DR3
2026 ACEH

PROGRAMME BOOK

INTERNATIONAL CONFERENCE ON NATURAL & HUMAN DISASTERS 2026

"RETHINKING ARCHITECTURE"

APRIL

17.18.19

2026

Hermes Palace Hotel
Banda Aceh
Indonesia

Organised by:
UIA NATURAL AND HUMAN DISASTERS WORK PROGRAMME

In Collaboration with:
AeA ARCASIA EMERGENCY ARCHITECTS
IKATAN ARSITEK INDONESIA
IKATAN ARSITEK INDONESIA ACEH

Supported by:
EKRAF Kementerian Ekonomi Kreatif/ Badan Ekonomi Kreatif Republik Indonesia
PANCACITA

(A) FOREWORD

AIMEE ROSLAN (MALAYSIA)

Convenor of DR3 Aceh 2026

Head of Region IV (Asia & Oceania),
UIA Natural & Human Disasters Work Programme

Salam Sejahtera,

Welcome to the International Conference on Natural & Human Disasters 2026 (DR3 Aceh 2026).

As Convenor and representative of the International Union of Architects (UIA) Natural and Human Disasters Work Programme for Region IV (Asia & Oceania), it is a meaningful responsibility to host this conference in Banda Aceh, Indonesia—a city that stands as a testament to resilience and a living laboratory of adaptation in the face of natural and human disasters. It is within this continuum that we convene.

Held at the ground zero of the 2004 Indian Ocean tsunami, Banda Aceh continues to embody both memory and recovery. In November 2025, the region was impacted by hydrometeorological disasters causing thousand loss of lives and many more displaced. In this context, the theme DR3: Rethinking Architecture (Disaster Risk Reduction, Resilience, Recovery) calls upon architects, built environment practitioners, academics, the authorities, humanitarian organisations, and communities to rethink: what have we truly learned, and how must we move forward?

This conference is also a story of perseverance. Some of our participants have been affected by the recent United States–Iran conflict, preventing them from travelling to Banda Aceh due to the sudden closure of Middle East airspace. The organising team too faced immense challenges when Cyclone Senyar struck Sumatera just months before the event. From infrastructure disruptions and financial setbacks to personal hardships, the journey was far from easy. Yet, through solidarity and unwavering commitment, we rose above adversity to make this conference possible.

To our collaborators, partners, panellists, participants, and members of the organising team—this is our testament of resilience. My deepest appreciation goes to all for demonstrating that we can rise above natural and human disasters to be here today. I would also like to extend special thanks to my Co-Convenor, Fitriyani Qismullah, whose strength and leadership have been invaluable.

Terima kasih.

RUI LEAO (MACAO)

Secretary General of UIA

It is a great honour to address you as the Secretary General of the International Union of Architects (UIA) in the International Conference on Natural & Human Disasters 2026 in Banda Aceh.

On behalf of the International Union of Architects, I extend my sincere appreciation to the organiser, the UIA Natural and Human Disasters Work Programme; our collaborators - the Indonesian Institute of Architects (IAI), and ARCASIA Emergency Architects (AEA); our host, IAI Aceh Chapter, the Ministry of Creative Economy of the Republic of Indonesia, partners, supporting organisations, speakers, and all of you present for your commitment to this vital global discourse.

Banda Aceh is not only a host city, but a powerful symbol of loss, resilience, and the enduring human capacity to rebuild. The memory of the 2004 Indian Ocean Tsunami remains deeply etched in our collective consciousness.
The UIA remains committed to advancing knowledge, collaboration, and action in addressing natural and human disasters. Through our Natural and Human Disasters Work Programme, we will continue to support efforts that bridge global expertise with local realities.

Let it be a catalyst for partnerships, for innovation, and for action. Let it inspire us to design not only for today, but for a safer and more resilient future for generations to come.

I would like to commend the organisers, led by Aimee Roslan of the UIA Natural and Human Disasters Work Programme, and the organising committee for making this event possible despite the significant challenges faced as it was carried out amid ongoing disasters, with the team continuing their work even as difficult conditions unfolded around them. It is a testament to the resilience and dedication of our profession.

I wish you all a meaningful and impactful conference.

YOLANDA REYES (PHILIPPINES)

Co-Director, UIA Natural and Human Disasters Work Programme

It is with great honour and pleasure that I welcome you all to the International Conference on Natural & Human Disasters 2026, held in Banda Aceh, Indonesia from 17–19 April, under the theme “DR3: Rethinking Architecture (Disaster Risk Reduction, Resilience, Recovery).” This gathering is especially meaningful as we mark the 21st anniversary of the 2004 Indian Ocean tsunami, which profoundly affected Banda Aceh and claimed thousands of lives across many countries. It is a time to reflect on what has been achieved, how communities have recovered, and the lessons we continue to learn together. My sincere congratulations to Convenor Aimee Roslan and Co-Convenor Fitriyani Qismullah, ARCASIA Emergency Architects, the Indonesian Institute of Architects, as well as all speakers, for making this important gathering of professionals possible.. May this conference strengthen collaboration, deepen understanding, and inspire us to lead with responsibility beyond architecture and beyond crisis.

NIKOLAOS PATSAVOS (GREECE)

Co-Director, UIA Natural and Human Disasters Work Programme

As Co-Director of the UIA Natural and Human Disasters Work Programme, it is my honour to welcome you to DR3 Aceh 2026. We are especially privileged to collaborate with esteemed international institutions and dedicated local partners, whose shared commitment has made this gathering possible. Our Programme, and the UIA as a whole, are committed to advancing the social responsibility of architecture, promoting sustainable development, and strengthening the profession’s role in addressing global challenges.

Hosted in Banda Aceh—a place profoundly shaped by the 2004 Indian Ocean tsunami—this conference carries particular significance. It offers a rare opportunity for on-site dialogue, bringing together scientists, practitioners, policymakers, disaster survivors, and other agents of change. Such encounters remind us that while disasters unfold locally, their causes and consequences are deeply interconnected. The urgency of these discussions is global. While impacts are first experienced in specific places, meaningful responses require collective intelligence, sustained cooperation, and transnational exchange.

GEORGIUS BUDI YULIANTO (INDONESIA)

President of IAI

It is a great honor to welcome you to the first-ever International Union of Architects (UIA) event held in Indonesia. This conference is organized by the UIA's Natural and Human Disasters Work Programme in collaboration with Ikatan Arsitek Indonesia (IAI) and Arcasia Emergency Architects (AEA), and supported by the Indonesian Ministry of Creative Economy (EKRAF). It convenes architects, engineers, and experts from around the world in Aceh—a region known for its cultural richness and the remarkable resilience of its people. This gathering reflects Indonesia's commitment to addressing disaster challenges through thoughtful design and global solidarity.

Architecture and urban planning must confront disasters with both innovation and responsibility. By focusing on disaster resilience, humanitarian response, and the built environment, we aim to ensure that our shared spaces protect lives while respecting human dignity. Over the coming days, we will share knowledge and best practices that strengthen communities before, during, and after crisis events.

Aceh's experience as survivors of the 2004 Indian Ocean tsunami offers profound lessons for all of us. The people of Aceh faced unimaginable loss, yet they rebuilt their communities with courage and hope. Their journey from devastation to renewal reminds us that architecture is not merely about structures, but about serving people and honoring their stories.

Let this event be a bridge between global expertise and local wisdom. International practitioners have gathered here in Aceh to listen and learn from its architects, engineers, and citizens. Together, in open dialogue and collaboration, we can advance solutions that make cities and towns safer and more resilient.

As we move forward, every idea shared here becomes a step toward safer futures. We hope this conference inspires continued innovation, partnership, and compassion across borders. Thank you for joining us — together we will build hope and resilience for communities around the world.

SAID HUSSAIN (INDONESIA)

Chair of IAI Aceh

Welcome to Serambi Mekkah, a land where faith, history, and resilience are deeply woven into its identity. On behalf of the Indonesian Institute of Architects (IAI) Aceh Chapter, it is my honour to welcome esteemed experts, academics, and delegates to the International Conference on Natural and Human Disasters 2026 in Banda Aceh.

We gather in a region shaped by profound experiences of natural disasters and human conflict, yet one that stands today as a powerful testament to resilience and recovery. As architects, we share a responsibility to advance design approaches that mitigate risks and strengthen adaptive capacities. This conference provides an important platform to exchange knowledge, inspire innovation, and foster collaboration towards a more resilient future. We wish you a productive conference and a meaningful experience in Aceh.

TONY WONG (HONG KONG SAR)

Director, Arcasia Emergency Architects

On 26 December 2004, a mega earthquake struck off the coast of Banda Aceh, followed by a devastating tsunami that stunned the world. In a matter of hours, 14 countries across the Indian Ocean, as far as East Africa, were affected. More than 230,000 lives were lost, over 100,000 homes were destroyed, and millions were displaced. Entire villages were wiped out—taking not only buildings, but the lives within them.

Yet, this tragedy did not break the spirit of our Indonesian brothers and sisters. With visionary leadership, strong governance, and a resilient community, Banda Aceh rose from the rubble. It has not only rebuilt a better place to live, but has also demonstrated to the world a textbook, best-in-class example of what a comprehensive recovery programme can achieve.

The ARCASIA Emergency Architects (AEA), a subsidiary of the Architects Regional Council Asia (ARCASIA), would like to express our sincere appreciation to the UIA Natural and Human Disasters Work Programme, Ikatan Arsitek Indonesia (IAI), and the IAI Aceh Chapter for the opportunity to collaborate on this meaningful conference. This platform allows us not only to witness over two decades of recovery and resilience, but also to learn from these experiences, exchange best practices with a diverse international community, and further advance the cause of DR3—Disaster Risk Reduction, Resilience, and Recovery—by showcasing Banda Aceh to the world.

On behalf of AEA and ARCASIA, I would like to extend our best wishes for the success of this conference.

(B) GENERAL

B1 ACKNOWLEDGMENT (Collaborators, Supporters & Partner)

Organised by:

Collaborators:

Support by:

Platinum

Silver

Bronze

Supporting organisation:

Media Partner

Special appreciation to:
Esa Mohamed (Malaysia)
UIA Past President 2014-2017

B2 About the International Union of Architects (UIA)

The International Union of Architects / Union Internationale des Architectes (UIA) is a federation of national professional organisations working to unify architects, influence public policies and advance architecture in service to the needs of society.

The UIA was founded on 28 June 1948 in Lausanne, Switzerland, and its headquarters is located in Paris. The organisation is recognised as the only global architecture organisation by most United Nations agencies, including UNESCO, UN-Habitat, World Health Organization, ECOSOC, UNIDO and WTO. The current (2023-2026) President is Regina Gonthier from Switzerland.

Through its Member Sections, the UIA is represented in over 100 countries and territories, geographically grouped into five regions:

Region I: Western Europe
Region II: Central and Eastern Europe and the Middle East
Region III: The Americas
Region IV: Asia and Oceania
Region V: Africa

B3 About the UIA Natural and Human Disasters Work Programme

The UIA Natural and Human Disasters Work Programme serves as a gatherer of know-how on crisis management and a conduit for architects to become better prepared to engage in mobilisation to assist those who need help and are seeking. As climate change significantly affects our world with a potential increase of global unbalance of wealth and resource distribution, and as nations continue to wage internal and external conflicts, this Work Programme's objective stands for raising the conscience and prepare our profession to become more engaged with the scope of disaster management.

B4 About the International Conference on Natural & Human Disasters 2026 (DR3 Aceh 2026)

The International Conference on Natural & Human Disasters 2026, Banda Aceh, Indonesia from 17-19 April 2026, is organised by the International Union of Architects (UIA) Natural and Human Disasters Work Programme, in collaboration with the Indonesian Institute of Architects (IAI) and ARCASIA Emergency Architects (AEA), supported by the Ministry of Creative Economy of the Republic of Indonesia (EKRAF) and the Goverment of Aceh.

Under the theme DR3: Rethinking Architecture (Disaster Risk Reduction, Resilience, Recovery), this 3-day global event will feature the conference, tsunami site visit, engagement with disaster survivors & exhibition.

It brings together architects, built environment professionals, researchers & the community at large to share knowledge, strengthen professional capacity in addressing both natural & human disasters, while exploring how architectural expertise can meaningfully contribute before, during & in the aftermath of crises.

Disaster Risk Reduction – Anticipating risks, reducing vulnerabilities, and designing safer environments.
Resilience – Strengthening communities, infrastructure, and heritage to withstand and adapt to crises.
Recovery – Rebuilding beyond restoration, creating opportunities for sustainable and transformative futures.

Through keynotes, workshops, exhibitions, site visits, and cultural dialogue, DR3 Aceh 2026 will encourage participants to rethink how architecture can safeguard lives, empower communities, and contribute to global strategies for a more resilient future.

B5 Banda Aceh as the host city

Choosing Banda Aceh as the host city for this conference holds both symbolic and practical significance. Located at the northern tip of Sumatra, Banda Aceh is a coastal city shaped by rich Islamic heritage, vibrant local culture, and a strong sense of community. With its historic mosques, traditional markets, and scenic shorelines, the city offers a distinctive blend of cultural identity and urban life.

Banda Aceh is globally recognized for its recovery following the devastating 2004 Indian Ocean tsunami. In the years since, the city has transformed into a model of resilience, showing how communities can rebuild stronger and more sustainably. This transformation is visible not only in physical reconstruction but also in strengthened governance, social cohesion, and forward-looking urban planning.

Today, Banda Aceh serves as a living laboratory for Disaster Risk Reduction and Resilience, where lessons from past experiences are translated into policies, innovations, and community-based practices. The city actively engages with national and international partners to exchange knowledge and foster collaboration, positioning itself as a hub for learning and dialogue on resilience and sustainable development.

Hosting this conference in Banda Aceh gives participants a unique opportunity to engage with a city where memory, culture, and resilience intersect. It provides meaningful context for advancing global conversations on building safer and more resilient communities.

B6 Logo Rationale

Circular Form
Represents a global scale and collective collaboration. It reflects the continuous cycle of disaster risk reduction, resilience, and recovery.

Abstract Waves
Flowing blue lines symbolise natural and human forces— sea, wind, and land—that shape both life and disaster. Their interconnected form expresses adaptation and harmony across disciplines.

Golden Core
The house-shaped form symbolises humanity, hope, and a commitment to building back better.

Convenor

AIMEE ROSLAN

(Malaysia)

Aimee Roslan is an architect, model, and fashion designer, currently heading the International Union of Architects (UIA) Natural and Human Disasters Work Programme for Region IV (Asia & Oceania).

Growing up in disaster-prone regions of Japan shaped her passion for humanitarian action and disaster-resilient architecture. Her inventions — AR Index: Forecasting Building Design Resilience via Architectural Parameters & RS Chart and ROAR Index of Landslide Susceptibility Based on Stratigraphy and Soil Series — earned medals at the 28th International Invention & Innovation Exhibition (ITEX) 2017 and the Invention and Innovation Competition for Private Institutions of Higher Education 2016.

She also serves as Chair of Malaysian Young Professionals at the Malaysian Professional Centre (BIM) and Malaysia's Representative to the Architects Regional Council Asia (ARCASIA) Committee on Social Responsibility, and previously chaired the Emerging Architects Committee at the Malaysian Institute of Architects (PAM).

Co- convenor

FITRIYANI QISMULLAH

(Indonesia)

Fitriyani Qismullah is an architect and educator, currently serving as Head of International Affairs at the Indonesian Institute of Architects (IAI) Aceh Chapter.

A survivor of the 2004 Indian Ocean Tsunami, she is committed to advancing community resilience, post-disaster recovery, and sustainable reconstruction. Based in Banda Aceh, Indonesia, she lectures at Ar-Raniry Islamic State University and teaches in the Architect Professional Education Programme at Syiah Kuala University.

She holds a Master's degree in Urban Planning from the University of Melbourne and uses education as a platform to advocate architecture as a catalyst for social responsibility and positive change. Alongside academia, she actively engages in disaster relief and humanitarian initiatives, partnering with local communities to strengthen preparedness and resilient design strategies, including during the recent 2025 Sumatra hydrometeorological disaster.

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(C) PROGRAMME & SPEAKERS

DAY - 1

Date:
17 April 2026

Rundown
Conference

07:30-08:00	**Registration**
08:00-08:25	**OPENING CEREMONY**
08:25-09:10	**Speeches:** • Welcome by Convenor, Aimee Roslan • UIA Secretary General Rui Leao • IAI President Georgius Budi Yulianto • Governor of Aceh H. Muzakir Manaf • GoH: Minister of Creative Economy of Indonesia Teuku Riefky Harsya • Opening Gong Ceremony
09:10-09:35	**Delivering a token of appreciation for the Organizing Committee, Government, and Partner. Photo Session**
09:35-10:15	Plenary Session **SESSION 1** • Ridwan Kamil (Indonesia) Fomer Governor of West Java, Partner at Urbane
10:15-10:55	Plenary Session **SESSION 2** • Esther Charlesworth (Australia), Architects Without Frontiers
10:55-11:15	**Moderation session & conclusion** • Aimee Roslan (Malaysia) Convenor & Region IV (Asia-Ocenia) representative, UIA NHDWP
11:15-11:55	Discussion With Survivor **SESSION 3** • Dialogue with 2004 Indian Ocean Tsunami first responders and survivors • Speaker 1: Illiza Sa'aduddin Djamal (Indonesia) – The Mayor of Banda Aceh City • Speaker 2: Irwansyah (Indonesia) – Chair of the Banda Aceh City Council • Speaker 3: Tsunami Survivor – 2004 Indian Ocean Tsunami, Aceh Moderator & English translator : • Fitriyani Insanuri Qismullah (Indonesia) - Co-Convenor
11:55-12:00	**End of plenary session by MC**
12:00-14:30	**Break/Lunch at Hermes Palace Hotel**
14:00-14:10	**Opening by MC**
14:10-14:50	**Plenary session** **SESSION 4** • Shatha Safi (Palestine) RIWAQ | 2013 Aga Khan Award For Architecture
14:50-15:30	**Plenary session** **SESSION 5** • Isandra Matin Ahmad (Indonesia) Andra Matin Architects | 2022 Aga Khan Award For Architecture
15:30-15:50	**Moderation session & conclusion** • Tony Wong (Hong Kong) Arcasia Emergency Arhictecs (AEA)
15:50-16:05	**End of plenary session by MC**
16:00-16:35	**Coffee Break**
16:30-17:30	**Transfer to Maha Corner, Lhoknga Beach**
17:30-21:00	**Welcoming dinner at Maha Corner, Lhoknga Beach**
21:00-22:00	**Return to Hermes Hotel**

DAY - 2

Date:
18 April 2026

Rundown
Tsunami Tour

06:55-07:25	Breakfast at accommodation
07:25-07:35	Assembling Point at Hermes Palace Hotel
07:35-07:45	Board the Bus to Baiturahman Mosque
07:45-08:00	Heading to Baiturahman Mosque
08:00-08:20	Photo Session in Front of Baiturahman Mosque
08:20-08:30	Board the Bus to Escape Building
08:30-08:45	Heading to Escape Building
08:45-09:25	Visit Escape Building
09:25-09:35	Board the Bus to PLTD Apung
09:35-09:50	Heading to PLTD Apung
09:50-10:30	PLTD Apung Tour
10:30-10:40	Board the Bus to Tsunami Museum
10:40-10:55	Heading to Tsunami Museum
10:55-11:55	Tsunami Museum Tour
11:55-12:10	Board to Lunch at Balai Kota
12:25-13:25	Lunch at Balai Kota
13:25-13:40	Board the Bus to Hermes Palace Hotel
13:40–14:00	Heading to Hermes Palace Hotel

DAY - 2

Date:
18 April 2026

Rundown
Workshop & Talkshow

Architecture Acceleration Workshop - AAW (morning session)
Supported by: Ministry of Creative Economy (EKRAF)
THEME 1 : Local Perspectives - Practices in Indonesia

08:00-08:25	**Opening Session 1** **Video Industry Partner** **Sponsor Presentation**
08:25–09:40	**SESSION 1** • Ramadhoni Dwi Payana (IAAN, Indonesia) • Mohammad Cahyo Novianto (Nomaden Studio, Indonesia) • Andy Rahman (Andyrahman Architects, Indonesia)
09:40–10:05	**Opening Session 2** **Video Industry Partner** **Sponsor Presentation**
10:05–10:20	**Coffee Break**
10:20–11:35	**SESSION 2** • Ikhsan Hamiru (MIV Architects, Indonesia) • Denny Setiawan (Studio Denny Setiawan, Indonesia) • Arief Isrefidianto (AI-CTLA Studio Architecture-Masterplan-Urban Design)
11:35–11:40	**Opening Session 3**
11:40–12:55	**SESSION 3** • Novriansyah Yakub (Atelier Riri, Indonesia) • Antonius Richard Rusli (RADAR Architects, Indonesia)
12:55–13:00	**Closing Session 1, 2 & 3**
13:00-14:00	**Lunch Break**

Architecture Acceleration Workshop - AAW (afternoon session)
Supported by: Ministry of Creative Economy (EKRAF)
THEME 2 : Global Perspectives - Collaboration & Sharing of Expertise Beyond Borders

14:00-14:05	**Opening Session 4**
14:05-15:20	**SESSION 4** • Hadee Hamidong (Pattani Decoded / ASA Melayu,Thailand) • Nada Inthaphunt (Pattani Decoded / ASA Melayu,Thailand) • Izziah (Lecturer at Syiah Kuala University, Indonesia)
15:20-15:25	**Opening Session 5**
15:25-15:55	**SESSION 5** Summary & Conclusion Panel Discussion with Malaysian Institute of Architects (PAM) Aimee Roslan (Convenor & Region IV (Asia-Oceania) representative, UIA NHDWP)
15.55-16:00	**Closing Session 4 & 5**
16.00-16.25	**Coffee Break**

DAY - 2

Date:
18 April 2026

Rundown
Workshop & Talkshow

International Young Professionals Forum 2026: Humanitarian Action & Community Resilience
Supported by :
Balai Ikhtisas Malaysia (BIM) / Malaysian Professional Centre

16:25-16:30	**Opening Session 6**
16:30-18:20	**SESSION 6**
	• Opening remarks by Juan Joon Ching (President of the Balai Ikhtisas Malaysia (BIM), Malaysia) • Simon Benjamin (Malaysia) (President of the Malaysian Institute of Human Resource Management (MIHRM), Malaysia) • Aya Tahan (Palestine) RIWAQ • Muhammad Qhawarizmi Norhisham (Chair of the Arcasia Committee on Young Architects-ACYA) • Yuli Kusworo (Founder Arkom Foundation, Indonesia) Hosted by: Aimee Roslan, Chair of BIM Young Professionals Committee
18:20-18:30	**Closing Session**

DAY - 3

Date:
19 April 2026

Rundown
Conference & Pararrel Session

07:30-08:00	**Registration** **Video Industry Partner**
08:30-09:30	**Roundtable on 'Rebuilding Gaza'** • Rui Leao (Macao) UIA Secretary General (2023-2026) • Ibrahim Alhindi (Palestine) Association of Architects Palestine (AAP) • Tony Wong (Hong Kong) Director Arcasia Emergency Architects (AEA) • Moderator: Yolanda David-Reyes
09:30-11:10	**1st PARALLEL SESSION (5 Room)**
11:10-12:30	**2nd PARALLEL SESSION (5 Room)**
12:30-13:45	**Lunch break at Hermes Palace Hotel Restaurant**
13:45-13:50	**Opening by MC**
13:50-14:30	**Plenary Speaker 1** • Khamarrul Azahari Razak (Malaysia) MERCY Malaysia DIsaster Prevention & Preparedness Centre Malaysia-Japan Institue of Technology (MJIIT)
14:30-15:10	**Plenary Speaker 2** • Mirza Irwansyah (Indonesia) Syiah Kuala University Banda Aceh (UNSYIAH)
15:10-15:30	**Moderation session & conclusion** • Batshetsi Kgamane (Botswana) Region V (Africa) Representative, UIA NHDWP (Convener and Co-convener will be delivering the token appreciation)
15:30-15:40	**Coffee break & Preparation of Parallel rooms**
15:40-17:00	**3rd PARALLEL SESSION (5 Room)**
17:00-17:40	**Coffee Talk With UIA NHDWP** • Nikolaos Patsavos (greece) Co-Director, UIA NHDWP • Yolanda David-Reyes (Philippines) Co-Director, UIA NHDWP • Moderator: Ar. Aimee Roslan (Malaysia) Convenor & Region IV (Asia-Ocenia) representative, UIA NHDWP
17:30-17:45	**Closing Ceremony** End Speech by: **Yolanda David-Reyes (Philippines)** (Declaration of resolution) Play video: Highlights of DR3 Aceh 2026 Closing Remark by: **Aimee Roslan (Malaysia)** Convenor & Region IV (Asia-Oceania) representative, UIA NHDWP (5m)
17:45-18:00	**Photo session**

DAY - 4

Date:
20 April 2026

Rundown
Sabang Island Tour

06:30-06:45	Board the Bus
06:45-07:15	Transfer from Hotel to Ulee Lheue Port
07:15-07:30	LO Briefing and Coordination
07:30-08.00	Board the Cruise Ship
08.00-09:00	Depart for Sabang (Weh Island)
09.00-09:15	Disembark from the Cruise Ship
09:15-09:45	Welcoming session by the Mayor
09:45–10:00	Board the Hi-Ace
10:00-10.25	Transfer to Emergency Architects Foundation (EAF) Site Visit Location
10:25–10:40	Disembark from the Hi-Ace
10:40–11:40	Site visit to the Housing Aid Program by the Emergency Architects Foundation (EAF)
11:55-12:10	Transfer to Sabang's Pendopo
12:10-13:10	Lunch and Zuhr Prayer
13:10-13:25	Board the Hi-Ace
13:25-14:10	Transfer to Jaboi Volcano
14:10-14:25	Disembark from the Hi-Ace
14:25-14:45	Hike Up Jaboi Volcano 1 & 2
14:45-15:45	Explore Jaboi Volcano 1 & 2
15:45-16:00	Hike Down Jaboi Volcano 1 & 2
16:00-16:15	Board the Hi-Ace
16:15-17:00	Return to Hotel
17:00-18:00	Room Allocation
18:00-19:00	Free Time, Shower and Prepare for Dinner
19:00-19:15	Board the Hi-Ace
19:15-19:30	Transfer to Casanemo
19:30-20:00	Dinner Opening Session
20:00-21:30	Dinner at Casanemo
21:30-21:45	Board the Hi-Ace
21:45-22:00	Return to Hotel

DAY - 5

Date:
21 April 2026

Rundown
Sabang Island Tour

06:30-07:00	Breakfast at the Hotel
07:00-07:15	Board the Hi-Ace
07:15-07:30	Transfer to Tugu Merah Putih
07:30-07:45	Board the Boat (Separated Group)
Group 1 (Dry Excursion)	
07:45-10:30	Dolphin Hunting + Gua Sarang + Transfer to Teupin Layeu
10:30-10:45	Board the Hi-Ace
10:45-11:15	Transfer to Kilometer Zero Monument (0 KM Indonesia)
11:15-12:00	Photo Session at Kilometer Zero Monument
12:15-12:45	Return to Teupin Layeu
12:45-13:00	Board the Boat
13:00-13:15	Transfer to Rubiah Island
13:15-14:15	Lunch and Zuhr Prayer
14:15-14:30	Board the Boat
14:30-14:45	Transfer to Teupin Layeu
14:45-15:00	Board the Hi-Ace
15:00-15:30	Transfer to Sabang Downtown
15:30-16:00	Explore Historical Sites
16:00-16:15	Board the Hi-Ace
16:15-16:45	Transfer to Hotel
16:45-18:00	Free Time
18:00-19:00	Prepare for Dinner
Group 2 (Wet Excursion)	
07:45-10:30	Dolphin Hunting + Gua Sarang + Transfer to Teupin Layeu
10:30-13:15	Snorkeling
13:15-14:15	Lunch and Zuhr Prayer
14:15-14:30	Board the Boat
14:30-14:45	Transfer to Teupin Layeu
14:45-15:45	Shower & Change at Teupin Layeu
15:45-16:00	Board the Hi-Ace
15:45-16:00	Transfer to Kilometer Zero Monument (0 KM Indonesia)
16:30-17:15	Photo Session at Kilometer Zero Monument
17:15-17:30	Board the Hi-Ace
17:30-18:30	Return to Hotel
18:30-19:30	Prepare for Dinner

DAY - 5

Date:
21 April 2026

Rundown
Sabang Island Tour

Group 1 & 2

19:00-19:15	Board the Hi-Ace
19:15-19:30	Transfer to Casanemo
19:30-21:30	Dinner at Casanemo
21:30-21:45	Board the Hi-Ace
21:45-22:00	Return to Hotel

DAY - 6

Date:
22 April 2026

Rundown
Sabang Island Tour

06:30-07:00	Breakfast at Hotel & Hotel Check-Out
07:00-07:15	Board the Hi-Ace
07:15-07:30	Transfer to Balohan Sea Port
07.30-08:00	Board the Cruise Ship
08.00-09:00	Return to Banda Aceh
09.00-09:30	Disembark from the Cruise Ship
09:30-09:45	Board the Bus
09:45-10:30	Transfer to Hermes Hotel

C6 List of Plenary Speakers

RIDWAN KAMIL (INDONESIA)

ESTHER CHARLESWORTH (AUSTRALIA)

IRWANSYAH (INDONESIA)

AYA TAHHAN (PALESTINE)

ANDRA MATIN (INDONESIA)

RUI LEAO (MACAO)

IBRAHIM ALHINDI (PALESTINE)

TONY WONG (HONGKONG)

KHAMARRUL AZAHARI (MALAYSIA)

MIRZA IRWANSYAH (INDONESIA)

YOLANDA DAVID-REYES (PHILIPPINES

NIKOLAOS PATSAVOS (GREECE)

RIDWAN KAMIL (INDONESIA)

Fomer Mayor of Bandung, Former Governor of West Java, Partner at Urbane Indonesia

Architecture, for Ridwan Kamil, is not merely the act of building, but a medium to shape memory, culture, and the human experience of place. An architect by training and a public servant by calling, he served as Mayor of Bandung and Governor of West Java, where his design ethos extended into the fabric of the city. Through Urbane Indonesia, the studio he co-founded, he continues to approach architecture as a dialogue between context, culture, and people. His work reflects a refined balance between function and meaning, guided by a deep commitment to placemaking—crafting spaces that foster identity, belonging, and collective memory. This vision extends through Urbane Community, focusing on resilience and post-disaster architecture, where design becomes a tool to restore dignity and continuity. It is most evocatively expressed in the Museum Tsunami Aceh—conceived as both memorial and spatial narrative, transforming remembrance into an immersive experience rooted in the cultural and spiritual identity of Aceh. For Ridwan Kamil, architecture remains a quiet yet enduring act—preserving memory, fostering resilience, and giving meaning to place.

ESTHER CHARLESWORTH (AUSTRALIA)

Architects Without Frontiers

Esther Charlesworth is the founding Director of Architects without Frontiers [AWF] and also one of the founders of Architectes Sans Frontieres [ASF] International. Since 2002, AWF has undertaken over 42 health, education and social infrastructure projects in 12 countries for vulnerable communities and has been described by ABC radio broadcaster Phillip Adams as ‘destined to develop into one of the greater forces of good on this battered planet’.

Esther was also a Professor in the School of Architecture and Design at RMIT University, where she founded the Master of Disaster, Design and Development degree [MoDDD] and the Humanitarian Architecture Research Bureau [HARB]. Charlesworth has worked in the public and private sectors of architecture and urban design in Melbourne, Sydney, New York, Boston and Beirut since graduating with a Masters in Architecture and Urban from Harvard University in 1995. In 2004 she was awarded her PhD from the University of York (UK). She has published eight books on the theme of social justice and architecture, including: ‘Divided Cities’ (2011), ‘Humanitarian Architecture’ (2014) ‘Sustainable Housing Reconstruction’ (2015) and ‘Design for Fragility’ (2022).

ILLIZA SA'ADUDDIN DJAMAL

The Mayor of Banda Aceh

Eliza Sa'aduddin Djamal serves as the Mayor of Banda Aceh and is widely recognised as a visionary and dedicated public leader. She possesses extensive experience across a broad range of sectors, including governance, urban development, economic advancement, women's empowerment, law, education, healthcare, information technology, public service delivery, and disaster risk reduction.

Her leadership has been acknowledged through numerous national and international distinctions. Notable honours include Champion of Women Leadership conferred by United Cities and Local Government Asia-Pacific (2017), Best Mayor in Indonesia by Jawa Pos Group (2016), and Best Marketeer by MarkPlus, Inc (2016).

She has also been recognised for her contributions to gender equality, community empowerment, and sustainable development. Her work reflects a sustained commitment to inclusive growth, institutional resilience, and the enhancement of quality of life for the citizens of Banda Aceh.

IRWANSYAH (INDONESIA)

Head of Parliament of Banda Aceh

Irwansyah completed his undergraduate studies in Architecture at Universitas Syiah Kuala. He began his professional career as a planning consultant, and later served as Assistant Manager at the BRR NAD–Nias during the post-tsunami rehabilitation period, where he was involved in large-scale recovery efforts and community empowerment initiatives.

Alongside his professional work, he has demonstrated strong leadership since his student years, serving as President of the Student Executive Body and Chairman of the Student Representative Council at Universitas Syiah Kuala, as well as Vice Chairman of KNPI Banda Aceh.

His public service continued through his involvement with Partai Keadilan Sejahtera, where he served as Secretary General of the Banda Aceh chapter. He was subsequently elected as a member of the Banda Aceh City Council (DPRK) for two consecutive terms (2014–2019 and 2019–2024).

For the 2024–2029 term, he serves as Chairman of the Banda Aceh City Council, while also actively contributing as Chairman of the Architecture Alumni Association of Universitas Syiah Kuala. For him, leadership is a form of service—strengthening collaboration, advancing people-centred policies, and promoting urban development that is both sustainable and meaningful for the community.

AYA TAHAN (PALESTINE)

RIWAQ

Aya received her architectural degree from Birzeit University in 2011, and worked at a design office for over a year before joining RIWAQ in 2012. Since then, she has worked on several design projects, as well as surveying and drafting maps of historic fabrics in different parts of the West Bank. She is interested in green and environmental architecture and in designing public spaces.

ANDRA MATIN (INDONESIA)

Andra Matin Architects
2022 Aga Khan Award For Architecture

sandra Matin (Andra Matin) is a figure who constantly enriching architectural style in Indonesia. Their modern-styled mass becomes their strong character. In the early years, their works were dominated by residential, yet nowadays, their design works have ranged, from furniture, wide-scaled buildings, to urban design. The many awards they have been awarded with and their participated works in some national and international exhibitions and publications become a proof towards their competency and consistency in architecture. Some of those are IAI Awards with Commercial Building nomination for Le Bo Ye Design Office (1999) and Honorable Mention in Revitalisasi Galeri Seni Rupa with Antoine Predock as one of the judges. They are also acknowledged with IAI Awards in 2002, 2006, 2008, and 2012. Along his role in the architectural practice, Andra Matin is also a founder of Rabu(n) Senja, a monthly discussion/sharing session about architecture and other professionals held on Wednesday, in kopimanyar, Tangerang Selatan.

IBRAHIM ALHINDI (PALESTINE)

Association of Architects Palestine (AAP)

Ibrahim Alhindi is an architect affiliated with the Association of Architects Palestine (AAP), with professional experience shaped by working within environments affected by conflict, resource constraints, and pressures on the built environment.

His involvement with AAP situates him within a professional network that not only upholds architectural standards, but also promotes the role of design in addressing complex social realities in Palestine. In this context, architecture extends beyond technical solutions, serving as a means to sustain identity, support community continuity, and adapt to constantly evolving conditions.

His approach emphasizes context-sensitive design—responding to local needs while navigating uncertainty. Through this lens, architecture becomes part of a broader effort to strengthen resilience and sustain everyday life in challenging environments.

As a speaker at DR3 Aceh 2026, he will share insights and reflections on architectural practice in crisis contexts, and the role of design in supporting community resilience in conflict-affected regions.

KHAMARRUL AZAHARI (MALAYSIA)

MERCY Malaysia DIsaster Prevention & Preparedness Centre
Malaysia-Japan Institue of Technology (MJIIT)

Dr. Khamarrul Azahari bin Razak is an academic and researcher at Universiti Teknologi Malaysia, specializing in disaster risk reduction, geospatial science, and geosciences. He serves as a Senior Lecturer at the Malaysia-Japan International Institute of Technology (MJIIT) and has previously held the position of Director at the Disaster Preparedness and Prevention Centre (DPPC).

With expertise in remote sensing, geomorphology, and spatial analysis, his work contributes significantly to disaster risk mapping, landslide assessment, and the development of resilience strategies supported by advanced geospatial technologies.

His research reflects an interdisciplinary approach that integrates science, technology, and policy, supported by active engagement in international collaborations and professional networks in disaster risk reduction.

Beyond research, he is actively involved in capacity building and the implementation of community-based disaster risk management initiatives, promoting inclusive and practical resilience strategies.

MIRZA IRWANSYAH (INDONESIA)

Syiah Kuala University Banda Aceh (UNSYIAH)

Mirza Irwansyah is an academic at Universitas Syiah Kuala, with a focus on architecture and planning, particularly in the areas of disaster resilience, risk-sensitive design, and context-responsive built environments.

Through his academic and research engagements, he contributes to the development of design approaches that go beyond functionality, addressing sustainability and resilience in the face of environmental challenges. His work positions architecture as a medium to explore the relationship between people, space, and environmental dynamics.

As a speaker at DR3 Aceh 2026, he will share insights and experiences on the role of architecture in responding to disaster-related challenges, and how design approaches can contribute to building a more resilient future.

C7 List of Architect Acceleration Workshop (AAW)

LOCAL PERSPECTIVES

Ramadhoni Dwi Payana
Simon+Dhoni Studio
Indonesia

Mohammad C. Novianto
IAAN
Indonesia

Andy Rahman
Andyrahman Architects
Indonesia

Ikhsan Hamiru
MIV Architects
Indonesia

Denny Setiawan
Studio Denny Setiawan
Indonesia

Arief Isrefidianto
Al-CTLA Studio
Indonesia

Novriansyah Yakub
Atelier Riri
Indonesia

Antonius Richard Rusli
RADAR Architects
Indonesia

GLOBAL PERSPECTIVES

EXPERTISE BEYOND BORDERS

Hadee Hamidong
ASA Melayu
Thailand

Nada Inthaphunt
ASA Melayu
Thailand

Izziah
Lecturer at Syiah Kuala University
Indonesia

INTERNATIONAL YOUNG PROFESSIONALS FORUM 2026

Juan Joon Ching
President of BIM
Malaysia

Simon Benjamin
President of MIHRM
Malaysia

Muhammad Qhawarizmi
Chair of ACYA
Malaysia

Yuli Kusworo
Founder Arkom
Foundation Indonesia

RAMADHONI DWI PAYANA (INDONESIA)

Simon+Dhoni Studio

Ramadoni Dwi Payahna is an architect based in Medan, Indonesia, specializing in heritage conservation and urban revitalization. A graduate of the Architecture program at the University of Sumatera Utara (USU), he has been practicing at Simon Doni Studio since 2004.

His work focuses on preserving and adapting historic buildings and districts, balancing cultural value with contemporary needs. He received the IAI Award in 2018 (Heritage category) and served as a curator for ARCID in 2022.

MUHAMMAD CAHYO NOVIANTO (INDONESIA)

Nomaden Studio

Mohammad Cahyo Novianto is an Indonesian practicing designer and traveling researcher whose work bridges professional practice, research, and knowledge dissemination. Over more than two decades, he has contributed to approximately 100 projects across multiple scales, from buildings to regional and settlement planning. His approach positions architecture within broader socio-spatial processes, engaging the interrelations of culture, governance, and lived realities, particularly in contexts shaped by uncertainty and change.

He actively contributes to architectural literacy through his involvement and as a founder of the Indonesia Architecture Archive Network (JAAI) and as board of advisor at Omah Library, developing platforms for documentation, research, (book) publication, and public engagement that connect practitioners, academics, and wider communities. His experience in disaster-affected contexts, including post-disaster crisis of earthquake tsunami- liquefaction in Palu (2018) and the silence tsunami of Sunda Strait (2018), informs a reflective and non-prescriptive stance. Rather than offering fixed solutions, his work fosters dialogue, critical interpretation, and context-sensitive approaches— aligning architectural practice with the complexities of resilience, recovery, and long term transformation.

ANDY RAHMAN (INDONESIA)

Andyrahmanarchitect

Material and craftsmanship define the architectural practice of andyrahman architect. Architecture is developed through a deep engagement with material—particularly earth and brick—treated as active mediums with physical, historical, and cultural agency in shaping space. Design is driven by hands-on experimentation and close collaboration with local artisans. Through tectonic exploration, modular systems, and construction techniques, architectural knowledge emerges from the act of making, where craftsmanship becomes a central mode of inquiry.Through this material–craft dialogue, architecture is framed as an honest and contextual practice, where brick functions as both medium and language, shaping spatial expression through skill, precision, and sensitivity to material.

IKHSAN HAMIRU (INDONESIA)

MIV Architects

Ikhsan Hamiru is an architect practicing through MIV Architects in Makassar. In his approach, he views architecture as an ongoing learning process. His primary focus is on exploring spaces that respond to the local context and environment, such as the effort to apply low-carbon principles in the AVIRA Co-Living project, the biophilic concept at DIERRA Cafe, or the nature-integrated spatial design at PADI Rest Area. He also frequently engages in cross-disciplinary explorations with other creative practitioners to enrich the understanding of space. For Ikhsan, design is not about personal achievement, but rather a humble endeavor to harmonize human needs with their surroundings in a calm and functional manner

DENNY SETIAWAN (INDONESIA)

Studio Denny Setiawan

Architect Denny Setiawan was born in Jakarta 39 years ago. He is a registered architect in Jakarta who run his own office named Studio Denny Setiawan. His project located in several region of Indonesia. He also teach in Binus University in Jakarta. Denny began his career by learning about the city context. He lives in Jakarta, a megacity with a population of more than 15 millions and still continues to grow. This development will also continue to require a new architecture that is.relevant to the environment, responsive to issues, and related to the tropical climate context. Denny with his teammates are continuing to make some research to produce a new way of living in architecture that contextual to every cities in Indonesia. Now his works are built in more than 10 cities in Indonesia. Denny makes several forms of contemporary architecture, combining various materials, stone, wood, brick and concrete. The architecture that Denny makes for an atmosphere is a marker for people in Indonesia. Denny is a Deputy President on Young Architects and Communities of Indonesian Institute of Architects or known as IAI. Now he is a Chairman of ARCASIA Committee of Young Architects. He is a spoke-person to several national and International forum regarding architecture and architectural education. His spirit in architecture influence himself to involved in several architecture and art communities and discourses. His vision of Indonesian architecture is to endorse a humble surrounding by architecture made by Indonesian young Architects.

ARIEF ISREFIDIANTO (INDONESIA)

AI-CTLA Studio Architecture-Masterplan-Urban Design

Arief Isrefidianto is the principle design director of AI-CTLA Studio. His primary fundamental perspective is prioritizing the effectiveness and efficiency of public and private spaces, reflecting the development of human civilization. This point then gave birth to the principle of affordability in each of his designs, including: the holistic concept of space activation, rational construction financing, reasonable construction methods, and easy building maintenance. These details are a translation of each design program compiled by AI-CTLA in contextual urbanism masterplan projects, both city-scale and integrated areas.

NOVRIANSYAH YAKUB (INDONESIA)

Atalier Riri

Atelier Riri is a design and architecture firm founded by Novriansyah Yakub (Riri) in Jakarta. This Firm is a broadening notion to what Riri belived and do since he begin his architectural debute in 2005. Until now the firm has been evolve with the work of architecture, interior, landscape, and product design. All of those works reveal a deep concern on reliable function without set aesthetic values aside. The key to this dedication is always listening to and asking the client which will gather more information to understand and learn essential things of the user's requirements and demands. Atelier Riri's point of views on architecture and other fields a of creative design has always been focused on how to connect the live, the surrounding, and the sustainable design minded within a contemporary solutions. Therefore, architecture works will not merely a building, but also a responsive attitude toward its context.

Maintain a clear view on the context and surrounding in order to gain a deeper understanding to produce function, aesthetic, and innovation. With a broad vision on sustainability and eco design, Atelier Riri commited to a develope prefab building for more efficient and practical way of construction. All of those things will be done in a platform of reasonable execution and construction.

ANTONIUS RICHARD RUSLI (INDONESIA)

RAD+AR Architects

Antonius Richard Rusli is an Indonesian architect and founder of RAD+ar (Research Artistic Design + Architecture). The practice focuses on architecture as an inclusive and adaptable discipline, with an emphasis on sustainable solutions in everyday contexts. Working across architecture, urbanism, and design research, RAD+ar engages with the relationship between space, culture, and environment, particularly within tropical settings. His projects reflect an ongoing exploration of approaches to sustainability, resilience, and community-oriented design.

Architecture is approached as a process of understanding context and responding to it through thoughtful and grounded spatial strategies.

HADEE HAMIDONG (THAILAND)

Pattani Decoded / ASA Melayu

Hadee Hamidong is a cultural practitioner based in Pattani, Thailand, whose work engages closely with local identity, community narratives and regional heritage. Through his involvement in initiatives such as Pattani Decoded and ASA Melayu, he contributes to a broader discourse on architecture within the Malay cultural context.

His approach situates beyond physical form, positioning it as a medium to interpret place, history and collective memory. Working at the intersection of architecture and cultural exploration, his projects and initiatives often highlight overlooked narratives and local knowledge, bringing them into contemporary spatial conversations.

NADA INTHAPHUNT I (THAILAND)

Pattani Decoded / ASA Melayu

Nada Inthaphunt is an architect and researcher from Thailand whose work engages deeply with cultural narratives, identity, and the spatial dynamics of the Malay world. Through her involvement in Pattani Decoded and ASA Melayu, she explores architecture as a medium for interpreting layered histories, local traditions, and socio-political contexts within Southern Thailand.

Her work reflects a critical and reflective approach, positioning architecture not only as a physical construct but as a cultural discourse that reveals hidden stories embedded within place. By decoding vernacular patterns, everyday spaces, and community practices, she contributes to a broader understanding of how architecture can preserve memory while responding to contemporary challenges.

IZZIAH (INDONESIA)

Lecturer at Syiah Kuala University

Izziah is a lecturer in the Architecture Study Program at Universitas Syiah Kuala (USK), with over 20 years of academic experience. She obtained her Bachelor's degree from Institut Teknologi Sepuluh Nopember (ITS), Surabaya, pursued her Master's degree in Interior Design at Drexel University, Philadelphia, and earned her Ph.D. degree in Architecture from The University of Adelaide, Australia.

Her academic expertise lies in the history, theory, and criticism of architecture. Her doctoral dissertation, entitled "Architecture and the Politics of Identity in Indonesia: A Study of the Cultural History of Aceh," explores the relationship between architecture, identity, and socio-cultural dynamics.

In addition to her academic and research activities, Izziah has actively contributed to development planning in collaboration with regional and municipal governments, including Bappeda Aceh, the Department of Transportation, mayoral offices, the Department of Tourism, and the Department of Public Works, particularly in the fields of architecture and built environment.

JUAN JOON CHING (INDONESIA)

President of the Balai Ikhtisas Malaysia (BIM)

Juan Joon Ching is a chemist and professor at University of Malaya, Malaysia, and serves as President of Balai Ikhtisas Malaysia, representing a collective of built environment professionals committed to advancing standards, collaboration and professional practice across Malaysia.

With a role that bridges disciplines within the built environment, his leadership reflects an integrated perspective on architecture, engineering and urban development. His work emphasises the importance of coordination, governance and shared expertise in shaping resilient and well-managed environments.

SIMON BENJAMIN (MALAYSIA)

President of the Malaysian Institute of Human Resource Management (MIHRM)

Simon Benjamin is the President of the Malaysian Institute of Human Resource Management (MIHRM), a leading professional body dedicated to advancing human resource practices and professional standards in Malaysia. With extensive experience in human capital development, his leadership focuses on strengthening organisational capability, talent development and professional excellence across industries.

In his role at MIHRM, he actively promotes the importance of strategic human resource management in shaping resilient organisations and sustainable workforce ecosystems. His work emphasises the integration of leadership, governance and people-centred approaches in navigating contemporary challenges.

MUHAMMAD QHAWARIZMI NORHISHAMI (MALAYSIA)

Chair of the Arcasia Committee on Young Architects-ACYA

Qhawarizmi is a firm believer in the continuous discipline of honing the craft of design thinking. He was trained in Architecture at Universiti Teknologi MARA (UiTM), University of Technology Sydney (UTS), The AEDES Metropolitan Laboratory Berlin, and Politecnico di Milano (POLIMI).

He runs multiple practices, as Principal of Qhawarizmi Architect, Director of Praktika Architects Sdn. Bhd. , and Partner of a research think tank, Manifesto of Design and Research in Architecture (MDRXA). In his academic career, he has lectured for a collective eight years at UiTM, Taylor's University and UCSI University. With over 50 awards under his belt, he is an award-winning architect, and currently serving as Chairman in ARCASIA Committee on Young Architects (ACYA).

YULI KUSWORO (INDONESIA)

Founder Arkom Foundation

Yuli Kusworo redefines architecture as a political and collective act; one that moves beyond design to stand with the poor and marginalised, enabling knowledge transfer and community-led recovery. His work is grounded in people-driven reconstruction in Indonesia following major disasters, including the 2004 Indian Ocean tsunami, post-eruption recovery in central java, and community-led reconstruction post-tsunami in Central Sulawesi 2018, where affected communities take the lead in shaping their own environments.

For Yuli, architecture is a shared and evolving process rooted in participation, where communities are recognized not only as beneficiaries, but as subject of knowledge holders and co-creators of space. Through long-term engagement and a living ecosystem of collective action, his work highlights that resilience emerges from within communities, expanding social impact, informing policy, and contributing to more just and ecological futures.

(D) BOOK OF ABSTRACTS

D1 List of Parallel Session (index)

9:30-11:10	1ST PARALLEL SESSION (5 ROOMS)
11:10-12:30	2ND PARALLEL SESSION (5 ROOMS)
13:50-14:30	3RD PARALLEL SESSION (5 ROOMS)

- Room 1 : Medina
- Room 2 : Medina 3
- Room 3 : Serambi Hall
- Room 4 : Lampineung
- Room 5 : Lhoknga

1st PARALLEL SESSION
09:30 - 11:10

ROOM 1	09.30-09.50	A Catchment-based Landscape Planning Framework for Flood Mitigation: The Case of Tamiang Catchment, Aceh, Indonesia ***Medria Shekar Rani***
	09.50-10.10	Amphibious Design Strategies for Flood-Resilient Housing: Adapting Vernacular Typologies in the Meghna Estuary, Bangladesh ***Tasnim Haque***
	10.10-10.30	Appropriate Adaptive Technologies for Flood-Resilient Housing: The Case of Segara Anakan, Indonesia ***Lily Tambunan***
	10.30-10.50	Resilient Architectural Design Based on Landscape-Driven Flash Flood Watershed Mitigation Planning Case Study: Conceptual Housing Design in Bandar Mahligai Village, Aceh Tamiang Regency ***Budi Faisal***
ROOM 2	09.30-09.50	Resilient and Water-Adaptive Settlements in NIKLI HAOR: Integrating Eco-Infrastructure for Sustainable Rural Development in Bangladesh. ***Muzahid Islam***
	09.50-10.10	From Pollution to Disaster Risk: Understanding Environmental Degradation Pathways in Flood and Landslide Contexts ***Cut Dian Nuryanty***
	10.10-10.30	Integrating GIS-Based Spatial Analysis and Participatory Validation for Building-Focused Flood Risk Mitigation ***Dewi Larasati***
	10.30-10.50	Integrating Rainfall Erosivity and Soil Erodibility for Landslide Risk Forecasting in Malaysian Tropical Highland ***Roslan Zainal Abidin***
ROOM 3	09.30-09.50	Beyond the Industrial Fence Line: A Systematic Review of Indicators for Wide-Area NATECH (Natural Hazard-Triggered Technological Accidents) Risk Assessment and Management ***Mohd Zainoor Annuar Mohd Zain (First Author), Khamarrul Azahari Razak (Presenter)***
	09.50-10.10	Identifying 'Early Symptoms' of Flood-Vulnerability Settlements: A Multidimensional Spatial Framework **Maria Myron Charlotta Sengke** ***(First Author), Denny Setiawan (Presenter)***
	10.10-10.30	Integrating Resilience Components in Post-Disaster Housing Reconstruction: A Systematic Review of Models, Frameworks, and Implementation Gaps ***Hilda Mufiaty***
	10.30-10.50	From Engagement to Measurement: Community Participation Index for Flood Resilience in Malaysia ***Muhammad Fauzie Ismail (First Author), Khamarrul Azahari Razak (Presenter)***

The schedule is correct as at 16 April 2026, subject to changes.

1st PARALLEL SESSION
09:30 - 11:10

ROOM 4

09.30-09.50	Evolution of Rakhine Dwelling Architecture in Kuakata, Bangladesh: Analyzing Traditional Styles, Practices, and Gradual Shifts ***Yuli Kusworo***
09.50-10.10	Earthquake Vulnerability of Aging Buildings in Chattogram: Rethinking Architecture for Disaster Risk Reduction and Urban Resilience ***Tanbir Mahmud Chowdhury***
10.10-10.30	Disaster risk reduction in Chittagong Hill Tracts through the impementation of portable housing strategy incorporating vernacular knowledge ***Labiba Mashiha Ta-sin***
10.30-10.50	Psycho-Spatial Resilience Model: Integrating Mental Health Considerations into Architectural Design for Human Disaster Recovery ***Asep Yudi Permana***

ROOM 5

09.30-09.50	Rethinking Police Lockup Design for Health and Human Rights ***Bismiazan Abd. Razak***
09.50-10.10	Rethinking Prison Security Systems for Institutional Resilience and Safety in Malaysia ***Bismiazan Abd. Razak***
10.10-10.30	Standard Operating Procedure (SOP) for the Evacuation of Persons with Disabilities (PwDs) During Emergencies: A Disability-Inclusive Framework for the Built Environment ***Mumtazah Mustajab***
10.30-10.50	Therapeutic and Inclusive Architecture: Resilience and Identity Reconstruction Post-Conflict ***Shekinah AZIZA ABEDI (First Author), AZIZA ABEDI Shekinah (Presenter)***

The schedule is correct as at 16 April 2026, subject to changes.

2nd PARALLEL SESSION
11:10 - 12:30

ROOM 1	11.10-11.30	Climate Adaptation in The Built Environment Under Heavy Rainfall For Breathable Heritage Materials: A Case Study of King Edward VII (1) School, Taiping, Malaysia ***Siti Norbaya Mohd Konar***
	11.30-11.50	Floating Houses as Environmental Adaptation in Kuala Bubon Village, West Aceh ***Kartika Selytias Utami***
	11.50-12.10	Community-Based Assessment of Settlement Damage After Flash Floods: Evidence from Aceh Tamiang ***Yuli Kusworo***
ROOM 2	11.10-11.30	Integrated Landslide Risk Assessment (ILRA) in Penang Island, Malaysia Using GIS, Remote Sensing and Geophysical Techniques **Mohd Amirul Mahamud**
	11.30-11.50	Retrofitting for Resilience: Recovery Pathways and Adaptive Retrofit Frameworks for Flood-Prone High-Density Landed Urban Housing in Malaysia ***Ravindren Chelliah (First Author), Rishendra Chelliah (Presenter)***
	11.50-12.10	Socio-Ecological Framework of the Tamiang Philosophy: Integrating Local Wisdom into Disaster Risk Reduction in Tamiang Watershed, Aceh Province, Indonesia ***Mohammad Zaini Dahlan***
ROOM 3	11.10-11.30	Institutionalizing Local Disaster Risk Reduction: Challenges and Prospects on the Sendai Framework Priorities in Aceh Province, Indonesia ***Yolanda***
	11.30-11.50	Resilience Resettlement And Recovery Strategies For Large-Scale Disaster In Aceh: Stories From The Field ***Norazam Ab Samah***
	11.50-12.10	Resilient Communities in Disaster Zone ***Nurmansyah***
	12.10-12.30	Beyond Housing Provision: Gendered Social Effects of Community-Driven Collaborative Relocation in Palu, Indonesia **Yuli Kusworo *(First Author), Cut Puan (Presenter)***
ROOM 4	11.10-11.30	Indigenous Architecture As A Model For Disaster Resilience: Hybrid Model Design Based on Steel Structure ***Andi Abidah***
	11.30-11.50	AI-Based Rapid Lung Disease Screening in Built Environment Settings for Disaster and Pandemic Healthcare Response ***Nurhayati***
	11.50-12.10	Architecture of Public Health - 3 provisions ***Natalie Mossin (First Author), Peter Moerkeberg Hinsby (Presenter)***

The schedule is correct as at 16 April 2026, subject to changes.

2nd PARALLEL SESSION
11:10 - 12:30

ROOM 5	11.10-11.30	Kitchen Ergonomics and Anthropometry in Asian Traditional Kitchens: A Scoping Review ***Fitriyani Insanuri Qismullah***
	11.30-11.50	The Illusion of Living Space: Redesigning a Bamboo Cottage into Temporary Housing in Central Aceh ***Ferian Yavis Pradika***
	11.50-12.10	Being Dymaxion in the 21st Century ***Subham Barman***

The schedule is correct as at 16 April 2026, subject to changes.

3rd PARALLEL SESSION
15 :40 - 17:00

ROOM 1

15.40-16.00	Nature-based Solustion for Urban Flood Risk Reduction: A Case Study in George Town UNESCO World Heritage Site, Penang ***Haslinda Binti Mohamad Hamran***
16.00-16.20	Climate-Driven Coastal Resettlement as a Negotiated Process of Socio-Ecological Resilience: Evidence from North Java, Indonesia ***Allamah Yahya Qolbun Salim***
16.20-16.40	Building Integrated Nature-Based Approach To Flood Mitigation In Nigeria ***John Agmada Bawa***

ROOM 2

15.40-16.00	Spatial Integration of Housing and Circulation Systems in Tidal Flood Evacuation: A Space Syntax Analysis of Tambak Lorok Coastal Settlement, Semarang ***Dewi Saraswati***
16.00-16.20	Strengthening Flood Resilience Through Participation: Developing and Validating the Community Flood Localised Disaster Resilience Strategy (CFLDRS) ***Khairul Afnan Khalid***
16.20-16.40	Thirty Days After the Flood: Basic Needs Gaps and Community-Led Recovery in Aceh Tamiang ***Octovianus Hendra Pratama***
16.40-17.00	Rethinking Built Environment Control in Volcanic Hazard Zones: Land-Use Dynamics in Post-2010 Merapi ***Octovianus Hendra Pratama***

ROOM 3

15.40-16.00	Geological Disaster Risk In A Geopark Region: Assessing The Resilience Indicators For Safe Geo-Tourism ***Liyana Hayatun Syamila Ramlee***
16.00-16.20	Reinterpreting Local Tectonic Knowledge for Seismic Risk Reduction: Earthquake-Resilient Criteria from Traditional Acehnese Mosques ***Dewi Larasati***
16.20-16.40	Integration of Satellite Gravity and Spatial Analysis for Tectonic Vulnerability Assessment of the SIBANCEH Toll Road, Aceh ***Muhammad Arfan Alhafsi***
16.40-17.00	IRethinking Built Environment Control in Volcanic Hazard Zones: Land-Use Dynamics in Post-2010 Merapi ***Bondan Galih Dewanto (First Author), Khamarrul Azahari Razak (Presenter)***

ROOM 4

15.40-16.00	Celebration of Cultural Heritage “Traditional Boats of Bangladesh" ***Mst.Rahimun Huda***
16.00-16.20	Perceptions of Smallholder Farmers on Agroecology in Climate-Induced Disaster-Prone Areas in Malaysia ***Nur Zarifah Zailani***
16.20-16.40	Design for Emergencies : Case studies Malaysian Public Hospitals ***Norwina Mohd Nawawi***

The schedule is correct as at 16 April 2026, subject to changes.

3rd PARALLEL SESSION
15 :40 - 17:00

ROOM 5	15.40-16.00	Enhancing Post-Disaster Rehabilitation Infrastructure in Coastal Bangladesh: A Context-Sensitive Architectural Framework for Resilient Therapeutic Environments in the Khulna–Bagerhat Region ***Sadia-E-Jannat***
	16.00-16.20	Mitigating Saline-Induced Building Deterioration through Solar-Driven Eco-Drainage: A Climate Resilience Strategy for Coastal Settlements in Indonesia ***Abdi Gunawan Djafar***
	16.20-16.40	IInterior Architecture and Ethical Design in Post-Crisis Contexts: Spatial Conditions of Care, Safety, and Dignity ***Natalia Varfi***

The schedule is correct as at 16 April 2026, subject to changes.

D2 List of Abstracts

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D3 Abstracts

A Catchment-based Landscape Planning Framework for Flood Mitigation: The Case of Tamiang Catchment, Aceh, Indonesia

Medria Shekar Rani[1*], Budi Faisal[2], Mohammad Zaini Dahlan[3]
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Abstract. Alterations to the landscape affect the provision of ecosystem services, including flood regulation, whose impacts on people are exacerbated by climate change. According to BNPB (Indonesian Disaster Management Agency), flooding has become the most frequent natural disaster in Indonesia, with 1,652 occurrences in 2025. This study aims to propose a framework for catchment-based landscape planning to sustain flood regulation at the Tamiang Catchment, Aceh. The current landscape structure of the Tamiang Catchment and its influence on the recent flooding at the end of 2025 were assessed using two development scenarios (e.g., the status quo and catchment-based landscape planning) under different meteorological conditions (e.g., normal and extreme precipitation). Geographic Information Systems (GIS) and the SCS (Soil Conservation Service) method were employed to conduct spatial analyses using geospatial data and to estimate runoff across different scenarios, respectively. The outcomes show that implementing the ecological principles in the third scenario (i.e., river protection based on the ecological functions of each stream order) results in the lowest runoff compared with the other scenarios under both normal and extreme precipitation conditions. Massive forest cover in the region where the low-order streams are located significantly reduces the estimated runoff. It is argued that the framework used in this study can be applied to other catchments, considering its strengths and drawbacks, thereby contributing to filling the research gap on the less-studied flood regulation for catchments. Fully distributed hydrological modelling can be employed in future studies to better represent hydrological processes in a catchment.

Keywords: catchment, flood mitigation, flood regulation, geospatial analysis, landscape planning

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Medria Shekar Rani is an Assistant Professor at the School of Architecture, Planning, and Policy Development, Institut Teknologi Bandung, Indonesia. Her research focuses on the influences of landscape change on the provision of ecosystem services using Geographic Information System (GIS) and landscape modelling. Her recent projects cover land system change assessment in a disaster-prone settlement with socio-cultural and historical significance, ecosystem services multifunctionality, and landscape mapping using remote sensing data. The works address a range of issues, including ecosystem-based disaster risk reduction (Eco-DRR), social-ecological systems in response to potential disasters, and catchment-scale landscape planning in the context of climate change.

AI-Based Rapid Lung Disease Screening in Built Environment Settings for Disaster and Pandemic Healthcare Response

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Abstract. Natural disasters and global pandemics can significantly disrupt healthcare infrastructure within the built environment, limiting access to diagnostic services and trained radiology professionals. During emergency situations such as earthquakes, floods, and respiratory disease outbreaks, healthcare systems often rely on temporary medical facilities, field hospitals, and community-based clinics in both urban and rural healthcare settings operating under limited resources. In such conditions, rapid and reliable diagnostic support systems are essential to enable early detection and effective management of respiratory diseases. This study proposes an AI-based rapid lung disease screening framework using chest X-ray (CXR) imaging to support healthcare response in built environments affected by disasters and pandemics. The proposed system employs a lightweight GLAF-ResNet18 architecture with a Global-Local Adaptive Fusion (GLAF) mechanism to capture both local lesion characteristics and global pathological patterns. The model is trained and evaluated using multi-source CXR datasets through internal and cross-dataset testing. Experimental results demonstrate improved multi-class classification performance and strong generalization while maintaining low computational complexity, making the system suitable for mobile or edge-based deployment in resource-constrained healthcare facilities.

Keywords: artificial intelligence, lung disease screening, built environment healthcare, disaster and pandemic response, chest x-ray imaging

lAmphibious Design Strategies for Flood-Resilient Housing: Adapting Vernacular Typologies in the Meghna Estuary, Bangladesh

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Abstract. Coastal settlements in the Meghna Estuary of Bangladesh face persistent flood exposure intensified by sea-level rise, tidal surges and seasonal riverine overflow. Traditional housing responses, primarily dependent on static elevation strategies such as raised earth plinths, are becoming obsolete against the erratic scale of modern tidal surges. This research proposes a shift from fixed flood resistance toward amphibious design strategies, in which housing remains anchored during dry seasons but achieves controlled buoyancy during periods of inundation. The study adopts a design-led research methodology to explore the typological adaptation of vernacular timber-frame and corrugated iron dwellings in the region. Through qualitative analysis of the inherent lightness and modularity of these traditional structures, the research identifies how a buoyant foundation can be integrated, allowing the home to rise vertically in response to rising water levels. This kinetic shift is supported by vertical guidance systems that ensure structural stability, preventing the house from drifting while maintaining its cultural and spatial identity. The principal contribution of this research is a series of conceptual adaptive design prototypes utilizing locally available and recycled materials to support buoyancy. By prioritizing flood-fluidity over flood-resistance, the research advances a scalable and decentralized strategy for disaster risk reduction. The findings demonstrate that by reinterpreting the vernacular housing of the Meghna Estuary through an amphibious lens, enabling architecture in deltaic regions to evolve from passive shelter to responsive infrastructure, which contributes to long-term resilience in climate-vulnerable coastal settlements.

Keywords: amphibious architecture, typological adaptation, flood-resilient housing, disaster risk reduction, vernacular architecture

Appropriate Adaptive Technologies for Flood-Resilient Housing: The Case of Segara Anakan, Indonesia

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A**bstract.** Rising sea levels driven by climate change increasingly threaten coastal settlements in Indonesia, particularly Kampung Laut in the Segara Anakan region. This low-lying area experiences recurrent tidal flooding that submerges residential buildings, damages infrastructure, and degrades environmental quality, ultimately affecting public health and socio-economic stability. Although various structural and infrastructural interventions have been introduced in flood-prone areas, limited research has systematically examined how appropriate adaptive technologies can be integrated into housing models tailored to local environmental and social conditions. This gap hinders the development of context-sensitive strategies that strengthen long-term flood resilience. This study aims to develop a flood-resilient housing model based on appropriate adaptive technologies suitable for the socio-environmental context of Segara Anakan. A quantitative and exploratory approach was employed, combining spatial analysis of housing typologies, assessment of environmental and socio-economic conditions, and evaluation of existing flood mitigation technologies. The analysis was grounded in adaptation theory to identify technology-environment-community alignment. The findings propose a zoning-based housing model that integrates context-specific appropriate technologies, including elevated structural systems, adaptive material selection, and localized flood-responsive infrastructure. Each zone is assigned tailored technological strategies based on its exposure level and settlement characteristics. The study demonstrates that integrating adaptive appropriate technologies into housing design can significantly enhance structural resilience and community preparedness. The proposed model provides a practical framework for strengthening flood resilience in coastal settlements and offers a replicable strategy for other climate-vulnerable regions in Indonesia.

Keywords: flood resilience, appropriate technology, coastal settlements, climate adaptation, resilient housing

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Dr. Lily Tambunan is a Professor in the Master of Architecture program at Institut Teknologi Bandung (ITB). Specializing in disaster mitigation within sustainable architecture, her expertise encompasses performance-based fire safety engineering and the development of innovative, waste-based building materials.

Her research focuses on enhancing building resilience through sustainable solutions, including the use of multi-layer plastic (MLP), bamboo, and natural fibers. An active contributor to academic publishing, Dr. Tambunan is currently developing a monograph on fire safety regulations and publishing high-impact research on mitigating health disasters through advanced material encapsulation. Her work bridges vernacular wisdom with cutting-edge architectural technology.

Architecture of Public Health - 3 provisions

Natalie Mossin[1]*, Ingeborg Hau[2]
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Abstract. In the 2025 report" Architecture of Public Health" (Realdania) we identify 3 provisions for achieving resilience in the built environment in the event of a public health crisis. The provisions are design strategies that can strengthen and underpin the built environment's ability to support public health when communities face one or more crisis, such as during pandemics, when confronted with climate change or under pressure from conflict. The 3 provisions are design for access, design for reorganization and design for control. The built environment must incorporate flexibility and increase the resilience of buildings and facilities in order to sustain quality of life even in the face of disease and other health hazards. To do so, we have to ensure that users such as occupants, school children or staff have access to resources such as nature, community and privacy through the environments we create. We also have to develop viable options for reorganizing the use of buildings and facilities and incorporate capacity for controlling what and whom we encounter upon entering buildings. In this paper, vi expand on the publications Danish cases and present global examples of built architectural projects that illustrate how architecture can contribute to public health through design strategies. We analyse how these relate to the 3 provisions and discuss how architects and other actors in the built environment can further strengthen SDG #3 Good Health and Wellbeing through architecture and planning.

Keywords: public health, architecture, resilience, SDG 3 good health and wellbeing

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Natalie Mossin is Head of Institute at the Royal Danish Academy – Institute of Architecture and Technology, a board member at the Danish Institute of Fire and Security and at the Danish Union of Architects and Designers, Past President at the Danish Association of Architects, past Vicepresident of the UIA (R1), and past President of Congress, UIA World Congress of Architects 2023. Mossin is a specialist in innovation in construction, and in social and environmentally sustainable development in the built environment. Mossin is the editor in chief of many publications, including "An Architecture Guide to the UN 17 Sustainable Development Goals", volume 1 and 2.

Being Dymaxion in the 21st Century

Subham Barman[1*], Alok Patel[2], Saikat Paul[3], Jaydip Barman[4]
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Abstract. The paper progresses from the initial developments by R. Buckminster Fuller's "Dymaxion" principles—Dynamic, Maximum, and Tension— to create new advances through the development of an innovative, rapid-response housing solution designed specifically for the Sundarbans region in West Bengal, India, an area frequently devastated by strong tidal waves, cyclones, and floods. The shelter units incorporate floating mechanisms based on Archimedes' Principles, using plastic barrels and asphalt-filled tires to create a buoyant, stable foundation during floods. With its unique "Stomata" concept, it acts as a "responsive skin," dynamically expanding and contracting as needed to regulate ventilation, solar heat gain, and interior volume. The main structure uses a central tension suspension system with a modular hexagonal flooring system and PTFE-coated Teflon glass for durability and aesthetics. The design focuses on the innovative use of steel to the maximum extent in structural framing. Shelter units are arranged in clusters. One cluster has 10 units arranged around hexagonal platforms, supporting a population of approximately 100 people. The site chosen belongs to a low probability flood-prone zone with less than 0.153 probability of flood destruction. It is easily accessible via the Dalkhola-Bakkhali Road and is located near a local community to encourage engagement and assimilation for the disaster victims. This innovative prototype stands as the symbolism of the dymaxion concept in contemporary times, with its expanded application.

Keywords: disaster shelter, steel, dymaxion, flood, sustainability

Beyond Housing Provision: Gendered Social Effects of Community-Driven Collaborative Relocation in Palu, Indonesia

Yuli Kusworo[1]*, Ismi Korompot[2], Puspitaningtyas Sulistyowati[3], Nurfadly[4], Abdi Saputra[5]
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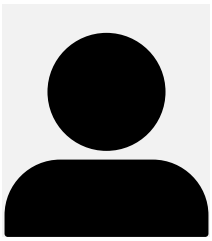
Abstract. Most post-disaster relocations are top-down and technical methods that emphasize physical safety rather than social factors, especially regarding survivor participation in land decisions and development systems, including gender-based power dynamics. Community-driven relocation in Mamboro Village, Palu, Indonesia, is an anomaly initiated by 39 fishing families after the tsunami in 2018. This relocation has a recovery process embedded within social contexts. This research analyses the socially- gendered effects of post-occupancy, utilizing the theory of collective action (Ostrom, 1997), transactive planning and empowerment (Friedmann, 2011), gender-political ecology, and resilience governance. This relocation serves as a recovery process embedded within social contexts. This research is a qualitative case study through in-depth interviews, participant observation, and community and institutional documents study. The results reveal impact factors of this relocation model, such as (1) enhancing collective governance ability, (2) increasing livelihood resiliency, (3) women actively participating in sustaining coastal economic activities, and (4) promoting integrated adaptive planning strategies that include disaster risk management and climate change adaptation. This research demonstrates how community-driven relocation can incorporate elements of livelihoods, gender dynamics, and adaptive governance. Unfulfilled topics can further develop the collective system mechanisms, especially regarding decision-making, voluntary duty, and gender-based task distribution, which may transform or reinforce existing gender hierarchies. This research finds that community-driven relocation can reshape post-disaster recovery through a social lens as a means to achieve urban resilience, where altering power dynamics within the community serves as the primary basis for wider urban change

Keywords: post-disaster, collective, relocation, housing, gender



Beyond the Industrial Fence Line: A Systematic Review of Indicators for Wide-Area NATECH (Natural Hazard-Triggered Technological Accidents) Risk Assessment and Management

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Abstract. Natural hazard–triggered technological accidents (NATECH) are cascading events where floods, storms/lightning, or earthquakes initiate industrial accidents such as toxic releases, fires, or explosions, often while response capacity is compromised. In hazard-prone industrial corridors such as Pasir Gudang (Johor, Malaysia), NATECH risk is inseparable from the built environment facility layout, lifeline interdependencies, spatial planning, and community exposure, and yet assessment indicators and wide-area risk communication practices remain fragmented. This systematic literature review (SLR) synthesises (i) indicator families used in multi-scale NATECH risk assessment frameworks and (ii) tools, models, and technologies supporting wide-area NATECH risk communication and management. The review follows PRISMA 2020. Searches in Scopus and Web of Science using NATECH risk assessment indicator strings were screened and appraised, yielding 22 eligible studies (2003–2025). A thematic synthesis mapped indicators by trigger, asset class, and operational scale, and extracted digital/operational enablers for area-based communication. Quantitative frameworks cluster around three trigger families, such as earthquakes, floods, heavy rainfall, and lightning/windstorms, with storage tanks and pipelines being the most analysed assets. Indicator families consistently span hazard intensity/frequency, asset fragility, protection and firefighting readiness, utility redundancy, domino escalation potential, and receptor/environmental sensitivity. Evidence is strongest for seismic fragility, whereas hydrometeorological indicators, cross-facility interdependency metrics, and interoperable datasets remain under-validated, limiting consistent comparison and area-wide implementation. The SLR consolidates an auditable NATECH indicator set and highlights digitally enabled pathways for rapid field screening linked to decision support to strengthen governance, spatial planning, and community-facing risk communication for settlements adjacent to industrial areas.

Keywords: NaTech (Natural Hazard-Triggered Technological Accidents), multi-scale risk assessment, risk indicators, industrial risk communication

Building Integrated Nature-Based Approach to Flood Mitigation in Nigeria

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Abstract. The impact of flooding is among the most reoccurring and destructive hazards nature suffers globally. This is often exacerbated by the rapid urbanization and climate change experienced daily. Building Integrated Nature-Based Solutions (BINS) for flood mitigation is a sustainable attempt that leverages processes adapted from nature and employment of the ecosystems to discount flood risks while maintaining urban and building resilience. This study investigates the advantages of integrating nature-based solutions (NbS) that includes green roofs, floating foundations, permeable pavements, rain gardens, rain-water harvesting, bio-treatment options, reuse, and urban wetlands solutions into the built environment to address urban flooding. Through a comprehensive and systematic review of literature, case studies and best practices, this study demonstrates the effectiveness of BINS in managing flooding, improving water quality, and mitigating the effects of extreme weather conditions. Additionally, this study evaluates the pros and cons related with adapting BINS in Nigerian cities regularly impacted by flooding, including regulatory charters, funding options, and public opinion. The incorporation of nature-based interventions not only offers ecological advantages but also endorses social and economic well-being by improving urban aesthetics, enhancing biodiversity, which in turn provides recreational and relaxational spaces. This study calls for a swift paradigm shift in urban flood management, promoting collaborative contributions among stakeholders, urban planners, and policymakers to adopt nature-based solutions in flood risk reduction strategies.

Keywords: building resilience, flood management, flood mitigation, green infrastructure, nature-based solutions

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Arc. John Agmada Bawa, PhD, is a dedicated global architect and researcher with over 30 published articles and 14 books. A devoted humanitarian who has over 27 years of experience working with teenagers and youth. Academically, he holds a PhD in Architecture and is a PhD in Environmental Resource Management (in view). He is a registered architect and member of various professional organizations. Dr. Bawa is passionate about leadership, community service, knowledge sharing and collaborations. He is currently leading this research with Dr. Hope Ameh and Sultan Kamal. As a team, they are working on a study related to the migration of climate change and its impact. Dr. Bawa is open to global collaborations on ways Architecture can enhance community resilience, inclusivity, public health and climate action.

Building Urban Resilience amid Coastal Hazards: Governance Challenges and Adaptation Pathways in Barisal's Informal Settlements

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Abstract. Governance system in climate-vulnerable cities shaped by political culture and administrative tradition and also indicate how communities mitigate the increasing environmental risks. Using a mixed-methods approach, this study explores how local governance in Barisal, a coastal city in Bangladesh exposed to floods, riverbank erosion, salinity, and extreme weather, can improve urban resilience, with a particular focus on the role of local governance. Using focus group discussions, in-depth interviews, Delphi surveys, and literature reviews findings the study identifies key governance barriers that constrain effective disaster management and long-term adaptation. The findings reveal that centralized government has decision-making power, which restricts the authority of a local community and slows down their responsiveness, often sabotages resilience interventions. Poor transparency and fragmented accountability further decrease public trust and limited opportunities for stakeholder input prevent community priorities also informal settlement dwellers lived experience cannot shape plans, budgets, and program design. Moreover, political biasness influences fund allocation, leaving highly vulnerable people underserved and widening existing inequities. However, partnerships between local government and NGOs have occasionally provided significant success in service delivery and risk communication, demonstrating the effectiveness of coordinated place-based cooperation. Therefore, decentralization, public participation, and improving data transparency are significant in improving adaptation capacity. As climate impacts accelerate in coastal Bangladesh, these governance reforms that support inclusive decision-making, transparent fund allocation, and evidence-informed planning can guide Barisal and comparable cities towards resilient and inclusive urban development.

Keywords: climate change, good governance, informal settlement dwellers, adaptation strategies, climate resilient.

Celebration of Cultural Heritage "Traditional Boats of Bangladesh''

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Abstract. Mighty Bangladesh holds one of the most intricate river patterns. More than 700 rivers are flowing through the country. Them being morphologically active sometimes changes the geographical positioning and livelihood of the "char" or sandbar living people. As a result, she is culturally diverse. Various cultural and regional mixtures make our heritage so colourful as it is today. The rivers were the only source of transportation once in this country. Traditional Boats of Bangladesh and Nouka Baich (Traditional Boat Racing) is one of the oldest cultural heritages that entangle our lives on different dimensions. On the other hand, a country where floods, monsoons, and waterways are daily realities, boats are more than transport they are essential to survival and livelihood. From the Dingis (small boat) to graceful sampans (one of the largest boats) boats have been deeply embedded in tradition craftsmanship and vernacular architecture. This cultural part of Bangladesh is still to be explored and the lack of response this cultural heritage of Bangladesh decaying slowly from our roots. The objective of this research paper is to put the thought process and methodology that went about in understanding the whole domain of this cultural heritage and finding a method of preservation through designing of a "Traditional Boat Museum and Research Centre" in quest of promotion and celebration these intangible phenomena of Traditional Boats. The design process started with a thorough literature review, site analysis and programmatic understanding required for such kind of projects.

Keywords: traditional boats, cultural heritage, Bangladesh, river culture

Climate Adaptation in The Built Environment Under Heavy Rainfall for Breathable Heritage Materials: A Case Study of King Edward VII (1) School, Taiping, Malaysia

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Abstract. Climate adaptation in the built environment is increasingly critical in regions experiencing persistent heavy rainfall, where prolonged exposure to moisture poses significant risks to building performance and long-term resilience. In Malaysia, Taiping is recognized as one of the wettest urban areas, making heritage buildings particularly vulnerable to rainfall-induced deterioration. This study aims to evaluate how breathable heritage materials contribute to climate adaptation under conditions of heavy rainfall at a specific case study, King Edward VII (1) School, Taiping, Malaysia. A qualitative case study approach was adopted, incorporating climate context review, visual condition assessment, and material-based interpretation to examine the relationship between extreme rainfall exposure, moisture behaviour, and building performance. Observations focused on rainfall-induced deterioration patterns, including dampness, surface decay, and biological growth, which are commonly associated with chronic moisture stress in tropical environments. The study is expected to reveal that heavy rainfall in Taiping functions as a slow-onset climate hazard, exerting continuous moisture pressure on the built fabric. Breathable heritage materials, particularly lime-based plaster, are anticipated to demonstrate effective moisture regulation through vapor permeability, facilitating drying and reducing the accumulation of trapped moisture. Overall, the findings are expected to confirm that breathable heritage materials play a significant role as a passive climate adaptation strategy, enhancing long-term resilience of the built environment in high-rainfall tropical regions while supporting disaster risk reduction and heritage conservation objectives.

Keywords: climate adaptation, built environment, heritage buildings, lime-based plaster, breathable heritage materials

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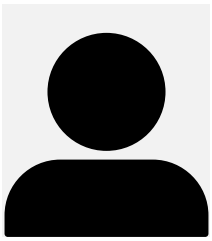
Siti Norbaya Mohd Konar is a PhD candidate at Universiti Malaya, specializing in heritage building conservation and sustainable restoration practices.



Climate-Driven Coastal Resettlement as a Negotiated Process of Socio-Ecological Resilience: Evidence from North Java, Indonesia

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[1,2,3,4] Institut Teknologi Bandung
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Abstract. Environmental degradation and recurrent coastal flooding along Indonesia's North Coast of Java have increasingly compelled vulnerable communities to undergo resettlement as a risk reduction strategy. Resettlement policies are commonly framed as technical spatial solutions intended to remove populations from hazard-prone areas. However, empirical evidence suggests that relocation does not automatically eliminate vulnerability and may instead generate new socio-economic and cultural challenges. Despite growing scholarship on climate adaptation and coastal relocation, limited research has examined resettlement as a dynamic socio-ecological process shaped by negotiation among communities, the state, and environmental conditions. This study investigates the Kampung Nelayan Sejahtera Resettlement Project in Indramayu Regency to analyse how relocated residents reconstruct livelihoods, social networks, and place attachment within newly built environments. Grounded in the Socio-Ecological Resilience framework, the research employs a mixed-methods approach that integrates document analysis, field observation, interviews, and stakeholder mapping to trace the relocation cycle from feasibility planning to post-occupancy. The analysis further examines power dynamics and alignment between top-down planning and bottom-up needs.
The findings reveal that while relocation reduces direct flood exposure, it disrupts economic access, weakens social cohesion, and challenges the cultural meaning of home. Misalignment between institutional planning and community priorities undermines long-term vulnerability reduction. Resilience therefore emerges not as a fixed outcome but as a continuously negotiated adaptive process. This study contributes to disaster governance and coastal adaptation debates by proposing inclusive co-design and participatory governance mechanisms that bridge physical safety with long-term socio-economic sustainability for relocated coastal communities.

Keywords: coastal resettlement, Socio-Ecological Resilience (SER), co-design, power dynamics, place attachment

Community-Based Assessment of Settlement Damage After Flash Floods: Evidence from Aceh Tamiang

Yuli Kusworo[1]*, Puspitaningtyas Sulistyowati, Ismi Korompot, Aisah Raidah Ulfah, Geubrina Putri Ramadhani, Cut Puan Tiszani Pasha, Amira Layyina, Muhammad Revanza Mayra, Muhammad Ridha Hidayat, Zakhreen Hamdani, Muhamad Hanif Irya, Wiffa Al Faiqa
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A**bstract**. Conventional post-disaster damage assessments are often conducted through technocratic enumeration, which can overlook local knowledge and diverse social needs. This study draws on the Sendai Framework, Community-Based Disaster Risk Management, and Gender Equality, Disability, and Social Inclusion (GEDSI) principles to reposition disaster survivors as subjects of knowledge and collective decision-making in rehabilitation and reconstruction. This study examines a community-based approach to assessing settlement damage following flash floods in four sub-villages (dusun): Suka Maju, Suka Jaya, and Bandar Baru in Pengidam Village, and Rindu at Pantai Cempa Village, Aceh Tamiang Regency. Data were collected through a participatory field survey utilizing community mapping and transect walks, involving a total of 90 residents (85% women). Residents collaboratively produced spatial maps of each sub-village, and then formed three working groups based on house location proximity. The findings argue that the residents have the ability to co-produce collective spatial knowledge as key actors in classifying settlement damage and identifying material needs for recovery. A key enabling factor was the shared understanding of damage typology with light, moderate, and heavy value, which developed through iterative on-site discussions between residents and volunteers, minimizing disputes. Importantly, the assessment outputs were rapidly translated into collective recovery actions, with residents organizing house reparation groups, mobilizing builder and carpenter workers from the village, and coordinating material allocation across groups to support housing repairs. Overall, participatory approaches in Aceh Tamiang produced stronger community responses than conventional government-led surveys with higher enthusiasm, greater autonomy, and self-reliance, supporting long-term resilience.

Keywords: post-floods, damage, assessment, community-based, Aceh

Design for Emergencies: Case Studies Malaysian Public Hospital

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A**bstract.** Hospitals, as a curative care provider in the care spectrum, are always on alert for any eventualities, from anywhere, anytime, through their Emergency Departments on a 24-hour, 7-day basis. There are Green, Yellow and Red zones that identify service and provision of care. How the Emergency Department is planned and efficiently managed has been forethought into guidelines and eventually designed, built, and managed based on their respective level of care. What can be learned from their process and applied elsewhere to save lives? This paper, therefore, intends to highlight the planning and design process of EDs in Malaysian hospitals, using them as case studies, to understand the concept of care within the 'emergency' and compare the processes at the site. This is a qualitative research study using secondary data from the literature and hospital drawings, with selected case-study observation visits for primary data. The knowledge that lies only within the speciality of the hospital architect/planner is rarely shared. The significance of this research, therefore, lies in identifying similarities and differences in prioritising care during emergency and physical facilities between onsite and offsite settings, and in the role the architect can play in facilitating care that saves lives in any type of building.

Keywords: emergency, planning, design, hospitals, priorities

Norwina is an Architect, health facility planner and researcher with over 27 years experience as government architect and in academia. Shevis also PAM representative to UIA Public Health Group and Architecture for All workprogrammes as well as former committee in ARCASIA social responsibility. Currently she is working freelance and parked at PAM's Social Community Responsibility Committee (SCR) to continue her contribution for public interest.

Disaster Risk Reduction in Chittagong Hill Tracts through the Implementation of Portable Housing Strategy Incorporating Vernacular Knowledge

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A**bstract**. In the Chittagong Hill Tracts (CHT), landslides have always been a regular hazard that causes population displacement, cultivation inconvenience, and long-term economic disruption as a whole. According to the statistics, the hilly areas of Bangladesh are vulnerable to landslides compared to other hilly areas of the world, as landslide-induced disaster has taken more than 300 lives in the country since 2000, causing the loss of hundreds of houses and millions of dollars of property. Although vernacular housing strategies and construction methods have saved local dwellers for hundreds of years, local people now intend to adapt multiple low-cost construction methods in hilly areas due to increasing population and a lack of natural resources, thereby increasing disaster risk. However, this article demonstrates the negative effects of enforcing construction procedures rather than employing vernacular solutions and how the danger can be mitigated by putting in place a modular housing system that incorporates the indigenous people's traditional construction methods. In order to undertake the study, a community in the Mrolong para of Bandarbans was selected as an example, and the research has been conducted with assistance of Google Earth, previous studies, field surveys, and interviews with the community member. The study shows that the community has suffered more economic harm as a result of the recently implemented approach. However, the financial burden of catastrophe risk reduction can be lessened by employing a portable building approach for dwelling units through community engagement.

Keywords: vernacular strategy, landslide, portable housing, community engagement, Chittagong hill tracts

Earthquake Vulnerability of Aging Buildings in Chattogram: Rethinking Architecture for Disaster Risk Reduction and Urban Resilience

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Abstract. The city of Chattogram, which is the main port city of Bangladesh, is a seismically active area affected by the Indo-Burma tectonic plates. Although this is a geological fact, earthquake risk is underestimated in urban planning and architectural practice in large measure. Most of the built environment in Chattogram comprises 50-70-year-old heritage buildings that were built long before the introduction of the modern seismic provisions, including the Bangladesh National Building Code (BNBC). These old structures, in addition to dense population, improper alterations, and wide urban streets, are a critical danger in case an earthquake of medium strength or a strong earthquake hit. In this paper, the connection between the risk of earthquakes and the advanced age of buildings in Chattogram is considered through the prism of architecture in terms of the location of the discussed issue in the context of disaster risk reduction (DRR), resilience, and recovery. With the help of a qualitative research approach based on literature research and case study analysis of the chosen old urban regions, the study can determine the most important architectural and spatial factors contributing to the increase in seismic risk. The paper states that assessment-based retrofitting, context-sensitive planning, and community-led upgrading can minimize the effects of disasters and improve long-term urban resilience, providing beneficial information to architects, planners, and policymakers in disaster-prone cities of the Global South.

Keywords: earthquake risk, aging buildings, disaster risk reduction, architectural retrofitting, urban resilience, Chattogram

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I am an undergraduate student of Architecture at Pabna University of Science and Technology, Bangladesh. My research interests focus on urban resilience, disaster risk reduction, and sustainable architectural design. I have worked on topics related to urban mobility and the earthquake vulnerability of aging buildings in Chattogram. I am particularly interested in spatial analysis and resilience-based design strategies for high-risk urban environments. Through my research, I aim to contribute to resilient and adaptive architectural strategies for rapidly urbanizing contexts.

Enhancing Post-Disaster Rehabilitation Infrastructure in Coastal Bangladesh: A Context Sensitive Architectural Framework for Resilient Therapeutic Environments in the Khulna–Bagerhat Region

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Abstract. The south-western coastal region of Bangladesh, particularly Khulna and Bagerhat districts, is highly vulnerable to cyclones, flooding, and salinity intrusion. In the last two decades, over 4 million people in this region were affected by extreme cyclonic events, including Cyclone Aila (2009) and Cyclone Amphan (2020), resulting in widespread trauma and long-term mobility impairments that require sustained rehabilitation services. Existing rehabilitation facilities, however, lack structurally resilient, environmentally adaptive, and therapeutically optimized designs capable of maintaining operational continuity during and after disaster events. This study develops a context-sensitive architectural framework for post-disaster rehabilitation centres in coastal Bangladesh, integrating therapeutic environment principles with disaster risk reduction (DRR) strategies. A qualitative methodology was employed, combining systematic literature review, analysis of healthcare infrastructure and disaster-resilient hospital planning standards, and empirical insights from unstructured interviews with paralysed patients at the Centre for the Rehabilitation of the Paralysed (CRP), Bangladesh. The collected data were thematically coded to identify spatial, structural, and operational design parameters. Findings indicate that resilient rehabilitation infrastructure in cyclone-prone regions should incorporate elevated plinth levels, flood-adaptive structural systems, reinforced envelope protection, backup utility redundancy, flexible therapy modules, and universally accessible circulation networks. Facilities should also be designed for surge capacity to accommodate sudden increases in patient load following disasters. Integration of daylight optimization, therapeutic landscapes, and community-inclusive spaces enhances psychological recovery and long-term functional reintegration. The proposed framework positions rehabilitation centres as critical components of coastal disaster recovery systems and provides scalable architectural guidelines for strengthening healthcare resilience in climate-vulnerable regions of Bangladesh.

Keywords: disaster-resilient healthcare, post-disaster rehabilitation, cyclone-prone infrastructure, therapeutic architecture, coastal Bangladesh

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Sadia-E-Jannat is an architect and researcher from Dhaka, Bangladesh. Her works focus on socially inclusive architecture, therapeutic settings, and climate-responsive design. She is particularly interested in developing sustainable built environments and resilient spatial solutions for vulnerable communities, with a focus on post-disaster rehabilitation. Her recent research topic explores context-sensitive architectural methodologies for coastal regions, integrating collaborative and evidence-based design approaches to integrate environmental performance with human well-being.

Evolution of Rakhine Dwelling Architecture in Kuakata, Bangladesh: Analyzing Traditional Styles, Practices, and Gradual Shifts

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Abstract. The Rakhine community of Kuakata represents one of the oldest indigenous settlements in coastal Bangladesh, having migrated from the Arakan region in 1784. Over the past two centuries, demographic decline, land dispossession, environmental challenges, and socio-economic marginalization have significantly influenced their settlement morphology and dwelling architecture. This research examines the evolution of Rakhine residential architecture in Kuakata, focusing on traditional spatial organization, construction techniques, cultural practices, and the gradual transformations occurring in response to contemporary pressures. The study draws on historical documents, anthropological literature, and spatial analysis of traditional and existing homesteads. Traditionally, Rakhine settlements (para) were organized around a central Bihar (monastery), Che Rang Ghar (community pavilion), Bodhi tree, preserved water bodies, and open communal grounds. Dwellings were typically raised structures built with timber and bamboo, featuring thatched or corrugated roofs, integrated handloom workspaces at ground level, and private sleeping quarters above. This configuration reflected climatic responsiveness, livelihood patterns, and strong socio-religious cohesion. Recent shifts reveal the reduction of communal open spaces, material substitution, altered house forms, and fragmentation of traditional settlement patterns. These architectural changes parallel broader cultural transformations and identity challenges faced by the community. By analysing the continuity and change in dwelling typologies, this research highlights how built form functions as both a cultural marker and an adaptive response mechanism. The study underscores the importance of culturally sensitive design interventions and heritage documentation to support the preservation of Rakhine architectural identity amid ongoing socio-spatial transitions.

Keywords: Rakhine, vernacular, indigenous, settlement, transformation

Floating Houses as Environmental Adaptation in Kuala Bubon Village, West Aceh

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Abstract. The floating houses in Kuala Bubon Village, West Aceh, were constructed as part of the post-2004 tsunami reconstruction program to relocate coastal survivors while maintaining their economic dependence on the sea and their social identity as fishing communities. Built above a river estuary, these houses were envisioned as an adaptive housing solution capable of responding to coastal risk. However, over time, spatial limitations, standardized design constraints, and mismatches between planned layouts and everyday socio-cultural needs have revealed significant shortcomings in their initial conception. This study critically examines how residents negotiate these constraints and transform the floating houses through everyday practices. Using a qualitative descriptive approach based on field observations and in-depth interviews with village leaders, sea customary authorities (pawang laut), religious leaders, women representatives, local planning agencies, and community members, the research identifies two interrelated forms of adaptation. First, active adaptation, involving physical alterations such as modifications to bathrooms, kitchens, living rooms, and bedrooms, as well as functional reconfiguration of interior spaces. Second, passive adaptation, reflected in shifts of social practices. Beyond these categories, the findings reveal the emergence of mutualistic spatial practices, including shared or merged kitchens and collective problem-solving strategies. These transformations demonstrate that the floating house functions not merely as a technical post-disaster housing solution, but as a dynamic socio-spatial system continuously reshaped through lived experience. The study argues that adaptive capacity in post-disaster housing is not solely embedded in architectural design, but is actively produced through everyday negotiations between built form, environmental risk, and socio-cultural continuity.

Keywords: floating housing, environmental adaptation, post-disaster reconstruction, spatial transformation, coastal resilience

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Kartika Selytias Utami is a doctoral researcher focusing on architecture and post-disaster adaptation, particularly in coastal communities. Her research explores the transformation of floating houses in Kuala Bubon, Aceh Barat, as a response to environmental and socio-cultural changes in contemporary contexts. She is actively involved in academic and community-based initiatives related to disaster resilience, sustainable housing, and local wisdom. Through her work, she aims to contribute to adaptive architectural strategies that integrate environmental sensitivity and community needs. Her research highlights the importance of resilience, innovation, and cultural continuity in shaping future living environments.

From Engagement to Measurement: Community Participation Index for Flood Resilience in Malaysia

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A**bstract**. Flooding remains one of the most recurrent and economically disruptive hazards globally, with impacts intensified by rapid urbanisation and climate variability. Even so in Malaysia, a developing country characterized by tropical climate with largely intensified by extreme weather events, rapid urbanization and anthropogenic activities, Contemporary disaster governance frameworks emphasise community engagement as a central pillar of flood resilience in the urban setting. However, despite its normative importance, participation in flood management is often treated descriptively rather than systematically assessed. In many contexts, engagement is limited to awareness activities or short-term response initiatives, with limited tools available to evaluate the depth, inclusiveness, and sustained capacity of community involvement given its complexity, dynamicity and uncertainty of local context. This paper addresses the pertinent gaps and challenges by proposing a structured framework that translates engagement into measurable constructs through the development of the Community Participation Index (CPI) in Malaysia. Drawing on participatory governance theory, social capital scholarship, and Community-Based Disaster Risk Management (CBDRM) benchmarking analysis, participation is conceptualised as multidimensional construct comprising five interrelated domains: awareness and knowledge, inclusiveness and social capital, empowerment and decision-making, capacity building and preparedness, and resource mobilisation and long-term recovery. By operationalising these domains into measurable indicators, the CPI framework provides foundation for assessing community participation as a dynamic component of urban flood resilience. Moving beyond descriptive narratives of engagement, this approach enables more systematic evaluation of participatory processes and offers practical implications for resilience-oriented planning, integrated risk governance, and locally-led adaptive strategies in climate-vulnerable environment.

Keywords: community participation, flood resilience, disaster governance, measurement framework, community participation index

From Pollution to Disaster Risk: Understanding Environmental Degradation Pathways in Flood and Landslide Contexts

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A**bstract**. Environmental degradation has emerged as a major factor increasing vulnerability to flooding and landslides in tropical river basins. This study conducted a bibliometric-based scientific mapping of 393 articles in the Scopus database to reveal the thematic structure of environmental and sustainable development studies. The background of this study stems from the limited research that explicitly links pollution to environmental degradation, which, in turn, can trigger natural disasters. The main objective of the study is to identify conceptual nodes and inter-topic relationships through network analysis. The results show that pollution serves as a central node, connecting the issue of pollution to themes of environmental degradation, land degradation, and ecosystem services. This position confirms that pollution is not only a separate phenomenon but also a conceptual link that explains how environmental degradation can increase the risk of disasters. The novelty of this study lies in its cross-disciplinary integration, which highlights the interrelationships among pollution, degradation, and disasters and has rarely been mapped systematically. The implication is that the results of this study can strengthen the basis for ecosystem-based mitigation policies and encourage more comprehensive transdisciplinary research.

Keywords: disaster, environmental degradation, floods, landslides, pollution

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An environmental activist focused on pollution and its impact on human health and ecosystems. Actively involved in research and community initiatives addressing environmental pollution issues, including water, air, and soil contamination. Highly committed to applying a scientific approach to develop practical and sustainable solutions.

Geological Disaster Risk In A Geopark Region: Assessing The Resilience Indicators For Safe Geo-Tourism

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Abstract. An emerging risk induced by geological hazards and excessive tourism activity is increasing in nature due to development pressure, land-use change and anthropogenic activities. It also triggered the systemic vulnerability and exacerbate socio-economic stability. This study explores an integrated approach to nurture the capacity of geopark communities, empower local knowledge, and advance disaster science leading to the development of resilience indicators, scorecards, and appropriate tools. A case study in Jerai Geopark as a result of the 2021's sediment induced disaster with significant human- and economic losses will be presented. The review of geological investigations, debris flow modelling, and risk assessment is critically presented. While geoparks promote geological heritage conservation, education, and sustainable development, limited empirical attention has been given to systematically assessing community resilience within these territories. This study aims to develop key resilience indicators that contribute to making geopark communities safer and more sustainable. This study adopts a mixed qualitative approach comprising a systematic literature review and Focus Group Discussions with government agencies, private sector, academia, NGOs and local champions. Resilience indicators emphasis on the community preparedness, local governance capacity, risk awareness, livelihood diversification, and people-centred early warning systems. Findings highlight the strong local participation, inclusive governance, integration of indigenous knowledge, and sustainable geotourism practices significantly enhance resilience capacity. We also highlight key recommended actions for building a resilient geopark in a tourism dominated region. This study aligned with the science-policy-society ecosystem and the 2030 global commitments.

Keywords: community resilience, resilience indicator, disaster risk reduction, geopark tourism area

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Liyana Ramlee is a PhD student in Disaster Risk Management at Universiti Teknologi Malaysia. She holds a Bachelor's degree with honours in Geology from Universiti Malaysia Sabah and a Master's degree in Remote Sensing and GIS from Universiti Putra Malaysia. Her professional experience spans geology, geospatial analysis, slope hazard mapping, and disaster risk research. Her recent projects with DPPC involves community empowerment, risk communication, disaster education and geopark tourism resilience. An active researcher, she has presented her research internationally and received the Best Oral Presentation award in Korea. Her guiding motivation is to always strive for excellence, trust the process and never give up.

Indigenous Architecture As A Model For Disaster Resilience: Hybrid Model Design Based on Steel Structure

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Abstract. Indonesia is highly vulnerable to natural disasters due to its geographical position along the Pacific Ring of Fire. Within this context, Bugis–Makassar vernacular architecture has evolved as an adaptive dwelling system based on elevated timber houses characterized by structural flexibility and responsiveness to earthquakes and flooding. However, the declining availability of high-quality timber and the increasing demands of contemporary construction standards necessitate material transformation without compromising architectural essence. This research aims to develop a hybrid model based on a steel structural system by replacing the primary structural elements, such as columns (aliri), longitudinal beams (arateng), and transverse beams (pattolo), with hot-rolled steel, while preserving the typology, spatial modules, vertical hierarchy, and cosmological values of the traditional house. The research methodology includes vernacular typological analysis, steel structural model design, and numerical simulation using the Finite Element Method to evaluate structural responses to seismic and flood loads. The results demonstrate that the steel structure increases axial capacity, reduces lateral displacement, and provides more consistent mechanical performance compared to traditional timber construction. Semi-rigid connection systems were designed to replicate the ductility that characterizes vernacular structural logic. The findings confirm that vernacular architecture does not lose its meaning or identity when structural materials are replaced with modern alternatives, provided that spatial principles, symbolic values, and constructive logic are maintained. The hybridization of local wisdom and modern steel technology enhances the absorptive, adaptive, and transformative capacities of the building in disaster contexts, while sustaining cultural continuity and architectural morphology.

Keywords: vernacular architecture; Bugis–Makassar house; steel structure; hybrid design; disaster resilience

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Andi Abidah (first author) is an associate professor, lecturer, and researcher in the Architecture Study Program, Makassar State University, Indonesia. She completed her undergraduate degree in Architecture at Hasanuddin University and pursued a Masters in Urban Design Architecture at Bandung Institute of Technology (ITB), as well as a doctoral degree in Architecture at TU Wien, Austria. Her research interests include Traditional House Architecture and Culture in Asia, Traditional Bugis Houses, influence politic on traditional house, and traditional settlement.

Institutionalizing Local Disaster Risk Reduction: Challenges and Prospects on the Sendai Framework Priorities in Aceh Province, Indonesia

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Abstract. Since the adoption of the Sendai Framework for Disaster Risk Reduction 2015–2030, disaster risk reduction (DRR) has increasingly been integrated into national and local development agendas. The framework outlines four priority actions, namely understanding disaster risk, strengthening disaster risk governance, investing in disaster risk reduction, and enhancing preparedness for effective response and recovery. However, empirical assessments of how these priorities are implemented and institutionalized at the sub-national level remain limited, even so with poor data management, disaster statistics and risk governance. This study examines the implementation of the four SFDRR priorities in Aceh Province, a vulnerable region in Indonesia characterized by recurrent multi-hazard risks, from 2004 Indian Ocean Tsunami to 2025 Hydrometeorological disaster. The research draws on a multi-stakeholder focus group discussion involving representatives from government agencies, academia, and practitioners. The four priorities were used as analytical lenses in a thematic examination of the discussion data, supported by text-based analysis to identify dominant institutional patterns. Findings suggest that sub-national (local) DRR has been formally incorporated into regulatory frameworks and development plans, yet important gaps persist in practice and required an integrated evidence-based disaster statistic solution. Emerging challenges include limited fiscal prioritization of preventive measures, fragmented inter-agency coordination, uneven monitoring mechanisms, and inconsistencies in sustaining community preparedness. Overall, this study provides a new insight into stronger policy articulation than structural integration within governance, budgeting, and spatial planning systems. Moreover, the need for deeper institutional embedding is critically demanding to strengthen risk governance, long-term resilience and accelerating the 2030 global agenda.

Keywords: governance systems; resilience planning; sub-national development; spatial planning

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Yolanda is a doctoral candidate in Mathematics and Applied Science at Universitas Syiah Kuala, Indonesia, with a specialization in applied statistics for disaster risk reduction. His research centers on data-driven approaches, predictive modeling, and multi-source data integration to strengthen risk-informed decision-making and disaster resilience. He has actively contributed to research, academic assistance, and international scientific publications aligned with the Sendai Framework for Disaster Risk Reduction. Yolanda has also presented his work at international conferences and forums. His current doctoral research focuses on developing a data-driven framework for forecasting disaster loss and damage in Aceh Province, contributing to evidence-based disaster management and sustainable recovery efforts.

Integrated Landslide Risk Assessment (ILRA) in Penang Island, Malaysia Using GIS, Remote Sensing and Geophysical Techniques

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Abstract. Penang Island has experienced increasing landslide disasters due to the combined effects of steep terrain, deeply weathered granite geology, intense monsoonal rainfall, and rapid urban development. While previous studies have focused largely on landslide susceptibility mapping, comprehensive landslide risk assessment that integrates hazard, exposure, and vulnerability remains limited. This study proposes an integrated landslide disaster and risk assessment framework using Geographic Information Systems (GIS), multi-source remote sensing, and geophysical techniques. Multi-temporal optical and radar satellite data, high-resolution digital elevation models, geological and land-use data, and socio-economic datasets are systematically integrated to construct a detailed landslide inventory and identify key natural and anthropogenic controlling factors. Landslide susceptibility is modelled using statistical and multi-criteria approaches, while exposure and vulnerability are quantified through spatial analysis of population distribution, buildings, and critical infrastructure. The resulting hazard, exposure, and vulnerability layers are combined to produce a comprehensive landslide risk zonation map for Penang Island. Targeted geological and geophysical surveys are incorporated to validate high-risk zones and address subsurface uncertainties often neglected in GIS-based assessments. The expected outcomes provide a scientifically robust and decision-oriented tool to support land-use planning, disaster risk reduction, and community resilience enhancement. This integrated approach bridges the gap between hazard mapping and actionable risk management, offering a transferable framework for other rapidly urbanizing tropical regions facing similar natural and human-induced landslide risks.

Keywords: geographic information system, landslide susceptibility mapping, disaster risk reduction

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Mohd Amirul Mahamud is a Malaysian geospatial scientist and academic specialising in GIS, spatial analysis, and environmental mapping. He serves as a senior lecturer and researcher at Universiti Sains Malaysia (USM) with expertise in applying geospatial technologies to urban planning, climate studies, and disaster risk management. His work focuses on spatial data integration, GIS-based modelling, and mapping accessibility and environmental risks, including current research on geographic inequities in healthcare access. He is actively involved in teaching, supervision, and academic programme development, while contributing to interdisciplinary research and international collaborations in geoinformatics and spatial science.

Integrating GIS-Based Spatial Analysis and Participatory Validation for Building-Focused Flood Risk Mitigation

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Abstract. Flooding is one of the most recurrent hydrometeorological hazards in Indonesia, particularly affecting densely populated settlements with inadequate drainage systems. Citeureup Village in Dayeuhkolot Subdistrict, Bandung Regency, is highly flood prone due to its location at the confluence of the Citarum, Cikapundung, and Cikapundung Kolot rivers, combined with low permeability alluvial clay soils. Existing flood mitigation strategies have largely emphasized area based technical interventions such as drainage improvement and embankment construction, while insufficiently addressing the specific physical vulnerability of individual buildings. In addition, limited spatial analysis and minimal field validation have resulted in mitigation measures that are often disconnected from actual on-site building conditions. This study aims to identify housing characteristics influencing flood vulnerability, analyse building physical vulnerability using a Geographic Information System supported by participatory validation, and formulate spatially informed flood risk mitigation strategies tailored to building vulnerability patterns. A quantitative spatial approach was employed, integrating building parameters, flood exposure data, and locational characteristics within a GIS framework. Interviews were used selectively to validate and confirm the spatial analysis results rather than serving as primary quantitative inputs. The findings include a building vulnerability map and context specific mitigation strategies designed to enhance structural resilience in flood prone settlements. The proposed GIS and participatory validation framework provide a more targeted and locally responsive basis for flood risk mitigation planning, contributing to improved building resilience in vulnerable residential areas.

Keywords: flood, GIS, building vulnerability, resilience, mitigation strategy

Integrating Rainfall Erosivity and Soil Erodibility for Landslide Risk Forecasting in Malaysian Tropical Highland

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Abstract. Landslides remain a critical natural hazard in Malaysia, particularly within highland regions characterized by steep terrain, intense rainfall, and rapid land-use change. This study presents an integrated approach to forecasting erosion-induced landslides by examining the combined influence of rainfall erosivity and soil erodibility using the Universal Soil Loss Equation (USLE). Fraser Hill and Genting Highlands were selected as case studies due to their frequent landslide occurrences, tourism-driven development, and availability of long-term rainfall data. Rainfall erosivity was quantified using historical precipitation records to develop a monthly erosivity calendar, enabling the classification of landslide risk from low to critical. Soil erodibility was assessed through laboratory-based particle size analysis and classified using the 'ROM' scale. Results indicate that peak landslide susceptibility coincides with monsoon months, particularly October and November, when rainfall erosivity reaches its maximum. Areas with higher sand and silt content exhibited greater vulnerability to erosion-induced slope failure. The findings demonstrate that integrating temporal rainfall patterns with spatial soil properties significantly enhances landslide forecasting capability. This approach provides practical insights for early warning systems, land-use planning, and disaster risk reduction in highland regions. The proposed framework supports informed decision-making by local authorities and contributes to sustainable development and resilience against natural disasters in tropical environments.

Keywords: Universal Soil Loss Equation (USLE), erosion-induced landslides, disaster risk reduction

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Prof. Dr. Roslan Zainal Abidin is a Malaysian Ciivil Engineer and an Academiacian specialising in Environmental Science and Geotechnical Engineering. He currently serves as Adjunct Professor at Disaster Preparedness & Prevention Centre (DPPC)/ Malaysian-Japan International Institute of Technology (MJIIT) Universiti Teknologi Malaysia (UTM) Kuala Lumpur and Visiting Professor at University of Miyazaki, Japan. He holds a PhD from Kagoshima University, with expertise in soil erosion, slope stability and landslide risk prediction related to Rainfall Erosivity and Soil Erodibility. His work integrates hydrology, geotechnics, and environmental management, contributing to sustainable infrastructure and hazard mitigation. In addition to academia, he is a Managing Partner with RF Consultancy Malaysia with actively supporting Disaster Related research, industry collaboration, Educational and Training Services.

Integrating Resilience Components in Post-Disaster Housing Reconstruction: A Systematic Review of Models, Frameworks, and Implementation Gaps

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Abstract. Post-Disaster Housing Reconstruction (PDHR) is increasingly viewed not only as a recovery intervention but also as a strategic opportunity to strengthen long-term resilience in disaster-prone regions. However, despite extensive global experience, reconstruction practices remain fragmented, with technical, social, institutional, and environmental dimensions often addressed separately. This fragmentation is particularly evident in countries such as Indonesia, where standardized and top-down approaches continue to dominate post-disaster housing delivery, limiting integrated resilience outcomes. This study systematically reviews existing PDHR models and frameworks to identify dominant approaches, core resilience components, and recurring limitations. A systematic literature review of 130 peer-reviewed articles was conducted to classify reconstruction models and analyze how resilience is conceptualized and operationalized. The findings reveal three main model typologies: quantitative-technical models, participatory and community-driven frameworks, and conceptual-theoretical approaches. Across these typologies, five interconnected resilience components consistently emerge: physical-structural, socio-economic, institutional-governance, community-cultural, and technical-environmental dimensions. While technical models emphasize structural performance, participatory frameworks prioritize community agency, and theoretical models offer holistic perspectives, no single model integrates all resilience dimensions across the full reconstruction cycle. This study provides a structured synthesis of PDHR scholarship and highlights the need for an integrated, context-sensitive co-design framework that bridges technical rigor, community participation, and governance capacity. The findings contribute an evidence-based foundation for advancing post-disaster housing reconstruction toward comprehensive and long-term resilience building.

Keywords: post-disaster housing reconstruction, disaster resilience, systematic literature review, co-design, community participation

Integration of Satellite Gravity and Spatial Analysis for Tectonic Vulnerability Assessment of the SIBANCEH Toll Road, Aceh

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Abstract. The SIBANCEH Toll Road is a 74 kilometer transportation corridor connecting Banda Aceh and Sigli in Aceh Province, Indonesia. The route traverses the Seulimeum Segment, the northernmost segment of the Sumatra Fault. This active fault lies in close proximity to, and locally intersects, the toll alignment, indicating a high vulnerability to tectonic hazards such as earthquakes and associated surface deformation that may damage critical infrastructure. This study aims to map fault-related structures along the toll corridor using GGMPlus satellite gravity data integrated with DEMNAS elevation data. Gravity disturbance values derived from GGMPlus were terrain-corrected to obtain complete Bouguer anomaly distributions. The anomaly Bouguer data exhibit structural significance, reflecting lithological contrasts, fracture zones, and fault systems. Regional and residual anomaly separation, combined with edge detection analysis, was applied to delineate structural boundaries and identify fault lineament patterns. The results show that high anomaly gradient zones are distributed in an elongated northwest–southeast orientation, consistent with the regional structural trend of the Seulimeum Segment. Overlay analysis between the detected structural lineaments and the SIBANCEH Toll Road alignment indicates a direct intersection at approximately kilometer 71. Additional lineaments occur near the toll corridor, suggesting the presence of secondary fractures and potential localized deformation zones. These findings demonstrate that the integration of satellite gravity data and spatial analysis is effective for identifying structurally vulnerable zones along vital infrastructure. The results provide a scientific basis for tectonic risk assessment and support mitigation and infrastructure reinforcement planning in Aceh.

Keywords: satellite gravity, spatial analysis, fault lineaments, SIBANCEH toll road.

Interior Architecture and Ethical Design in Post-Crisis Contexts: Spatial Conditions of Care, Safety, and Dignity

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Abstract. In the aftermath of human or natural disasters, architectural focus often turns to rebuilding infrastructure, while the experiential and emotional qualities of interior space receive less attention. This paper explores interior architecture as a framework of ethical care in post-crisis environments, asking how the design of interior spaces might convey safety, dignity, and attentiveness toward those experiencing vulnerability. The research is situated within the field of architecture and design rather than therapy, considering how elements such as scale, materiality, light, thresholds, and enclosure can shape spatial experiences that support emotional containment and presence. Through examples drawn from interiors associated with support, listening, and recovery, the paper investigates how spatial choices influence perception, bodily orientation, and a sense of reassurance. It proposes that interior space can articulate care not through overt gestures, but through measured restraint, clarity, and ethical sensitivity to context.

Keywords: interior architecture, post-crisis environments, architecture of care, human disasters, spatial experience

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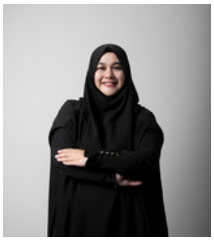
Natalia Varfi is an architectural engineer and design researcher working at the intersection of space, psychology, and the ethics of care. She graduated from the Department of Architecture, University of Ioannina in 2022, where her research examined the psychodynamic dimensions of the therapeutic consulting room, investigating, through fieldwork with psychotherapists and psychotherapy students in Greece and the UK, how spatial conditions shape the therapeutic encounter. She has presented at the Royal Anthropological Institute Conference in London on symbolic meaning, architecture, and psychoanalytic anthropology, and has contributed to the collective volume Dialogues between Psychoanalysis and Architecture. She is currently completing a Master's in Graphic Arts and Multimedia at the Hellenic Open University. Her practice is guided by a single conviction: that well-designed spaces can hold, protect, and restore the people who inhabit them.



Kitchen Ergonomics and Anthropometry in Asian Traditional Kitchens: A Scoping Review

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Abstract. Kitchen design shapes everyday cooking practices, safety, comfort, and cultural continuity. However, knowledge on kitchen anthropometry and ergonomics remains fragmented for Asian traditional kitchens and culturally specific configurations. This systematic scoping review maps and synthesizes research on kitchen anthropometry, kitchen ergonomics, Asian traditional kitchen design, and kitchen configuration, focusing on how human-space relationships, body dimensions, and cultural practices influence kitchen use. Following PRISMA-ScR, 44 peer-reviewed studies from 2015 until 2025. Eligible studies were identified across multidisciplinary databases in architecture, design, ergonomics, anthropology, and health sciences, covering contexts in Indonesia, South Korea, Iran, China, India, the United States, Malaysia, Turkey, and several European and Latin American countries. Studies were analysed thematically to extract evidence on anthropometric measures, ergonomic principles, spatial layouts, work zones, and culturally embedded cooking practices. Findings show that Asian kitchen use is strongly shaped by traditional cooking methods, postures, tools, and social routines, often differing from Western ergonomic assumptions. Yet empirical links between anthropometric data, ergonomic outcomes, and specific traditional kitchen configurations remain limited and uneven across regions. This review highlights the need for context-specific, evidence-based, and culturally responsive design frameworks that integrate ergonomic performance with vernacular practices. Consolidating this evidence also supports heritage preservation by documenting everyday kitchen know-how at risk of being lost through rapid modernization. In disaster-prone settings such as Banda Aceh, Indonesia, culturally grounded ergonomic guidance may additionally inform safer kitchen arrangements for preparedness and for temporary or post-disaster housing, where basic cooking functions are essential.

Keywords: kitchen anthropometry, kitchen ergonomic, asian traditional kitchen, kitchen configuration

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Fitriyani Insanuri Qismullah is an architect and educator, currently serving as Head of International Affairs at the Indonesian Institute of Architects (IAI) Aceh Chapter. A survivor of the 2004 Indian Ocean Tsunami, she is committed to advancing community resilience, post-disaster recovery, and sustainable reconstruction. Based in Banda Aceh, Indonesia, she lectures at Ar-Raniry Islamic State University and teaches in the Architect Professional Education Programme at Syiah Kuala University. She holds a Master's degree in Urban Planning from the University of Melbourne and uses education as a platform to advocate architecture as a catalyst for social responsibility and positive change. Alongside academia, she actively engages in disaster relief and humanitarian initiatives, partnering with local communities to strengthen preparedness and resilient design strategies, including during the recent 2025 Sumatra hydrometeorological disaster.

Mitigating Saline-Induced Building Deterioration through Solar-Driven Eco-Drainage: A Climate Resilience Strategy for Coastal Settlements in Indonesia

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Abstract. Coastal settlements in Indonesia are increasingly exposed to recurrent tidal flooding driven by sea level rise and land subsidence. In West Pentadu Village, Gorontalo Province, regular spring tides have resulted not only in surface inundation but also in progressive saline-induced deterioration of residential buildings. Seawater pooling around foundations allows salt to migrate through capillary action into porous masonry, causing crystallization pressure, material spalling, and long-term structural weakening. Conventional engineering measures such as embankments and passive drainage systems primarily address flood height but often fail to mitigate prolonged saline stagnation and its damaging effects on building materials. Despite growing attention to coastal adaptation, limited studies have examined renewable energy-supported drainage systems as a means to reduce saline-induced structural degradation. This study aims to develop and evaluate a solar-driven eco-drainage framework as a climate resilience strategy for coastal settlements. Using a case-based analytical approach, the research integrates site observation, hydrological assessment, architectural vulnerability analysis, and conceptual system modelling. The proposed intervention combines Sustainable Drainage Systems, eco-drainage networks, and infiltration wells as active Green-Blue Infrastructure, supported by localized solar-powered pumping to accelerate tidal water diversion and infiltration. Findings suggest that solar-assisted eco-drainage significantly reduces the duration of saline water stagnation around foundations, thereby minimizing capillary-driven salt crystallization and slowing material deterioration. By integrating ecological restoration with renewable energy, the framework not only protects housing stock but also strengthens long-term adaptive capacity. The study offers a scalable socio-technical model for enhancing climate resilience in vulnerable coastal communities across Indonesia.

Keywords: coastal resilience, physical salt attack, regenerative model, solar-driven eco-drainage, Sustainable Drainage Systems (SuDS)

Student at Architecture Program Institut Teknologi Bandung. Currently researching Disaster Risk Mitigation Through Renewable Energy Retrofitting to increase resiliency in Coastal Settlement

Nature-Based Solutions for Urban Flood Risk Reduction: A Case Study in George Town UNESCO World Heritage Site,Penang

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Abstract. Rapid urbanization and climate-driven changes in rainfall intensity have substantially increased flood risk in dense cities where conventional structural mitigation is constrained, particularly in World Heritage contexts. Although flood hazard mapping is widely used for exposure assessment, it is rarely operationalized to guide the prioritization and spatial scaling of nature-based solutions (NbS) across flood frequencies, especially in populated cities within UNESCO World Heritage Sites. This study proposes a frequency-sensitive, GIS-based framework that integrates hydrodynamic flood hazard modelling across multiple Average Recurrence Interval (ARI) scenarios with spatial analysis of green infrastructure availability to prioritise NbS interventions for reducing urban flood risk. Flood hazard maps for the George Town UNESCO World Heritage Site were developed for 10-, 20-, 50-, and 100-year ARI scenarios and combined with a 2023 land-use-derived green area inventory using a weighted overlay approach that reflects hydrological severity and spatial feasibility. Results show a non-linear expansion of NbS-suitable areas with increasing flood magnitude from 23.41 ha at the 10-year ARI to 57.16 ha at the 100-year ARI. Medium-priority zones exhibit the largest relative growth, while high-priority corridor-scale NbS opportunities emerge only under extreme flood conditions. The study demonstrates the value of using flood frequency as a decision variable for NbS prioritization. It provides a transferable, risk-informed framework for urban flood risk reduction in heritage-sensitive cities. This study promotes a transdisciplinary approach to building resilient cities within UNESCO World Heritage Sites, aligned with the UNDRR Sendai Framework for Disaster Risk Reduction 2015-2030.

Keywords: penang, urban flood risk reduction, nature-based solutions (nbs), flood hazard modelling, heritage cities

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Haslinda Mohamad Hamran is a civil engineer with the Department of Irrigation and Drainage Malaysia and a PhD candidate at the Malaysia-Japan International Institute of Technology, Universiti Teknologi Malaysia. Her research focuses on urban flood risk reduction through nature-based solutions and AI-assisted spatial analytics, particularly in heritage-sensitive urban environments. She has extensive experience in flood mitigation planning, hydrodynamic modelling and climate resilience initiatives, including NbS projects in Penang. Her current research integrates flood hazard modelling and NbS suitability mapping to support risk-informed decision-making. She actively collaborates with government agencies and stakeholders to enhance urban resilience and sustainable flood management.

Perceptions of Smallholder Farmers on Agroecology in Climate-Induced Disaster-Prone Areas in Malaysia

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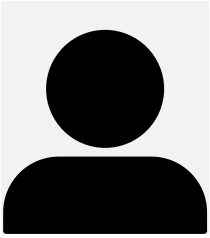
Abstract. Projected temperature increases of up to 1.6°C by 2050 in Malaysia threaten food system stability, particularly for vulnerable smallholder farmers, due to the increasing frequency of hydrometeorological disasters. Agroecology offers a long-term, integrative approach by embedding ecological, economic, and social principles into agricultural practices. However, adoption remains low, and the factors shaping this gap are still insufficiently understood. This study examines smallholder farmers' perceptions of agroecological practices and the potential of these practices to improve food security and climate resilience in Kelantan, Malaysia, a climate-induced disaster-prone area. A mixed-methods approach was employed, combining survey data analysis and key informant interviews. The findings indicate that farmers generally recognise the importance of sustainable farming practices for improving livelihood security and reducing climate-related risks, but adoption is constrained by limited knowledge, resource constraints, financial limitations, and gaps in institutional support. The study also highlights the importance of local experience, extension support, and context-specific strategies in strengthening participation in agroecological practices. In conclusion, agroecology has strong potential to enhance food security and climate resilience among smallholder farmers in disaster-prone areas, but wider adoption requires targeted policy support, capacity building, and stronger multi-stakeholder collaboration. These findings provide practical recommendations that may inform similar interventions in other parts of Southeast Asia.

Keywords: Agrecology, smallholder farmers, food security, climate resilience, disaster-prone areas

Psycho-Spatial Resilience Model: Integrating Mental Health Considerations into Architectural Design for Human Disaster Recovery



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Abstract. Human disasters including armed conflict, forced displacement, pandemics, and protracted humanitarian crises generate profound psychosocial and mental health impacts that extend far beyond physical destruction. However, architectural, and spatial recovery frameworks continue to prioritize structural reconstruction and infrastructural restoration, often overlooking the psychological dimensions of recovery. This conceptual study proposes the Psycho-Spatial Resilience Model (PSRM), a theoretical framework that integrates mental health considerations into architectural design processes for human disaster recovery. Drawing upon interdisciplinary literature from environmental psychology, trauma-informed care, resilience theory, and post-disaster architecture, this research synthesizes key psychosocial recovery principles and translates them into spatial design dimensions. The model conceptualizes resilience not merely as physical robustness but as an integrated psycho-spatial system in which built environments actively support emotional stability, social cohesion, identity restoration, and long-term community wellbeing. The proposed PSRM comprises five interrelated dimensions: (1) spatial safety and predictability; (2) identity and cultural continuity; (3) social connectivity and collective healing spaces; (4) dignity, privacy, and control gradients; and (5) adaptive participation and community agency. These dimensions interact dynamically to influence psychological recovery trajectories within post-crisis environments. By reframing architecture as an active psychosocial mediator rather than a passive physical container, the Psycho-Spatial Resilience Model advances current disaster recovery discourse and provides a structured conceptual tool for architects, planners, humanitarian agencies, and policymakers. The model offers a scalable and adaptable framework applicable across diverse human disaster contexts, contributing to the emerging field of mental-health-sensitive design in humanitarian architecture.

Keywords: psycho-spatial resilience; structural reconstruction; infrastructural restoration; human disaster recovery; post-crisis environments

Rebuilding Based on Local Agency

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Abstract. The world around us is in a vulnerable state. All over the world, we see people struggling to sustain their lives and livelihoods in the context they inhabit. Both built and natural environments are threatened and devastated by disasters of various nature - social and political conflicts, natural disasters and the ongoing irreversible consequences caused by post industrialization, climate change and the biodiversity crisis. The basis of this article is a series of on-the-grounds reports from architects working locally to rebuild following natural or humanitarian crisis. This look at rebuilding efforts around the world reveals common themes that have learnings for both global and local challenges. A key theme is that sustainable rebuilding must be locally anchored. It must be community driven, and it must come from the people that need rebuilding, it can't come from outside. It must be defined, decided, designed, and constructed by the communities that inhibit it. That Local Agency is fundamental means (1) Anchoring sustainable rebuilding practices locally, (2) Engaging in the local context means understanding all aspects of communities which goes beyond just physical architecture and materials, and (3) Rebuilding is also a deeply political act, and architects, designers and all built environment practitioners must engage in society and politics. The article will present insights from rebuilding efforts around the globe and discus how Local Agency can be centrally integrated.

Keyword: rebuilding, local agency, care, sustainability

Ingeborg Christiane Hau is a Danish art and culture historian engaged in sustainable architecture through international collaboration. She has worked with architecture's potential in sustainable development for more than 15 years, as a curator, editor, author, debater, advisor and project developer.
Her current work centers around the interdependencies of social and environmental sustain-ability, a central topic in "The Rebuilding Project" an ongoing project led by Hau, Bhawna Jaimini and Natalie Mossin initiated to generate international understanding and knowledge exchange about local agency, collaboration and care while working in communities in need of rebuilding.

Reinterpreting Local Tectonic Knowledge for Seismic Risk Reduction: Earthquake-Resilient Criteria from Traditional Acehnese Mosques

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A**bstract.** Aceh is one of Indonesia's most seismically vulnerable provinces due to its tectonic position and its history of destructive earthquakes. While modern seismic design relies primarily on formal engineering standards, several traditional Acehnese wooden mosques have demonstrated remarkable structural endurance across major seismic events. This phenomenon suggests the presence of locally embedded tectonic knowledge that contributes to seismic resilience. However, existing studies on traditional Acehnese mosques remain fragmented, focusing mainly on thermal comfort, spatial configuration, conservation, or isolated structural assessments. A systematic epistemic transformation of local tectonic knowledge into operational earthquake-resilient design criteria has not yet been developed. This study aims to reinterpret local tectonic knowledge embedded in Traditional Acehnese Mosques and to systematically derive evidence-based earthquake-resilient building criteria. A mixed analytical approach was employed, integrating architectural tectonic analysis, structural modelling using ETABS and ANSYS, and expert validation. Local tectonic knowledge units were identified and translated into measurable seismic performance indicators across four domains: building geometry, structural system, construction system, and material configuration. The findings reveal that seismic resilience emerges from integrated mechanisms, including perimeter-core load continuity, semi-rigid dissipative joints, multi-tier redundancy, lightweight roofing systems, and controlled base rocking through umpak foundations. These criteria collectively enhance robustness, redundancy, resourcefulness, and rapidity within the seismic response framework. This research contributes a conceptual and operational bridge between vernacular tectonics and contemporary seismic design. By transforming indigenous construction knowledge into verifiable design criteria, the study offers a pathway for culturally grounded, context-sensitive seismic risk-reduction strategies applicable to public buildings in earthquake-prone regions.

Keywords: seismic resilience, vernacular architecture, indigenous knowledge, earthquake-resistant design, disaster risk reduction

Resilient and Water-Adaptive Settlements in NIKLI HAOR: Integrating Eco-Infrastructure for Sustainable Rural Development in Bangladesh

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Abstract. The current study discusses the flood-resilient settlement planning of NIKLI HAOR, a very climatologically sensitive wetland zone in northeastern Bangladesh, whose annual flooding, hydrology changes, and uncontrolled development is a significant problem to the local population. The study, with the help of GIS-based spatial analysis, hydrological modeling, field surveys, and interviews with the stakeholders, explains how the infrastructural development, the growth of the settlement, and the swiftly increasing tourism interventions interrupt the water flow, sedimentation, and socio-ecological processes. Through the vernacular stilted housing, floating agriculture, and integrated practices of aqua-livestock, the study determines the context-specific susceptibility and the opportunities of scalable adaptive design. The paper presents an eco-adaptive settlement model that reinforces ecological role, socio-economic resilience, and the spatial coherence by using clustered village, modular high dwelling houses, landscape sensitive courtyard, and floating agriculture. Results show how spatial analytics, ecological design, tourism management, and indigenous knowledge can converge in order to create resilient rural settlements that can manage climatic uncertainty and anthropogenic pressures.

Keywords: Flood Resilience, Water-Adaptive Settlement Planning, GIS-Based Spatial Analysis, Climate-Sensitive Wetlands, Eco-Adaptive Rural Development

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Muzahid Islam is an architecture graduate and Associate Architect at MRA Architects, Dhaka, Bangladesh. His work focuses on climate-responsive design, resilient settlement planning, and environmentally adaptive architecture in flood-prone regions. He has professional experience in large-scale master planning, institutional projects, and landscape-integrated design. His research interests include water-adaptive settlements, eco-infrastructure, and sustainable rural development, particularly in haor and deltaic environments. He integrates field-based research with design strategies to address climate vulnerability and promote long-term resilience in vulnerable communities.

Resilient Architectural Design Based on Landscape-Driven Flash Flood Watershed Mitigation Planning Case Study: Conceptual Housing Design in Bandar Mahligai Village, Aceh Tamiang Regency

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Abstract. Tropical cyclones that triggered extreme rainfall and landslides in the upstream Tamiang Watershed between 25th and 29th November 2025 resulted in catastrophic flash floods, causing extensive damage to agricultural and plantation land as well as to the majority of buildings located within the watershed area. The upstream watershed spans East Aceh Regency and Gayo Lues Regency, while the downstream area is located in Aceh Tamiang Regency. Preliminary findings indicate that intense flash floods, carrying large volumes of mud and uprooted trees with diameters ranging from 30 cm to 2 m, struck Bandar Mahligai Village, severely impacting residential houses and public buildings. The majority of timber-structured buildings experienced severe damage or total collapse, whereas buildings with reinforced concrete structures demonstrated relatively higher resistance. Floodwater levels reached up to 4 meters, submerging all single-storey buildings, while two-storey concrete buildings were able to function as temporary evacuation shelters for residents. This study examines architectural design concepts and supporting facilities that enhance resilience to flash flood hazards through watershed-based mitigation strategies, employing a Landscape Ecological Planning approach within the Tamiang Watershed context. The research aims to contribute to the development of flood-resilient housing models that integrate architectural performance with landscape-driven risk reduction strategies. New lifestyle and architectural transformation from traditional architecture of Malay Tamiang House toward New contemporary uses will become a primary source of inspiration.

Keywords: resilience; architectural design; flash flood mitigation; watershed; landscape ecological planning

Resilient Communities in Disaster Zone

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Abstract. Bandar Mahligai Village is one of 14 villages in Sekerak District, Aceh Tamiang Regency, which has a moderate level of vulnerability to flooding. However, during the flood that occurred on November 26, 2025, Aceh Tamiang Regency experienced extraordinary destruction. However, this devastating disaster did not result in a single loss of life within the Sekerak District. The combination of local Malay cultural wisdom in Bandar Mahligai Village with flood disaster mitigation was a saving factor when the flood struck. This study aims to describe the combination of local Malay cultural wisdom and disaster mitigation. This study used a descriptive method with data collection techniques conducted through interviews and direct observation. The results of this study indicate that local Malay cultural wisdom combined with disaster mitigation is very effective in minimizing the impact of the disaster, especially the loss of life.

Keywords: local wisdom, Malay cultural, disaster mitigation, communities, disaster zone

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I am a disaster mitigation and disaster assessor licensed by the National Professional Certification Agency. I am currently a volunteer with DT Peduli, specializing in disaster management. I am also a master's student in disaster management at the University of Indonesia. Conducting training and sharing about disaster mitigation is something I enjoy because it is done in a cheerful atmosphere. However, when a disaster strikes, many things beyond your control can happen. Therefore, it is important to actively mitigate disasters before they occur.

Resilience Resettlement and Recovery Strategies for Large-Scale Disaster In Aceh: Stories From The Field

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Abstract. Aceh's disaster experience offers a compelling case for examining the role of institutional resilience in the post-disaster recovery. The 2004 Indian Ocean earthquake and tsunami mobilised an unprecedented global response in Aceh province. Two decades later, in 2025, Aceh experienced severe hydrometeorological disaster characterised by floods, debris flow, and landslides. Despite the severity of impacts, the event did not trigger a formal international appeal nor a national emergency declaration. This shift underscores a new reality in which recovery increasingly depends on domestic governance capacity and effective Humanitarian–Development Nexus coordination rather than large-scale external intervention. The study examines the transition from emergency flood response to sustainable, long-term development in Aceh Tamiang through a people-centred recovery lens. Key priorities include comprehensive risk assessment, risk-informed spatial planning, relocation strategies, and strengthened coordination among national and local institutions. Robust risk governance is essential to prevent recurring vulnerabilities, where institutional resilience supported by leadership, coordination, accountability, community participation, and continuity of services fosters resilient cultures and sustainable development pathways. Framing recovery preparedness as a strategic imperative in disaster-prone contexts, this study advances a structured framework to operationalise Build Back Better. The findings demonstrate that institutional resilience is the central driver of sustained recovery. Effective governance, inclusive participation, risk-informed and anticipatory planning, multi-hazard early warning systems, and community-led recovery.Moreover, resilient recovery begins with good governance rather than infrastructure coupled with robust institutional systems, physical rebuilding, livelihood restoration, social cohesion, and environmental safety as aligned with the sustainable resilience agenda.

Keywords: institutional resilience, operationalising build back better, post-disaster recovery, Aceh Province Indonesia

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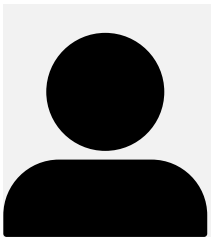
Norazam bin Ab Samah is a Malaysian architect with over two decades of humanitarian experience across 30+ countries. He recently completed his PhD at UTM on resilient resettlement models in ASEAN, and also holds a Master's in Disaster Studies (UKM) and a Bachelor's in Architecture (UiTM). A former Vice President at MERCY Malaysia, he served as Head of Operations in Aceh & Nias post-2004 tsunami, leading reconstruction of hospitals, schools, and houses. He led recovery as an architect and operations leader following Typhoon Nargis, the Nepal Earthquake, Typhoon Haiyan, the Kuala Krai Flood, the Palu Earthquake, and the recent Aceh Tamiang hydrometeorological flood.



Rethinking Architecture of Urban Market Corridors for Disaster Risk Reduction: a Resilience Oriented Design Approach in Sungai Pinyuh, Mempawah Regency, Indonesia

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Abstract. Urban market corridors constitute a critical architectural and spatial typology in many secondary cities, functioning simultaneously as economic infrastructure, public space, and social interface. However, their organic growth often results in spatial congestion, environmental degradation, and heightened vulnerability to disasters such as flooding and fire. This paper examines the Urban Design Guidelines of the Sungai Pinyuh Market Corridor, Mempawah Regency, Indonesia, as a resilience-oriented architectural and urban design approach for disaster risk reduction in a tropical context. The study adopts an integrated design-based methodology combining spatial morphology analysis, building typology assessment, environmental carrying capacity evaluation, and regulatory translation into architectural design guidelines. Rather than treating disaster mitigation as a purely technical intervention, the guidelines framework repositions architecture as an active agent in shaping safer spatial configurations through controlled building intensity, adaptive waterfront edges, improved pedestrian networks, fire prevention-oriented spatial layouts, and the integration of green and blue infrastructure. The proposed concept, “Pinyuh Tangguh” (Resilient Pinyuh), emphasizes the reorganization of market architecture and public space to enhance environmental performance, spatial legibility, and everyday safety while maintaining the socio-cultural character of a traditional market corridor. Disaster risk reduction is embedded within architectural form, spatial hierarchy, and environmental design, aligning pre-disaster mitigation with long-term urban resilience. This study contributes to discourse by demonstrating how rethinking architectural and urban design principles at the corridor scale can support disaster mitigation, climate adaptation, and resilient everyday urbanism in traditional market environments.

Keywords: resilient architecture; urban market corridor; disaster mitigation; urban design; tropical built environment

Rethinking Built Environment Control in Volcanic Hazard Zones: Land-Use Dynamics in Post-2010 Merapi

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Abstract. Volcanic hazard zones present persistent challenges for risk-sensitive development planning and built environment control, particularly in regions where spatial growth continues despite recurring disaster risks. The 2010 eruption of Mount Merapi significantly reshaped settlement patterns and land-use structures in its surrounding areas. More than a decade later, however, development pressures have re-emerged within designated hazard zones, raising critical questions about the effectiveness of risk-sensitive spatial regulation. Even so, it is a systemic risk in the vicinity of world's dangerous volcanos characterized by highly demanding tourism industry, agriculture activity, and new settlements. This study re-examines built environment controls in the Merapi volcanic landscape by analysing post-2010 land-use dynamics within officially designated hazard zones. Using multi-temporal remotely sensed data and geospatial analysis supported by GIS-based overlay techniques, the research identifies patterns of settlement expansion, agricultural conversion, and mixed-use development occurring across varying risk levels. The findings reveal a gradual reoccupation of high-risk areas, indicating a disconnect between hazard mapping, spatial regulation, and on-the-ground development practices. Rather than focusing solely on hazard delineation, this paper argues for a rethinking of built-environment control mechanisms in volcanic regions. Effective disaster risk reduction (DRR) requires not only accurate geospatial data, but also enforceable spatial instruments and planning mechanism capable of guiding settlement form, density, and land-use intensity. By positioning land-use dynamics as evidence of regulatory gaps, this study contributes to risk-based development planning strategies and volcanic DRR action over Merapi Volcano supported by emerging technologies and disaster informatics, leading to the strong governance and resilient-building societies.

Keywords: volcanic hazard zones, land-use dynamics, built environment control, Disaster Risk Reduction (DRR), 2010 Merapi eruption

Rethinking Police Lockup Design for Health and Human Rights

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Abstract. Detention facilities in Malaysia serve as critical institutional infrastructure within the justice system and the protection of human rights. Reports by the Human Rights Commission of Malaysia (SUHAKAM) have identified deficiencies in indoor environmental design particularly in window orientation and configuration which contribute to poor thermal comfort, limited ventilation and increased health risks for detainees. Within the DR3 framework of Disaster Risk Reduction, Resilience and Recovery, these conditions are framed as micro-institutional humanitarian risks requiring policy and standards driven architectural interventions. This study adopts a comprehensive building performance simulation approach using Integrated Environmental Solution–Virtual Environment (IES-VE) to evaluate indoor environmental quality. Multiple window orientation configurations are evaluated to assess their impacts on thermal performance and natural ventilation under Malaysia tropical climate. The findings indicate that strategically optimized window orientation and configuration significantly improve thermal performance and indoor environmental quality while maintaining essential security requirements. The study aims to contribute technical inputs to the development of the Standard Police Lockup Design and Technical Specification Guidelines, thereby strengthening the governance framework, enhancing disaster risk reduction measures, and improving the resilience of justice infrastructure within custodial environments.

Keywords: police lockup, governance, sustainable design, indoor environmental quality, human disaster

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Senior Lecturer and Architect with over 19 years of experience in Architecture and Academia. Specialized in Sustainable Design, Thermal Comfort, Passive Design, Building Performance Simulation (IES-VE), and Security Facility Planning and Design. Experienced in teaching, consultancy, and managing mixed development projects across residential, commercial, and institutional sectors. Achievements include Graduate on Time outcomes, international Best Presenter and Research Poster awards, Scopus-indexed publications, and contributions to high-impact developments. Dedicated to advancing sustainable architectural innovation and enhancing building performance through research-driven practices.

Rethinking Prison Security Systems for Institutional Resilience and Safety in Malaysia

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Abstract. Correctional facilities represent high-risk institutional environments where architectural performance, governance frameworks and human wellbeing are closely interconnected. This research investigates the design and maintenance of prison security systems (cell doors and grilles) as critical components of institutional resilience and disaster risk reduction within Malaysian prisons. Framed by the DR3 paradigm of Disaster Risk Reduction, Resilience and Recovery, the study conceptualizes security breakdowns, unrest, and escape incidents as manifestations of human-induced institutional crises that can be mitigated through resilient built environment strategies. A mixed-methods approach is employed, combining quantitative survey data from inmates and correctional officers with qualitative evidence from semi-structured interviews, on-site observations and document analysis of maintenance records and standard operating procedures. The findings indicate that material degradation, mechanical system failures and fragmented maintenance governance significantly compromise operational safety and exacerbate psychological stress among occupants. By benchmarking local practices against international standards including the United Nations Nelson Mandela Rules, the study proposes a performance-based design and maintenance framework aimed at enhancing institutional safety, operational efficiency and humane living conditions. The paper contributes to architectural and resilience scholarship by positioning prison cell security systems as active infrastructures of institutional stability rather than passive containment elements. It further demonstrates how architectural interventions can support long-term recovery, systemic reform and sustainable governance in custodial environments.

Keywords: prison architecture, institutional resilience, disaster risk reduction, security system design, humane environments

Retrofitting for Resilience: Recovery Pathways and Adaptive Retrofit Frameworks for Flood-Prone High-Density Landed Urban Housing in Malaysia

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Abstract. Floods in Malaysia have increased in intensity and have been occurring more frequently over the past decade, driven by climate change, rapid urbanisation, and inadequate drainage capacity. A large portion of the population live in urban areas relatively proximate to coastal regions, including many living in high-density landed urban housing developments repeatedly affected by floods. However, flood preparedness of families living in afflicted cities and towns remain relatively under-examined. This paper studies the negative impact caused by floods on urban landed housing, ranging from moisture and structural damage to floodwater, sediment, and debris contamination. These in turn have a significant bearing on lives and livelihoods; displacing families, disrupting household functions and driving financial challenges. Drawing from current recovery practices within the Southeast Asian context, including common repair approaches, material replacements, and ad-hoc mitigation measures, gaps are highlighted in terms of durability, cost-effectiveness, and long-term resilience. The paper assesses how selected flood-resilient design and recovery strategies can be adapted for high-density landed urban housing communities. The evaluation criteria of resultant frameworks proposed centers on factors relevant to landed Malaysian homes, and includes speed of recovery, occupant safety, and compatibility with existing typical home configurations. A primarily modular retrofit approach is proposed, involving a set of specified materials, solutions, and services that households can optimally adopt rather than relying on one-off repairs after each flooding event. These insights can contribute towards scalable household-level resilience while offering practical input for municipal guidance, housing standards, and community-based preparedness in flood-prone urban districts in Malaysia.

Keywords: flood, retrofit, landed housing, Malaysia

Datuk Dr Ar Ravin Ponniah is a Malaysian architect, researcher and sustainability leader whose work connects design, public policy and climate resilience. As Managing Director of Endeavour Land, he leads initiatives in renewable energy, green infrastructure, and climate impact research, including solar, hydro, and community-focused climate studies via the firm's sustainability and energy transition arm, RESET. Educated at UCL and Cambridge, he has also served in government, Khazanah Nasional and Time Bhd. Currently also serving as President of the Architectural Association, he brings cross-sector expertise highly relevant to disaster preparedness, resilience planning, and post-disaster recovery in vulnerable communities and regions.

Socio-Ecological Framework of the Tamiang Philosophy: Integrating Local Wisdom into Disaster Risk Reduction in Tamiang Watershed, Aceh Province, Indonesia

Mohammad Zaini Dahlan[1]*, Cut Azizah[2] , Budi Faisal[3] , Medria Shekar Rani[4] , Sofia Chaeriyah[5] , Ifandra Kusuma Cahya Reynaldi[6] , Muhammad Ihsan[7]

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Abstract. Local wisdom provides a valuable lesson that is occasionally overlooked when examining disasters and it is typically recognized post-disaster rather than as a proactive mitigation strategy. ‘Smong’, an oral tradition inherited through generations that instructs interpreting natural indicators as tsunami's early warnings, is an example of local wisdom that aided the Simuelue-Aceh community in mitigating the severe effects of the 2004 tsunami. The flash floods in Aceh Tamiang in late 2025 further demonstrated the significance of local wisdom in mitigating casualties. However, disaster management initiatives must be executed during the mitigation, evacuation, and post-disaster recovery phases. In this case, the Aceh Tamiang society possesses the 16 Tamiang Philosophy that offers insights for problems resolution, namely kaseh, sayang, tilek, pandeng, alang, tulong, beret, bantu, salah, tegah, benar, papah, sidek, siasat, usul, and perikse. This study used a socio-ecological framework to examine the Tamiang Philosophy in the formulation of disaster risk management strategies, particularly in the Tamiang Watershed region. The research was carried out using secondary data analysis of Tamiang Philosophy, complemented by site surveys and in-depth interviews with locals. The findings suggest that Tamiang Philosophy provides a valuable perspective on addressing disaster-related issues. A multi-scale approach in spatial and temporal dimensions demonstrates the importance of understanding local wisdom, ensuring that solutions can tackle the current problems (evacuation and rehabilitation) while also providing a philosophical and practical foundation for future challenges (mitigation). This study suggests in-depth identification of the local wisdom through manuscripts, inscriptions, poetry, songs, and other cultural properties.

Keywords: local wisdom, natural disaster, tamiang watershed, socio-ecological landscape, disaster risk reduction

Keywords: institutional resilience, operationalising build back better, post-disaster recovery, Aceh Province Indonesia

Spatial Integration of Housing and Circulation Systems in Tidal Flood Evacuation: A Space Syntax Analysis of Tambak Lorok Coastal Settlement, Semarang

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Abstract. Coastal residential areas are highly vulnerable to tidal flooding, making evacuation access a crucial aspect of disaster mitigation. Kampung Tambak Lorok in Semarang City is a dense coastal settlement with organic morphology and complex built-environment conditions, which may hinder evacuation process. This study aims to analyze the spatial configuration of the district's outdoor circulation spaces and its connectivity to residential units as evacuation starting points using a quantitative-descriptive approach by employing space syntax analysis, utilizing axial integration, connectivity, and intelligibility analyses with DepthmapX software. Analyses are conducted at the scale of district to identify potential evacuation corridors and at the scale of dwelling unit scale by linking selected residential units to their nearest road segments. Results indicate that Tambak Mulyo Street and Tambakrejo Street possess highest global integration values, thus functioning as main evacuation corridors. However, most neighborhood streets exhibit low connectivity, limiting residential access to these corridors. Residential integration within circulation system influences evacuation accessibility, with dwellings on highly integrated segments having lower spatial depth. Low intelligibility value (R^2 = 0.14884) suggests that the spatial structure of the district is not easily legible, potentially hindering orientation during evacuation. These findings emphasize that effectiveness of tidal flood evacuation is determined not only by the main corridors but also by the quality of spatial connectivity between residential units and circulation system.

Keywords: space Syntax, flood evacuation, housing integration, spatial configuration, coastal settlement

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I am a Master's student in Design with an interest in disaster-responsive built environment design, particularly in coastal tidal flood contexts. My research focuses on analyzing circulation network configurations and their relationship to housing positions using a space syntax approach. I am interested in developing spatial analysis-based design strategies to improve accessibility, safety, and environmental quality in residential areas, contributing to disaster mitigation and adaptive coastal housing.

Standard Operating Procedure (SOP) for the Evacuation of Persons with Disabilities (PwDs) During Emergencies: A Disability-Inclusive Framework for the Built Environment in Malaysia

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Abstract. Persons with Disabilities (PwDs) face disproportionately high risks during emergencies due to mobility, sensory, cognitive, and communication barriers embedded within the built environment and conventional emergency planning. Although most buildings possess general emergency response plans, disability-inclusive evacuation procedures remain inconsistent and often rely on ad hoc assistance. This paper presents a Standard Operating Procedure (SOP) for the evacuation of PwDs during emergencies, developed to support preparedness, response, and post-emergency recovery in Malaysia. The SOP is informed by Malaysian regulatory and technical references including the Persons with Disabilities Act 2008, Uniform Building By-Laws 1984, MS 1184 Universal Design and Accessibility in the Built Environment, MS 1183 Fire Precautions in Building Design, MS 2735 Emergency Preparedness and Response, and NADMA directives, aligned with international frameworks such as the UN Convention on the Rights of Persons with Disabilities and the Sendai Framework for Disaster Risk Reduction 2015–2030. Applicable to public and private buildings, the SOP outlines inclusive risk assessment, Personal Emergency Evacuation Plans, accessible early-warning communication systems, refuge area strategies, evacuation equipment deployment, role clarity, and post-evacuation accountability. By institutionalising universal design principles within emergency management, the SOP offers a practical disability-inclusive disaster risk reduction tool that enhances resilience and reduces preventable harm across diverse disaster contexts.

Keywords: PwD, evacuation in Malaysia, UD, SOP, inclusive DRR

Ar. Dr. Mumtazah Mustajab is a Malaysian architect, Principal of Mumtazah Architect and Managing Director of ArchiSphere Sdn Bhd. With over 30 years of experience, she specializes in universal design, inclusive architecture, and special needs environments. She represents Pertubuhan Akitek Malaysia (PAM) in national and international platforms, including Union Internationale des Architectes under Architecture for All. She leads initiatives on disability-inclusive design, including contributions to Malaysian Standard MS 1184 and emergency evacuation SOPs for persons with disabilities. Her work bridges professional practice, policy, and community advocacy, championing architecture as a tool for dignity, resilience, and social responsibility.

Strengthening Flood Resilience Through Participation: Developing and Validating the Community Flood Localised Disaster Resilience Strategy (CFLDRS)

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Abstract. Globally, floods are the most significant natural hazard, affecting millions every year and causing trillions in losses. Reports show that between 1965 and 2023, around 67% of disasters in Malaysia were water-related, and the cost of damages keeps rising. Since 2000, nationally floods make up more than 85% of recorded disasters, while Kelantan is the most vulnerable state. In the major flood of 2022, Pasir Mas alone recorded RM 26.1 million in damage, affecting 230,424 people and destroying or damaging more than 54,000 houses. In the light of this, the study tries to dwell deeper into how a Participatory Approach (PA) can help build a stronger and localized disaster resilience strategy, which is in line with the Sendai Framework for Disaster Risk Reduction (2015–2030). The study used a mixed-method concurrent-convergent design. On the quantitative study, a total of 345 respondents, purposive sampling using a Participatory Approach program- Resilience Living Lab participants, MERCY Malaysia CBDRM participants, Post-Disaster Needs Analysis (PDNA) participants and E-Bencana app users answered the Questionnaire on Community-Based Disaster Risk Reduction survey. While in the qualitative study, four Focus Group Discussions (FGDs) were done with local leaders, youth associations, and civil defense groups. The quantitative data was analyzed using SPSS (descriptive, Spearman's correlation) while qualitative data was analyzed using NVivo (coding and thematic analysis) which then converged to form the Conceptual Localized Disaster Resilience Strategy Framework (CFLDRS). This framework is then verified and improved with expert consultation from MERCY Malaysia, Government Officers and National Disaster Management Agency (NADMA). Data analysis shows moderate scoring of QCBDRR (3.7 to 3.02 for all variables). Spearman's Correlations were observed between Participatory Approach (PA) and CLDRR (CL) to dependent variables Disaster Resilience (DR). CL2 (Attitude Towards Disaster) and DR1 (Attitude towards Disaster Preparedness) had a very strong correlation ($\rho = 0.942$, $p < 0.01$); PA2 (Intention for Preparation in Disaster) and DR3 (Trust in Agencies) had a strong correlations ($\rho = 0.714$, $p < 0.01$); PA3 (Subjective Norms) with DR3 (Trust in Agencies) was moderately correlated ($\rho = 0.470$, $p < 0.01$), , and CL1 (Experience with Disaster and Temporary Shelter) showed moderate relationships with DR1 ($\rho = 0.406$, $p < 0.01$) , DR2 ($\rho = 0.513$, $p < 0.05$) and a DR3 ($\rho = 0.474$, $p < 0.01$). Findings from the qualitative study—namely NVivo coding and thematic analysis—support the quantitative and correlational. These two strands "converged concurrently" and used to develop the Community Flood Local Disaster Resilience Strategy (CFLDRS) framework. This conceptual framework proposes three main pillars: and seven steps, starting from identifying communities and conducting risk assessments up to continuous monitoring and improvement. In short, the study shows that resilience is not only about technology or government plans, but also about people taking part and owning the process. This study strengthens the public–private–academia–civil society (PPAC) partnership and supports Malaysia's commitment to achieve the SFDRR targets by 2030.

Keywords: participatory approach, community led disaster risk reduction, disaster resilience, flood preparedness

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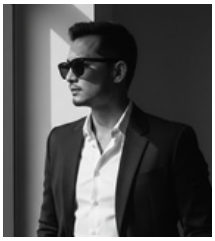
Major (Dr) Khairul Afnan Khalid (Retired) is a medical doctor, disaster management practitioner, and healthcare strategist from Malaysia. He holds a Medical Degree from Universiti Sains Malaysia and is currently completing his master's research in disaster preparedness at the Malaysia-Japan International Institute of Technology, Universiti Teknologi Malaysia. He serves as Chief Operations Officer of Kynohigo Primary Care Sdn Bhd, focusing on quality care at 15 linked clinics healthcare delivery. With military experience in disaster operations, he was appointed as a subject matter expert by the Kelantan State Government. His work spans community disaster resilience, healthcare innovation, and capacity building for NGOs, agencies, and local communities.



The Illusion of Living Space: Redesigning a Bamboo Cottage into Temporary Housing in Central Aceh

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A**bstract.** Many buildings in Central Aceh Regency were destroyed by floods and landslides in 2025. Right now, recovery is in the temporary housing stage. Bamboo has the potential to be a building material due to its abundant availability and unused availability in disaster areas. The redesign of UPR's bamboo cottages serves as a starting point for developing temporary housing. In early 2025, Syiah Kuala University, along with the Institut Teknologi Bandung and Universitas Pendidikan Indonesia, sought to reintroduce and test bamboo as a material for tourism cottages in Aceh Tengah, integrating local housing (Umah Pitu Ruang) as a design reference. The aim of this research is to determine a design that addresses construction speed and efficient use of space. Based on field research on bamboo cottage design, this paper will examine the design of temporary houses using bamboo techniques and materials. The methods used in this paper are the design method. The living space illusion strategy can be a solution for improving construction speed and efficient use of space. This strategy can be a solution for improving construction speed and the efficient use of space. The research results show that the redesigned bamboo temporary housing is innovative and efficient. Simulations demonstrate the speed and efficiency of space utilization. This design can be used by communities to develop bamboo-based temporary housing.

Keywords: bamboo cottage, illusion, modular system, living space, temporary housing

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Let me introduce myself, my name is Ar. Ferian Yavis Pradika, M.Ars., IAI, a Professional Architect who has completed his Master's degree in design at ITS Surabaya in 2024. My journey to becoming an Architect was not easy, I have gone through various ups and downs in design and field activities. Design through research is my style in Architecture. I have an interest in Phenomenology where Architects are present based on an event that becomes the storyline in a design. Hopefully this short profile can make us get to know each other and communicate in the future, thank you.

Therapeutic and Inclusive Architecture: Resilience and Identity Reconstruction in Post-Conflict Zones

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Abstract. In geographical areas devastated by armed conflict, international humanitarian response traditionally focuses on immediate physiological needs. However, this logistical approach often overlooks the mental health and psychosocial well-being of displaced individuals. This paper explores the concept of "Therapeutic and Inclusive Architecture" as a vital tool for psychological reconstruction. Based on an analysis of emergency shelters in the Eastern Democratic Republic of Congo (DRC), specifically the Bulengo camp, the study examines how the lack of spatial references and cultural belonging exacerbates dehumanization. By integrating theories of "Affordance" (Gibson) and "Transitional Space" (Winnicott), we propose an architectural framework that prioritizes human dignity and identity. The results suggest that inclusive design, using local materials and community-driven spatial organization, significantly aids in the recovery of self-esteem and social cohesion. This research advocates for a shift from purely functional emergency housing to resilient, trauma-informed environments.

Keywords: therapeutic architecture, post-conflict, psychic, reconstruction, identity, inclusive design, resilience.

I am Shekinah AZIZA ABEDI, a Licensed Architect (CNOA 1084).
Since graduating in 2019, I built my expertise through intensive internships and corporate experience before becoming an entrepreneur. For four years, I have led BEYOU. SARLU , a DRC-based firm.
Our mission: to design sustainable, innovative architecture tailored to our local context. At BEYOU , we merge technical excellence with an eco-responsible vision to build our nation’s future."

Thirty Days After the Flood: Basic Needs Gaps and Community-Led Recovery in Aceh Tamiang

Octovianus Hendra Pratama [1]*, Yuli Kusworo[2], Puspitaningtyas Sulistyowati[3], Muchammad Cora[4], Ismi Korompot[5], and Anisah Rafidah Ulfah[6]
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Abstract. Then 30 days after the flash flood in Aceh Tamiang people are still struggling. We have been helping in the field. Noticed that there is too much food aid, but not enough of other essential things. Now people need safe water, toilets and a place to stay. We did a study in Aceh Tamiang from 30 December 2025 to 15 January 2026. We looked at areas and talked to the people. We used two methods: Damage and Loss Assessment and Asset Based Community Development. We also observed the situation had discussions with the community and stayed with them in some areas. We found out three problems: (1) People do not have water because the wells are filled with mud, and the water supply is not reliable; (2) The places where people live are in condition with mud and wood debris everywhere; (3) People are getting tense because aid is not distributed fairly and they are just waiting for help. Some communities are acting. For example, they. Fixed 13 wells in Gampong Bundar. They also built toilets in Kota Lintang Bawah. This shows that it is better to help people help themselves of just giving them things. We think that we should change the way we help. We should focus on helping people work together and make sure they have water, toilets and a place to stay. We should also help them get back, to work.

Keywords: Asset-Based Community Development (ABCD), Community-Led Rehabilitation, Damage And Loss Assessment, Flash Flood Recovery, Water And Sanitation (WASH)

Octovianus Hendra Pratama is a student in the Master of Architecture Program, Faculty of Architecture and Design, Duta Wacana Christian University, in 2025. Since 2010, he has worked at Yayasan Arkom Indonesia and has been involved in community assistance, community architecture, as well as housing and disaster-related issues. His academic interests focus on the relationship between design, living space, and social practice in community-based development. He can be contacted via email at tomo@arkomjogja.or.id

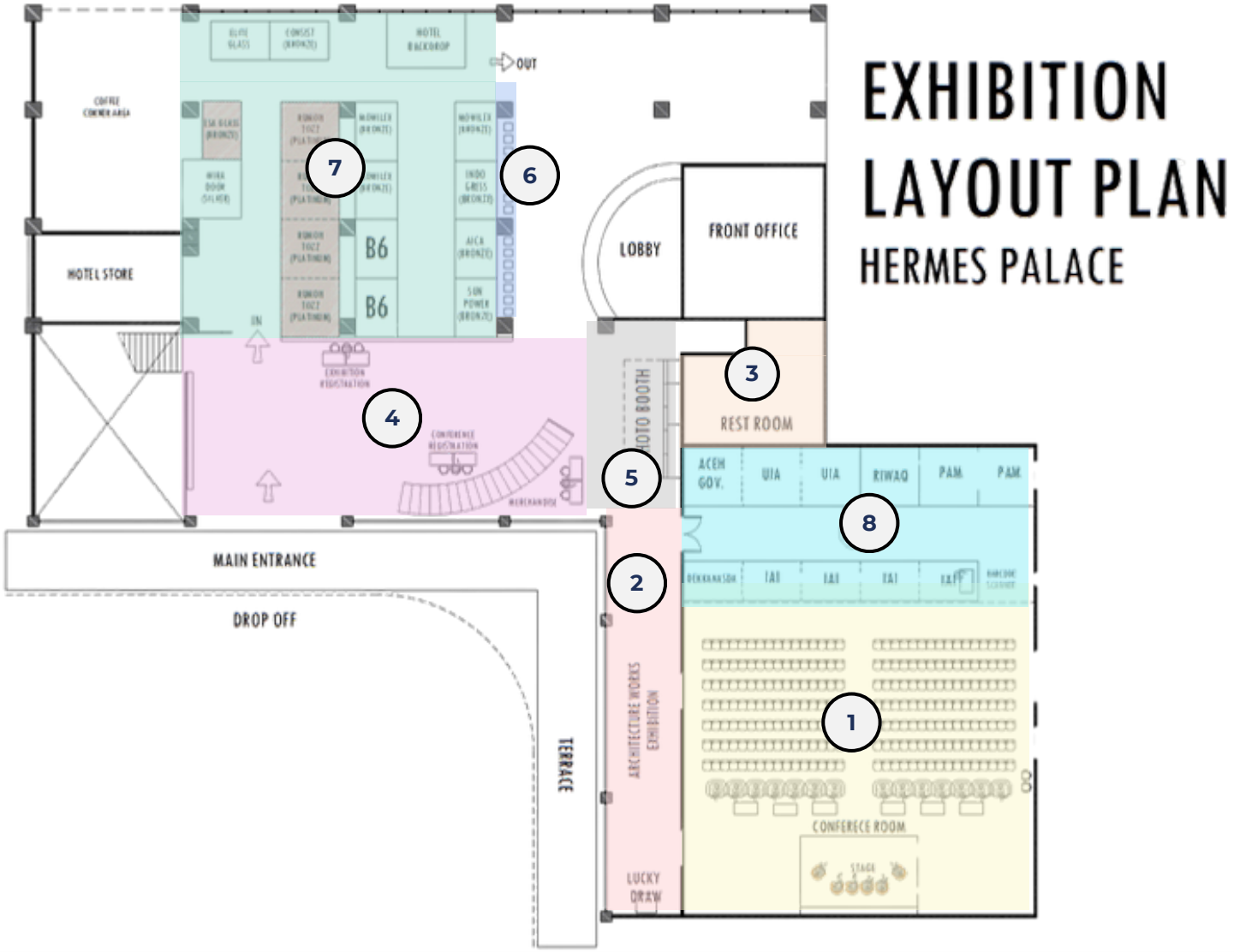
- Professional Exhibition
- Young Architects
- Material & Industry Works
- Student Exhibition
- International Architectureal Works

17–19 APRIL, 2026

HERMES PALACE HOTEL, BANDA ACEH

DR3
2026 ACEH

(E1) Exhibition map



1	Conference Room	5	Photo Booth
2	Professional & Young Architect Exhibition	6	Student Exhibition
3	Restroom	7	Exhibition Booth 1
4	Registration	8	Exhibition Booth 2

LIST OF ATTRACTIONS + MAP
BANDA ACEH

SHOPPING

REX PEUNAYONG
7 MIN HERMES PALACE HOTEL
7 MIN MEKKAH & MADINAH HOTEL

PLAZA ACEH
5 MIN HERMES PALACE HOTEL
3 MIN MEKKAH & MADINAH HOTEL

SUZUYA SIMPANG 5
6 MIN HERMES PALACE HOTEL
5 MIN MEKKAH & MADINAH HOTEL

PASAR ACEH
10 MIN HERMES PALACE HOTEL
8 MIN MEKKAH & MADINAH HOTEL

PEUNAYONG
8 MIN HERMES PALACE HOTEL
6 MIN MEKKAH & MADINAH HOTEL

CULINARY

3 IN 1 COFFEE
1 MIN HERMES PALACE HOTEL
4 MIN MEKKAH & MADINAH HOTEL

RM.PADANG SEDERHANA
2 MIN HERMES PALACE HOTEL
5 MIN MEKKAH & MADINAH HOTEL

RM. LEM BAKRIE
3 MIN HERMES PALACE HOTEL
6 MIN MEKKAH & MADINAH HOTEL

SATE APALEH GEURUGOK
9 MIN HERMES PALACE HOTEL
8 MIN MEKKAH & MADINAH HOTEL

KUPI KHOP
8 MIN HERMES PALACE HOTEL
8 MIN MEKKAH & MADINAH HOTEL

BU KULAH
7 MIN HERMES PALACE HOTEL
5 MIN MEKKAH & MADINAH HOTEL

MIE RAZALI
7 MIN HERMES PALACE HOTEL
6 MIN MEKKAH & MADINAH HOTEL

SIGHTSEEING

HERMES PALACE HOTEL
23 MIN FROM BANDARA SIM

MEKKAH HOTEL & MADINAH HOTEL
30 MIN FROM BANDARA SIM

MUSEUM ACEH
9 MIN HERMES PALACE HOTEL
7 MIN MEKKAH & MADINAH HOTEL

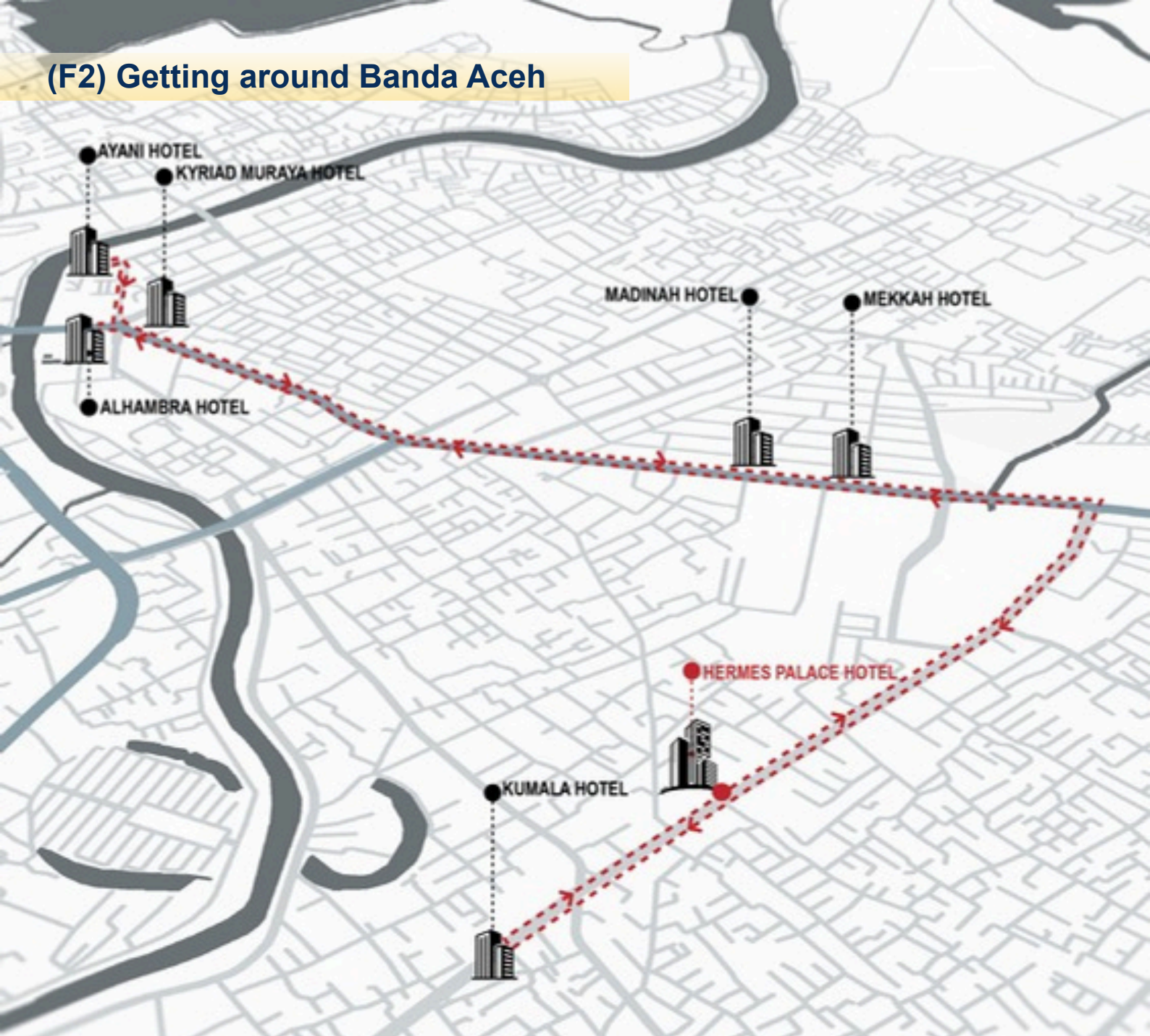
PUTROE PHANG
10 MIN HERMES PALACE HOTEL
7 MIN MEKKAH & MADINAH HOTEL

GUNONGAN
10 MIN HERMES PALACE HOTEL
8 MIN MEKKAH & MADINAH HOTEL

MUSEUM TSUNAMI
10 MIN HERMES PALACE HOTEL
8 MIN MEKKAH & MADINAH HOTEL

MASJID BAITURRAHMAN
8 MIN HERMES PALACE HOTEL
6 MIN MEKKAH & MADINAH HOTEL

(F2) Getting around Banda Aceh



Trans Kutaraja

Transportasi Online

Ride-hailing services such as Grab, Gojek and Maxim are available in Banda Aceh for convenient transportation.Taxis are also available at the airport and major hotels

gojek Grab maxim

(F3) Useful phrases in Bahasa Indonesia

Greetings

English	Indonesia
Hello	Halo
Good Morning	Selamat Pagi
Good afternoon / evening	Selamat Sore/ Malam
Thank you You're welcome	Terima Kasih Sama- Sama

Directions & Places

English	Indonesia
Where is the conference venue?	Di mana lokasi konferensi?
Where is this hotel?	Di mana hotel ini?
How far is it?	Seberapa jauh?
How long does it take to get there?	Berapa lama waktu untuk sampai ke sana?
Where is the toilet?	Dimanakah toilet?

Farewell

English	Indonesia
Goodbye / See you later	Sampai jumpa

Asking for Help

English	Indonesia
Excuse me Do you speak English?	Permisi Apakah anda bisa berbahasa inggris?
Can you help me?	bisakah anda Bembantu saya/

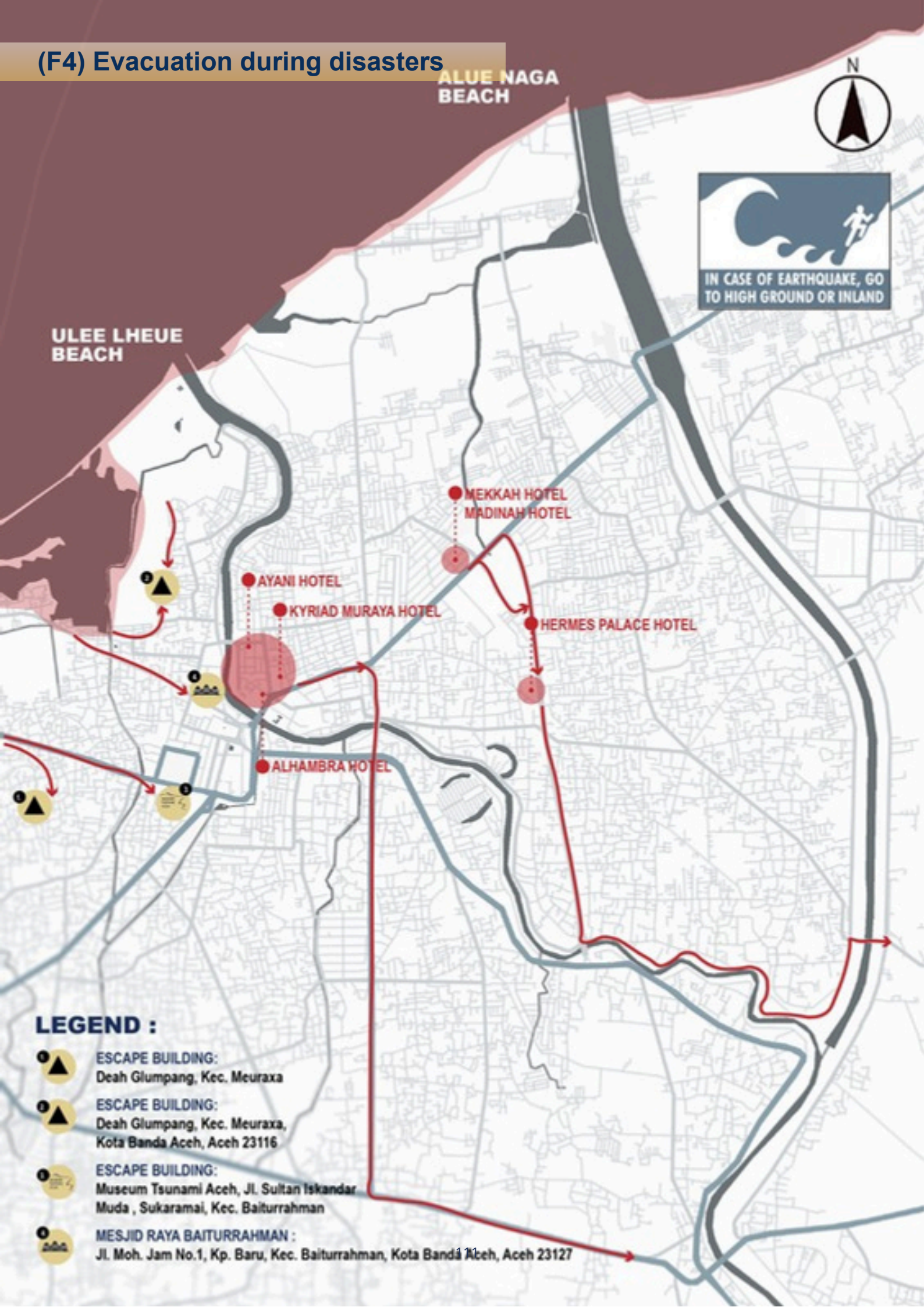
Transportation

English	Indonesia
Please take me to this address	Tolong antar saya ke alamat ini
Stop here, please	Tolong Berhenti di sini
Is there a shuttle bus?	Apakah ada shuttle bus?

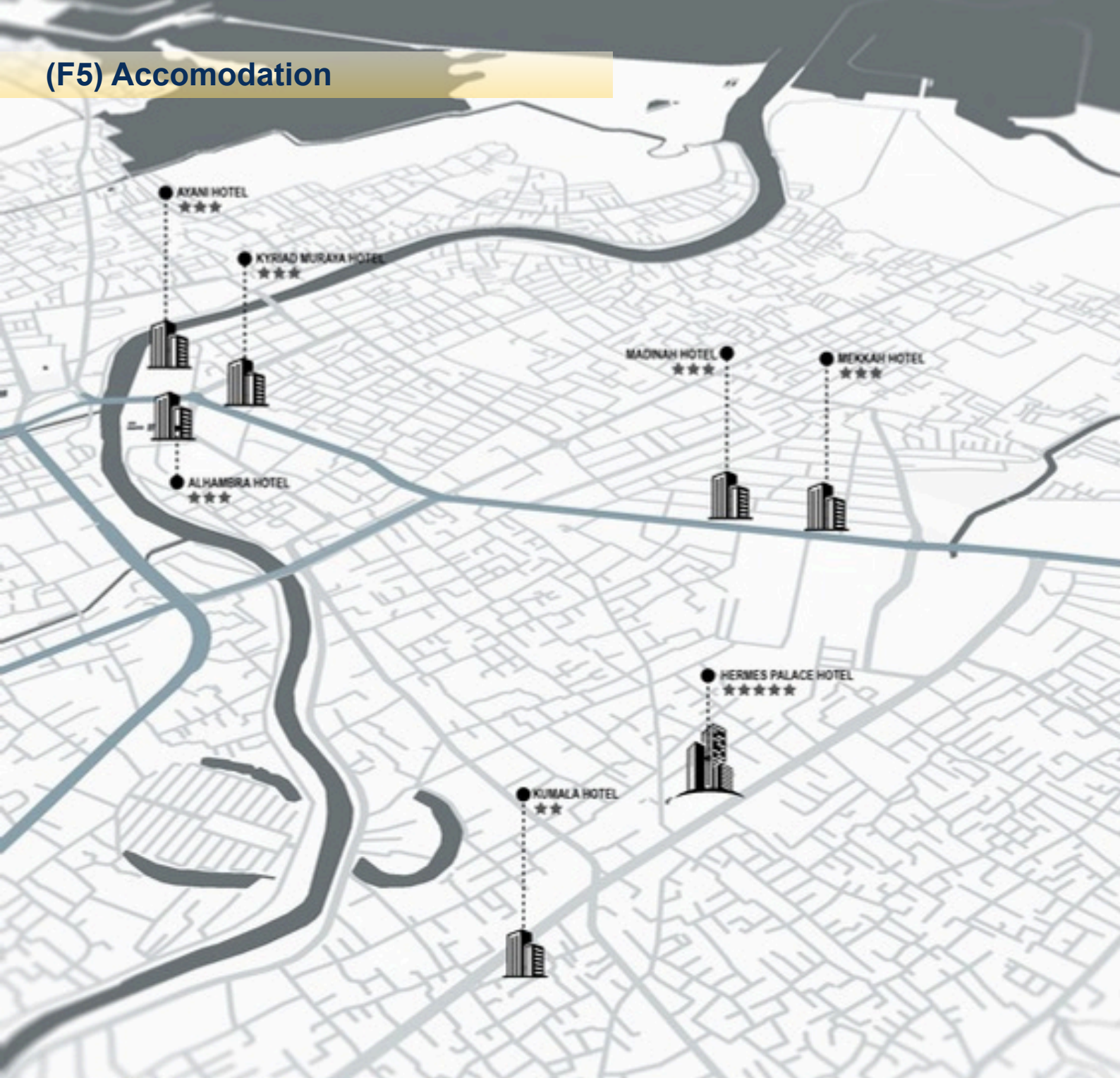
Food & Restaurant

English	Indonesia
I would like to order this	Saya ingin memesan ini
Is this spicy? The food is delicious	Apakah ini pedas? Makanannya enak

(F4) Evacuation during disasters



(F5) Accomodation



HERMES PALACE HOTEL
MAIN VENUE

MEKKAH HOTEL	6 MIN
MADINAH HOTEL	6 MIN
KUMALA HOTEL	3 MIN
KYRIAD MURAYA HOTEL	9 MIN
ALHAMBRA HOTEL	8 MIN
AYANI HOTEL	11MIN

(F6) Emergency contacts (police, hospital, ambulance, Secretariat)

General Emergency Call

112
Integrated emergency call center in Indonesia (police, ambulance, fire, disaster response).

Local Police Station:

Polresta Banda Aceh
Tel: +62 651 21353

Main Hospital
RSUD dr. Zainoel Abidin

Tel: +62 651 34565
(Main public hospital in Banda Aceh)

Disaster & Emergency Response

Badan Penanggulangan Bencana Daerah Kota Banda Aceh
Tel: +62 651 8082824

Conference Secretariat

UIA DR3 Aceh 2026 Secretariat

Tel / WhatsApp:
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+62 85296849222 (Naliandra Emielia Nisya, Secretariat)

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- Cut Aja Faradila (USK)

Maps & Visualisation
- Cut Wirdayanti (IAI Aceh Chapter)

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