an optimal way to develop visions, concepts, strategies and ideas. All discussions were complimented by ongoing live sketching on the same digital platform. An important part was played by the online-sketching feedback, which I was able to provide for each group by actively joining the breakout groups. I was overwhelmed and inspired by the engaged dialogues and encouraged the participants to think even further outside the box and show love for their imagined future Cambridge Road.

I am convinced that as a collective we are smarter and generate better ideas than we would

alone. We therefore used the phase of “Building on the ideas of others” to do just that and develop them further. The outcome was a very efficient brainstorming session. Participants selected and presented one to two highlights, which they had previously discussed in their breakout groups, and shared them with the others. By doing so, all participants were able to listen to surprising and creative ideas. This sparked interesting dialogues, provided feedback and developed critical thinking in terms of design possibilities, strategies, and interventions.

Finally, the different solutions of the individual groups and the proposed design direction were documented and summarised. During the following phase we evaluated possible implementation scenarios based on technical conditions, durability, maintenance aspects and budgeting.

From our perspective, the outcomes of the virtual sketching workshop was highly effective and helpful in identifying consensus and prioritising subsequent steps towards the project’s development. Participants mentioned that they had gained many insights and ideas that they had not previously thought of. There was particularly warm praise of the good flow of discussions, the duration, organisation and the focused sketching session.



This example proves that the creation of an atmosphere of trust is crucial, where citizens and government agencies can work hand-in-hand to address issues and create greater public value.

Next steps for Cambridge Road

Since the Virtual Vision Workshop the Cambridge Road neighbourhood has made steady progress during the pandemic. It continues to be a work-in-progress project, spearheaded by a group of passionate Moulmein-Cairnhill residents and volunteers. This passionate collective continues to work diligently to create a positive impact within their community and beyond, and they are convinced that “whether it’s by taking a big leap or with several small steps, we must start making our neighbourhood greener to ensure a resilient, sustainable, and liveable place for future generations”.

The Centre for Liveable Cities, together with Singapore’s public agencies, continues to work with and support residents of the Cambridge Road neighbourhood to pilot their ideas for combating climate change. Since mid-February 2020, the CLC and agencies have facilitated weekly meetings with community champions to work towards prototyping solutions that will build

pockets of resilience and strengthen social networks. The ongoing public health situation due to the COVID-19 pandemic has not deterred the engagement process. (1)

One of the ongoing work-in-progress efforts is the planting strategy along Cambridge Road, which includes native and flowering species to attract butterflies and birds, bringing nature back into the city, while focusing on combating the urban heat island effect, to improve walkability and thermal comfort along Cambridge Road. The maintenance of the greenery is carried out by local residents on a daily or weekly basis, residents took the initiative to draw up a roster to ensure ongoing care of the vegetation.

This development of Cambridge Road is a perfect example to show that the safeguarding of our precious environment is not just for our immediate benefit; it is also to ensure a resilient legacy for future generations, including clean air and the retention of water, as well as the enhancement of biodiversity right on people’s doorsteps.

Singapore actively cares for the future

It is obvious that cities have been focusing on community participation, admirable green planning, financing, implementation, and mainte-

nance, which is now paying off during such unprecedented times. The corona crisis has provided food for thought and stimulated an entirely new way of thinking, Singapore having recently launched programmes for an interdisciplinary way of working. “The city should promote a healthy life for everyone. Therefore, health professionals and urban planners need to work together much more closely,” says Khoo Teng Chye, previous Executive Director of Centre for Liveable Cities, Singapore. (2)

The city of Singapore recently unveiled its *Singapore Green Plan 2030*, a nationwide movement to advance Singapore’s national agenda on sustainable development. It outlined green targets for the next ten years, with new sustainability initiatives to change the way people live, work, study and play. The Green Plan will build upon Singapore’s sustainability efforts and help the country fulfil its commitments under the *United Nations’ 2030 Sustainable Development Agenda*. “We need to ensure a Singapore for future generations. All of us have to work together, and make Singapore a bright green spark for the world,” says Prime Minister Lee Hsien Loong, Singapore. (3)

Obviously, a lot has changed. It is often said that we should not go back to the way things

Ongoing, well-coordinated interventions as an outcome of the involvement process. This community-based action is helping to make the neighbourhood climate resilient and more liveable.

were; instead we should use this opportunity to adopt a more sustainable lifestyle. The discussion about what quality of life we want and which consumption can be dispensed with is in full swing – albeit still primarily in social circles that already have a secured livelihood.

Involvement of local communities as a role model for the future of Singapore?

Historically, Singaporeans have had to deal with many critical situations and prove their resilience. Having grown from an almost undeveloped country, Singapore has made enormous progress and is today one of the leading countries in economic and political stability, and is at the forefront in sustainable architecture. For a considerable period, law and order combined with strict regulations were probably necessary in order to deal with crime, drug-dealing, gangs and other threats. From an international perspective Singapore was known to have not only severe criminal punishment but also strong and dominant leadership.

Times have changed, and today Singapore's government is investing a lot in research to find out the demands of local people and how to best serve their needs. Cultivating a strong sense of ownership and awareness among locals is therefore a basic common ground.

Yet Asian people are very different to people from Western cultures, especially in how they communicate. While American and European citizens are outspoken and used to expressing their opinions and concerns very loudly, Asian cultures tend to seek harmony and consensus. Involvement and participation therefore requires a different approach.

The Cambridge Road neighbourhood involvement was a deep experience for us all: the local population, the municipality and us – the planners. The enormous excitement and power within the process and the follow-up certainly

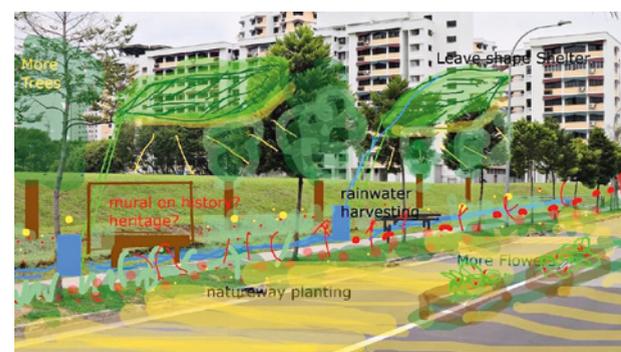
showed that intelligent and sensitive involvement can be successfully achieved in Asia. Moreover, this public participation project is a role model, which just goes to prove: “It's high time”.

Last chance

We have to keep an open mind and a positive mindset to remember the value these types of initiatives can bring, especially when so many people's social circles have shrunk and people may feel disconnected from their accustomed support networks. Community engagement can create meaningful connections between strangers, build social capital and support networks and help shape programs, policies, and organisations that are currently doing critical work. With the right intentions, the right tools and everyone's voices, community engagement can help ensure no one is left behind during the pandemic.

For all the restrictions and suffering, the Corona pandemic brought some good in that the willingness of society to change is greatest in times of crisis. We now need to curb the climate crisis and create viable and resilient urban landscape architecture. Promoting healthy ecosystems requires infrastructures with strong community involvement and nature-based solutions to be systematically integrated into urban planning: when designing public spaces, planning buildings and ensuring their healthy contextual embedding in the environment. The aim is to create a liveable and resilient form of urban landscape architecture.

Should we instead opt for a mindset of not grasping this opportunity, we may waste our last chance to curb climate change. Today we need to seize this opportunity, to change our values, prioritising a move toward a healthier environment, especially in an urban environment, achieving societal benefits, health for residents and hope for future generations.



Virtual digital Vision and Sketching Workshop outcome as spontaneous online-drawings created by local residents and stakeholder participants. Several local residents were sketching in parallel on one drawing to shape ideas and visions for the future at Cambridge Road Neighborhood.

NOTES

1. Naufal Khan Surattee, Norio Sim, Elaine Tan (2020) “Building Community Resilience: The Role of Communities in Tackling Climate Change”. <https://www.clc.gov.sg/docs/default-source/commentaries/bc-2020-09-building-community-resilience.pdf>

2. Khoo, T. C.: Healthy Cities in a Post-Pandemic World. <https://www.clc.gov.sg/docs/default-source/better-cities/bc-2020-05-newsletter.pdf>

3. Singapore Green Plan 2030 to Change the Way People Live, Work, Study and Play. (2021, February 10). The Straits Time Singapore. <https://www.straitstimes.com/singapore/environment/singapore-green-plan-2030-to-change-the-way-people-live-work-study-and-play>