

The climate emergency on Small Islands, July 5, 2023

A webinar hosted by the Water Adaptation Community, presented by IPDC, GCA, and Deltares



Coastal Protection in Sao Tomé & Príncipe
Irene Seemann, Rebel

Project Location



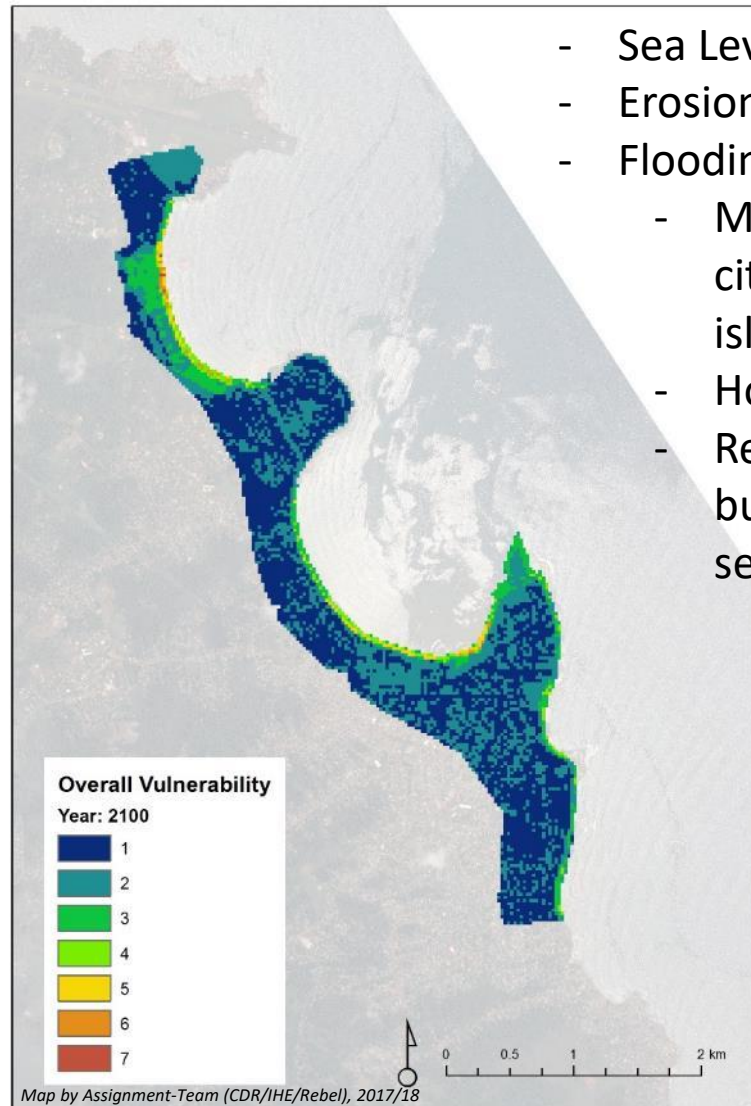
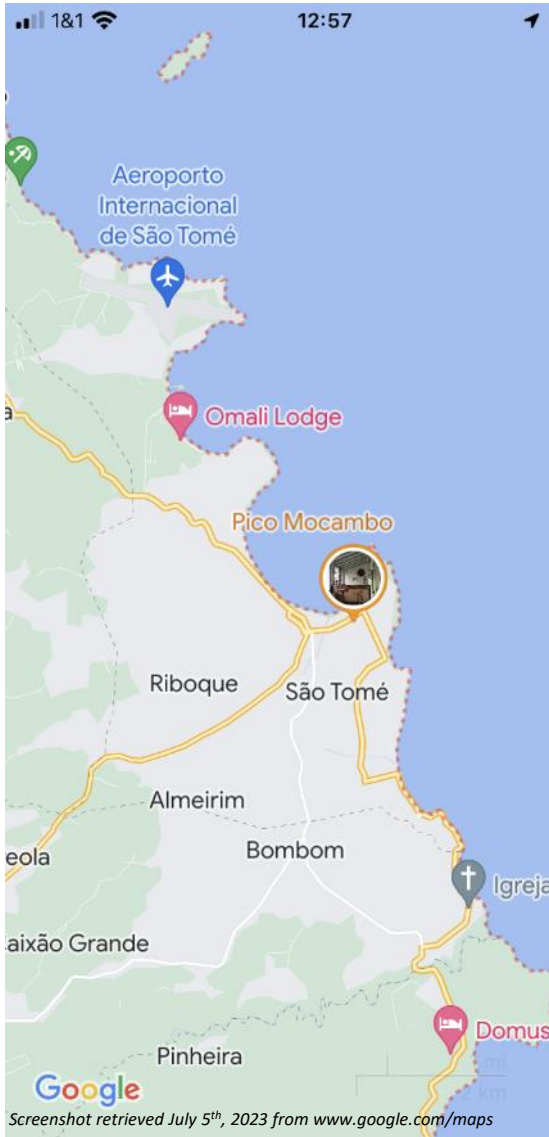
Screenshots retrieved July 5th, 2023 from www.google.com/maps

Task & Team

Task:
Vulnerability Analysis, Feasibility Study
and Preliminary ESIA
Água Grande Coastal Protection project



Challenges



- Sea Level Rise & storm surges
- Erosion of coast + coastal road
- Flooding of:
 - Main connection airport-city and airport-rest of island
 - Hotels
 - Residential buildings, businesses, public services

Challenges – some impressions

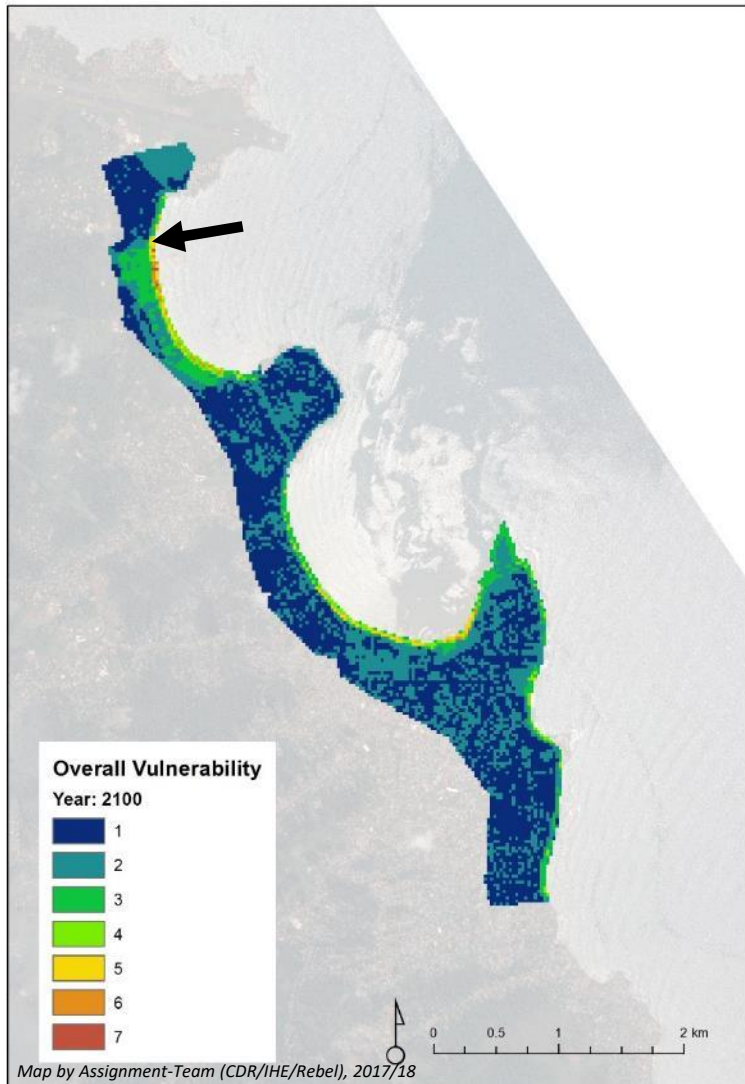


Photo by Assignment-Team (CDR/IHE/Rebel) 2018

Challenges – some impressions

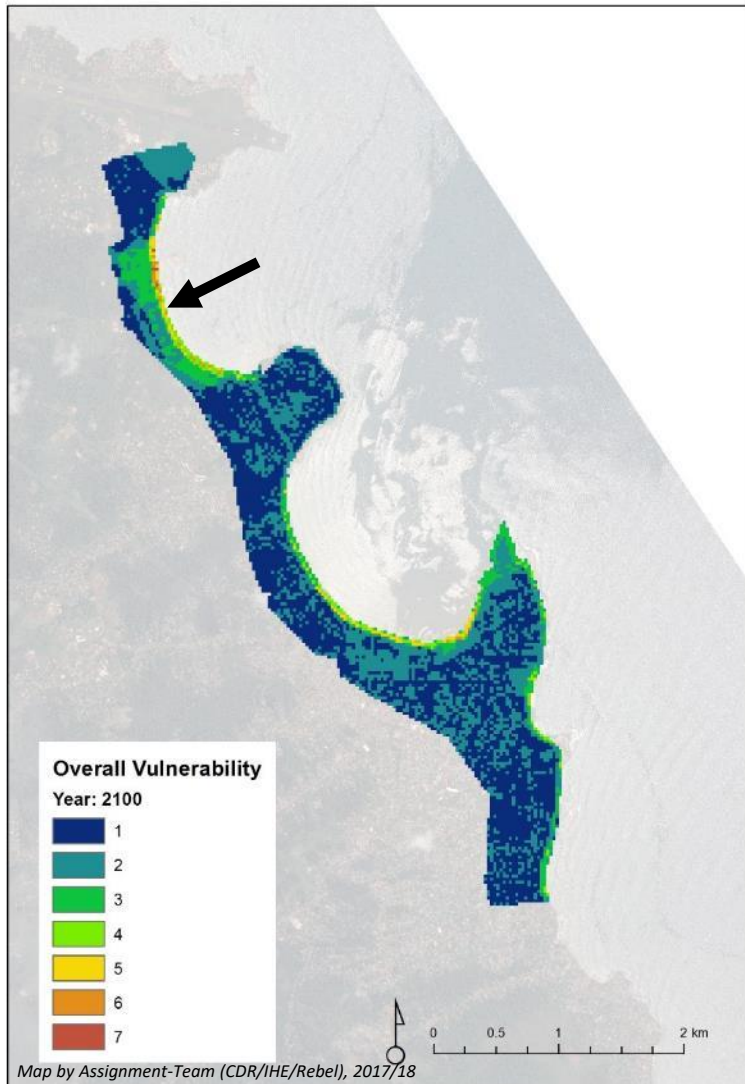


Photo by Assignment-Team (CDR/IHE/Rebel) 2018

11:00 AM

Challenges – some impressions

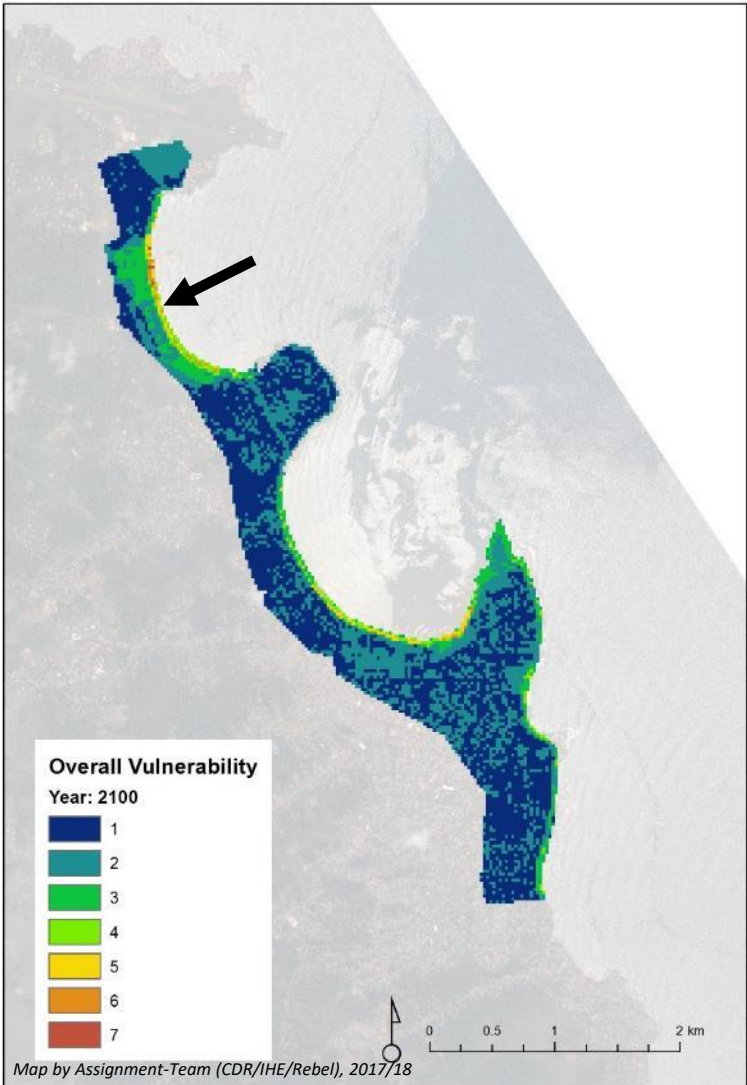


Photo by Assignment-Team (CDR/IHE/Rebel) 2018

03:00 PM

Challenges – some impressions

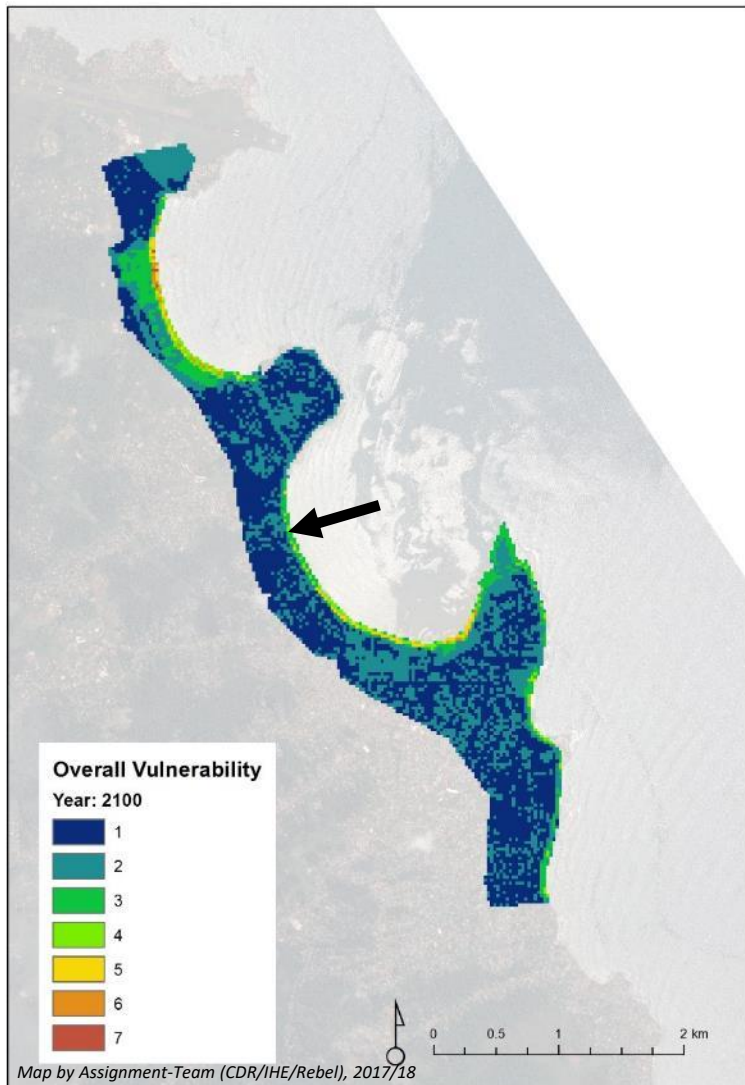


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Challenges – some impressions

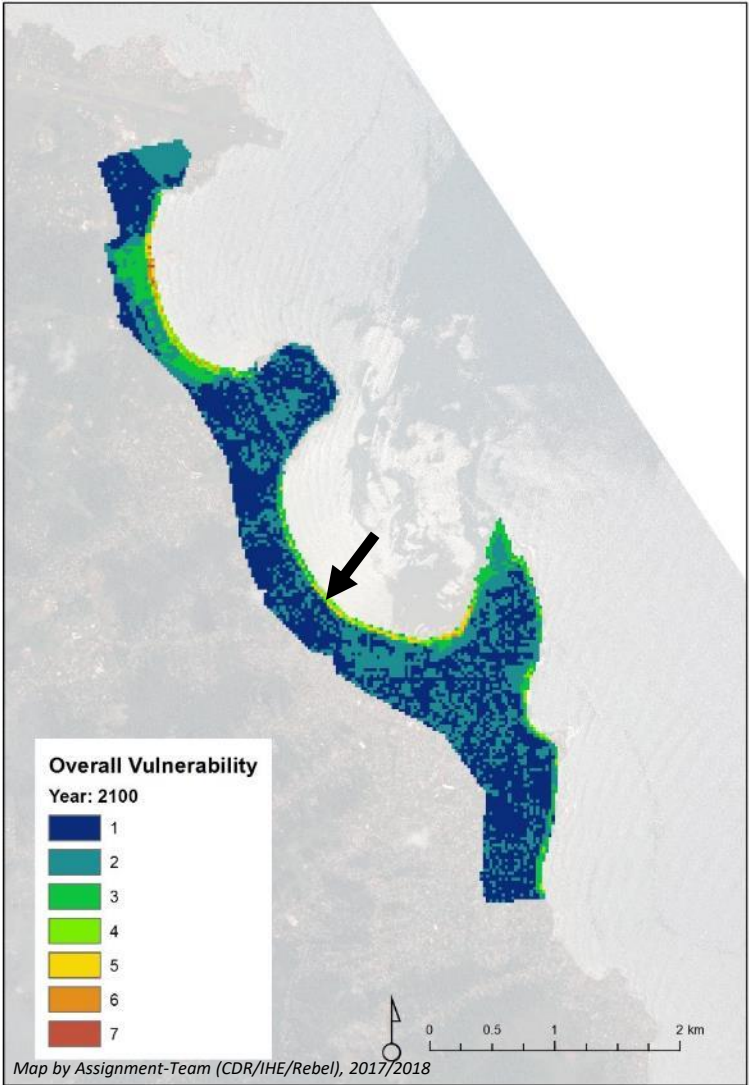
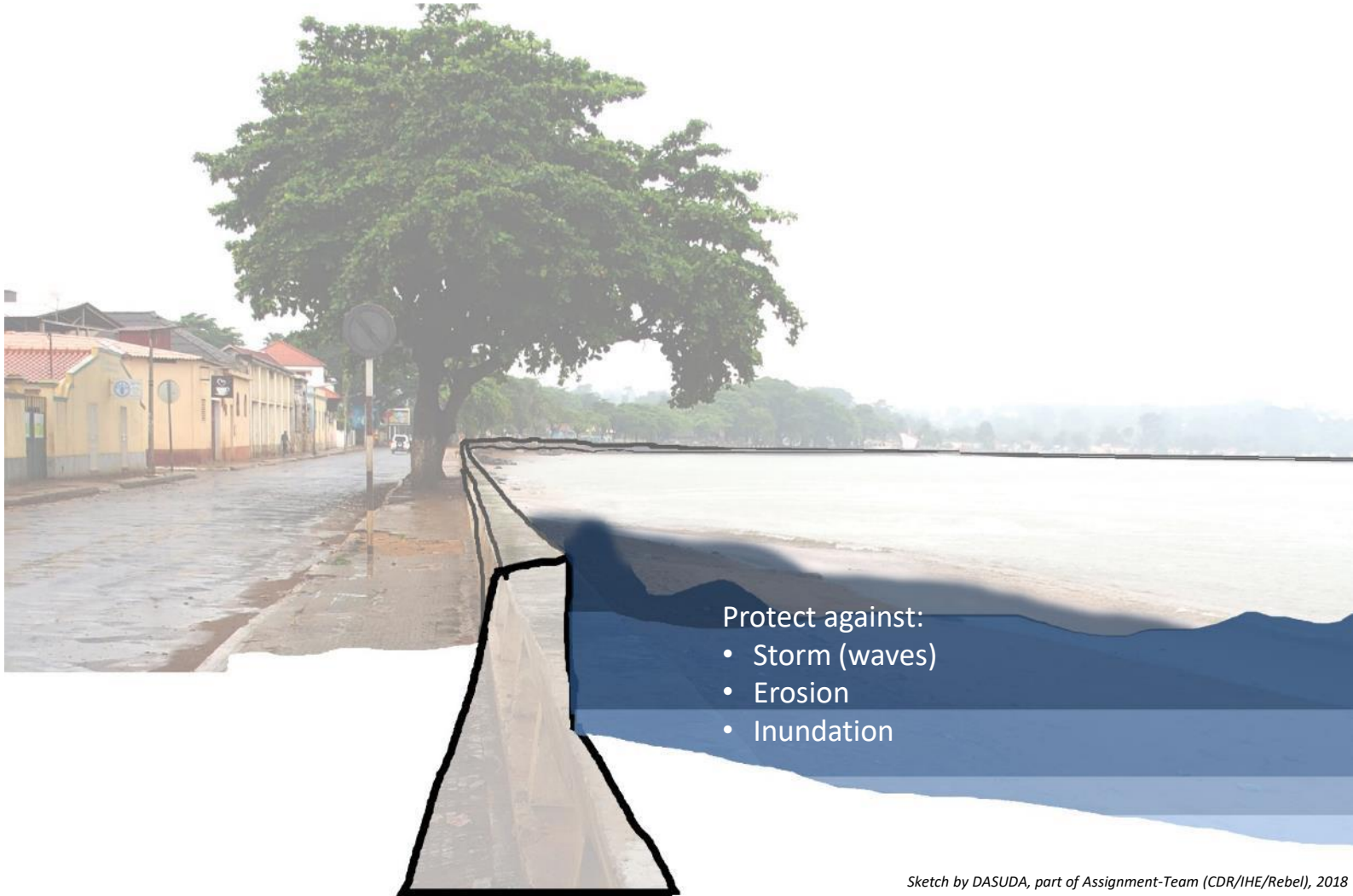


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Coastal Protection measures assessed

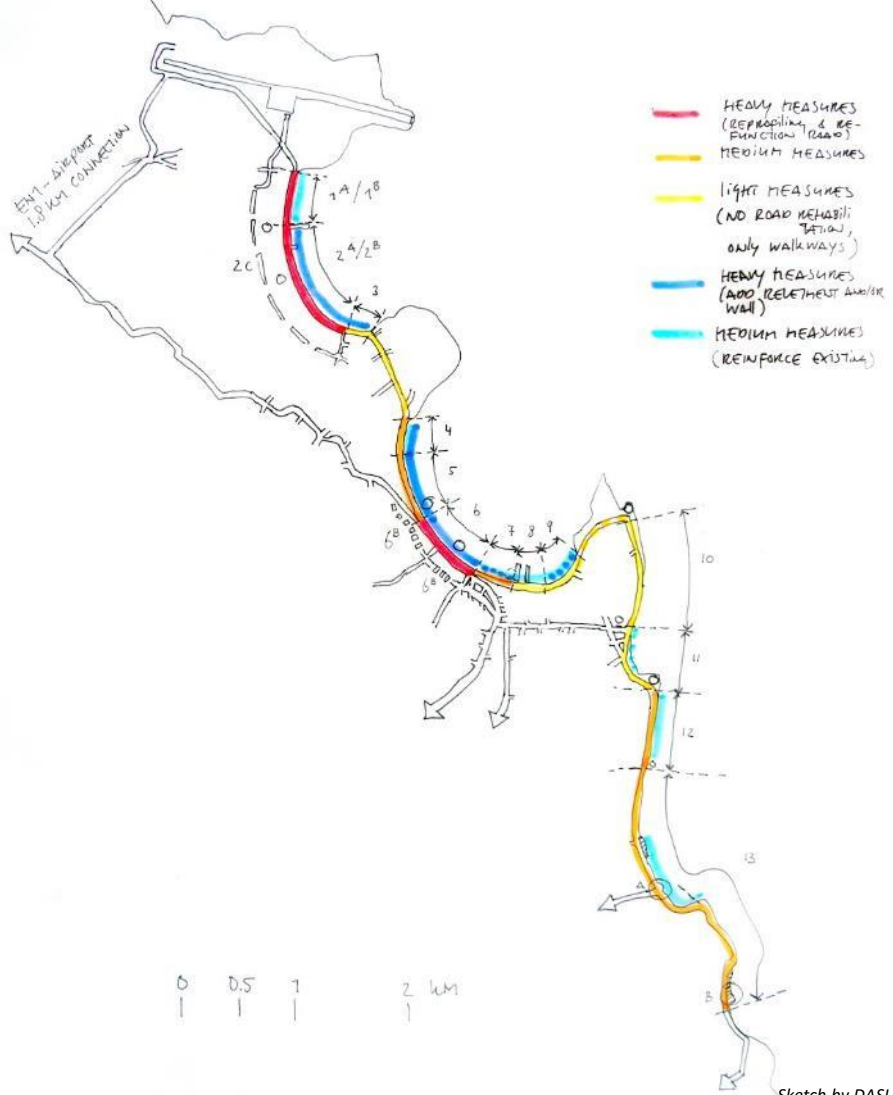
	Panthufo	Ana Chaves	Lagartho
Detached Breakwaters	-- (except "landing site")	--	--
Groynes with beach	--	- (maybe small groynes)	--
Beach Nourishment	--	- / + (wall is needed)	-/+ (in combination)
Rock Revetment	+ (parts)	-- (urban / existing wall)	+ +
Concrete steps	--	--	+
Gabions	--	--	+
Seawall	+ (parts)	++ (rehab)	-
Seawall / rock revetment	+ option	-	+

Coastal Protection measures proposed



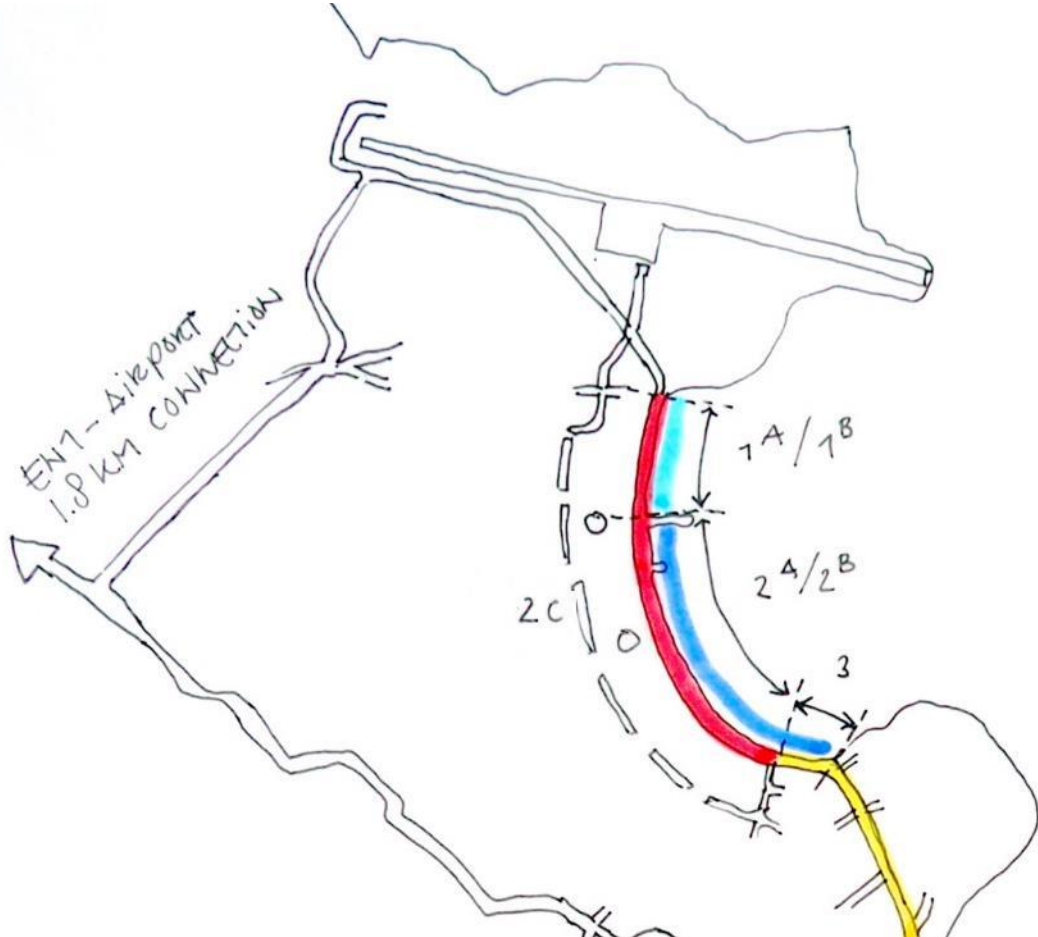
Sketch by DASUDA, part of Assignment-Team (CDR/IHE/Rebel), 2018

Coastal Integrated Approach



Sketch by DASUDA, part of Assignment-Team (CDR/IHE/Rebel), 2018

Coastal Integrated Approach



Lagarto Bay

Sketch by DASUDA, part of Assignment-Team (CDR/IHE/Rebel), 2018

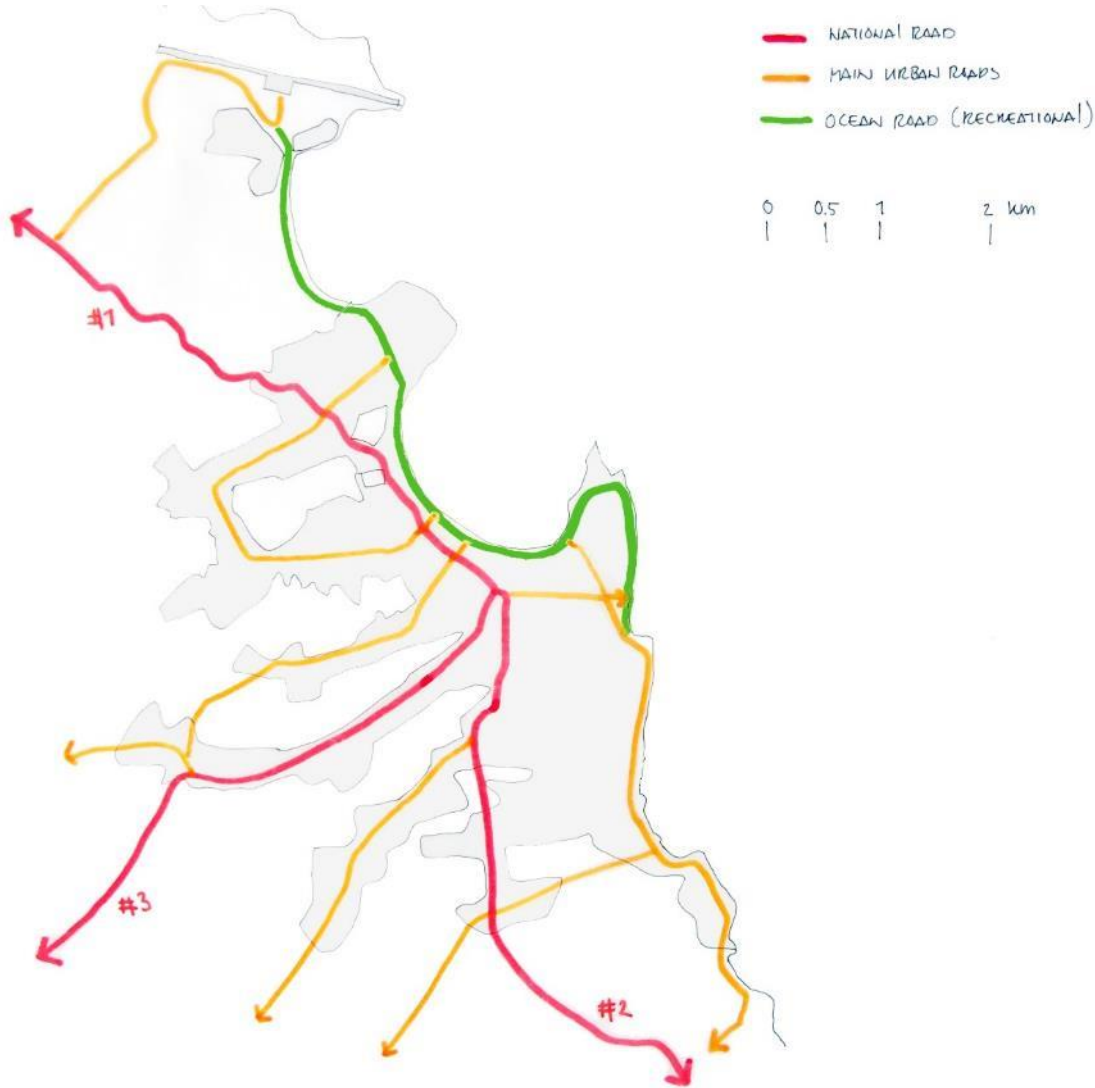


Coastal Integrated Approach



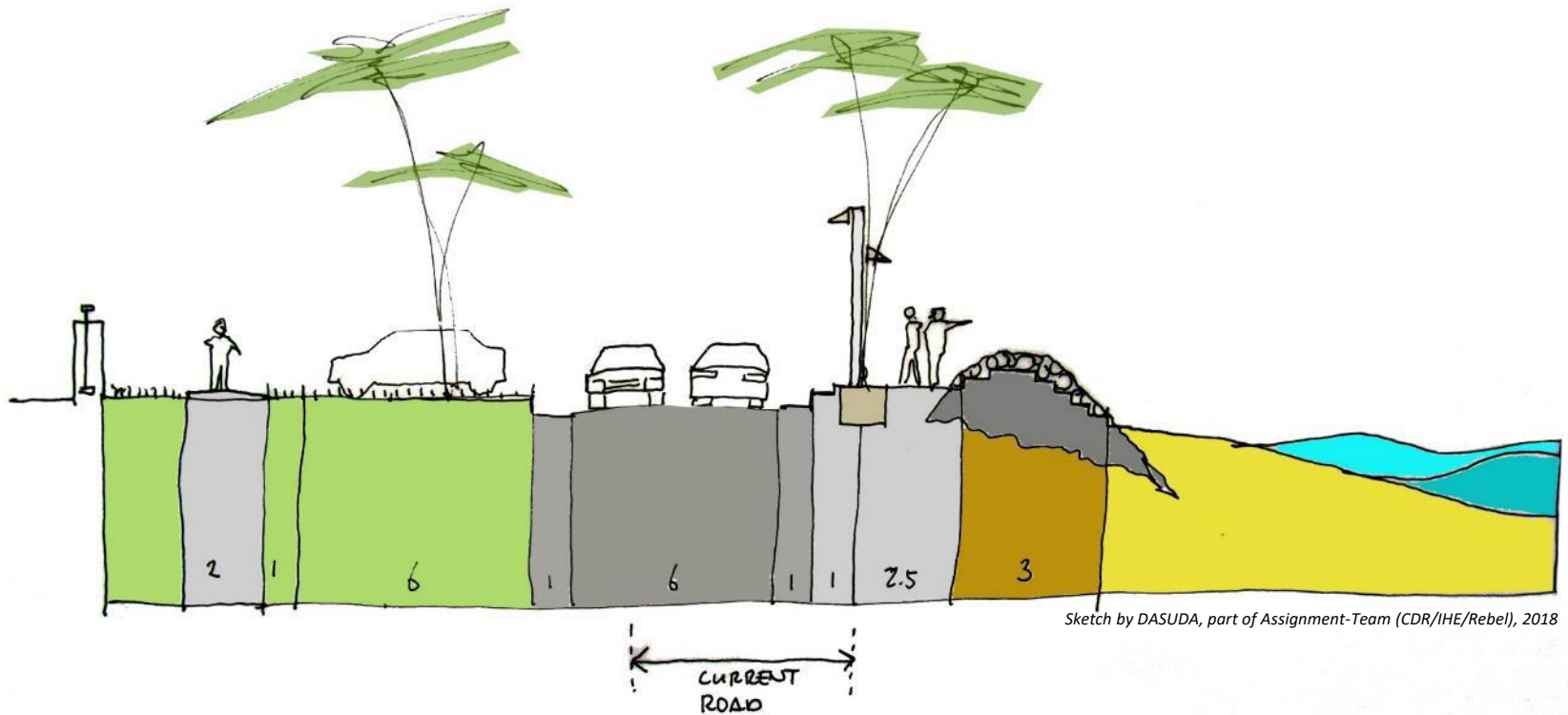
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Coastal Integrated Approach

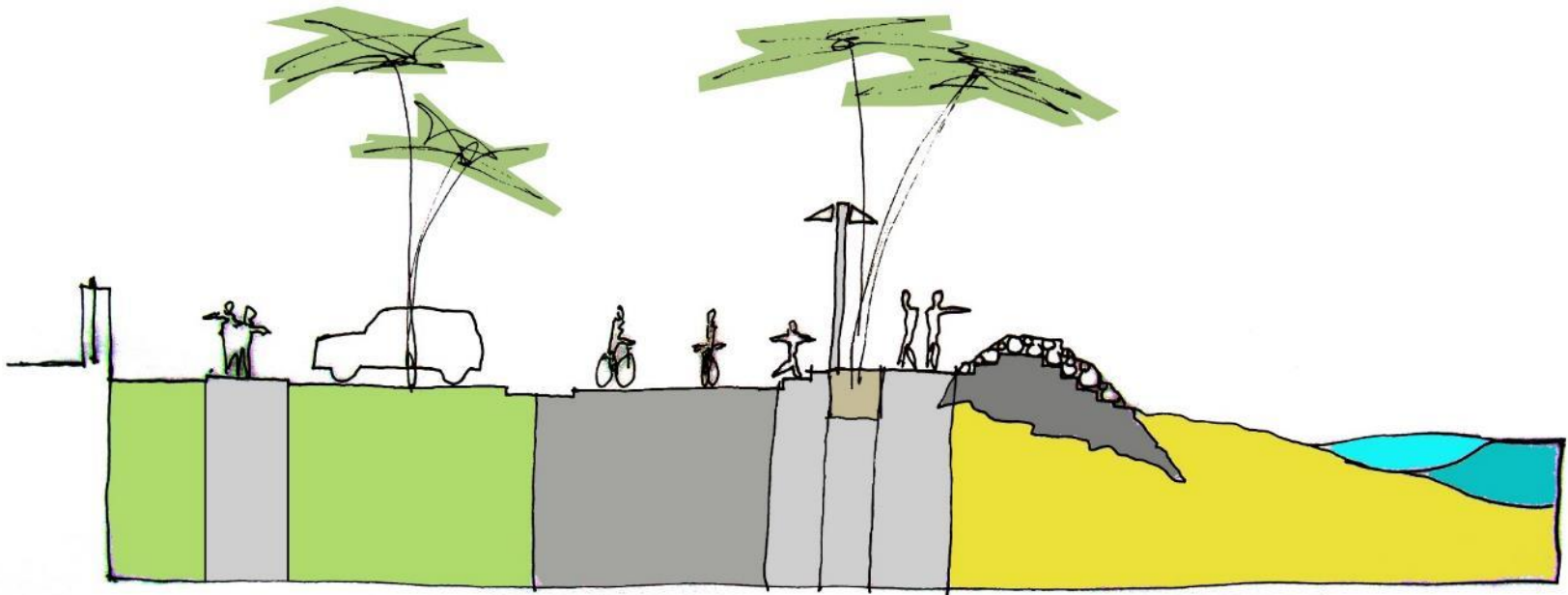


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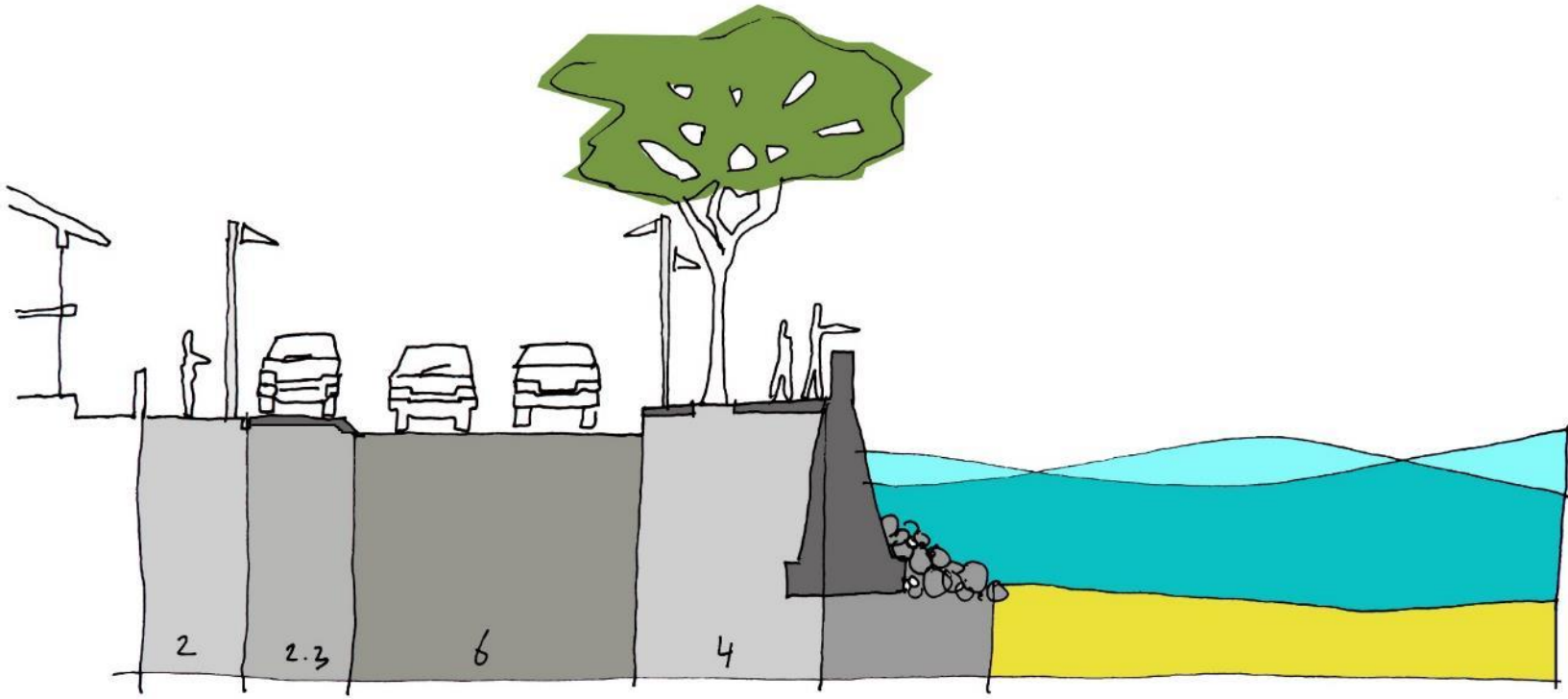
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Coastal Integrated Approach



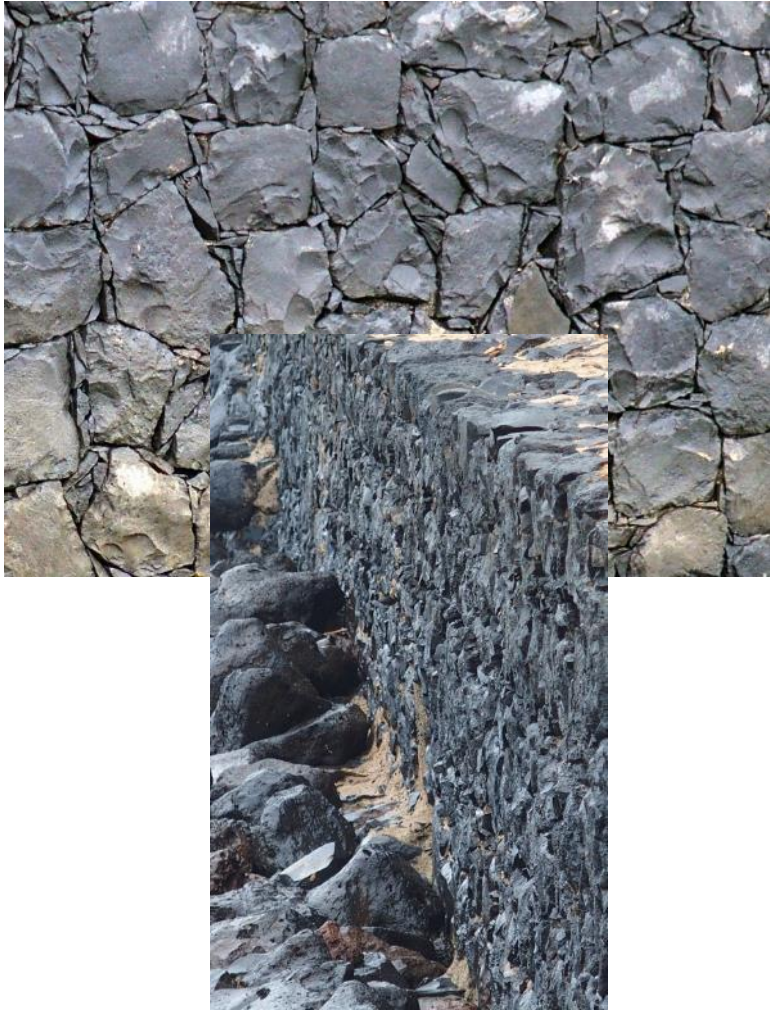
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Photos by Assignment-Team (CDR/IHE/Rebel) 2018

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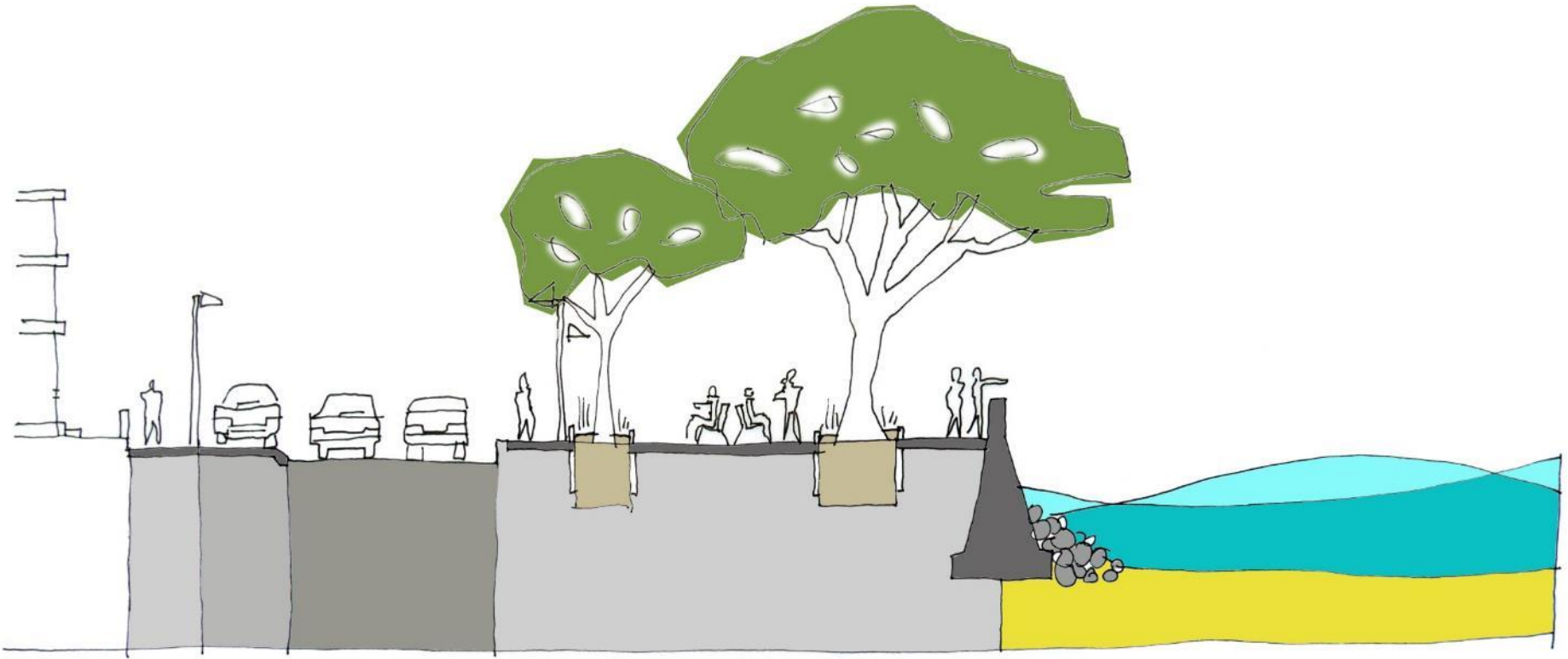
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Coastal Integrated Approach



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Costs and Benefits

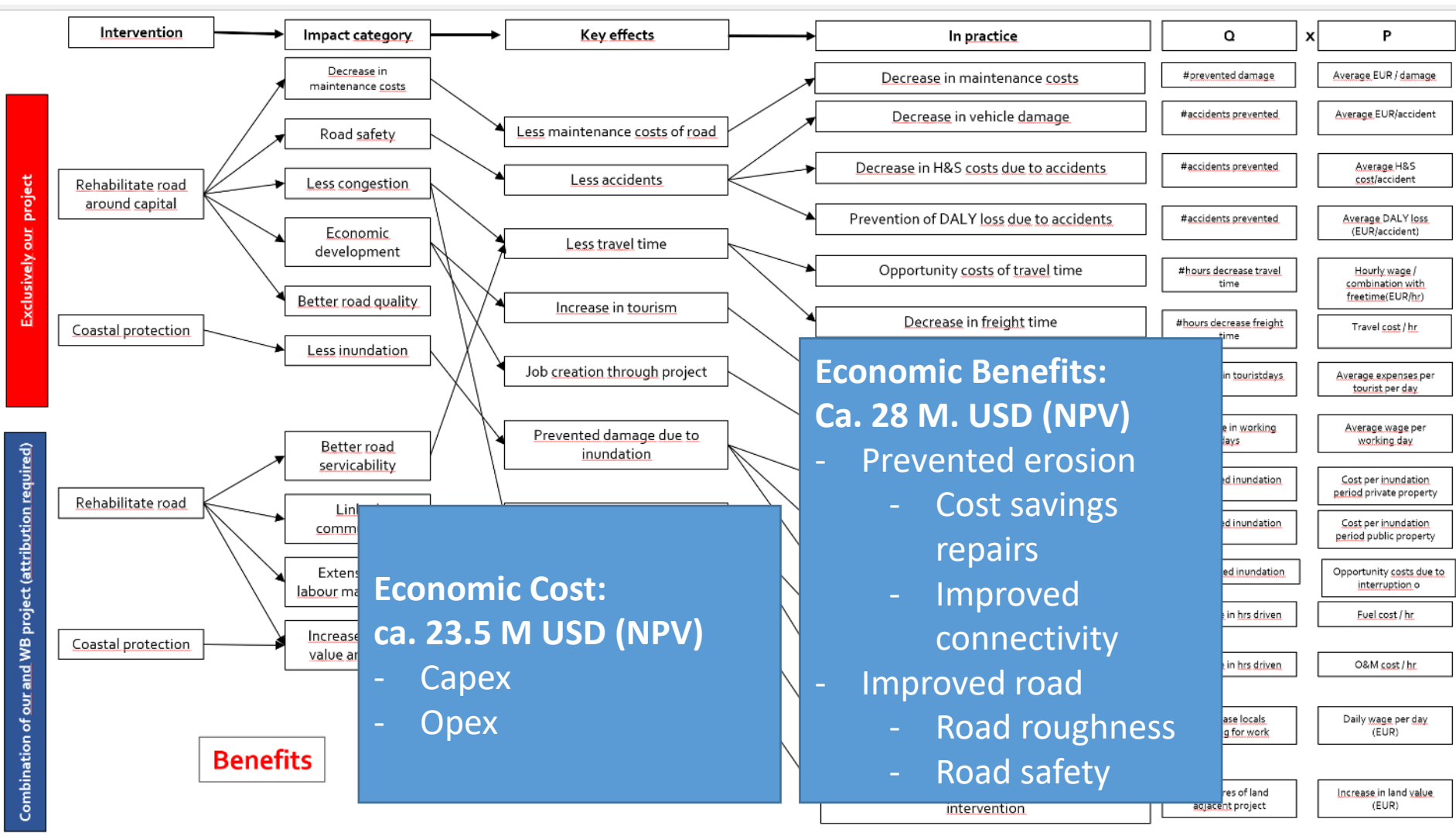


Figure by Rebel, part of Assignment Team CDR/IHE/Rebel), 2018

Financial structure

- Combination with an ongoing World Bank project (rehabilitation of national road): 60 Million USD
- Non-revenue project
- Financing/ funding from three sources:
 - *Dutch bilateral Grant*
 - *World Bank Grant*
 - *European Investment Bank Loan*

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