



# EDITOR'S DESK



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Hello Readers,

As we step into 2025 with hope and enthusiasm, I would like to extend my warmest greetings to you and your families. The start of a new year is always a time for reflection and renewal, and it fills me with pride to look back on all that we have achieved together over the past year.

In 2024, we witnessed remarkable milestones and advancements in our field, celebrated achievements of our members, and strengthened our bonds as a community. Highlights such as the Presidential Advisory Committee meeting and the recognition of our President, Prof. Chm Dr. Juan Joon Ching, as the youngest recipient of IKM's Gold Medal, were moments of immense pride and inspiration.

As we move forward into 2025, we remain committed to delivering insightful content, celebrating accomplishments within our organization, and fostering collaboration across our professional network. The E-Bulletin will continue to serve as a platform for knowledge sharing, innovation, and connection.

I would like to take this opportunity to thank each and every one of you for your unwavering support, contributions, and feedback. Your active participation drives our success and keeps our publication vibrant and relevant.

Let us embrace the challenges and opportunities of this new year with determination and optimism. Together, we can achieve even greater heights in 2025.

Wishing you a prosperous, healthy, and fulfilling year ahead!

# PRESIDENTS MESSAGE

It is with great pleasure as President of Balai Ikhtisas Malaysia (BIM) or *Malaysia Professional Centre* that I extend a warm welcome to all of you to this edition of our e-Bulletin magazine. As we continue our journey towards fostering professional excellence and serving society, this platform serves as a vital conduit to share insights, developments, and achievements from the diverse professional sectors that form the backbone of Malaysia's economic growth.

Professionals across four pivotal clusters play an indispensable role in shaping the trajectory of our nation's development. First and foremost, the **Medical and Healthcare** sector stands as a pillar of resilience and compassion. The dedication of our doctors, nurses, researchers, and allied health professionals ensures the well-being of our people and strengthens the foundation of a healthier Malaysia. Their tireless efforts, particularly in recent challenging times, exemplify the spirit of service and commitment to society's welfare.

In the realm of **Engineering, Construction, and Property**, we witness the transformative power of innovation and expertise. Engineers, architects, and construction professionals not only build physical structures but also design the framework for sustainable urbanization and infrastructure. Their contributions drive connectivity and functionality, making Malaysia a hub of modernity and progress.

The cluster of **Pure and Applied Sciences** serves as the crucible for discovery and innovation. Scientists, researchers, and technologists advance knowledge, creating solutions to global and local challenges. Their work—whether in environmental conservation, technology development, or addressing critical societal issues—forms the bedrock of a thriving knowledge economy.

Lastly, the contributions of professionals in **Accounting, Business, Commerce, Legal, and Social Sciences** are instrumental in ensuring the smooth functioning of our economic and societal systems. This is especially the role of human resource that enable us to cultivate more talent in various professional. From maintaining financial integrity to advancing equitable governance and fostering social well-being, these professionals uphold the principles of accountability, fairness, and inclusivity.

Together, these clusters form the bedrock of Malaysia's dynamic professional landscape. Their collective expertise, dedication, and vision propel our nation towards economic resilience and global competitiveness. At BIM, we are immensely proud to represent and support these professionals, who exemplify our tagline: *Professional Excellence, Serving the Society*.

As you explore this edition of the e-Bulletin, we hope you gain valuable insights into the remarkable endeavours and milestones achieved by our professional community. Let us continue to champion the spirit of collaboration, innovation, and service in all that we do, ensuring that our contributions leave an indelible impact on Malaysia's progress.

Thank you for your unwavering support and commitment to excellence. Together, let us continue to build a brighter future for our nation.



BIM President 2023/25  
**Prof. ChM Dr. Juan Joon Ching**

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## BANTUAN BAKUL MAKANAN SEMPENA DEEPAVALI HOSTED BY PERTUBUHAN JIWA BERSATU PELANGI DAMANSARA

**24 July 2024**

The '*Bantuan Bakul Makanan Sempena Deepavali*,' organized by Pertubuhan Kebajikan Jiwa Bersatu Pelangi Damansara Petaling Jaya, was held on 20th October 2024.

Supported by Balai Ikhtisas Malaysia (BIM), the event was graced by YB Senator Tuan Suresh Singh. The BIM delegation was represented by Mr. Andrew Tan, Assoc. Prof. Ts Dr. Jessica Ong Hai Liaw, and Dr. Saravanan A. Santhirarajan. A donation of RM 3,000.00 was made, with BIM's name affixed to each of the 'Bakul Makanan' boxes.



## Komuniti Kita



Herbarkan gambar aktiviti bersama komuniti ke [utusannews@mediamulla.com.my](mailto:utusannews@mediamulla.com.my)

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### Balai Ikhtisas Malaysia sumbang bakul makanan Deepavali

SEMPENA sambutan Deepavali tidak lama lagi, Balai Ikhtisas Malaysia (BIM) menerusi Pertubuhan Kebajikan Jaka Pelangi menyumbangkan bakul makanan kepada komuniti India di sekitar Petaling Jaya. Selangor. Sumbangan disampaikan kepada para penerima oleh Senator Surish Singh Rashpal Singh dalam satu majlis barisan.

Rato Presiden (Kecantikan dan Kebajikan) BIM, Andrew Tan berkata, sumbangan tersebut membuktikan BIM sebagai sebuah badan profesional sentiasa turun padang bagi membantu masyarakat tanpa



melewat agama dan kaum. Beliau berharap barisan tersebut dapat meringankan

beban masyarakat dan memberi rasa gembira bagi menyambut pesta cahaya yang akan tiba nanti.

■ ANDREW Tan (baris depan, tengah) dalam majlis penyerahan sumbangan

bakul makanan sempena Deepavali di Petaling Jaya, baru-baru ini.

Published : Utusan Malaysia, 23 October 2024





## COURTESY VISIT TO THE NEW DIRECTOR AND CEO OF ASIAN INTERNATIONAL ARBITRATION CENTER

25<sup>th</sup> OCTOBER 2024

Exchange souvenirs with Datuk Almalena Sharmila Johan, Chief Executive Officer AIAC



On 25th October 2024, a delegation from Balai Ikhtisas Malaysia (BIM), led by the President, Prof ChM Dr Juan Joon Ching, Sr. Lim Kok Sang, Mr Wong Khin Yip and Encik Ahmad Zalane Alias visited the **Asian International Arbitration Center (AIAC)**.

The visit commenced with a warm welcome extended by **YBhg Dato' Mary Lim Thiam Suan**, Director of AIAC, and **YBhg Datuk Almalena Sharmila Johan**, CEO of AIAC. During the visit, the AIAC team presented an informative overview of the center's current initiatives, services, and upcoming projects, focusing on its contributions to the field of international arbitration.

The courtesy visit to AIAC was a successful and productive engagement, providing an excellent platform for meaningful discussions focused on strengthening the relationship between BIM and AIAC. Both organizations demonstrated a strong commitment to exploring future collaboration opportunities, with a shared vision of advancing and enhancing arbitration practices in the region.





## PRESIDENTS ADVISORY COUNCIL (PAC) MEETING 12 DECEMBER 2024





## MEETING OF PRESIDENT AND HONORARY SECRETARY OF MEMBER-INSTITUTIONS

**12 DECEMBER 2024**



The meeting with the President and Honorary Secretary of the Member Institutions, alongside the Presidential Advisory Council (PAC) Meeting, was successfully organized by Balai Ikhtisas Malaysia on 12 December 2024, at the BIM Meeting Room, Damansara Utama. This event provided a valuable opportunity for fellowship and a deeper understanding of BIM.



## 24<sup>th</sup> National Seminar HR Best Practices

### 23 OCTOBER 2024



Balai Ikhtisas Malaysia (BIM) was invited to the 24<sup>th</sup> National Seminar on HR Best Practices, organized by the Malaysian Institute of Human Resource Management (MIHRM). The Vice President of BIM, Mr. Andrew Tan, represented BIM at the event, which took place on October 23, 2024, at the Hilton Hotel Petaling Jaya. BIM was invited to deliver the welcoming speech and was also honored as a guest of honor during the seminar. The event provided valuable insights and networking opportunities in the field of human resource management.





## CILTM HI-TEA 2024

**8 NOVEMBER 2024**

The President of BIM, Prof. ChM Dr. Juan Joon Ching, attended the CILT Malaysia Hi-Tea 2024 on November 8, 2024, at the Shah Alam Convention Centre (SACC). The event was held in conjunction with the CILTM Convocation on November 9, 2024, offering a prime opportunity for networking among professionals in the logistics and transport sectors. This occasion further strengthened the relationship between BIM and the Chartered Institute of Logistics and Transport Malaysia (CILTM), reinforcing the collaborative ties within the industry.



## MALAM KIMIA 2024 & PRESENTATION OF AWARDS

6<sup>th</sup> December 2024

Congratulations to Prof. ChM Dr. Juan Joon Ching on receiving the IKM Gold Medal 2024! This prestigious award is a testament to your exceptional contributions to your field. The event, which took place on December 6, 2024, at One World Hotel, was a resounding success. Wishing you continued success in all your future endeavors!







**PUBLIC LECTURE:  
EMPOWERING FUTURE LEADERS WITH SMART  
TECH AND INNOVATION**

**22 NOVEMBER 2024**



# REVOLUTIONIZING AGRICULTURE:

## EMPOWERING FUTURE LEADERS WITH SMART TECH AND INNOVATION



### PUBLIC LECTURE BY:

**Brian Dickinson**

**CEO/Co-Founder**

**Cultivate Malaysia Sdn Bhd**

Brian, CEO of Cultivate Malaysia, possesses 30+ years in agriculture and IT to drive sustainable farming. He pioneered Australia's first online grain exchange and the National Grower Registration, transforming the industry. In 2019, he launched Cultivate Malaysia, offering a cloud-based platform to address labor and compliance challenges, enhancing land management through smart technology.

**Date: 22 November 2024 (Friday)**

**Time: 10 am to 12 pm**

**Venue: Dewan Fakulti Pertanian  
UPM**



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## HARI ANTI-RASUAH ANTARABANGSA (HARA 2024) 9 DECEMBER 2024

On 9 December 2024, the **Closing Ceremony of Hari Anti-Rasuah Peringkat Antarabangsa 2024** at the Ibu Pejabat Angkasa Wisma Ungku A. Aziz, Petaling Jaya was successfully officiated by YBhg Tan Sri Dato' Seri Hj Azam bin Hj Baki, Chief of the Malaysian Anti-Corruption Commission (MACC).



**Congratulations:**  
**PHARMACY AWARD & RECOGNITION**  
**22 NOVEMBER 2024**



***Congratulations to Mr. Andrew***

Honored and Grateful to receive the MFMPA "Distinguished Excellence in Pharmacy Leadership of the Year 2024" award. This milestone is a testament to the incredible journey of contributing to the industry and community, driven by the philosophy of "wellness towards a healthy and fulfilling life."



## NACSCOM CHARITY GALA DINNER 2024

### 13 DECEMBER 2024



## MIP TO HOST NATIONAL PLANNING CONGRESS (NPC) 2024 ON 29 OCTOBER IN PUTRAJAYA

**EdgeProp.my, 4 October 2024**

Aligned with the theme "Urbanism Next 3R", NPC 2024 highlights a holistic and forward-thinking approach to urban development. This approach focuses on three key sub-themes: Reimagine, Reinvent, and Revitalise (3R).

SELANGOR (Oct 4th): To celebrate World Town Planning Day, the Malaysian Institute of Planners (MIP) will host its annual National Planning Congress (NPC) 2024 on Oct 29 in Putrajaya.

The announcement was made today during a live-streamed video podcast on the MIP Facebook page and Zoom.

The podcast was moderated by the convenor of NPC 2024 TPr Hj Ismail Muhamad, Malaysian Institute of Planners (MIP) president Datin TPr Hj Noraida Saludin and the deputy convenor of NPC 2024 Datin TPr Hj Mazrina Khalid.



From left: Convenor of National Planning Congress (NPC) 2024 TPr Hj Ismail Muhamad, Malaysian Institute of Planners (MIP) president Datin TPr Hj Noraida Saludin and the deputy convenor of NPC 2024 Datin TPr Hj Mazrina Khalid.

### Urbanism next 3R: A holistic approach to city planning

Aligned with the theme "Urbanism Next 3R", NPC 2024 highlights a holistic and forward-thinking approach to urban development. This approach focuses on three key sub-themes: Reimagine, Reinvent, and Revitalise (3R).

"The idea of 3R is to reimagine the future of our cities. We need to understand what has gone wrong and what were the success stories to learn from the past. If we don't learn from the past, we can't move forward," Noraida said.

She stressed that traditional approaches might not be enough due to challenges such as climate change, population shifts, ageing populations, technology, and the need for equitable growth.

Noraida also mentioned the need for innovative solutions, adaptive reuse, smart technologies, and sustainable design to revitalise cities, especially in today's resource-limited environment.

### Policy and implementation: A top-down and bottom-up approach

"To effectively implement 3R, we must start at the policy level. This involves international, national, and local authorities. A top-down and bottom-up approach is essential for successful implementation," Mazrina said.

Mazrina stressed that both top-down and bottom-up approaches are vital. While policymakers set the framework, designers and professionals can contribute innovative solutions.

"Malaysia has already entered an ageing population phase. Policies must address the needs of the elderly, including housing, transportation, and healthcare," she added.

NPC 2024 will be held at Everly Hotel, [Putrajaya](#). The speakers will include regional and local experts in city and urban planning design. EdgeProp is supporting NPC 2024 as a media partner.



## NATIONAL PLANNING CONGRESS (NPC) 2024

### 29 OCTOBER 2024



## NATIONAL PLANNING CONGRESS 2024 (NPC2024)



The National Planning Congress (NPC) 2024 was held on Tuesday, October 29, 2024, at the Everly Hotel in Putrajaya. Organized by the Malaysian Institute of Planners (MIP), the event was themed "Urbanism 3R+: Reimagine, Reinvent, Revitalise, Reconnect." The congress was officially opened by Deputy Prime Minister Dato' Sri Haji Fadillah bin Haji Yusof.

The event brought together local and international experts in urban planning to discuss critical topics such as urban resilience, innovative planning, and sustainable development. The aim was to foster creative solutions aligned with Malaysia's vision for sustainable city development.



## THE JOURNEY OF THE YOUNGEST IKM GOLD MEDAL RECIPIENT, PROF. ChM DR. JUAN JOON CHING

**News Hub Asia, 8 December 2024**

Malaysia has produced many outstanding scientists, but few have achieved the international acclaim of Prof. ChM Dr. Juan Joon Ching. A trailblazer in the field of chemistry, his career exemplifies excellence in research, dedication to teaching, and contributions to industrial and environmental advancements. This article explores his remarkable journey, from humble beginnings to becoming one of the most respected chemists in the world.

### Early Life and Inspirations

Born and raised in a modest household in Malaysia, Dr. Juan's received his early education at Sekolah Kebangsaan St John Institution (SJI), Kuala Lumpur. This has built strong foundation and also his inclusiveness from diverse background. Growing up, he was captivated by how everyday materials could undergo chemical changes to create something novel and useful. His curiosity led him to excel in science, with chemistry emerging as his favourite subject. As he sees everything in atomic and molecules level for instance, water is made of hydrogen and oxygen ( $H_2O$ ) as our surrounding is full of chemistry. Dr. Juan often credits his early mentors which is his high school chemistry teacher and a local scientist who conducted workshops as key inspirations. He recalls his workshop with Sir Harold Walter Kroto who is the recipient of Nobel Prize in Chemistry for his discovery of Buckyballs (known as fullerenes,  $C_{60}$ ) a new allotrope of carbon.

The guidance and encouragement nurtured his talent, steering him toward a path that would define his future.



### Academic Excellence and Groundwork

Dr. Juan pursued his undergraduate degree in chemistry at one of the leading Malaysian research universities (Universiti Kebangsaan Malaysia) where he demonstrated an exceptional grasp of the subject. Recognized for his analytical thinking and meticulous approach, he received several academic awards such as the best thesis award. A scholarship allowed him to undertake his postgraduate studies locally. He also managed to secure the UNESCO/People's Republic of China (The Great Wall) Co-Sponsored Fellowships to Chinawhich further honing his skills and exposing him to cutting-edge research methodologies.

During his PhD, Dr. Juan delved into catalysis, focusing on developing environmentally friendly catalysts for industrial applications. His groundbreaking thesis laid the foundation for what would become a significant body of research. He not only solved critical problems but also opened new avenues for sustainable practices in chemical processes that would remain central to his work.

## Advancing Research in Nanomaterial and Catalysis

Returning to Malaysia as a young scientist, Dr. Juan joined the International Medical University (IMU), Monash University Sunway Campus and then University of Malaya. His early years were dedicated to both teaching and building a research portfolio that addressed pressing issues in the chemical industry. To inspire his students, he implemented problem-based learning in the classroom.



This approach encourages students to think creatively and develop practical solutions.

This innovative student centred teaching technique has received positive feedback from the students. His pioneering work in green chemistry for synthesising nanomaterials, particularly in the development of reusable catalysts has gained recognition.

Dr. Juan's research focused on designing catalysts that minimised waste, reduced energy consumption, and improved efficiency in industrial processes. One of his most celebrated breakthroughs was the development of a series of heterogeneous catalysts that could be used in manufacturing of biofuel and wastewater treatment. These innovations and reputable publications earned him accolades, including the prestigious National Young Scientist Award from Ministry of Science, Technology and Innovation (MOSTI).

Beyond the lab, Dr. Juan is a firm believer in bridging the gap between academia and industry. He collaborated with leading chemical companies, offering expertise that resulted in practical, scalable solutions for environmental and energy challenges.

His partnerships often involved training sessions for industry professionals, fostering a culture of innovation and sustainability. As his research progresses, it is expanding into new fields of application beyond catalysis. In one notable project, Dr. Juan worked with a Malaysian oleochemical company to produce more environmentally friendly lubricant additives. Besides that, he also successfully produce the world thinnest latex film with the use of 2D nanomaterial. With his expertise, he started his own company under Nanochemical@UMI which specialised on nanomaterial products and consultation. By introducing new chemical process and nanomaterial, these company not only improved its operations but also set a benchmark for green practices in the region.

As the global scientific community pivoted toward addressing climate change, Dr. Juan emerged as a prominent voice advocating for sustainable chemical practices. His research extended to renewable energy, where he explored catalytic processes for biofuel production such as sustainable aviation fuel (SAF), solar cell, hydrogen production and methanol production from carbon dioxide.



Dr. Juan's commitment to sustainability is reflected in his numerous publications in high-impact journals. His articles have shaped global discourse on green chemistry, influencing policymakers and researchers alike. He has also been invited to deliver plenary and keynote addresses at international or national conferences, where he underscores the importance of innovation in addressing environmental crises.

### **Mentorship and Legacy**

While his achievements in research are unparalleled, Dr. Juan's contributions as an educator are equally significant. Over the years, he has mentored hundreds of students, many of whom have gone on to pursue successful careers in science and industry. He is also the Founder and Chairman of the Malaysian Young Chemists Network (MYCN) which serve as a platform to groom the next leader of chemists. Known for his approachable demeanor and passion for teaching, Dr. Juan ensures his students are well-equipped to tackle real-world challenges. He encourages them to think critically and apply their knowledge in meaningful ways. Several of his protégés now collaborate with him on projects, reflecting his emphasis on building a strong scientific community.

Dr. Juan's contributions have earned him numerous accolades, both locally and internationally. Although he is not active on social media, his achievements have been widely covered by prominent outlets such as the New Straits Times, ASTRO, BFM 89.9 radio, etc. Apart from the National Young Scientist Award in 2016, he has received the Top 2 per cent of scientists worldwide by Stanford University (2020-2024), Top Research Scientists Malaysia (2024) by the

Academy of Sciences Malaysia, and Top Outstanding Young Malaysian (2020) by Junior Chamber International, Universiti Malaya Excellence Award (2019), Future Academician Award by the Ministry of Education (2018), Malaysia Research Star Award by the Ministry of Education (2017), the Outstanding Paper Award by Elsevier (2018), and several others. In 2024, he received the IKM Gold Medal Award by Institut Kimia Malaysia (IKM) a professional organisation of chemists Malaysia—a highest recognition for chemists in Malaysia that underscores his impact on the field.

His membership in various professional organisations, including Dr. Juan was elected as President of Balai Ikhtisas Malaysia (BIM), which oversees professional bodies across Malaysia. He is also the Honorary Secretary/Assistant Honorary secretary of IKM, member of the Young Scientist Network (YSN), Treasurer of the Federation of Asian Chemistry Societies (FACS), National Representative/Associate Member for IUPAC in the Chemistry and Environment Division, Scientific Chair of IUPAC 2025 World Chemistry Congress, Chairman of 19th Asia-Pacific International Symposium on Microscale Separations and Analysis 2023, etc. As a Chartered Chemist and member of IKM, Dr. Juan actively contributes to setting professional standards and advancing chemical sciences.



### Collaborative Efforts and Future Goals

Collaboration has been a cornerstone of Dr. Juan's career. He has worked with renowned scientists worldwide, including prominent figures in nanomaterial and catalysis. His collaborations have led to significant advances, such as innovative solution to the environment and energy. Looking ahead, Dr. Juan is focused on expanding his research into areas like artificial intelligence in chemistry and nanocatalysis. He envisions a future where technology can make chemical processes more efficient and sustainable. Beyond his professional life, the man behind the lab coat is known for his humility and generosity. A passionate advocate for education, he often conducts outreach programs in rural areas, inspiring the next generation of scientists. He believes in giving back to society, a principle that guides both his personal and professional endeavors. Dr. Juan is also an avid traveler and nature enthusiast. His travels often inspire his work, reminding him of the importance of preserving the environment for future generations.

### Conclusion

The journey of Prof. ChM Dr. Juan Joon Ching is a testament to the power of perseverance, innovation, and a deep commitment to societal well-being. From a curious young student to a global leader in chemistry, his story inspires not only aspiring scientists but also anyone striving to make a difference. As Malaysia continues to shine on the global scientific stage, Dr. Juan's contributions serve as a beacon, reminding us of the boundless potential of human ingenuity when combined with purpose and passion.

*Source: Balai Ikhtisas Malaysia*



## CLIMATE ACTION IN MALAYSIAN CITIES: EMBRACING NATURE-BASED SOLUTIONS (NBS)

**The Star, 13 December 2024**

“

As Malaysia faces increasing climate risks, cities are at the forefront of both vulnerability and solutions. With rising flood occurrences, sea-level increases, extreme weather events and heatwaves threatening urban areas, robust climate change mitigation and adaptation strategies are more crucial than ever.

”

**Datin Noraida Saludin,  
President, Malaysian Institute of Planners**



### Contributed by Datin Noraida Saludin

Urban development plays a vital role in addressing climate challenges. Key areas of focus include sustainable infrastructure, energy-efficient buildings and green spaces that act as carbon sinks. Cities like Kuala Lumpur and George Town are adopting green urban planning practices to reduce emissions and improve resilience against flooding and extreme heat.

Housing developers are essential in this effort. Their projects significantly shape the urban landscape and carbon footprint. By adopting sustainable construction practices—such as energy-efficient materials, renewable energy systems and water management solutions—developers can reduce the environmental impact of new buildings and strengthen community resilience against climate impacts.

Although national policies support climate-conscious urban design, more targeted and enforceable guidelines for developers are needed. Government initiatives that integrate Nature-Based Solutions (NBS) into infrastructure projects—particularly in drainage, landscaping and low-carbon developments—are helping Malaysia promote sustainable development. NBS protect, manage and restore ecosystems to address societal challenges, benefiting both people and nature simultaneously.

For cities to effectively combat climate change, collaboration among urban planners, engineers, landscape architects, developers and government agencies is crucial. Together, they must design cities that reduce greenhouse gas emissions and offer adaptive solutions to ensure urban resilience in an uncertain climate future.



## The challenge of floods

Flooding remains a significant issue across Malaysian cities, particularly during the monsoon season. In 2024, large-scale floods displaced about 139,000 people as of November. States like Kelantan, Johor and parts of the Klang Valley experienced severe flooding, driven by heavy rainfall and poor drainage systems. Rivers like Sungai Golok in Rantau Panjang reached dangerous levels, highlighting the importance of urban development in mitigating flood risks.

Flooding damages infrastructure, displaces families and disrupts daily life, costing billions annually. Cities experiencing rapid urbanisation often struggle to manage stormwater, leading to overwhelmed drainage systems. In response, sustainable urban planning and climate adaptation strategies are needed. Effective flood management should integrate green infrastructure—such as permeable surfaces, urban wetlands and stormwater systems—into housing and commercial projects.

Urban developers must prioritise flood resilience by adopting eco-friendly building practices and reducing runoff risks. Additionally, developers should focus on constructing homes in areas with low flood risk and retrofitting existing developments with flood-prevention technologies. These combined efforts from urban planners, engineers, landscape architects, local governments and developers are key to addressing the growing flood threat and fostering climate resilience across Malaysian cities.

## NBS in flood resilience

To address flooding, Malaysian cities should incorporate Nature-Based Solutions (NBS) that use natural environments and ecosystems to mitigate and adapt to climate impacts. Integrating NBS alongside conventional infrastructure improvements can create more resilient and sustainable urban environments.

**Flood-resilient urban design:** NBS, such as urban green spaces, rain gardens and green roofs, absorb rainwater and reduce surface runoff, preventing drainage system overloads during heavy rains. Cities need to adopt these green solutions to manage stormwater and reduce flash flooding risks. Green infrastructure also improves air quality, reduces the urban heat island effect and enhances biodiversity.

Urban wetlands and riparian buffers along rivers act as natural sponges, soaking up excess water and reducing storm surge impacts. These areas also support wildlife habitats and can be integrated into urban parks, providing recreational spaces for communities. Forest conservation in urban fringe areas also minimises flood risks by stabilising soil and preventing erosion.

**Enhancing drainage systems:** While upgrading traditional drainage infrastructure is necessary, incorporating nature-based flood management techniques enhances its effectiveness. Permeable pavements and bioswales (shallow, vegetated channels) allow rainwater to filter through the ground, reducing runoff and replenishing groundwater reserves. By replacing impervious surfaces like asphalt with these green alternatives, cities can reduce flood risks while promoting environmental sustainability.

The concept of Sponge Cities, popular in China, exemplifies how NBS, such as rainwater harvesting and urban wetlands, can help cities absorb rainwater instead of letting it run off. Adopting this approach in Malaysia can address the challenges of increasing rainfall due to climate change while relieving pressure on existing drainage systems.

**Climate-resilient urban planning:** Climate change is making flooding more frequent and severe, requiring urban planning to consider future climate projections. Nature-based adaptation strategies can help cities better cope with these events. Urban landscapes like mangrove restoration, coastal wetlands and dunes can buffer urban areas from rising sea levels and storm surges.

Urban forestry also offers benefits, such as reducing flash floods by intercepting rainwater before it hits the ground. Planting trees provides shade, mitigates the urban heat island effect and slows rainfall capture through their branches and leaves.

**Retrofitting existing infrastructure:** For cities already at risk of flooding, retrofitting existing infrastructure with NBS can reduce flood risks. Adding green roofs, rainwater harvesting systems and vegetated swales to older buildings and infrastructure helps manage stormwater. In high-risk areas, urban wetlands or water-sensitive urban designs improve flood management and urban resilience.

Community-driven initiatives, such as community gardens, rainwater harvesting projects and local flood management efforts, also play a vital role. These participatory approaches engage local residents in enhancing city resilience and fostering a sense of ownership and responsibility for their environment.

**Collaborative efforts for implementing NBS:** Fully implementing NBS requires collaboration between urban planners, developers, local governments and communities. Policies should incentivise integrating NBS into development projects through regulatory frameworks. Developers can adopt sustainable building practices, like green buildings and low-impact development techniques, which incorporate natural flood management solutions. Public education campaigns are also crucial in raising awareness about the benefits of NBS for flood management. Collaboration between local authorities, the private sector and citizens creates a collective commitment to addressing flooding and climate change, building more resilient urban spaces.

Integrating nature-based solutions into urban planning offers an effective and sustainable approach to combat flooding and climate change in Malaysia. Enhancing green infrastructure, improving drainage systems with NBS and retrofitting existing urban areas can create cities that are resilient, sustainable and liveable for future generations. As cities continue to grow, adopting NBS will be key to reducing flood risks and building urban environments that protect people and the planet alike



# ADVERTISEMENT

## BIM MEETING ROOM RATES



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**Full Day - RM200.00**

**Half Day - RM100.00**

### For Non-Member

**Full Day - RM350.00**

**Half Day - RM200.00**

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- Malaysian Pharmacists Society (MPS)
- Royal Institutions of Surveyors Malaysia (RISM)
- The Institutions of Engineers Malaysia (IEM)
- Pertubuhan Akitek Malaysia (PAM)
- Malaysian Medical Association (MMA)
- Malaysian Institute of Planners (MIP)
- Malaysian Veterinary Medical Association (MAVMA)
- Agriculture Institute of Malaysia (AIM)
- The Chartered Institute of Logistics and Transport Malaysia (CILTM)

- Institut Kimia Malaysia (IKM)
- Malaysian Society of Soil Science (MSSS)
- Malaysian Association of Social Workers (MASW)
- The Plastics & Rubber Institute of Malaysia (PRIM)
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- International Institution of Plantation Management (IIPM)

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