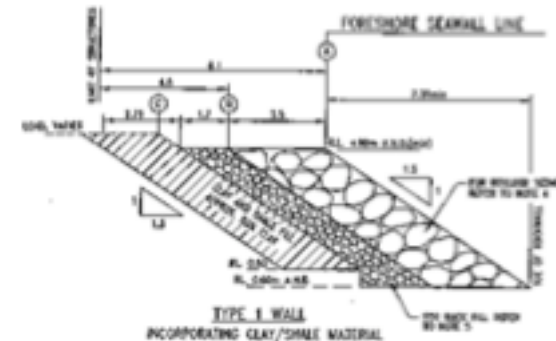


Contrasting funding and delivery models for coastal protection – case studies from Australia

5th International Climate Change
Adaptation Conference

Cape Town South Africa 18 -21 June 2018

Daniel Ware and Zuzsa Banhalimi-Zakar





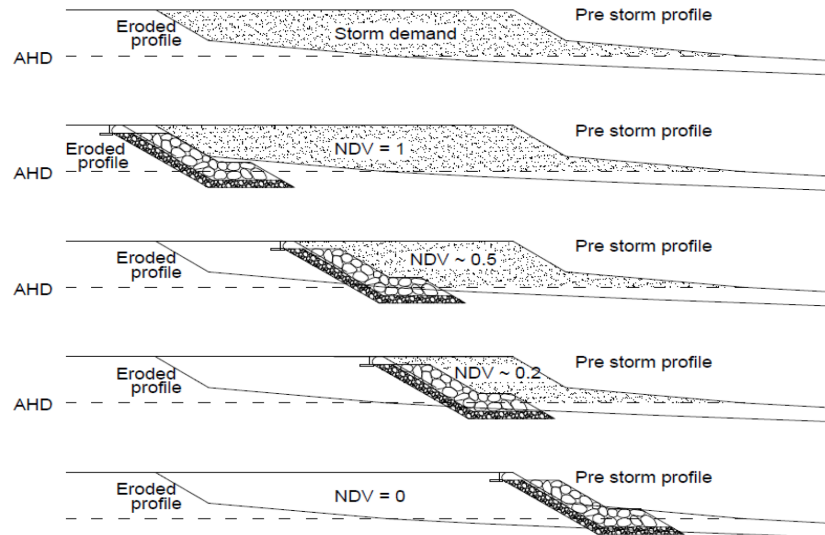
Coastal Protection, Coastal Hazards and Climate Change

- **Coastal Protection** – civil works that aim to reduce the impacts of coastal hazards e.g. Seawalls, Levees and Beach Nourishment
- **Coastal Hazards** - Coastal process with negative consequences for use and development of coastal land e.g. Erosion and Inundation
- **Climate Change** - will expand the area of land exposed to coastal hazards
- **Adaptation** will impact all phases of coastal protection delivery – design, maintenance, upgrade

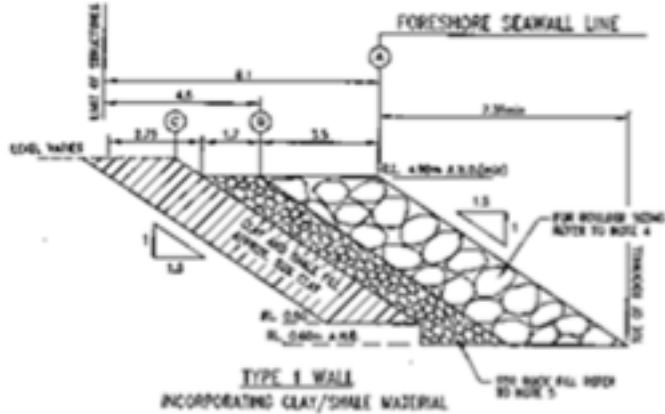
Delivery of Coastal Protection



- Often associated with negative externalities
- Share characteristics of public goods
- Scale of requirement is overwhelming capacity with negative consequences
- Role or Responsibility of the State?
- What alternatives exist to pure State Responsibility



Gold Coast – Foreshore Public Land Seawall



- 22km of shoreline adjacent to public land
- 11km has an existing seawall however only 1.9km is certified
- The Gold Coast City Council has financed the construction of the seawall adjacent to public land mostly through sources of general revenue,
- 1 meter of Seawall to the current costs approximately \$2300
- \$47 million is required to complete the project

City of Gold
Coast – Land
Taxes

Sea Wall
Construction

Foreshore
Public Land
Users

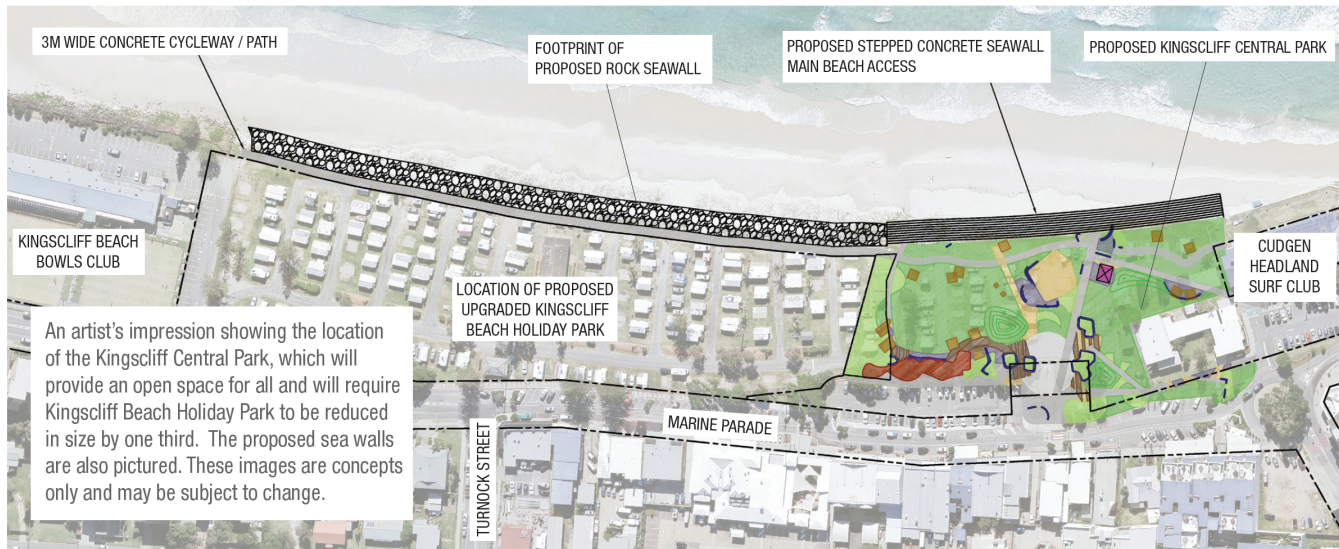
Non-traditional Finance Case Studies

Name	Tweed River Sand Bypass	Toogoom Seawall	Kingscliff Foreshore Revitalisation
Location	Across the NSW/QLD border at Tweed Heads	Toogoom Fraser Coast QLD	Kingscliff NSW
Project description/elements	Sand bypass involving a permanent dredge, pumping station pipe system and sand outfalls	Rock rubble seawall	Seawall beach nourishment, recreational amenities and holiday park upgrade
Jurisdiction	In Tweed Shire, both NSW and QLD through a special agreement	Fraser Coast Regional Council (QLD)	Tweed Shire Council (NSW)
Date of construction/implementation	2000-2001	2016	2017-2018
Scale	10 km	0.370 km adjacent to 15 properties	Approximatley – 400m with 270m rock and 150m stepped seawall
Ownership	Tweed River Entrance Sand Bypassing Company, transfer to government partners at the conclusion of the contract	Private property owners	Tweed Shire Council



Kingscliff– Seawall

- 2005 – Coastal hazard assessment and Coastal Management Plan adopted coastal protection strategy to be implemented through construction of a 500m seawall
- Funding was unavailable and strategy was not implemented
- 2010 – extreme erosion event where 2ha of foreshore was lost brought attention back however funding continued to be a constraint



An artist's impression showing the location of the Kingscliff Central Park, which will provide an open space for all and will require Kingscliff Beach Holiday Park to be reduced in size by one third. The proposed sea walls are also pictured. These images are concepts only and may be subject to change.

Kingscliff– Seawall

Holiday Park
Trust

Holiday Park
Trust

Tweed Shire
Council –
Land Taxes

Tweed Shire
Council

Sea Wall
Construction

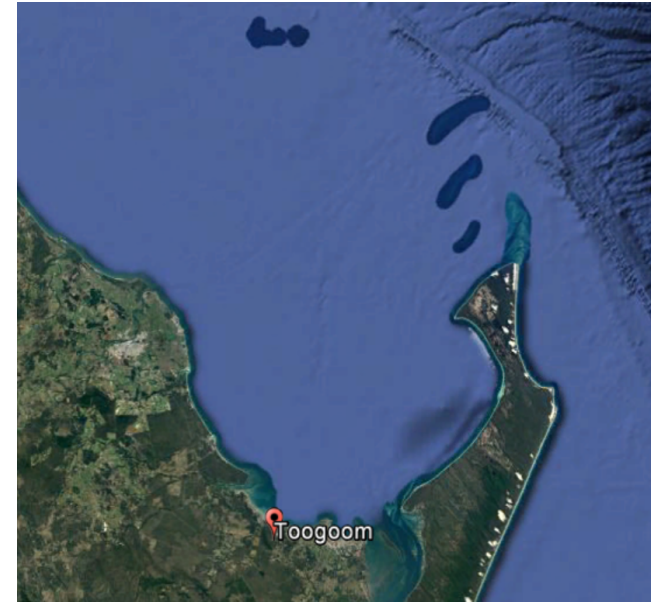
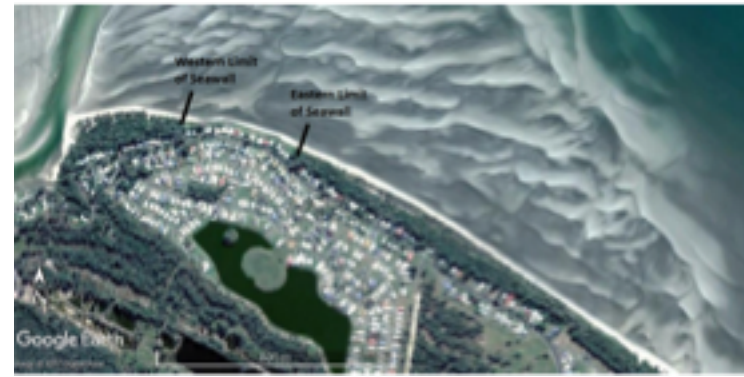
Foreshore
Public Land
Users

Federal
Government
- Grant

Funding source	Investment size (AUD million)
National Stronger Regions Fund	\$9.81
Tweed Coast Holiday Parks Reserve Trust	\$7.52
Tweed Shire Council	\$3.87
Total	\$21.2



Toogoom– Seawall



Toogoom– Seawall



- Total cost of approximately \$1.1M [~\$3,000/m].
- This cost was to be charged to the owners of the 15 protected properties through a special rates levee as payable over 10 years
- \$73,000 per property
- The median property value for Toogoom for 2017 is listed by RPdata as \$310,000 with foreshore property sales over the past 12 months listed between \$500,000 and \$650,000
- Assuming 4% Interest rate monthly repayments per property would be more than \$700.

State of
Queensland
Treasury

Fraser Coast
Regional
Council

Sea Wall
Construction

Foreshore
Property
Owners

Tweed River – Sand Bypass



- Designed and built by McConnell Dowell with finance provided by the ANZ bank
- Operation and maintenance McConnell Dowell under a 24 year contract with the State of NSW and Queensland which concludes in 2025.
- At the conclusion of the 2011/12 financial year payments of \$AUD106.4million

ANZ Banking
Corporation

Tweed River
Entrance
Sandbypass
Corporation

Sand Bypass

Gold Coast
Beach Users

Queensland
State
Government

Tweed River
Navigation

NSW State
Government

Conclusions

- Non-traditional practice exists for delivery of coastal protection
- Finance for adaptation is a design consideration
- Institutional context shapes opportunities for value capture
- Non-traditional finance models provides a means of addressing both political and financial constraints

