

Event Report

Navigating Economic Growth and Climate Change in Indonesia: Mitigation and Adaptation Pathways



CONTEXTUAL BACKGROUND

The global community is currently facing economic uncertainty, prompting countries to adjust to the economic slowdown. Furthermore, contending with global society is an ecological crisis. The increasing global temperatures, largely driven by carbon emissions, have caused damaging effects, such as rising sea levels and frequent extreme weather events. Rising temperatures have prompted worldwide efforts to pressure major emitters to reduce their emissions and transition to a more sustainable model. Through multilateral negotiations to develop integrated solutions with international institutions, climate concerns continue to be foregrounded.

Amid domestic and external uncertainties, Indonesia's economic growth encountered a turbulent economic landscape in the wake of the COVID-19 pandemic, global geopolitical shifts, and domestic structural challenges. Indonesia, like many other emerging economies, struggled to maintain its economic growth while also ensuring job creation. Furthermore, as one of the top ten carbon emitters by the late 2000s, Indonesia has committed to stronger climate actions. At the 2009 G20 Summit, Indonesia pledged to reduce emissions, later formalising its goals through its first Nationally Determined Contributions (NDC) in 2016 and enhancing them in 2022. The country now aims to cut emissions by 31.9% independently and up to 43.2% with international support by 2030, alongside a net-zero target by 2060. This commitment is the result of international pressure and the government's recognition that climate action can drive investment and inclusive growth. However, many critical challenges remain for Indonesia, which has already committed to achieving its climate targets while seeking to increase economic growth and social equity.

On 15 September 2025, the Indo-Pacific Research Centre (IPRC) at Murdoch University, in partnership with the Australian National University (ANU) Indonesia Project, organised a well-attended Mini Indonesia Update to explore these issues. Focusing on mitigation and adaptation strategies and their implications for society, the environment, and development. The discussions covered energy transition, carbon governance, and adaptation in rural and urban settings. It also examined how climate strategies intersect with gender equality and social inclusion.

The Economic Keynote was presented by Professor Mari Pangestu from Universitas Indonesia. Beyond academia, Prof. Pangestu also serves as the Indonesian President's Special Advisor for International Trade and Multilateral Cooperation and the Deputy of the National Economic Council of Indonesia. In her remarks, she presented a comprehensive overview of Indonesia's macroeconomic performance, labour market dynamics, fiscal and monetary constraints, and reform strategies aimed at fostering resilience and inclusive growth of Indonesia.

Following the economic keynote, a panel on Climate Change and the Energy Transition was chaired by Professor Budy Resosudarmo, Head of the ANU Indonesia Project. The speakers included Professor Daniel Murdiyarso, Principal Scientist at the Centre for International Forestry Research and Professor of Bogor Institute of Agriculture (IPB) University. Prof. Murdiyarso focused on the challenges and opportunities of blue carbon projects in Indonesia as part of climate adaptation strategies. Next, Professor Tania Urmee and Associate Professor Martin Anda from the IPRC at Murdoch University explored pathways to integrate low-carbon building materials into Indonesia's construction industry, aligning with the national vision of Golden Indonesia 2045. Lastly, Dr Jacqui Baker and Dr Ian Wilson from IPRC presented their research on Loss and Damage claim-making in Indonesia's vulnerable communities. The following is a summary of presentations and discussion.

IS THIS CRISIS DIFFERENT? INDONESIA'S RESPONSES TO UNCERTAINTY

Prof. Mari Pangestu

Indonesia's economy has demonstrated resilience over the past two decades, with an average annual growth rate of around 5%. However, the lingering effects of the COVID-19 pandemic, geopolitical tensions, and domestic structural weaknesses have left the economy 8.6% below its pre-pandemic trajectory. This report synthesises the key insights from the presentation, supported by data visualisations, and offers recommendations for future policy directions in the wake of considerable political unrest in August 2025.

MACROECONOMIC PERFORMANCE AND GROWTH TRENDS

Indonesia's GDP growth trajectory reflects both resilience and vulnerability. The GDP growth rebounded from 2.1% in 2020 to 5.12% in 2025, signalling recovery from the pandemic-induced contraction. However, this recovery is uneven across sectors. Mining and information technology have outperformed, while manufacturing remains constrained, particularly in resource-based segments.

This unevenness continues to support concerns about premature deindustrialisation, in which the economy shifts toward services and resource extraction before achieving full industrial maturity. Despite positive growth figures, the economy's inability to return to its pre-pandemic trajectory underscores structural weaknesses. These include limited productivity gains, inadequate infrastructure, and regulatory bottlenecks that hinder investment.

LABOUR MARKET DYNAMICS AND INCLUSIVITY CHALLENGES

The labour market reveals stark disparities in employment discussed in the presentation, Prof. Pangestu revealed the distribution of employment status: 7 million unemployed, 19 million unpaid family workers, and 31 million self-employed individuals. While headline employment numbers have improved, job quality remains poor. 82% of new jobs created in 2024 were concentrated in sectors that pay wages below the minimum standard, such as agriculture, retail, and hospitality. This trend reflects a structural bias towards capital-intensive and resource-based sectors, which

generate limited employment opportunities. The lack of formalisation and skill development perpetuates income inequality and undermines inclusive growth. Without targeted interventions, Indonesia risks entrenching a dual economy in which high-value sectors coexist with low-productivity, informal work.

CONSUMER CONFIDENCE AND SOCIAL SENTIMENT

Consumer confidence serves as a barometer of economic optimism. From January–June 2025, the Consumer Confidence Index (CCI) charted a steep decline from 9,497 to 4,238. This deterioration mirrors growing public anxiety over job security, inflationary pressures, and political uncertainty. The decline in consumer sentiment also has direct implications for domestic demand, which accounts for a significant share of Indonesia's GDP. Weak consumer confidence can dampen household spending, slowing economic recovery and reducing the effectiveness of fiscal stimulus measures.

FISCAL AND MONETARY CONSTRAINTS

Fiscal space is narrowing, limiting the government's ability to sustain countercyclical spending. Prof. Pangestu mapped the decline in fiscal revenue from 2024 (IDR 42.05 trillion) to 2025 (IDR 38.86 trillion). Tax revenue as a percentage of GDP has fallen to 8.4%, one of the lowest amongst the emerging economies. This decline reflects underlying structural weaknesses in tax compliance and a narrow revenue base. On the monetary front, Bank Indonesia (BI) faces a delicate balancing act. The BI rate remained at 6.25% in early 2025 before easing to 5.75%, while credit growth stagnated at around 2.7%–3.2%.

This divergence suggests a weak transmission of monetary policy to the real economy, partly due to risk aversion among banks and subdued investment appetite. The combination of fiscal rigidity and monetary constraints underscores the need for structural reforms to improve policy effectiveness and restore investor confidence.

POLITICAL DEVELOPMENTS AND MARKET REACTIONS

Economic uncertainty has been compounded by political turbulence. Recent protests and a cabinet reshuffle have heightened market volatility. The Jakarta Composite Index closed at 7,766.85, in September 2025,

while the rupiah strengthened to 16,348 per 1 USD, reflecting mixed investor sentiment. These developments highlight the interplay between governance and economic stability, reinforcing the importance of transparent and predictable policymaking.

REFORM AGENDA AND STRATEGIC RECOMMENDATIONS

Prof. Pangestu outlined a multi-prong reform agenda aimed at fostering resilience and inclusive growth:

1. **Deregulation and Investment Facilitation:** Streamline permits and reduce non-tariff measures (NTMs) to attract foreign direct investment. Align domestic regulations with international standards under frameworks such as RCEP and CPTPP.
2. **Fiscal Reforms:** Enhance tax compliance through digital governance, broaden the revenue base, and reallocate subsidies toward productive sectors.

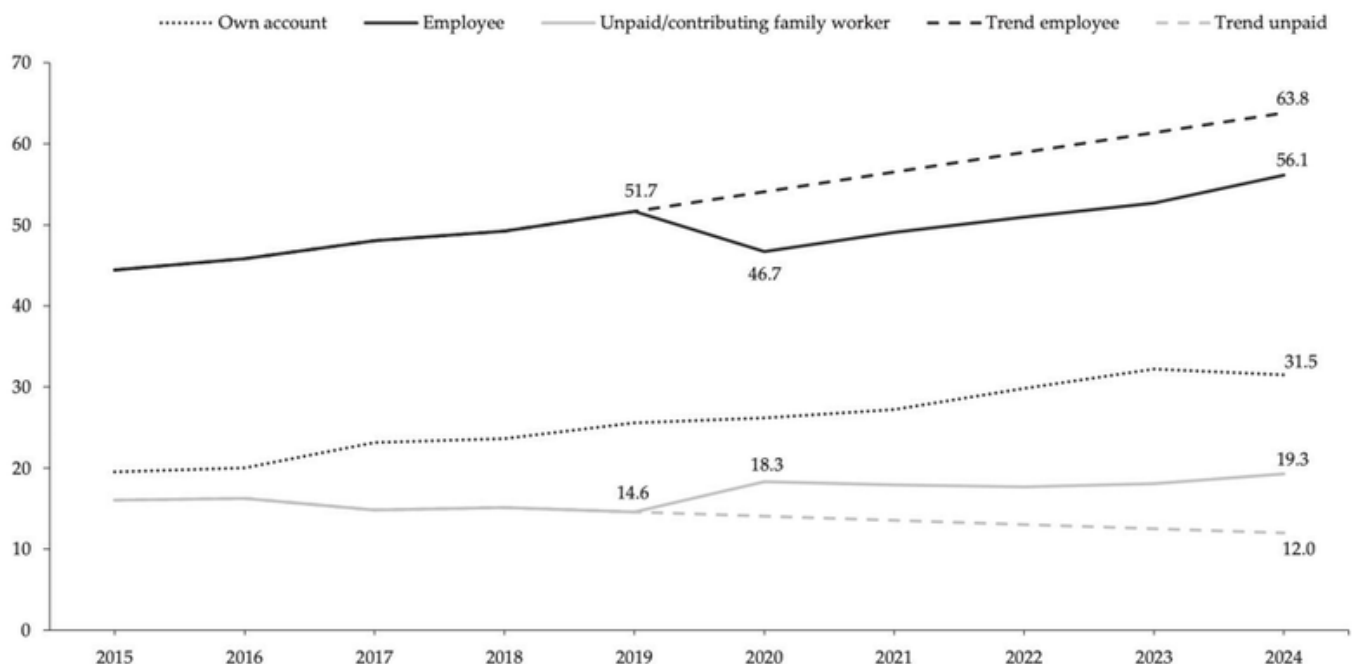
3. **Labour Market Interventions:** Invest in vocational training, wage subsidies, and formalisation programs to improve job quality and reduce informality.

4. **Green and Digital Economy Development:** Position Indonesia as a regional leader in sustainable industries and digital innovation, leveraging global trends toward decarbonisation and technological transformation.

5. **Institutional Coordination:** Strengthen inter-agency collaboration to ensure pragmatic implementation of reforms and minimise policy fragmentation.

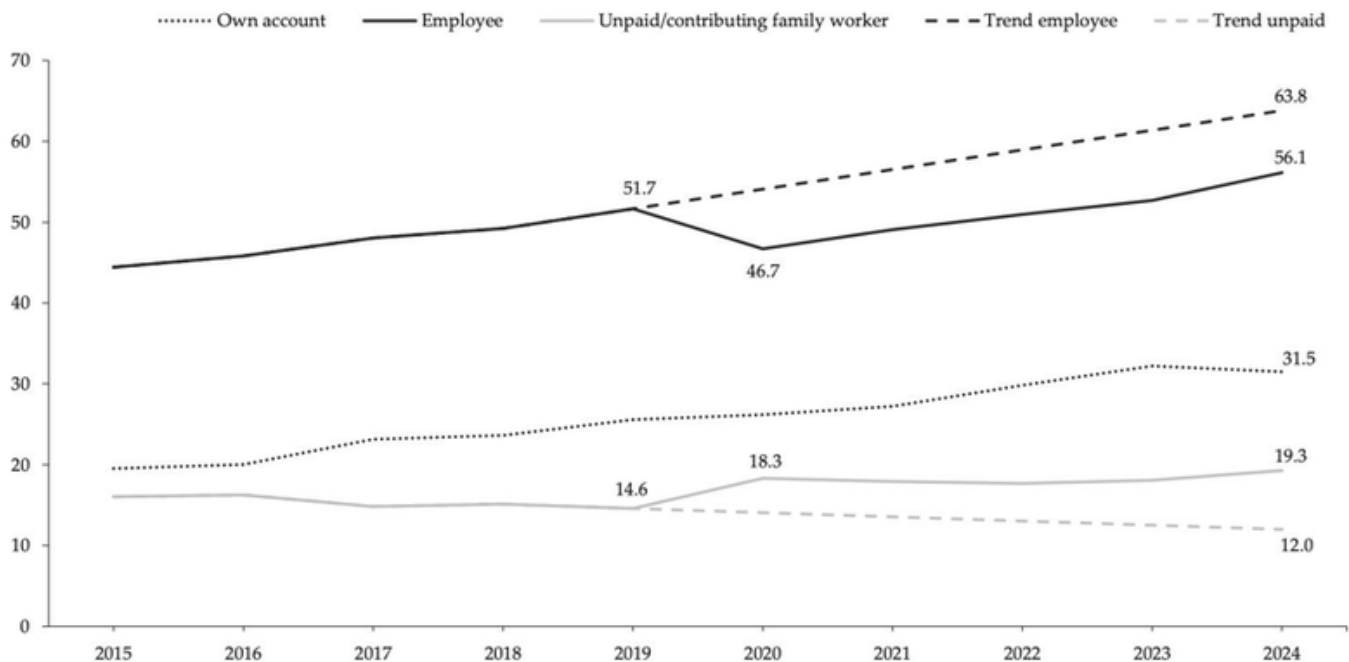
Indonesia's economic recovery in 2025 reflects resilience but remains constrained by structural weaknesses and policy limitations. Moderate GDP growth masks the underlying vulnerabilities, including labour market informality, fiscal rigidity, and weak consumer confidence. Political uncertainty further complicates the outlook, underscoring the need for decisive and coordinated reforms.

Figure 1. Indonesia's Projected GDP (Rp trillion, 2010 constant price)



Source: Mari Pangestu, Shiro Armstrong (2025), *Is This Time Different? Indonesia's Response to Uncertainty*, *Bulletin of Indonesian Economic Studies*, 61 (3), P.303.

Figure 2. Employment by Type, in Millions of Workers, 2015–24



Source: Mari Pangestu, Shiro Armstrong (2025), *Is This Time Different? Indonesia's Response to Uncertainty*, *Bulletin of Indonesian Economic Studies*, 61 (3), P.304.

NAVIGATING BLUE CARBON DISCOURSES IN INDONESIA

Prof. Daniel Murdiyarso

Figure 3. Mangrove Tree Sapling Planting



Source: Freepik.

Climate change has spurred state and business actors to find ways to absorb carbon from the atmosphere effectively. Blue carbon storage has become one of the options currently explored as part of the climate adaptation scheme. It refers to carbon captured and stored by marine and coastal ecosystems, such as seagrass meadows, saltwater marshes, and mangroves. This carbon storage system provides a valuable, nature-based solution for mitigating climate change,

as well as offering numerous other benefits, including coastal protection and habitat support.

Blue carbon is one alternative to conventional carbon capture schemes, such as conservation efforts and increased forest canopy cover. Mangroves, as part of the blue carbon storage scheme, are exceptionally effective at capturing and storing vast amounts of carbon. Compared with mature tropical rainforests, mangroves can store carbon two to four times more per hectare. Destroying mangrove ecosystems, along with their water-soaked soils and intricate root systems, would release stored carbon back into the atmosphere. Protecting and restoring these valuable blue carbon ecosystems is crucial in the fight against climate change.

Currently, Indonesia is home to the largest mangrove area in the world, estimated at approximately 3.3 to 3.4 million hectares, which represents about 22–23% of the total global mangrove ecosystem. However, there is a significant annual loss of mangroves in Indonesia, driven by conversion into aquaculture ponds, palm oil plantations, and coastal development for tourism or urban expansion. In the context of climate change mitigation, lost mangrove areas need to be restored, and existing ones could be further developed for the benefit of the local population.

The rise in sea levels has also impacted many communities living in Indonesia's coastal areas. The restoration and development of mangrove areas could potentially be one solution to this problem, as they can help build land in the low-lying coastal zone. The ecosystem generated by the blue carbon area can also bring economic benefits to local communities by providing a natural habitat for shrimp, mud crabs, and shellfish. It also serves as an important nursery site and food source for a diverse range of species, including mammals, birds, reptiles, and amphibians. The process of restoring and developing mangrove areas in Indonesia will require not only government policies but also adequate funding. However, a question was raised as to who is paying for this.

Indonesia has initiated a national registry system for carbon financing, including the National Registry System for Climate Change Control (SRN-PPI). This system will serve as a platform for managing data and information on climate change adaptation and mitigation actions, as well as resources, in Indonesia, including those related to blue carbon storage. It creates an opportunity for direct international trading of carbon units generated in Indonesia and finances blue carbon projects. The registry system is currently being updated to align with the international model by harmonising methodologies, standards, implementation, and monitoring processes.

According to Prof. Murdiyarso, in the fight against climate change, the science of blue carbon is currently mature enough to deliver high-quality projects.

However, there are some essential steps required for blue carbon projects to be implemented effectively. The blue carbon initiative, driven by host countries such as Indonesia, needs to be further promoted to the global community. The governance of blue carbon from the host country also needs to be streamlined and harmonised with international standards. It is also crucial for the blue carbon agenda to engage immediately with the coastal community, as their participation is essential to making the projects sustainable and beneficial for them.

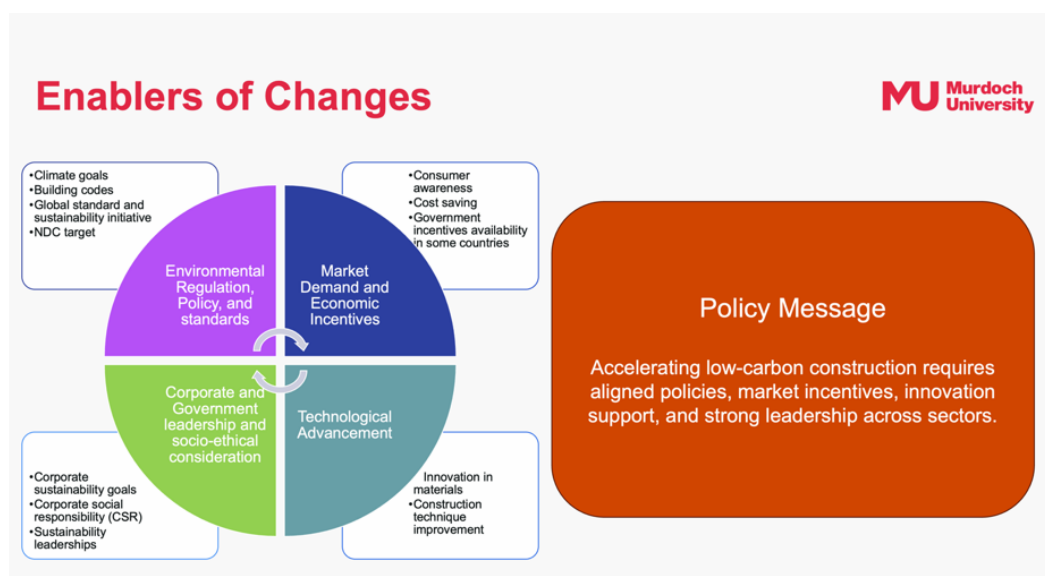
TOWARD THE GOLDEN INDONESIA 2045 VISION: OPPORTUNITY FOR LOW-CARBON MATERIALS IN INDONESIA

Prof Tania Urmee and A/Prof Martin Anda

Indonesia is at a pivotal moment in its development journey. With rapid urbanisation and infrastructure expansion, the country faces a dual challenge: meeting growing construction demands while reducing environmental impacts. This presentation focused on how sustainable materials can support Indonesia's vision of becoming a prosperous and environmentally responsible nation by 2045.

The construction sector is a major contributor to global emissions, accounting for 30% of energy demand and 37% of CO₂ emissions. In Indonesia, reliance on carbon-intensive materials such as cement and steel exacerbates this problem.

Figure 3. Enablers of Changes in Accelerating the Use of Low-Carbon Materials



These materials have a high embodied carbon footprint, meaning their production releases emissions that persist for decades. Without intervention, the sector risks undermining national climate goals and public health.

The discussion highlighted several barriers to the adoption of Low-Carbon Building Materials (LCBMs). Regulatory uncertainty and fragmented policies create confusion for industry players. Market inertia favours traditional materials, while technical limitations, such as insufficient testing facilities and a lack of skilled labour, as well as slow innovation, hinder progress. These challenges underscore the need for a coordinated approach to addressing them.

Despite these obstacles, the presentation emphasised key enablers that can drive change: 1) strong environmental regulations, aligned with global standards and national climate commitments, are essential; 2) economic incentives, including subsidies and procurement policies, can stimulate market demand; 3) technological advancements in material science and construction techniques offer practical solutions; and finally 4) leadership from government, businesses, and civil society is crucial in fostering a culture of sustainability.

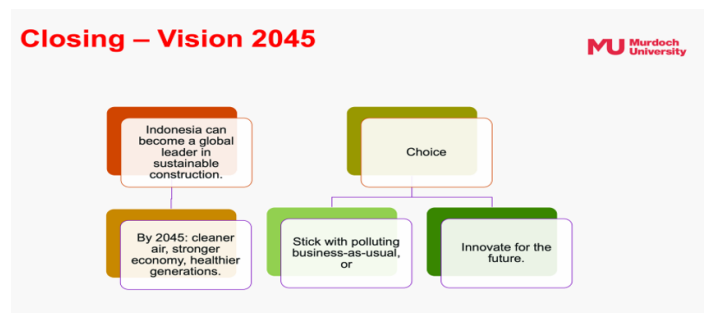
LCBMs present significant opportunities for Indonesia. Geopolymers derived from industrial by-products, such as fly ash and nickel slag, and agricultural waste-based materials, including coconut husk, can reduce emissions while promoting a circular economy. Additionally, natural alternatives like bamboo and timber can contribute to this goal. These materials leverage local resources, creating economic benefits and reducing dependency on imports.

Current efforts, including green building certifications and provincial incentives, show promise but lack national integration. A recent policy change reclassifying fly ash as non-hazardous opens new possibilities for recycling in construction. However, scalability remains a challenge.

The discussion proposed clear pathways forward: establishing national standards and certification systems for LCBMs, integrating them into public procurement and building codes, and supporting regional innovation hubs. Financial incentives, capacity building and international collaboration were also identified as crucial steps. Demonstration projects can build trust and showcase the viability of sustainable materials.

Indonesia stands as a crossroads. Continuing with conventional practices will lock in pollution and health risk, while embracing LCBMs can deliver cleaner air, economic resilience, and healthier generations. Achieving this vision requires coordinated policies, technological innovation, and active participation from all stakeholders, including government, industry, civil society and citizens. The discussion pointed to the need for developing a unified regulatory framework, increased investment in education and training, stronger awareness campaigns, and leveraging global partnerships. By acting decisively, Indonesia can position itself as a global leader in sustainable construction by 2045.

Figure 4. Indonesia's Vision 2025



Source: Tania Urmee and Martin Anda, IPRC

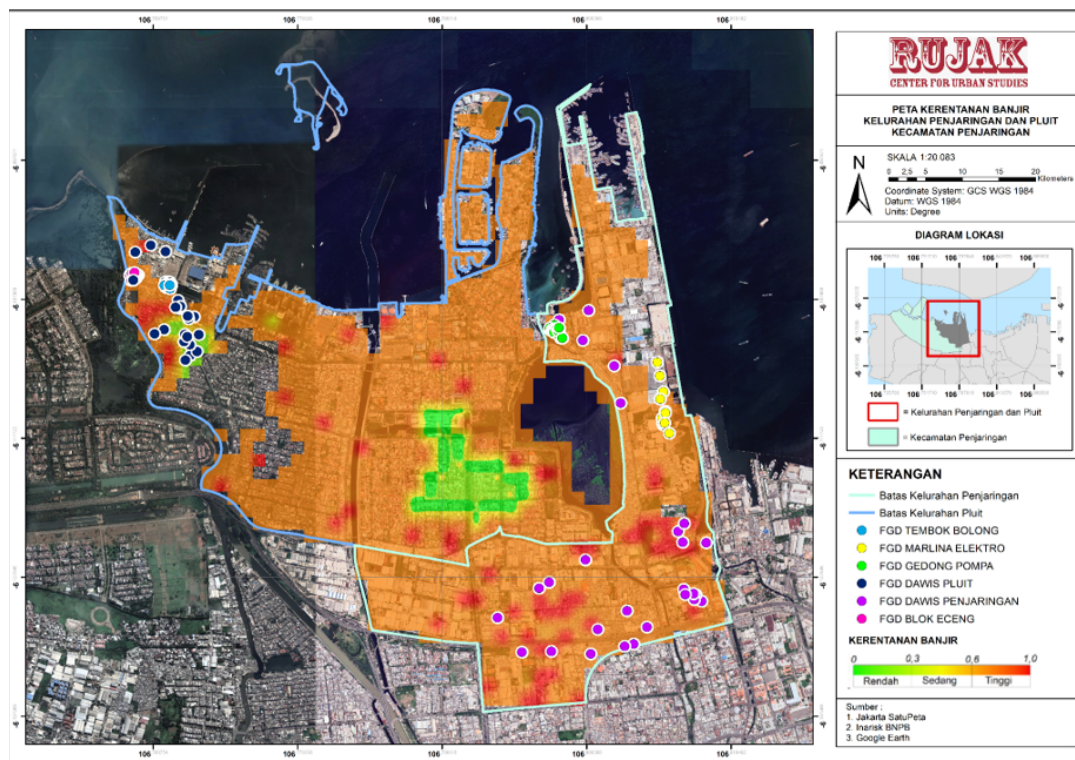
CONTESTING LOSS FOR INDONESIAN COMMUNITIES IN CLIMATE CRISIS

Dr Jacqui Baker and Dr Ian Wilson

Despite numerous global mitigation and adaptation measures, there are unavoidable impacts of climate change that will nonetheless generate climate loss and damages. Indeed, the increasing climate loss and damage is an indication of the weaknesses of climate mitigation and adaptation processes. The unavoidable impacts of climate change particularly exacerbate the existing economic, socio-political, and environmental vulnerabilities of the poor, while depleting the social and material resources critical to them.

The effort to implement global loss and damage reparations started in the 1990s, initiated by the Alliance of Small Island States. But efforts to establish climate loss and damage has a third pillar in climate governance has been thwarted by inadequate funding, difficulties in addressing

Figure 5. The Flood Vulnerability Map in Penjaringan



Source: RUJAK Centre for Urban Studies

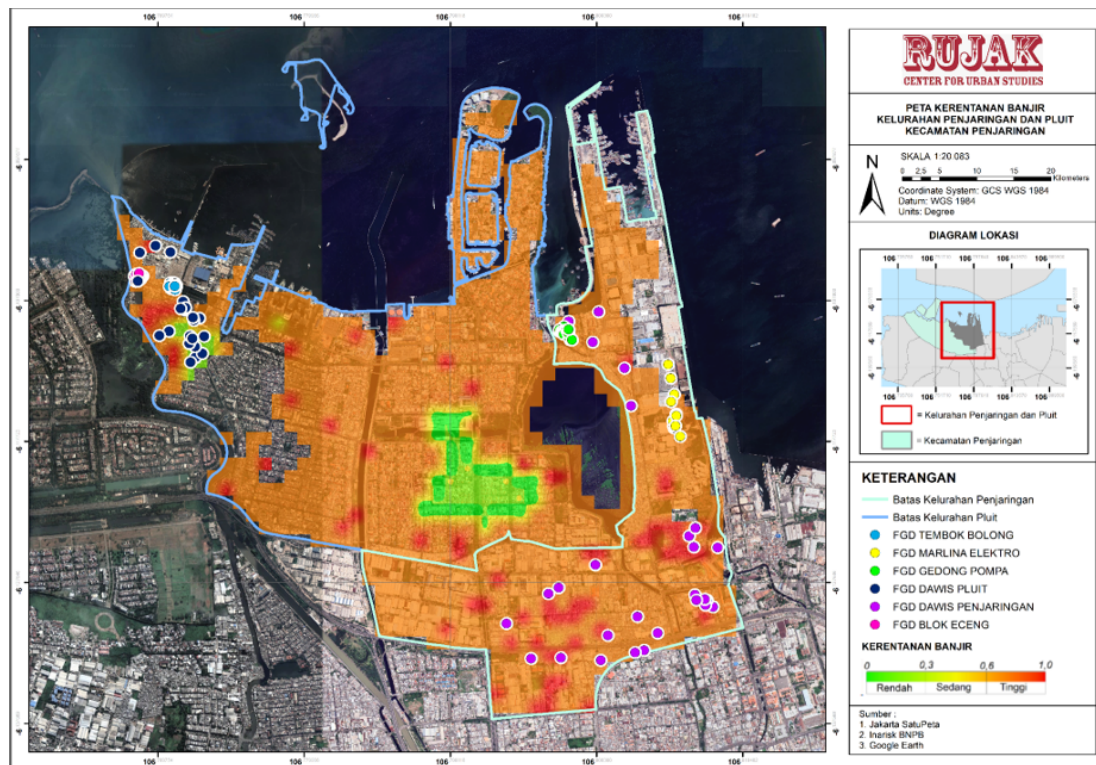
non-economic losses, and the exclusion of liability for historical emissions generated by the Global North. The 2023 UN Climate Change Conference of the Parties (COP) finally agreed to establish a Fund for Responding to Loss and Damage (FRLD), which would assist countries in responding to both economic and non-economic losses caused by climate change, such as the loss of cultural heritage and biodiversity.

In Indonesia, the asymmetric impacts of climate change and limited adaptation efforts are salient in the coastal communities of Penjaringan, Jakarta. People living in the coastal informal settlement of Penjaringan currently face a higher cost of living due to housing adaptation measures required to cope with rising sea levels, infrastructure repairs, and the cost of clean water. This situation occurred alongside the loss of income from fisheries and traditional fish dryers. The general health conditions of residents in Penjaringan also worsened due to extreme weather and flooding, in which many of them reported cases of fever, skin rashes, dysentery and Acute Respiratory Infections. There are also looming social tensions around water scarcity, economic opportunities, cultural loss, and cost-sharing on infrastructure remediations.

The deterioration of livelihoods in Penjaringan demonstrates how climate change adaptation and resilience have become features of everyday life. For the urban poor and precariat in Penjaringan, climate change is an exacerbating factor that worsens their already vulnerable livelihoods. Many of the residents also highlighted their mental stress and 'exhaustion' due to their worsening everyday lives. The severe exposure to climate change impacts in the contested coastal area of Penjaringan shapes their vulnerability and perception of loss.

However, the current government's adaptation pathways in Indonesia mostly focus on techno-economic and engineering interventions. Drs Baker and Wilson argue that it primarily serves the interests of developers and the upper middle class (including the development and energy sectors), while increasing the precarity and marginalisation of urban poor communities. Government policies in Indonesia also harm vulnerable communities, including through evictions for the construction of the Sea Wall, poorly maintained infrastructure that could prevent flooding, and the absence of basic services such as clean water. This situation prompts the affected residents to initiate a community-led response, though it is far from ideal for addressing the impacts of climate change.

Figure 6. The Flood Vulnerability Map in Penjaringan



Source: RUJAK Centre for Urban Studies

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