

# ASIA AND THE PACIFIC TRANSPORT FORUM 2024

## CLEAN TRANSPORT FOR ALL

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# Tackling challenges for the maritime transport sector in Kiribati

Highlights from Phase 2 of the Kiribati Outer Islands Transport Infrastructure Investment Project (KOITIIP) focused on developing the **Kiribati Maritime Transport Sector Roadmap (KMTSR)**.

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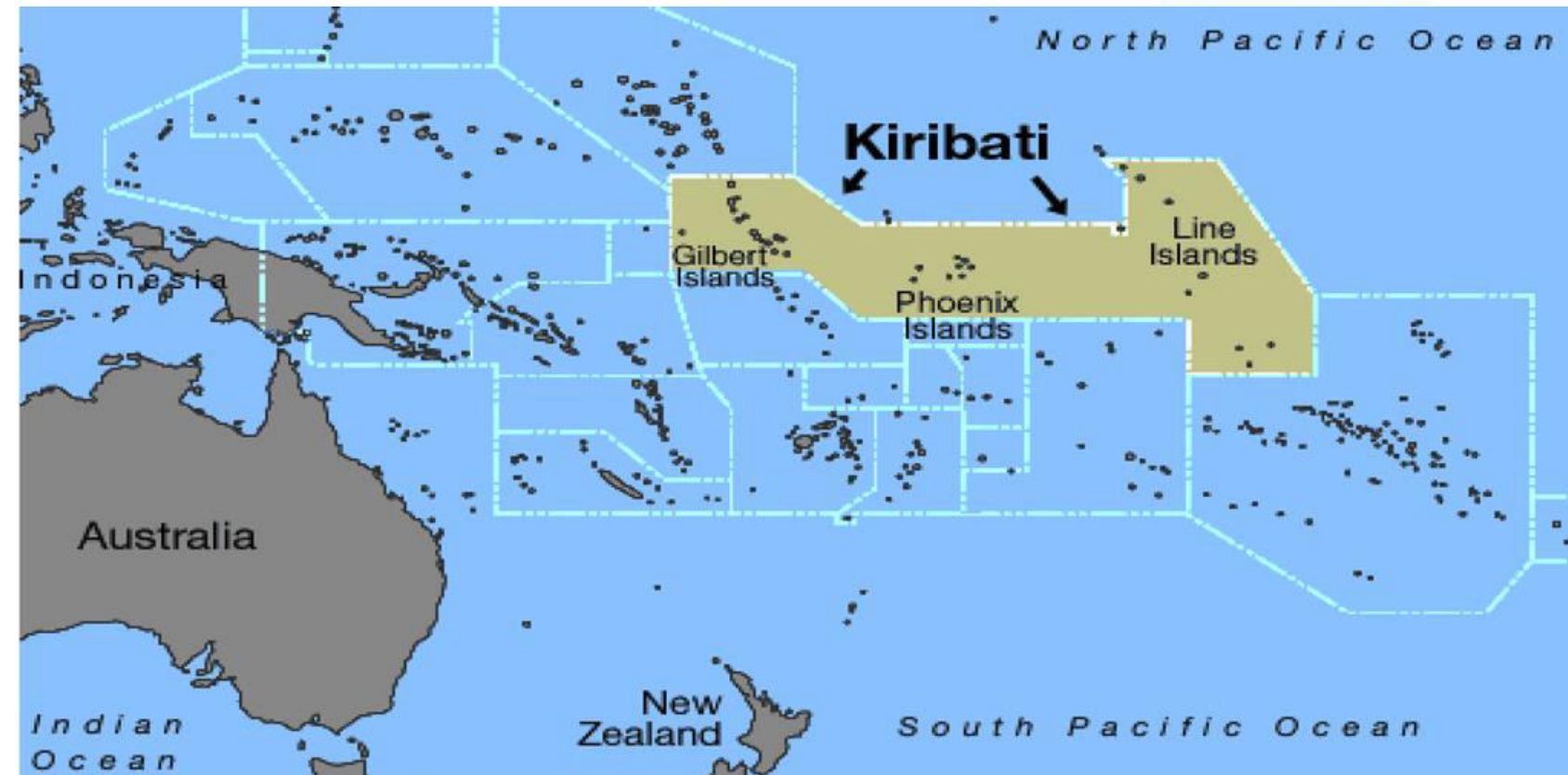
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# Background and context

- Kiribati comprises
  - 32 atolls and one raised coral island
  - Land area is 811 km<sup>2</sup> spread over 3.4M km<sup>2</sup> ocean
  - Only nation that is in the northern, southern, eastern and western hemispheres
- One of the most vulnerable countries in the world to climate change and sea level rise
  - Islands <3m MSL, king tides are at 2.8m already
- Total population of circa 120,000 (160k in 2043)
- Continual migration into Sth Tarawa from OI's taking population to ~80,000 (52%). OI population is typ. <2k
- S Tarawa density is ~4000 persons/sqkm (very high), while the average for the country 164 persons/km<sup>2</sup>.
- Density in Kiritimati is 19 as a comparison (2nd lowest of all islands).





# Background – The KOITIIP project

- Multi-modal transport project co-financed with World Bank from the initial concept stage of the project
  - ADB (US\$12m) primarily focused on maritime
  - WB (US\$30m) land transport and supporting maritime initiatives
- Scoping commenced in 2017
- Became effective in both ADB and WB in Sept/Oct 2020
- Closing date of June 2026 (ADB) and Dec 2027 (WB)
- Phase 1 currently at implementation stage including:
  - Updating Maritime Navigation Charts (UKHO) – Bathymetric and LIDAR
  - Infrastructure enhancements to 4 Outer islands to support safe maritime access. Includes jetties/boat ramps, local dredging, AtoNs, shelters (pax / cargo)
  - Search & Rescue equipment and facilities
  - Rehabilitation of numerous low-lying causeways





## KOITIIP Phase 2

- Builds on Phase 1 with a detailed assessment of the maritime transport sector, including infrastructure, shipping, and the capacity of the Marine Division (MICT) who are tasked with regulating the sector,
- Preparation of a roadmap to guide future capability, investments and priorities, and
- Feasibility study (FS) and due diligence for selected maritime infrastructure investments on outer islands.

## Project status

- Baseline assessment complete, with a draft of the Roadmap under stakeholder review
- 2022 – 2025 timeline







12 months  
of engagement



20+ stakeholders  
Online / fact to face

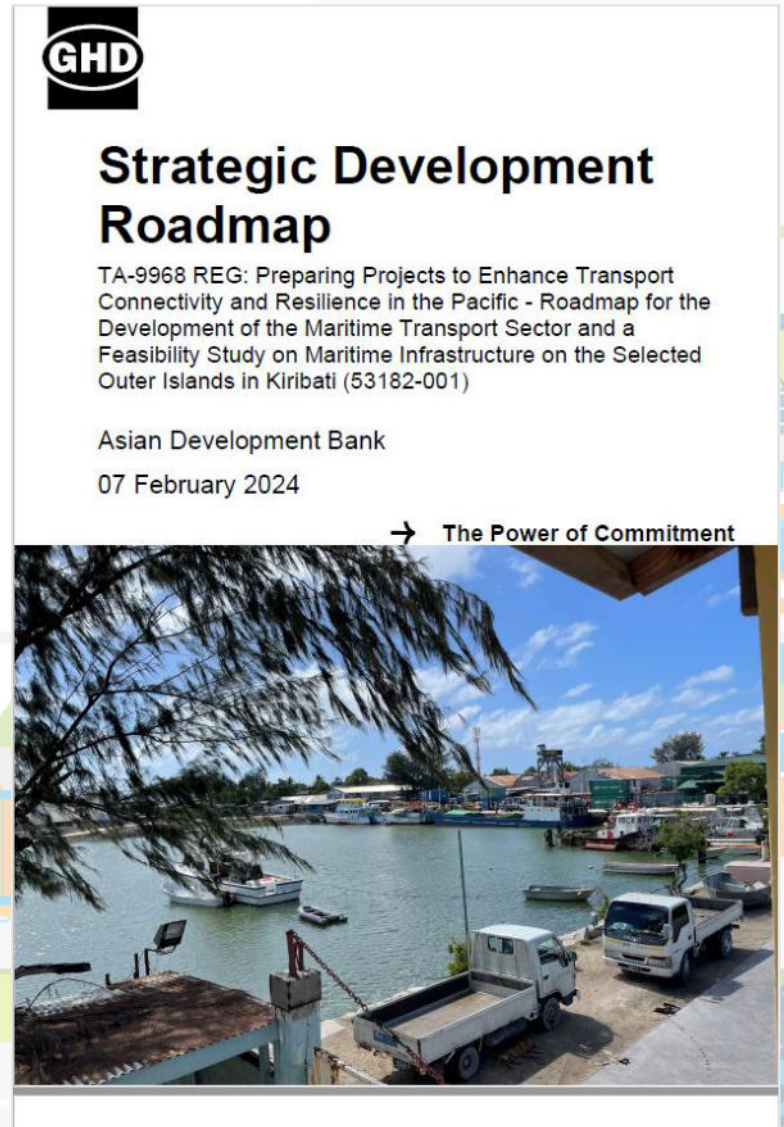


4 visits



# Highlights of the KMTSR

- Developed in **close collaboration with the Marine Division (MD)**
- **Informed by detailed shipping analysis and significant stakeholder engagement (gov, industry, users)**
- **Recommends interventions for all outer islands and gateway ports**
- **Identifies critical administrative and capacity building actions for key agencies involved in the sector – including the MTC**
- **Provides a pathway for the MD to become the Kiribati Maritime Authority - the leading Maritime Regulatory Institution within the GoK**
- **Promotes a safer, more connected, secure & sustainable service offering for freight and passenger movements by sea.**
- **Supports tourism, fisheries, skills and women in maritime**
- **Provides a framework for monitoring and reporting of performance.**
- **Aligns to the Kiribati Vision and National Development Plan.**





58 cargo/pax



6 cargo



6 fishing



1 special



357 small

# Tackling the challenges with domestic shipping and ports

## Observations



Fleet of 71 vessels  
>10m length



>350 <10m length  
30% registered



Non-compliance  
with maritime  
procedures



Significant variability  
in OI connectivity



Sailings for  
outbound freight not  
passengers



Vessels procured for  
cargo not passengers



Cancellations  
and delays



Loose cargo /  
non-unitised



No announcements  
of sailings



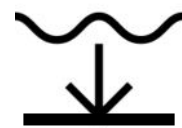
Uncomfortable  
conditions



Congested port  
operations



Diesel and  
emissions



Hazards in channels  
/ berths



Ageing wharves



No passenger  
facilities



Low resilience  
(berths / equipment)

## Impacts



High opex



Damaged  
cargo



environmental  
damage



Vessel non-  
compliance



Hinders  
economic growth



Injuries /  
risks



Waste stockpiles  
affect land utilisation

## Proposals



- **Alternative modes of shipping (direct calls).**
- **Decarbonised shipping / eco-propulsion (via trials)**
- **Tug and barge systems for cargo**
- **Scheduled domestic shipping services and subsidises**
- **Purposeful passenger capacity on designated services .**
- **Passengers sailing enhancements**
  - cabins or secure facilities.
  - Improved sanitation and safety standards,
  - Improved food standards (long journeys).



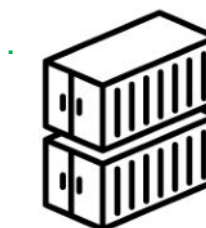
(OI) Bulk fuel  
storage systems



Integrated /  
regional solutions



Green  
equipment  
solutions



Port capacity  
enhancements



Localised  
dredging

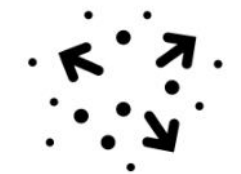


Asset maintenance  
plans



# Tackling the challenges in the Kiribati outer islands

## Challenges



Geographic spread



Reefs and shallow water



Use of workboats



Manual handling of cargo



Long transfer distances



strenuous, risky operations



Poor security of cargo



Vulnerability / exposure



Lack of anchorages



Lack of shelters



Missing AtoNs



Strong currents and breaking waves

## Impacts



High opex



Slows tourism growth



Injuries



Slow operations



Damaged cargo



environmental damage



Wrecks



Hinders economic growth

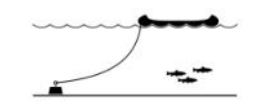
## Solutions



Appropriate infrastructure



Landing craft



Fixed anchorages / stern moorings



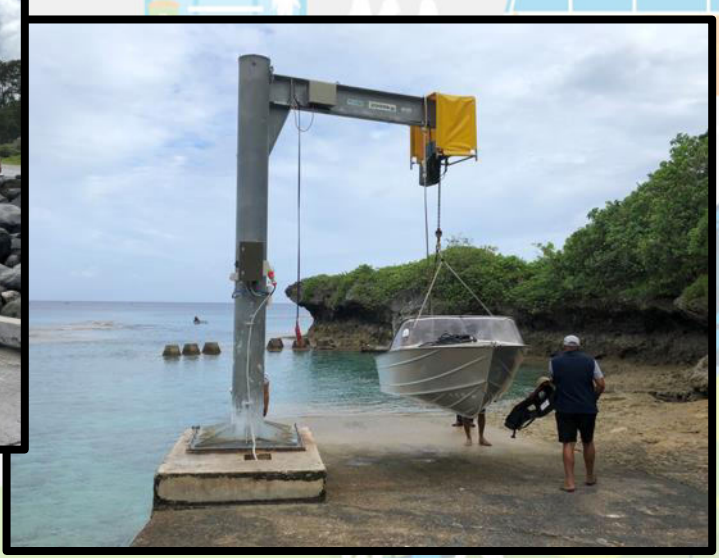
Unitised cargo



Hazard free navigation



Deeper / wider channels



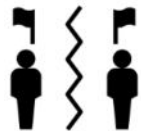


# Tackling governance and regulatory challenges

## – Governance



- **Budget shortfalls drive a need to review all revenue earning mechanisms that could be applied**



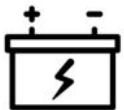
- **Ensuring independence and no conflicts of interest.**

## Facilities and equipment:



- **Lack of suitable vessel for the MD** to support their critical maintenance activities- hydrographic surveys / AtoN's

- **Restrictions on vessels able to support SAR activities.**



- MD and SAR teams in need of suitable **offices that are equipped with back-up power systems.**



- **IT systems to improve administration of legislative requirements** (IMO req's) - seafarers, ships , AtoNs, charts



- Systems to **improve SAR communications with OI's** to make contact quickly



- Access to **AIS monitoring systems for international vessels** and the **installation of AIS systems on all domestic vessels with regulations to enforce its use.**

## – Infrastructure resilience and durability:



- **Growing portfolio of domestic port infrastructure requires a robust asset management system** including:



- **Accountability for inspection, repair, and maintenance of assets across key agencies** supporting sector.

- **Effective mechanisms to access the right technical resources and procedural frameworks** for asset management.



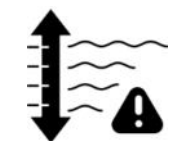
- To **adopt a resilient design approach** for assets:

- structural form(s) and construction materials etc to ensure **suitable materials and components** are used

- To ensure **adequate robustness and durability**, and attain consistent performance.



- Ongoing **need for further hydrographic surveying of OI's** to match UKHO standards of survey.



- Controls over access and use of dredge capability

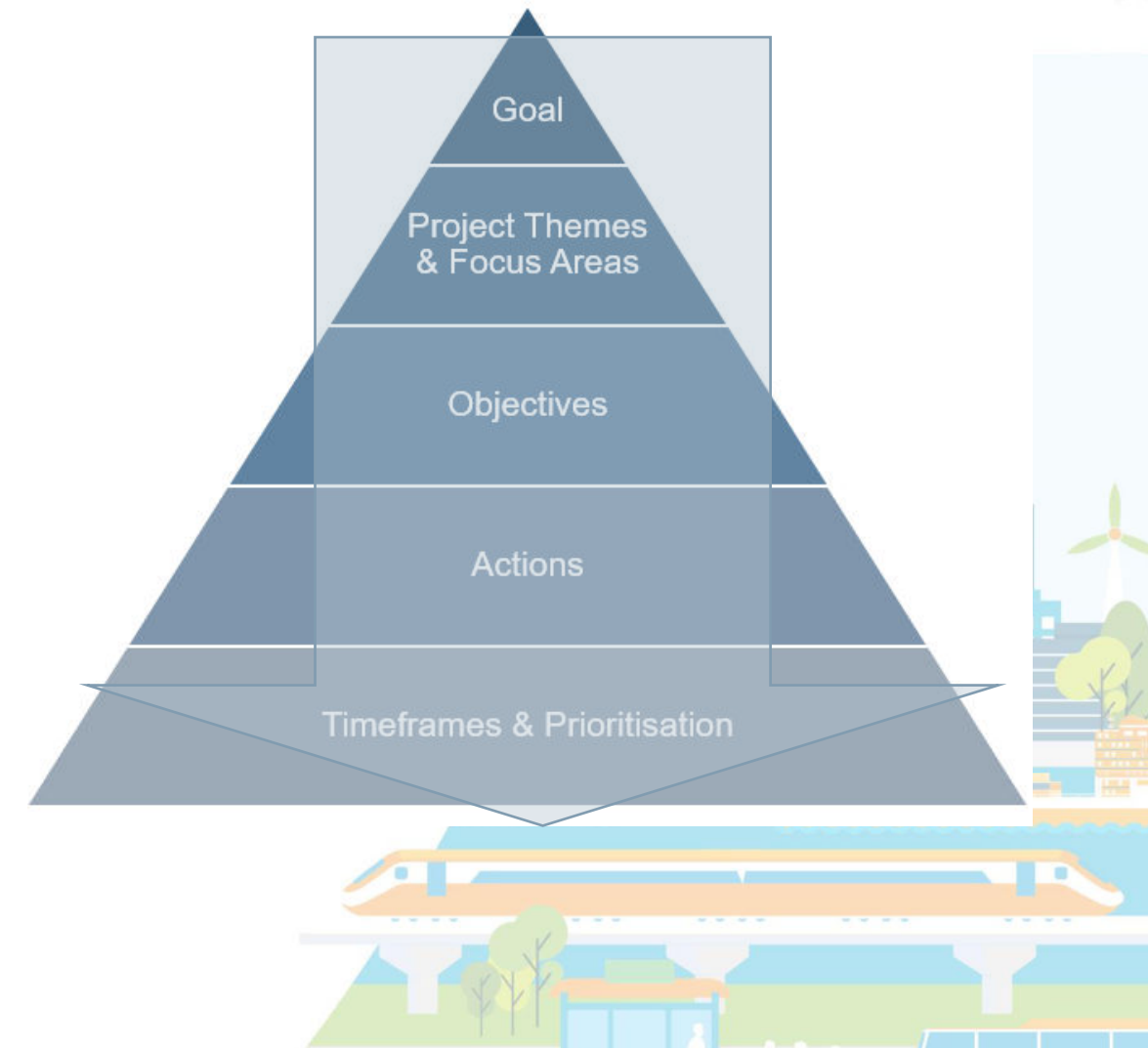




# Overview of the Roadmap action plan

## Development steps:

1. **Identifying project themes and focus areas** – to organise issues and actions into simple themes
2. **Aligning themes to the core objectives and cross cutting issues in the ‘Kiribati 20-Year Vision’ (KV20) and sustainability principles.**
3. **Building the action plan** – formulating actions from the sector assessment.
4. **Assigning owners and timeframes** to actions.
5. **Seeking feedback and inputs from stakeholders**



- In total, 46 specific actions have been developed with further sub-level activities to simplify the work scope and define suitable deliverable targets.
- Each action includes background information and reasoning, the suggested timeframe for completion, deliverables, and cross-sectoral linkages.

### Summary of actions

Theme	Actions (no)	Sub level actions (no)	Key actions
Governance	2	11	Establish KMTSR steering committee; Update Maritime Act; MD established as an SOE – ‘Kiribati Maritime Authority’
People and Community	4	13	Women and gender balance; Education programmes in fisheries / seafaring
Environment	9	14	Spill management reform; Emissions and decarbonisation roadmap
Operations and Infrastructure	21	24	Asset management; vessel performance; vessel operations; fleet, navigational and port infrastructure, gateway ports, MTC facilities, TSCL, MD offices
Finance, Trade, economy	10	7	Revenue structures reform; Cruise and fisheries sector growth; Freight subsidy reform; Regional partnerships



# Prioritising actions in the outer islands

The roadmap provides a guide for the timing and/or sequencing of works on an island-by-island basis based on the level of deficiencies.

A prioritisation tool has been developed to help guide the sequencing of actions as future funding allocations become available.

The tool comprises:

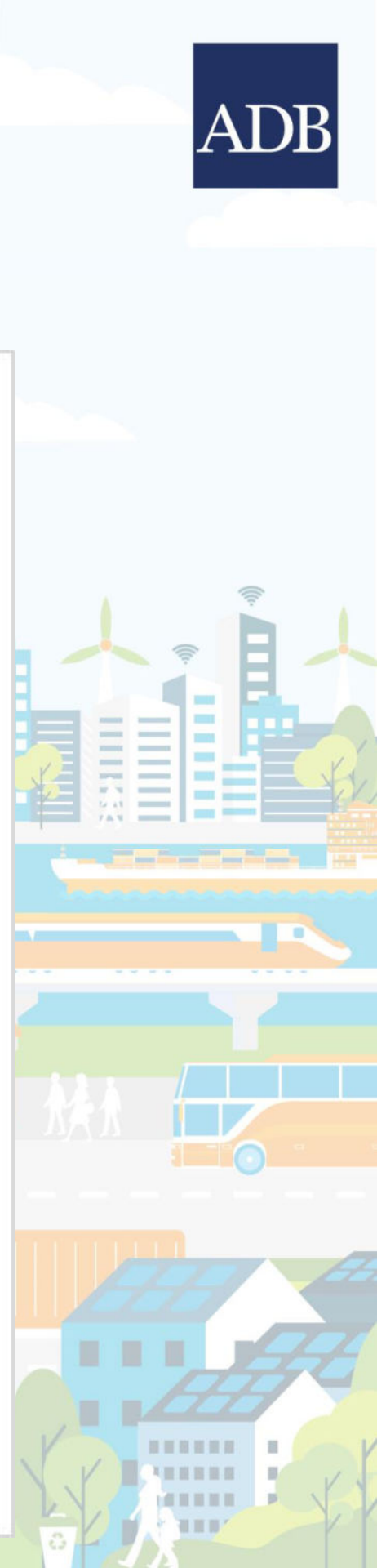
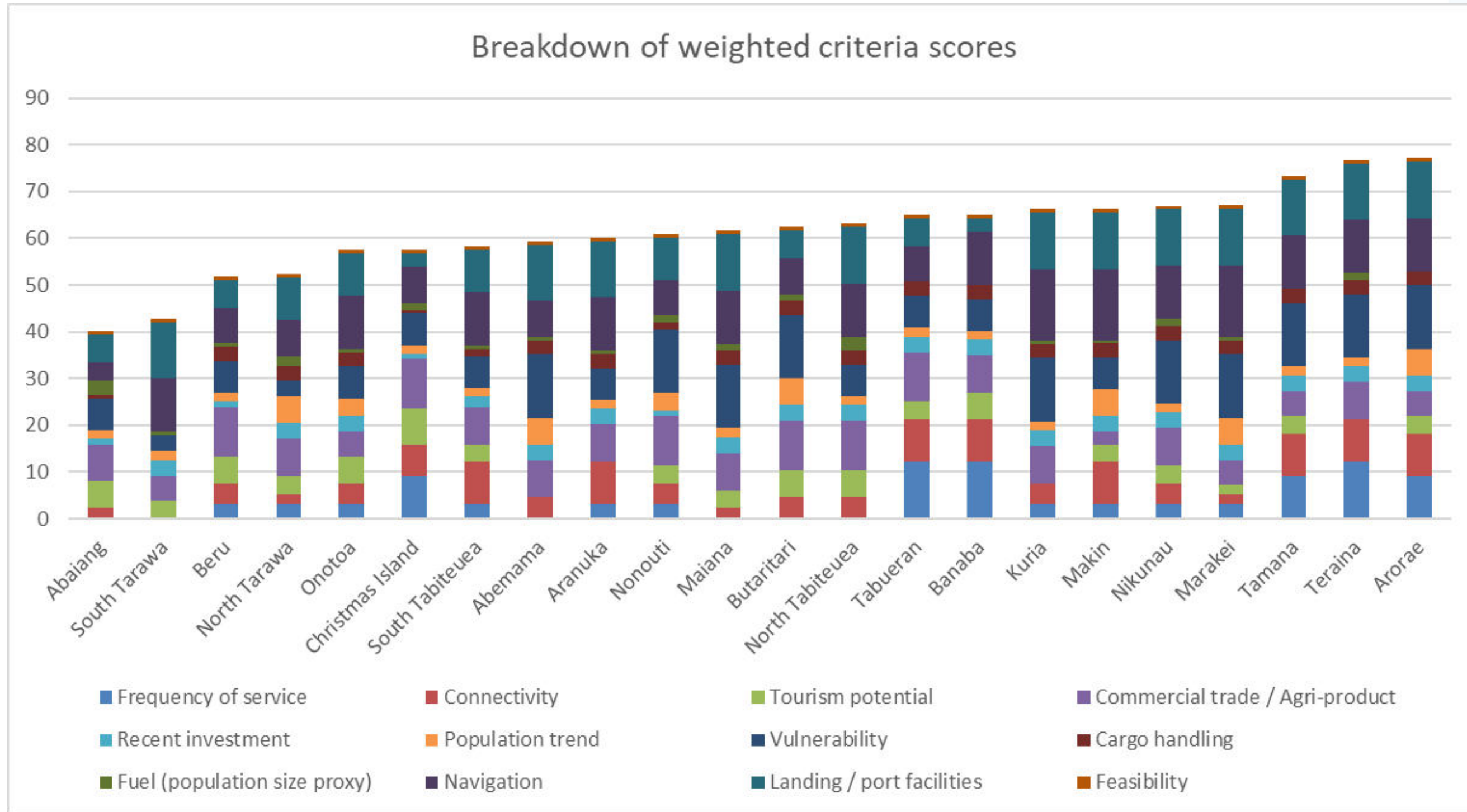
- Criteria to reflect the baseline assessment findings.
- 5 tier scoring system
- An ability to weight criteria (importance factor)
- Assessment of islands with ability to sensitivity test importance of criteria

This tool does not define what works are to be undertaken on each island.

	Criteria	Considerations	Higher Priority	Lower Priority
1	Frequency of service	Analysis of service frequency performed	If time between calls exceed 2 months or more	Daily
2	Connectivity	Range of service options available	Mainly KNSL	Private +/- or speed boat services
3	Tourism potential	1. Cruise potential 2. Port of Entry potential + attractiveness	Good fit for cruise tender Candidate for yacht clearance and moorings	Poor fit for cruise tender Poor fit for clearing yachts and yacht calls
4	Commercial trade / Agri-product	1. Fisheries demand potential 2. Copra / coconut production	High fisheries production capacity High copra production potential	Lower fisheries production capacity Low copra production potential
5	Recent investment	Subject to previous investment (focus for KOITIIP Phase 1)	Less recent	Most recent
6	Population trend	Declining population assumed to be linked to connectivity	Declining	Increasing
7	Vulnerability	1. History of exposure / damage 2. Resilience in landings	Damaged previously No alternative landing	No damage Back-up options exist
8	Cargo handling	Cargo handling systems	Extensively manual	Equipment assisted
9	Fuel (population size proxy)	Risks linked to handling fuel drums	Increasing no's fuel drums and no bulk fuel storage facilities	Lower population no (less fuel drums) and/or bulk fuel storage in place
10	Navigation	Extents of hazards to navigation	Reef restricts vessel access and requires workboat – exposed location Long channel with hazards	Minimal restrictions, limited exposure. Deep lagoon, minimal hazards
11	Landing / port facilities	Standard of facilities	No facilities / beach landing Limited to daytime use (no lights). Poor security / remote.	Alongside berth and rampway in place. Already suited to 24h use Secure / low crime rate
12	Feasibility	Perceived complexity of delivering interventions	Less complex works, reduced volumes	Higher complexity, increased volumes



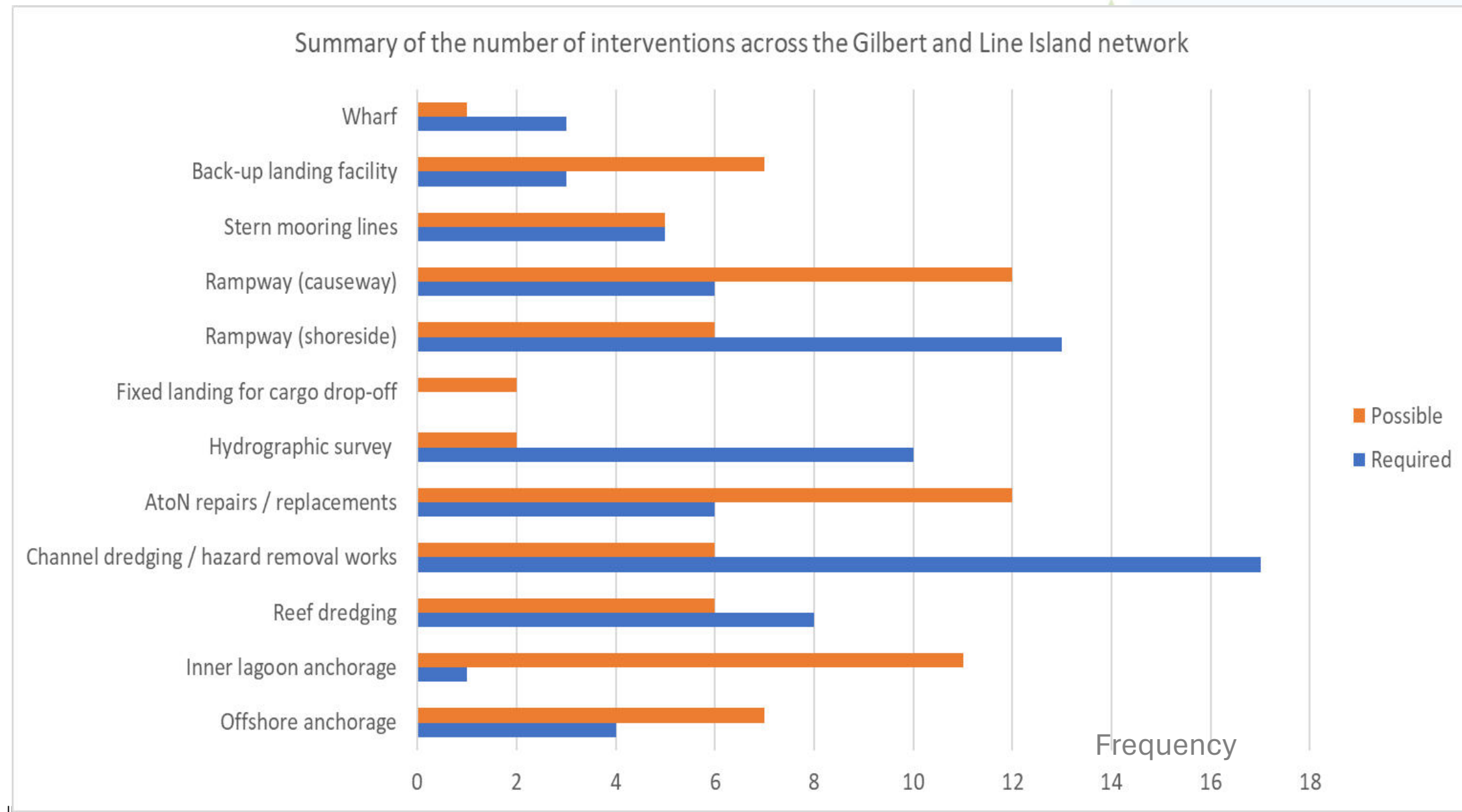
# Outer Island assessment output example (all criteria)





# Demand for infrastructure interventions in the outer islands

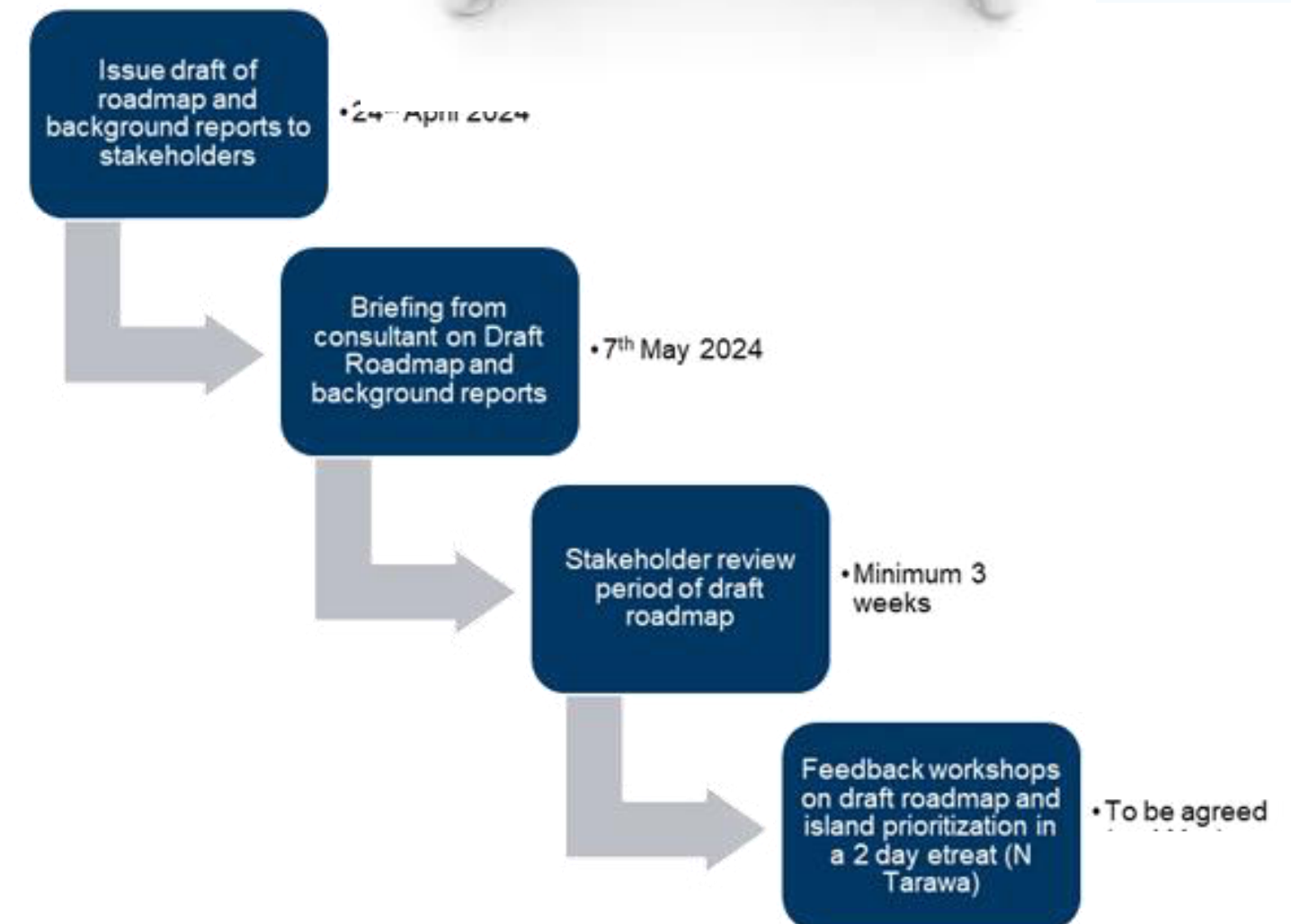
- **Assessment of intervention needs in each outer island** undertaken to support the Phase 2 FS task activity.
- This considers **two themes - Navigational infrastructure, and Berth infrastructure**
- Highlights the **commonality of interventions** across the outer islands and **promotes discussion on whether a multi-island programme of work should be considered in place of island-by-island.**
- **The most common interventions include channel dredging / hazard removals works followed by rampways, hydrographic surveys, and anchorages –**
- Findings are to be verified with the stakeholder participants





## Next steps

- In country workshops with stakeholders to:
  - Receive feedback of the draft Roadmap
  - Have the stakeholders complete the island prioritisation assessment using their insights
  - Confirm the requirements for navigational interventions in outer islands
  - Agree on the programme of interventions to be included in the Phase 2 stage of works – i.e programme of works across multiple islands or mix of interventions in selected outer islands.
- Feasibility study and due diligence task activities





# Tackling challenges for the maritime transport sector in Kiribati

# THANK YOU!

## Richard Hill

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