AUSTRALIA-INDIA INDO-PACIFIC OCEANS INITIATIVE
REPORT ON REGIONAL COLLABORATIVE ARRANGEMENTS IN MARINE ECOLOGY IN THE INDO-PACIFIC

SUMMARY AND RECOMMENDATIONS FROM THE REPORT

This report considers how Australia, India and other Indo Pacific partners can work together as part of the Indian-led Indo Pacific Oceans Initiative. Australia is taking the lead in the field of marine ecology, while other Indo Pacific partners are leading in areas such as security, infrastructure and resources.

The project brings together leading maritime experts from Australia (Dr David Brewster and Dr Anthony Bergin) with teams from Nanyang Technical University, Singapore (led by Dr Julius Cesar Trajano) and Observer Research Foundation, Kolkata (led by Dr Anasua Basu Ray Chaudhury)

The report includes detailed baseline studies on regional arrangements in:

- the Pacific (marine plastics, IUU fishing and ocean science);
- Southeast Asia (marine plastics, emergency response and coastal conservation); and
- the Bay of Bengal region (marine litter, IUU fishing and marine disaster management).

These studies will help us consider how cooperation in marine ecology can be enhanced across the Indo Pacific. The report draws important conclusions:

Optimal forms of regional cooperation will differ according to the challenge and context

- The studies do not identify any single form of regional implementation that is optimal for all types of marine ecology challenges. Context matters and implementing arrangements that work well in one setting may fall flat in another setting. In addition,

appropriate forms of regional implementation will likely differ according to the type of issue being addressed. Generally speaking, the more well understood problems were found to be easier to solve than those where there was a lot of uncertainty and that a favourable political context greatly helped achieve success.

Importance of existing foundation of regional cooperation

- Unsurprisingly, the most successful regional cooperative arrangements are often built upon broad, pre-existing regional cooperative arrangements e.g. IUU fishing in the Pacific and marine debris in ASEAN.

- But this is not always the case – the Coral Triangle Initiative that brings together Southeast Asian states such as Indonesia, Philippines and Malaysia with PNG, Timor Leste and Solomon Islands is an example of a cross-regional initiative that is relatively successful despite there being no prior history of substantial cooperation among those countries.

Importance of national implementation

- A key factor in the success regional initiatives in marine ecology is the extent to which regional agreements or understandings are implemented in national legislation or by national authorities. In most cases, regional groupings will not have the legal authority or resources to implement measures themselves and will rely on the implementation of agreements by national members. Generally speaking, it was found that the problem-solving capacity, skills and energy of national members was a key factor in successfully addressing challenges.

- IUU fishing in the Pacific provides a good example of countries successfully coordinating the national implementation of agreed measures (e.g. through the creation of standardised licensing terms applicable to all fishers). However, it should be noted that this national coordination is facilitated and supported by relatively well-resources regional institutions such as the Pacific Islands Forum Fisheries Agency.

- The instances of marine debris in the Bay of Bengal provides an example of weak regional understandings that are poorly implemented in national jurisdictions. There are no effective regional institutions to examine the problem, develop data, define norms or support national implementation of those norms. This results in a relatively ineffective regional regime.

Recommendations for Indo-Pacific cooperative initiatives in marine ecology

The studies demonstrate there are substantially differing levels of cooperation in marine ecology issues in different parts of the Indo-Pacific. Regional mechanisms in Southeast Asia and the Pacific islands are generally more developed. In contrast, regional cooperation in the Bay of Bengal region in the areas of marine plastics, IUU fishing and disaster management is weak. Even where, for example, declaratory statements among Bay of Bengal countries exist, they are not backed by effective regional mechanisms and they are

poorly or not enforced at a national level. Similar observations might be made about much of the rest of the Indian Ocean region.

But these deficiencies can't simply be addressed through trying to apply regional models that may work in, say, Southeast Asia or the Pacific, where there is a much more established web of institutions and arrangements and habits of cooperation on a wide range of issues.

The potential benefits of pursuing an inter-regional Indo-Pacific approach in relation marine ecology challenges could include:

- The development and/or application of norms across the Indo-Pacific in relation to marine ecology challenges. The concept of Indo-Pacific-wide responses or norms could potentially be extended to other issues/challenges beyond environmental challenges, thus encouraging habits of trans-Indo-Pacific cooperation.
- The sharing of the lessons/benefits from well-functioning regional arrangements or institutions with regions where arrangements are less developed or less well-functioning.
- The development of shared perspectives towards environmental challenges across the Indo-Pacific.

Recommendations for Australia

The report also includes recommendations as to how Australia can work with Indo Pacific partners to promote regional cooperation in marine ecology, including:

- working with India to co-sponsor an Indo-Pacific Declaration and Action Plan on Marine Plastics.
- undertaking a quantitative study on IUU fishing in the Bay of Bengal area.
- seeking observer status with key regional groupings such as BIMSTEC and the Indian Ocean Commission, with a focus on engagement on marine ecology issues.
- promote the pairing of Australian and Indian coastal cities to share experiences in combating marine ecology challenges.
- facilitate sharing of experiences of Pacific and Indian Ocean island states on marine ecology issues through hosting events, workshops and training exercises in fisheries management, marine plastics and ocean science.
- increase support to the Group of 16 IOTC Coastal States, to strengthen regional fisheries management in the Indian Ocean.
- working with Pacific partners to establish a Pacific Ocean Expedition modelled on the Second International Indian Ocean Expedition.
- sponsoring an Indian Ocean environmental security centre as a regional hub for professional development and research in environmental security.

Attached are key findings from the studies.

KEY FINDINGS OF BASELINE STUDIES

Baseline Report 1 - Marine Plastics in the Pacific: Report on Regional Arrangements among Pacific Island Countries

The Indian Ocean could learn from the Pacific islands experience in mitigating marine plastics in the following ways:

- ***Development of unified positions***: Pacific islands have developed unified positions on plastics. This experience should be shared between regional bodies such as PIF and IORA.

- ***Regional cooperation frameworks:*** Pacific island countries have a regional framework for national legislation to restrict the import and trade of some of the most problematic plastics into the region that should be shared with Indian Ocean states.

- ***Information sharing on 'cultural issues'***: There should be inter-regional information sharing on the "cultural issue" of plastic use: how to change the behaviour of plastic users and consumers. SPREP and IORA should consider holding a joint meeting on sharing lessons on issues of consumer awareness, support and motivation for reducing the use of single-use plastics.

- ***Working together in global forums***: Much is happening at the international level on marine plastics. The Pacific and Indian Ocean regions can work together in global forums such as the IMO on shipping and plastics or FAO, on fishing and plastics, as well as at the UN Environment Assembly. There should be much greater information exchange between the PIF, SPREP and IORA in pursuit of a legally binding instrument on plastics pollution.

- ***Working with NGOs***. There are opportunities for NGOs working on the plastics issue to share information with Indian Ocean states about their Pacific work. This includes the ANZPAC Plastics Pact launched in Australia, New Zealand and the Pacific Islands region which unites businesses, NGOs and governments through ambitious 2025 targets to eliminate plastic waste.

Baseline Report 2 - IUU and the Blue Pacific: Report on Cooperative Arrangements among Pacific Island Countries

Set out below are the key report findings on opportunities for collaboration between the Pacific and Indian Ocean regions on IUU fishing:

- ***Monitoring, control and surveillance of IUU***: The Pacific demonstrates how a region can successfully implement monitoring, control and surveillance against IUU fishing through regional cooperation amongst coastal states.

- ***Information exchange on VMS and data standards***: There is a significant opportunity for Pacific information exchange with organisations in the Indian Ocean region on vessel monitoring systems and data information sharing standards.

- ***Observer training:*** The Pacific provides lessons about the value of standardised training of independent fisheries observers at a national level.

- ***G16 to take up IUU fishing***: The so-called Group of 16 like-minded coastal states of the Indian Ocean Tuna Commission could take up the IUU issue as a challenge and build capacity and trust among its members through engagement with Pacific fishing bodies. A first step would be to undertake a region-wide independent quantification study of IUU fishing.

- ***Central management of reporting data:*** In the Indian Ocean, there is a lot of overlap in limited fisheries reporting. There are opportunities to collaborate with the Pacific, including establishing central management of reporting data.

- ***Minimum terms and conditions for access to EEZs:*** The Indian Ocean could benefit from greater interaction with the Pacific fisheries bodies on the development of harmonised MTCs for access to coastal states EEZs to prevent one island country being played off against another.

- ***Managing transhipment:*** Managing transhipment is a big problem in the Indian Ocean. Information exchange with the Pacific on transhipment observer programs would be useful.

- ***Use of port state controls:*** Although much more of the fishing takes place in the high seas in the Indian Ocean compared with the Pacific, Indian Ocean coastal states can use port state controls to influence fishing beyond national EEZs. The role of port state control is an area for useful cross-ocean information exchange.

- ***Fisheries science:*** The Indian Ocean does not have a single independent provider of fisheries science. There are opportunities in the Indian Ocean to look at the Pacific model of independent science input.

- ***Enhanced role of NGOs:*** There is an important role for non-government organisations in the Indian Ocean, such as *Global Fishing Watch, Fish-I Africa* and the *Stop Illegal Fishing*

group. These NGOs would benefit from interacting with Pacific regional fisheries bodies on the IUU.

- ***Coordination in global bodies***: The Indian Ocean and the Pacific would benefit from closer cooperation in relation to global discussions on IUU in fora such as the FAO's Committee on Fisheries.

Baseline Report 3 - Ocean Science in the Blue Pacific: Report on Regional Arrangements among Pacific Island Countries

Below are the key findings for inter-regional cooperation between the Pacific and Indian Oceans in ocean science:

- ***Ocean science as a regional responsibility***: The Pacific islands provide important lessons for other regions in taking responsibility to advance ocean science through regional bodies. There are no bodies in the Indian Ocean undertaking work like the Pacific Community (in fisheries) or the South Pacific Regional Environmental Program (SPREP) (on biodiversity).

- ***Independent fish stock assessment***: The Indian Ocean region should look closely at Pacific models for ocean science cooperation. In particular IOTC fish stock assessment modelling is currently provided by members of the IOTC and not by an independent agency. There's a need in the Indian Ocean for a scoping study on the best model for fisheries science advice as a key driver for improved fisheries governance.

- ***Indian Ocean Expedition***: The Pacific can learn from the Indian Ocean experience in ocean science. In the Pacific there's never been a coherent scientific examination of the ocean as is occurring in the Indian Ocean through the Second International Indian Ocean Expedition. IIOE-2 provides a strong basis for improved scientific knowledge transfer to regional governments in the Indian Ocean and enables capacity development opportunities in support of regional and early career scientists.

- ***Pacific Ocean Expedition***: The Pacific Community and the University of the South Pacific should work with the International Oceanographic Commission to develop a similar program. A Pacific Ocean Expedition would make for a powerful "branding exercise" for the Pacific framed under the UN Decade of Ocean Science. It would be a once in a generation ocean science initiative to have a lasting legacy aimed at improving livelihoods and sustaining the region's ocean environment.

Baseline Report 4 - Marine Plastic Pollution in Southeast Asia: Cooperation, Challenges And Opportunities

Below are the key findings for inter-regional cooperation in marine plastic pollution from Southeast Asia:

- ***ASEAN Framework/Action Plan***: The establishment of an ASEAN regional framework and regional action plan in combatting marine plastic pollution in Southeast Asia provides lessons for exploring a much wider action plan and strategy for the Pacific, Indian Ocean and Southeast Asia.

- ***Collaboration with extra-regional states***: Collaboration initiated by ASEAN member states with South Korea, Norway and Japan provides regional pathways towards a capacity-building collaboration framework for the wider Indo-Pacific.

- ***Indo-Pacific consortium of marine scientists***: Scientists from Southeast Asia and the Indian Ocean region may form an Indo-Pacific consortium of marine scientists, based on the MICROSEAP Consortium of Southeast Asian universities.

- ***Regional knowledge centres***: Existing regional knowledge centres such as the Regional Knowledge Centre for Marine Plastic Debris (RKC-MPD) by the Economic Research Institute for ASEAN and East Asia (ERIA) and the Regional Capacity Center for Clean Seas (RC3S) provide a good model that can be expanded to the wider Indo-Pacific.

- ***Business initiatives***: There is an opportunity for states to collaborate with regional partners through bodies like business-initiated recycling alliances/associations to accelerate the shift towards plastics circularity in the broader Indo-Pacific. Growing alliances of business conglomerates and multinational corporations in Southeast Asia may also seek a regional platform where they can share information and good practices on how their respective recycling alliances can contribute to the circular economy approach at the national and regional levels.

- ***Cross-sectoral groups***: The complementary roles of governments, regional organisations such as ASEAN, universities and their scientists, regional knowledge centres, donor countries, the private sector and civil society organisations strengthen regional arrangements in Southeast Asia, which may be replicated in the broader Indo-Pacific.

Baseline Report 5 - Emergency Response and the Maritime Space in Southeast Asia: Regional Cooperative Arrangements

Below are the key findings for inter-regional cooperation in emerging response and the maritime space from Southeast Asia:

- ***Growing vulnerability to natural disasters:*** Southeast Asia is becoming more vulnerable to natural hazards due to climate change. In particular, the socio-economic impacts of droughts should receive greater attention as the region is predicted to experience more frequent extreme heat waves in the decades to come.

- ***Key focus for ASEAN***: Emergency response, has been and will continue to be a key channel for ASEAN to build regional cohesion in Southeast Asia and to engage extra-regional partners.

- ***Institutionalisation of ASEAN arrangements***: Regional emergency response in Southeast Asia has been well institutionalised within the ASEAN framework. However, a fine balance between institutionalisation and flexibility is necessary, as flexible arrangements facilitate swift and timely responses in many cases.

- ***Ongoing engagement among stakeholders***: Regular engagement in the forms of workshops, meetings and joint exercises helps maintain active working relations between the relevant counterparts, which is conducive for communication and coordination during disasters.

- ***Need for improved information sharing***: A platform for information-sharing is useful for emergency response, which provides timely information related to the emergency, such as damage assessment, deployment of manpower and assets, the points of contact and other information related to the country and community affected.

- ***Role of private sector***: Funding remains a challenge facing emergency response, and efforts should be made to tap into non-public sources, such as the private sector.

- ***COVID-19***: The COVID-19 pandemic has exposed the need to enhance integration between regional mechanisms to deal with different types of disasters, as the concurrence of multiple disasters is increasingly likely. In the double disasters of volcanic eruption and tsunami in Tonga during the pandemic, a lack of communication and coordination between different stakeholders involved hampers the responses.

- ***Enhancing localised responses***: A new modality of emergency response should be explored, such as remote programming, since the pandemic has shown that deployment of international personnel can be difficult in certain circumstances. Localisation therefore should be promoted.

Baseline Report 6 - Regional Cooperation on Marine and Coastal Protection and Conservation: Learning from the CTI-CFF Experience

Below are the key findings for inter-regional cooperation in marine and coastal protection from the Coral Triangle Initiative:

- ***An inter-regional initiative***: The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) demonstrates that countries from different regions can work together to protect and conserve the marine and coastal environment in a designated sea area.

- ***Transboundary nature of challenges***: Regional states need to acknowledge the transboundary nature of marine and coastal problems and endorse dedicated regional cooperation to solve them. This will also require commitments of necessary support, including funding.

- ***Guidelines and action plans***: Technical working groups have been effective in formulating guidelines and action plans to address identified issue. These documents assist member states to implement measures at the national and local levels.

- ***Navigating differences***: Navigating differences is critical to keep member states focused on shared objectives. Different cultural practices can be manifested in the governance of coastal communities where member countries have specific systems, technologies, logistics, protocols, communication styles, and cultural practices. These differences need to be understood and respected to enable the formulation of inclusive regional approaches.

- ***Building communication***: The key to bridging cultural gap among member states is by forming at an early stage mechanisms that will allow good communication and mutual understanding. These include giving all member states an equal voice in discussions and establishing a rotational mechanism for all member states to chair working groups. Continuous dialogues are critical to get member states on the same page and strengthen understanding among them.

- ***Dealing with transboundary disputes***: Transboundary issues that already existed between two or more countries prior to the founding of the CTI-CFF are acknowledged and considered, but are not engaged. This enables member states to continue working on their shared objectives without pre-existing transboundary problems hampering their cooperation.

- ***Flexibility on regional standards***: Some flexibility on regional standards and definitions needs to be on the table to accommodate the various national and local contexts.

Baseline Report 7- Marine Litter in the Bay of Bengal Region: Regional Cooperative Arrangements

Below are the key findings for inter-regional cooperation in marine litter in the Bay of Bengal region:

- ***Lack of data on marine litter***: The origin and flows of marine litter are diverse and are not well understood in the Bay of Bengal (BoB) region. There are no uniform methods to study and compare management of marine litter challenges, including removal and disposal.

- ***Separate regional mechanisms for South and Southeast Asia***: The BoB partially encompasses the South Asian Seas (SAS) and the East Asian Seas (EAS) regions. Those regions have separate regional intergovernmental mechanisms for the protection of the marine environment and coastal areas. There is little or no interaction between the two mechanisms and Myanmar does not figure in either arrangement. This creates significant problems for data and developing consensus within the BoB.

- ***Need for consensus on single-use plastics***: Countries in the BoB region are at different stages of banning single-use plastic, but there is insufficient data to assess the effectiveness of current measures. There is a need to create a regional consensus against single-use plastic to prevent plastic pollution and marine litter, as well as to create a market for biodegradable and recyclable products.

- ***Need for systemic solutions, including waste management***: The challenge of marine plastic pollution requires systemic solutions covering policy, technology, management, financing, research, awareness raising and behaviour change. Of particular importance is the establishment of adequate waste management systems on land.

- ***Need for binding regional agreement***: A new legally binding agreement that clearly stipulates the goal of zero discharge of plastic into the ocean is needed.

Baseline Report 8 - Illegal, Unreported and Unregulated (IUU) Fishing in the Bay Of Bengal: Regional Arrangements

Below are the key findings for inter-regional cooperation in combatting IUU fishing in the Bay of Bengal:

- ***Prevalence of EEZs requires co-management of marine resources***: Around 80% of the Bay of Bengal Large Marine Ecosystem is comprised of EEZs of littoral states. This may require co-management of marine resources as littoral states pursue future opportunities in the Blue Economy.

- ***Existence of large anoxic zone***: The BoB region contains a large Oxygen Minimum Zone (OMZ), where depleted oxygen concentration in the ocean contributes to the creation of biological deserts. This needs to be better factored into regional planning.

- ***Use of technology for MCS***: Indonesia and Thailand have experience in integrating technology for undertaking monitoring, control and surveillance (MCS) and can share that experience with other littorals. Policy-makers will need to take into account challenges from the number of landing sites.

- ***Need for data on IUU***: There is a need for consistent and robust data on IUU catch, which also differentiates between domestic and foreign vessels. The current IUU catch estimates does not provide a reliable basis for effective policy formulation.

- ***Regional collaboration on stock estimation***: There is a need for regional collaboration for stock estimation, particularly for species that straddle two or more EEZs. Such collaboration is a necessary condition for initiating an Ecosystems Approach to Fisheries Management (EAFM) along with the estimation of Total Allowable Catch (TAC).

- ***Role of NGOs/local communities***: Non-state actors can play an enabling role given the resources required to monitor and regulate fisheries across such large spaces. The active devolution of powers to civil society organizations and co-management frameworks would help curb IUU fishing and empower local communities.

- ***Need for regional data-sharing platform***: A regional data-sharing platform with digital and cellular communication should be established to facilitate monitoring of suspicious vessels and sharing of intelligence to intercept dark vessels at sea or regional ports.

- ***Market-state and port-state measures***: Market-state measures have been effective in the past and port-state measures also hold promise in mitigating IUU fishing. All BOBLME countries are parties to the Port State Measures Agreement, except India and Malaysia which have concerns regarding the costs of implementation.

Baseline Report 9 - Regional Collaboration in Marine Disaster Management: A study of the Bay of Bengal

Below are the key findings for inter-regional cooperation in marine disaster management in the Bay of Bengal:

- ***Incidence of natural disasters in BoB:*** The BoB is one of the most turbulent maritime spaces of the world, where natural hazards such as cyclones and tsunamis regularly wreak havoc on the littoral states.

- ***Bilateral cooperation is dominant paradigm:*** Bilateral cooperation is the dominant paradigm in the region for disaster response despite lack of formal agreements between littorals.

- ***Need for confidence building to overcome sovereignty concerns***: Littorals have a strong 'sensitivity to sovereignty' in accepting disaster aid, indicating the need for more confidence building for multilateral approaches to be effective.

- ***Multistakeholder engagement:*** Participation in disaster management at the regional level is largely limited to the governments and armed forces. Multistakeholder involvement including the private sector is necessary for a more holistic approach. Community participation in disaster management is an effective way of strengthening national capacity.

- ***Strengthening BIMSTEC***: BIMSTEC's efforts at disaster management are nascent. There is a need to strengthen the institutional structure and funding of BIMSTEC for the organisation to make concrete progress. BIMSTEC needs to follow up the recent adoption of a charter with standard operating procedures in areas such as disaster management.

- ***Potential for BIMSTEC Plus approach:*** The ambit of BIMSTEC may be broadened to form "BIMSTEC Plus" by including Malaysia, Singapore and Indonesia as a way of sharing expertise and resources of these countries.

- ***Broaden role of BIMSTEC Climate Centre***: Based on lessons from the ASEAN AHA Centre, the BIMSTEC Centre of Weather and Climate can undertake a periodic review of vulnerabilities of littoral states.

- ***Regional pool of experts and resources***: BIMSTEC should create a regional pool of expertise and resources, including Expert Groups on disaster management. A flexible arrangement where countries can choose to engage in issue-based cooperation will improve functionality and practicality of a regional approach.

- ***Information sharing platform***: There is need for more digital support within BIMSTEC to help in early warning alerts and coordination in preparedness and response as regards disaster management.