The interface between green infrastructure planning and flood resilience: current barriers and opportunities

Flooding in urban areas is becoming increasingly frequent due to climate change and rapid urbanisation. This study explores how green infrastructure (GI) such as parks, wetlands, and green corridors can be better planned and integrated into cities to enhance their resilience to flooding. By focusing on Sydney's Cooks River and Georges River catchments, the research identifies pathways for effectively integrating GI in flood risk management.

Why the study:

- Urban flooding poses significant threats to infrastructure, property, and community well-being, making resilience-building a critical focus for cities.
- Green infrastructure provides a sustainable and multifunctional approach to managing flood risks while enhancing ecological and social benefits.
- GI can be practically utilised to mitigate flood risks in urban environments, particularly relevant for industries like urban planning, construction, and environmental management.

What we did:

- A comprehensive methodology was conducted through thematic analysis of existing literature, relevant documents, policies, and regulations on case studies, complemented by the Delphi method involving rounds of expert feedback. By examining international examples such as the Netherlands' Room for the River program, alongside local examples from Sydney, a comparative understanding was developed to demonstrate the successful green infrastructure integration in flood resilience planning.

What we found:

- The study identified key barriers to integrating GI in urban flood resilience, including fragmented governance, financial limitations, and the lack of a holistic planning approach.
- Opportunities for improvement were also highlighted, such as adopting innovative funding models, fostering multi-stakeholder collaborations, and integrating Indigenous knowledge into planning processes.
- A significant finding is the limitation of existing frameworks, such as the NSW Green Infrastructure Valuation Framework, which lacks a comprehensive assessment of GI's role in flood mitigation.

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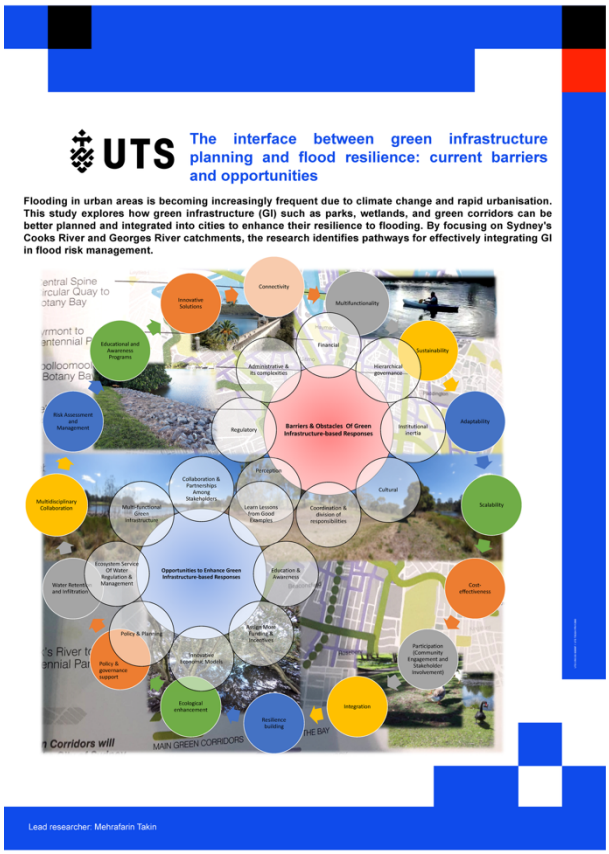
What this means:

- The research highlights practical solutions for enhancing urban flood resilience through green infrastructure. Industries and professions involved in urban development can benefit by adopting these strategies, including new funding mechanisms, better coordination across sectors, and improved integration of GI in construction and planning processes.
- By focusing on a more inclusive and sustainable approach to flood risk management, the industry can play a leading role in creating resilient urban environments that protect communities, enhance property values, and contribute to long-term sustainability.



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