



Land and Sea: Integrated Assessment of the Temaiku Land and Urban Development Project in Kiribati



GOVERNMENT OF KIRIBATI



NEW ZEALAND
FOREIGN AFFAIRS & TRADE

JACOBS





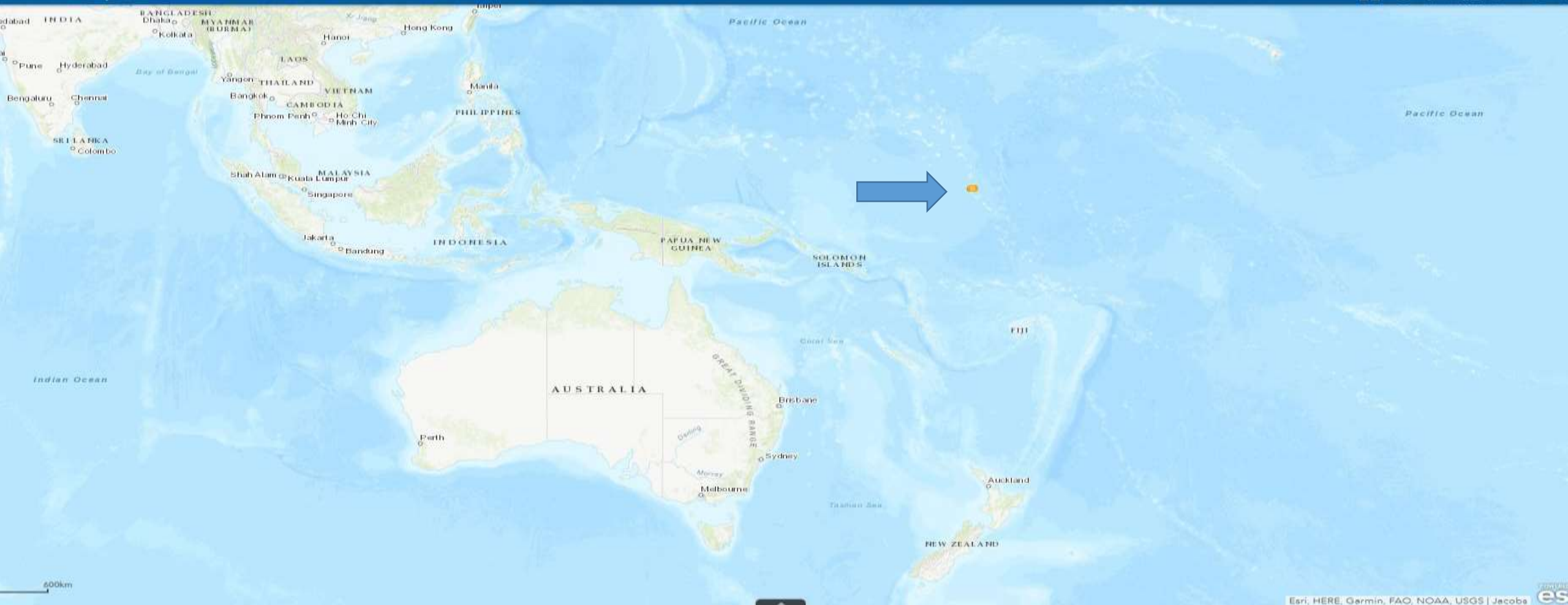
Outline

1. Overview of Project Scope and Vision
2. Introduction to Climate Change Vulnerability in Kiribati
3. Engineering Design
4. The ESIA Structure, Approach and Key Concerns Identified



Kiribati

Temaiku Map Viewer



Esri, HERE, Garmin, FAO, NOAA, USGS | Jacobs



GOVERNMENT OF KIRIBATI



NEW ZEALAND
FOREIGN AFFAIRS & TRADE

JACOBS

Ministry of Foreign Affairs and Trade (MFAT)



Kiribati – Tarawa



GOVERNMENT OF KIRIBATI



NEW ZEALAND
FOREIGN AFFAIRS & TRADE

JACOBS

Ministry of Foreign Affairs and Trade (MFAT)



Kiribati – Temaiku, South Tarawa



GOVERNMENT OF KIRIBATI



JACOBS

Ministry of Foreign Affairs and Trade (MFAT)



Land and Urban Development Vision





King Tide event South Tarawa 2015



GOVERNMENT OF KIRIBATI

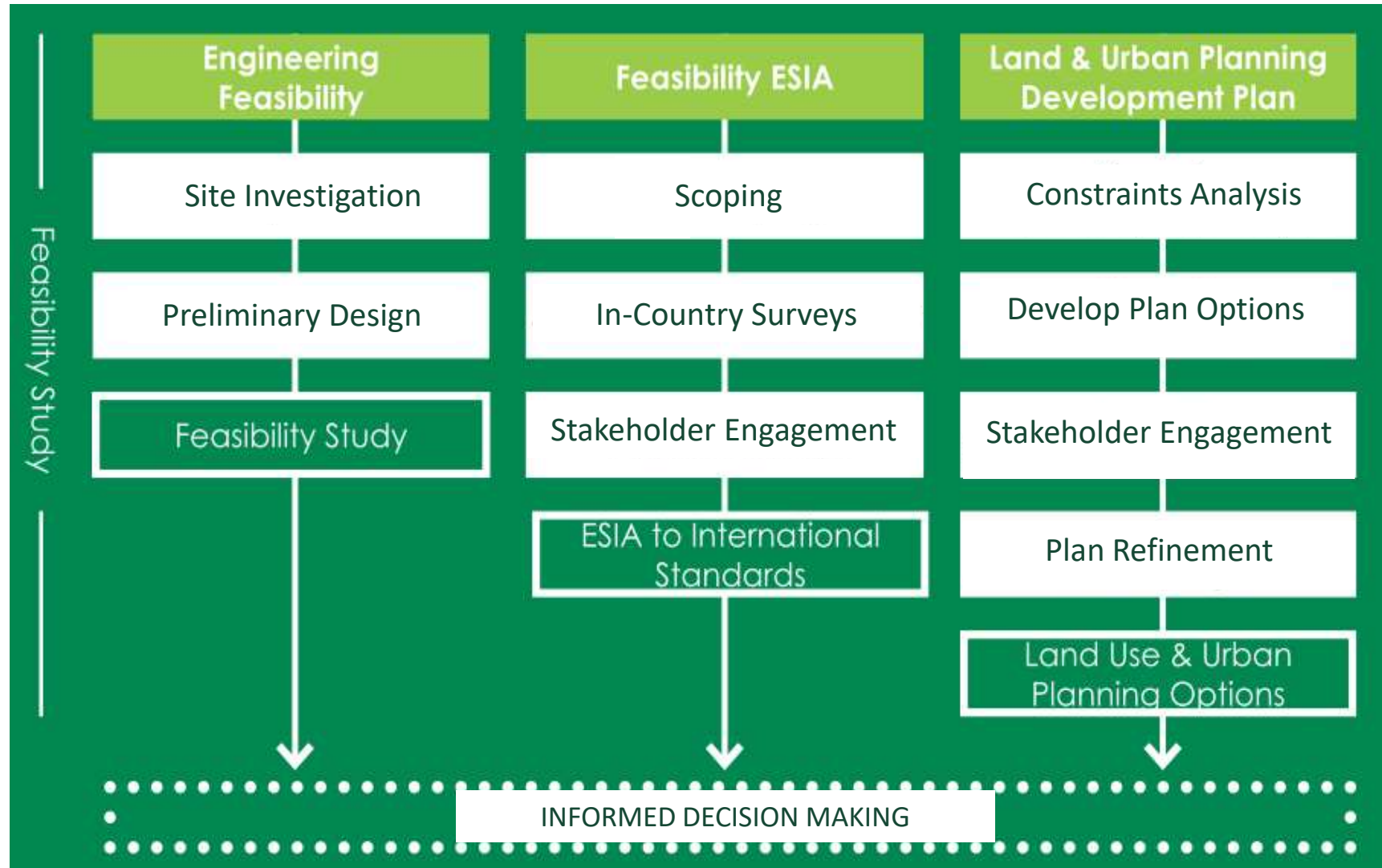


JACOBS

Ministry of Foreign Affairs and Trade (MFAT)



Project Scope Overview





Government of Kiribati involvement from project kick-off

Stakeholder engagement is key to success



GOVERNMENT OF KIRIBATI



JACOBS

New Zealand Government



Ministry of Foreign Affairs and Trade (MFAT)



Land and Urban Design Workshop



GOVERNMENT OF KIRIBATI



JACOBS

Ministry of Foreign Affairs and Trade (MFAT)



GoK Participation in Geotechnical and Environmental Fieldwork



GOVERNMENT OF KIRIBATI



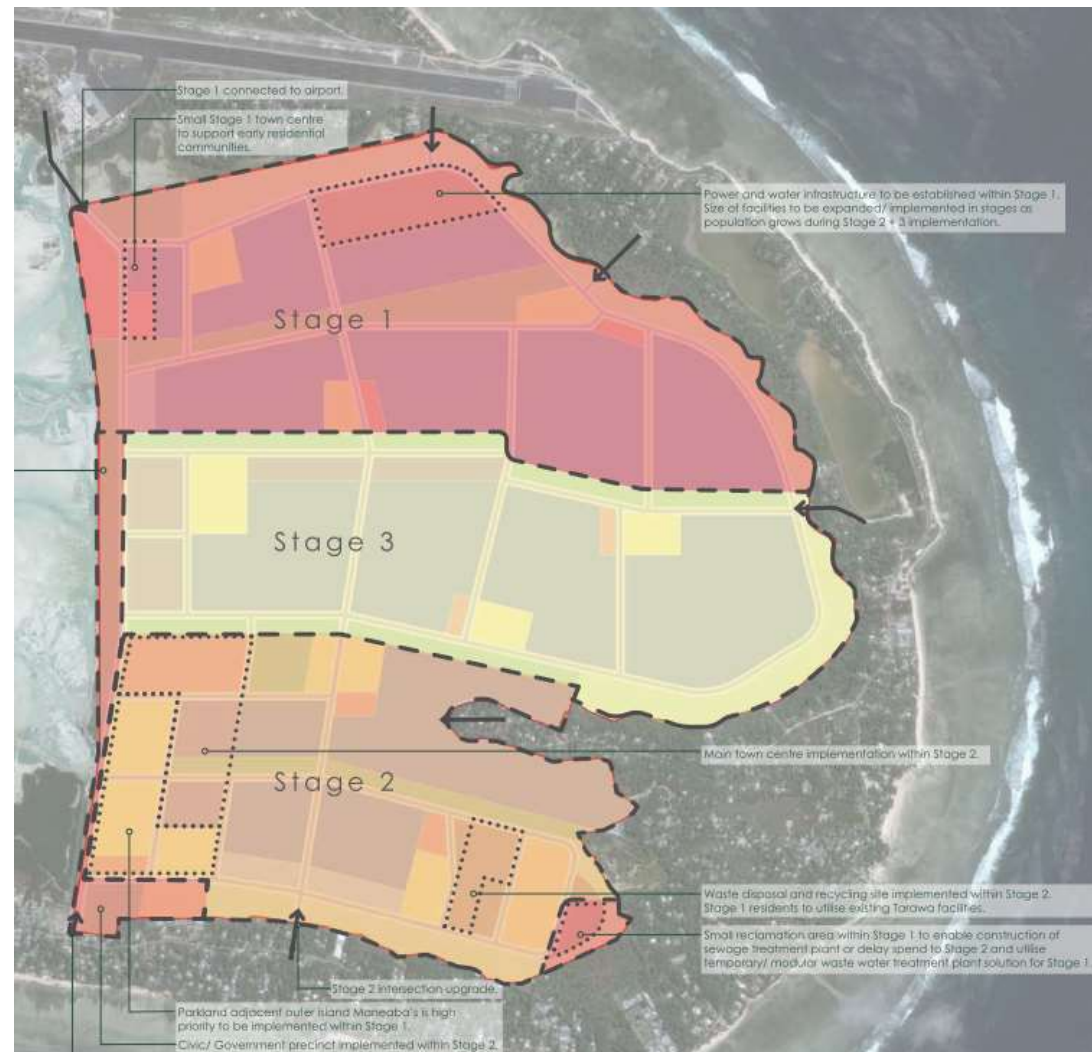
JACOBS

Ministry of Foreign Affairs and Trade (MFAT)



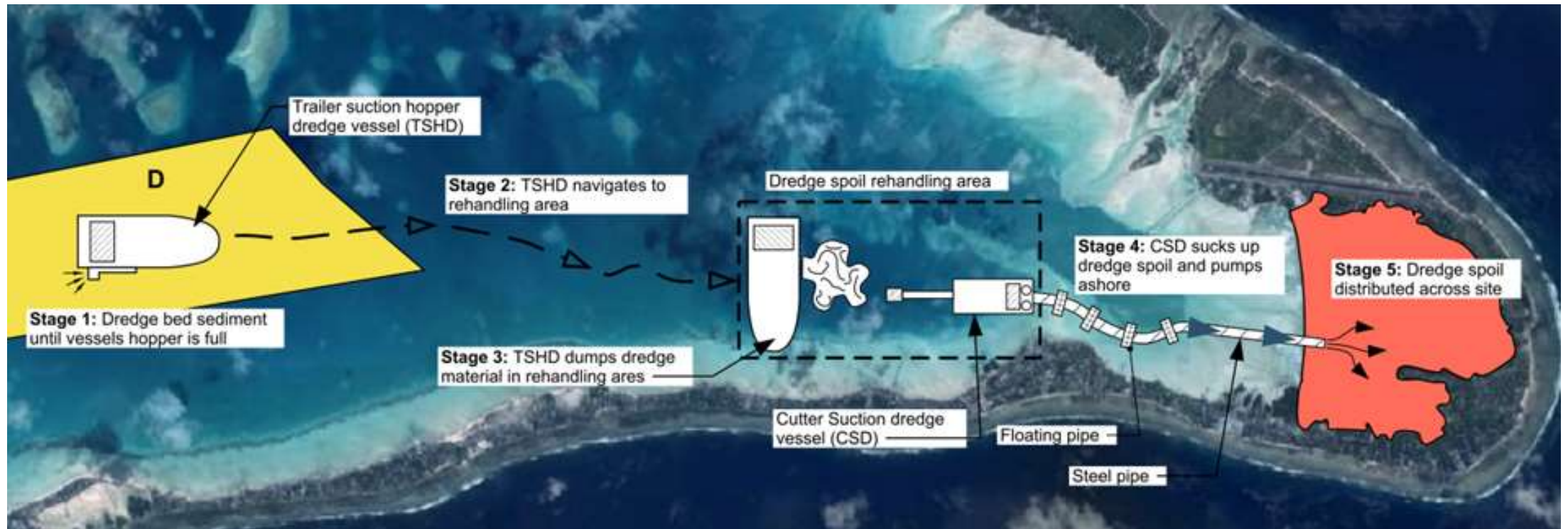
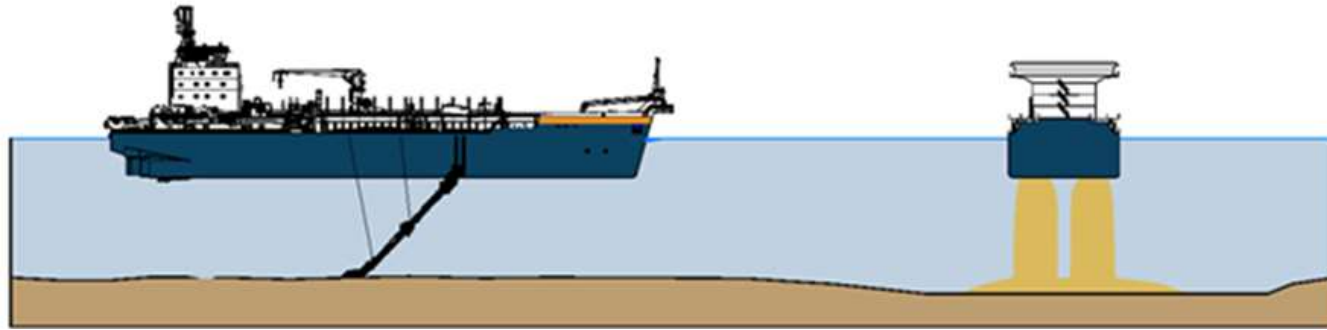
Engineering Design Overview – Reclamation Staging

Reclamation Stage	Estimated Reclamation Area (ha)	Estimated Reclamation Volume (m ³)	Construction Timeframe
Stage 1	122 ha	4.1 million	14
Stage 2	84 ha	2.9 million	13
Stage 3	92 ha	3.1 million	11
Total Reclamation	299 ha	10.1 million	26 Months





Engineering Design Overview – Dredging





Engineering Design Overview – Coastal Resilience





Environmental and Social Impact Assessment - Approach

- Scoping
- In-country baseline surveys
- Development of the ESIA which includes:
 - an Environmental and Social Management Plan (ESMP); and
 - Framework Environmental and Social Management System (ESMS)
- Stakeholder Engagement integrated throughout the process
- Undertaken in accordance with World Bank Environmental and Social Framework
- ESIA assessment utilising a bespoke impact matrix





Environmental and Social Impact Assessment - Structure

- Separate Terrestrial, Marine Environmental and Social Volumes
- Separate E&S Management Plan & Framework E&S Management System
- Technical Appendices: Groundwater Modelling, Dredge Plume Modelling, Coastal & Natural Hazards, Noise, Stakeholder Interviews
- Stakeholder Engagement Plan developed early in process
- Non technical summary for ESIA, Engineering and Urban design





Key Environmental and Social Concerns

- Disturbance to Ecosystem Services associated with Provisioning and Cultural services e.g. shellfish and fish gathering
- Social disturbance during the reclamation phase from noise, dust, odour and aesthetics
- Damage to the marine environment from dredging activities
- Saline intrusion into the freshwater lens
- Risks to be managed through appropriate mitigation measures outlined in an ESMP
- ESMP implemented via the ESMS





Conclusions & Next Steps

- The project is feasible but...
- The future of the project depends on the Government of Kiribati and donor funding
- If it goes ahead more studies required to understand the existing environment and potential environmental and social impacts of the proposed Project
- Project is transformative for quality of life and resilience in South Tarawa & Kiribati
- Potential blueprint for large scale climate change adaption





Building Resilience through Participation



GOVERNMENT OF KIRIBATI



New Zealand Government

Ministry of Foreign Affairs and Trade (MFAT)



Thank you



GOVERNMENT OF KIRIBATI



NEW ZEALAND
FOREIGN AFFAIRS & TRADE

JACOBS

Ministry of Foreign Affairs and Trade (MFAT)

20



GOVERNMENT OF KIRIBATI