

## Editorial Preface

### COP 28 ‘MAXIMISING NATURE-BASED SOLUTION IN DESIGN’: LANDSCAPE ARCHITECTS ADVOCATED

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The UAE recently hosted the 28th UN Climate Change Conference of the Parties (COP28) in Dubai. About 200 world leaders gathered for this two-week global discussion to assist in taking urgent action needed to avoid catastrophic climate change. Participants include members of government, environmental advocates and activists, scientists, climate change and energy experts, architects and designers. In fact, during this COP28, landscape architects maximise nature-based solutions through design.

The world is far below the 12.9% per year decarbonisation rate needed to reach the 1.5°C target in the Paris Agreement in 2015 during COP21. COP26 calls on all countries to present stronger national action plans next year instead of in 2025, which was the original timeline. With this, most countries have now set or are considering a target of reducing emissions to net zero by mid-century. Though net zero is a critical longer-term goal, immediate emissions cuts – especially by the largest greenhouse gas emitters – are essential in the next 5 to 10 years to keep global warming to no more than 1.5 °C and safeguard a liveable climate. It is also well known that buildings consume a third of the energy produced and are responsible for nearly 40% of global carbon emissions. With these issues, the landscape architects who attended COP28 advocated maximising nature-based solutions in design.

Many designers and built environment professionals are learning to see things from other perspectives. Professions such as architects, landscape architects, designers, etc., have started designing for aesthetic pleasing and looking into new roles to support mitigating environmental issues such as climate change, urban heat islands, habitat fragmentation, and CO<sub>2</sub> reduction. Those in the field of design, particularly in architecture and landscape architecture environments, should play their roles in contributing towards COP28 goals, particularly in CO<sub>2</sub> reduction, in their ways through their designs, research, and innovations. This also relates to the Sustainable Development Goals (SDG), where designers have an

impact at the local and international levels. Designers have to seek distinct ways to reduce CO<sub>2</sub> by perhaps using approaches such as ‘biomimetics’ and ‘biomimicry’. For instance, researchers investigated the termite’s ability to maintain virtually constant temperature and humidity in their termite mounds in Africa despite outside temperatures, which can go up to 40°C. This has inspired many architects to build more sustainable city buildings by imitating nature. Similarly, a revolutionary biodegradable fibre was invented in the fashion industry because the global textile market produces 1.2 billion tons of CO<sub>2</sub> equivalent per year and uses dyes responsible for 20% of global wastewater. A group of scientists identifies protein structures found in nature, such as the red fluorescent protein found in some species of *Discosoma*, a coral relative. They then grow fibres that rely on these proteins, creating textiles without toxic dyes, finishes, and petroleum-based synthetics. Just as among landscape architects, it is vital to know about vegetation and how it functions in the environment. It is not just placing some trees or shrubs at the site for the sake of having some sort of vegetation during the design stage, but the landscape architects need to also equip themselves with other valuable knowledge such as ecology, horticulture, arboriculture etc. in order to create a functional space. Ultimately, the designers need to work closely with other professionals to mitigate CO<sub>2</sub> at local and international levels simultaneously and be equipped with information regarding environmental issues.

I thank all of the authors who contributed to this issue. Seven articles have been published, and some of these articles are directly or indirectly related to issues related to COP28. It is timely; designers need to engage themselves in resolving global issues e.g. towards the reduction of CO<sub>2</sub> through research,

practice and innovations. It is also hoped that ALAM CIPTA would like to receive more issues related to how designers solve environmental issues in the future. On behalf of the editors, I would like to thank all the authors and reviewers who have contributed to this issue.