

1st PROBLUE GLOBAL ENGAGEMENT FORUM

LOST AT SEA

Combating Abandoned, Lost,
and otherwise Discarded Fishing Gear
(ALDFG)

Organized by

PROBLUE

In collaboration with



Administered by
THE WORLD BANK
IBRD - IDA | WORLD BANK GROUP



PROBLUE

HEALTHY OCEANS · HEALTHY ECONOMIES · HEALTHY COMMUNITIES


Pillar 1

Improved Fisheries Governance




Pillar 2

Marine Pollution Management, including Marine Litter (Plastics)




Pillar 3

Blueing of Oceanic Sectors



Pillar 4

Integrated Seascape Management



Global Knowledge

TA & ASA thru Program Cycle

Investments





THE THREAT OF GHOST GEAR



Fishermen use low-cost, durable and non-degradable synthetic material for their fishing gear like gillnets, traps, and fish aggregating devices.

Due to wear and tear, the fishing gear is either abandoned, lost or otherwise discarded.



The fishing gear continue to trap fish, marine mammals and birds for a long time on it's own even without maintenance by fishermen

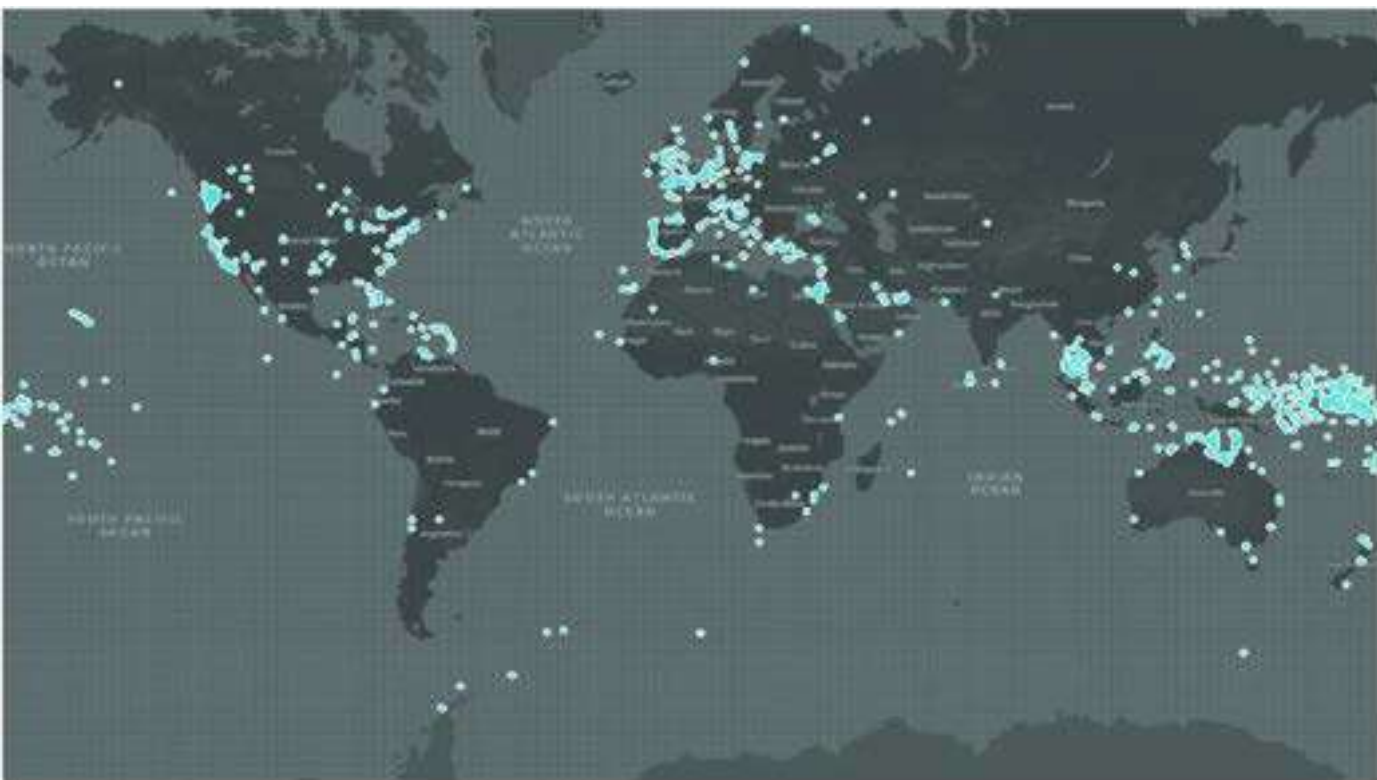
Animals trapped are either strangled or starved to death



Ecosystems in shallow waters like coral reefs are also affected by ghost gear, causing degradation

Economic impact such as revenue losses to the fishing and tourism industries. Replacing lost gear also increases the fishermen's operating costs.





Fishing gear lost in the ocean in 2017

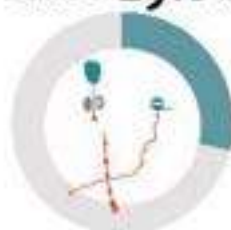
Nets 5.7 %



Traps 8.6%



Lines 29.0%



Not representative of all fisheries in all geographic conditions.

Source: Richardson et al. (2019a)

Illustrated by GRID-Arendal (2021).

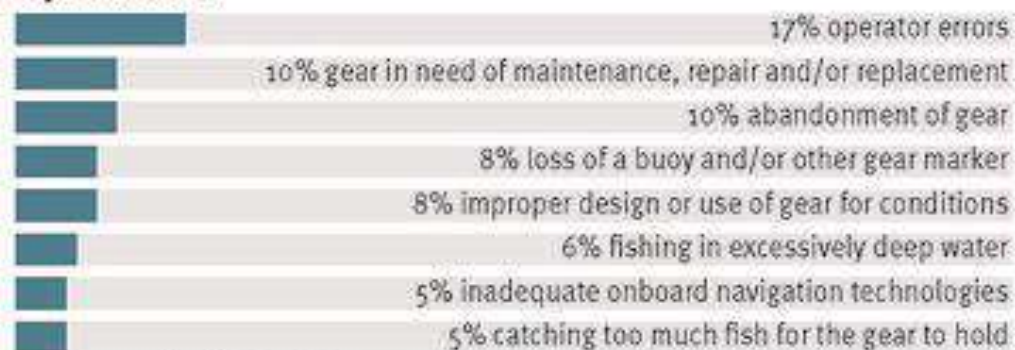
UNEP (2021). Drowning in plastics – Marine Litter and Plastic Waste Vital Graphics.

Common causes of abandoned, lost or otherwise discarded fishing gear

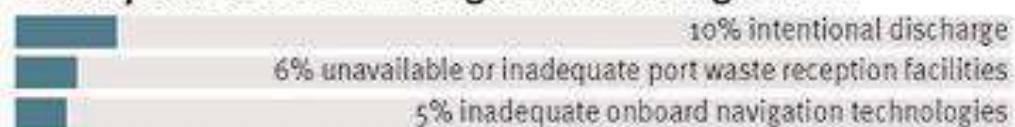
Environmental



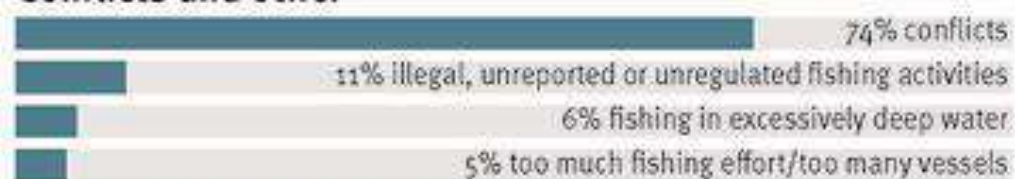
Operational



Inadequate fisheries management and regulation



Conflicts and other



The numbers show the percentage of studies reporting the listed specific causes of ALDFG. Based on a review of 176 reports over which 58% reported causes for ALDFG.

Source: MEPC (2020).

Illustrated by GRID-Arendal (2021).

UNEP (2021). Drowning in plastics – Marine Litter and Plastic Waste Vital Graphics.

Legally Binding Instrument to End Plastic Pollution

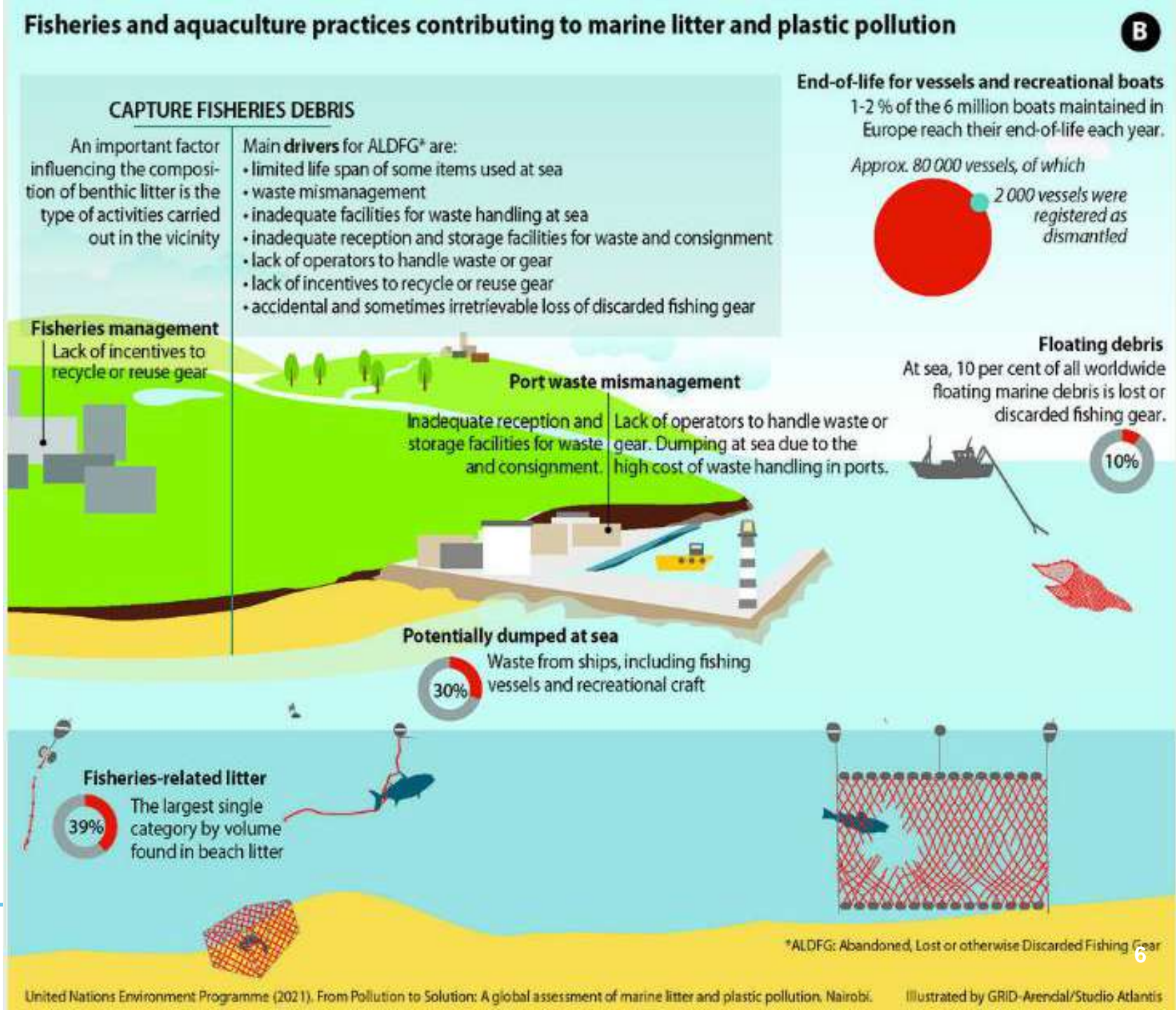
- **Resolution** adopted at UNEA5-2 on March 2nd, 2022
- **Legally binding instrument by 2024** – negotiations will be around voluntary or binding approaches.
- **Beyond marine plastics:** “To END plastic pollution in THE ENVIRONMENT, INCLUDING in the marine environment”
- **Lifecycle approach**
- **Key elements** shared objectives, reporting & monitoring, national action plans and commitments, scientific and technical support, financial and technical assistance (including if a fund needs to be established, and its mechanism)
- **Intergovernmental Negotiating Committee (INC) process:** World Bank to contribute by developing new analytics, consolidating knowledge, and building capacity with governments and other relevant stakeholders.



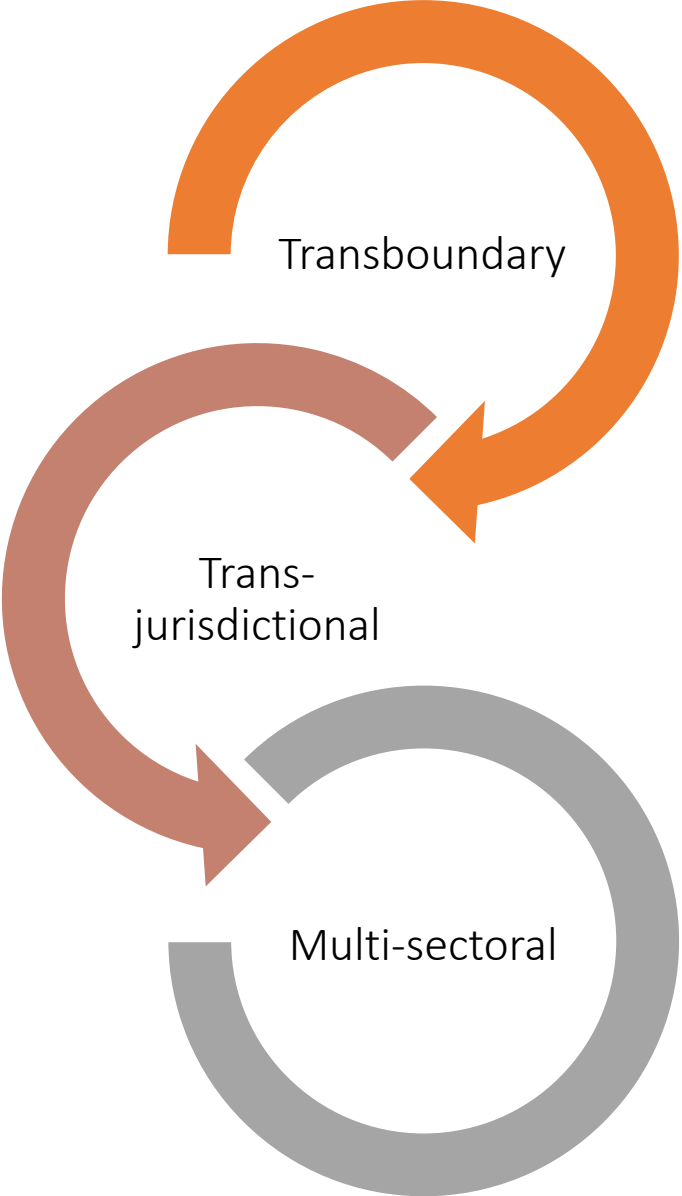
By 2024

1. Objective

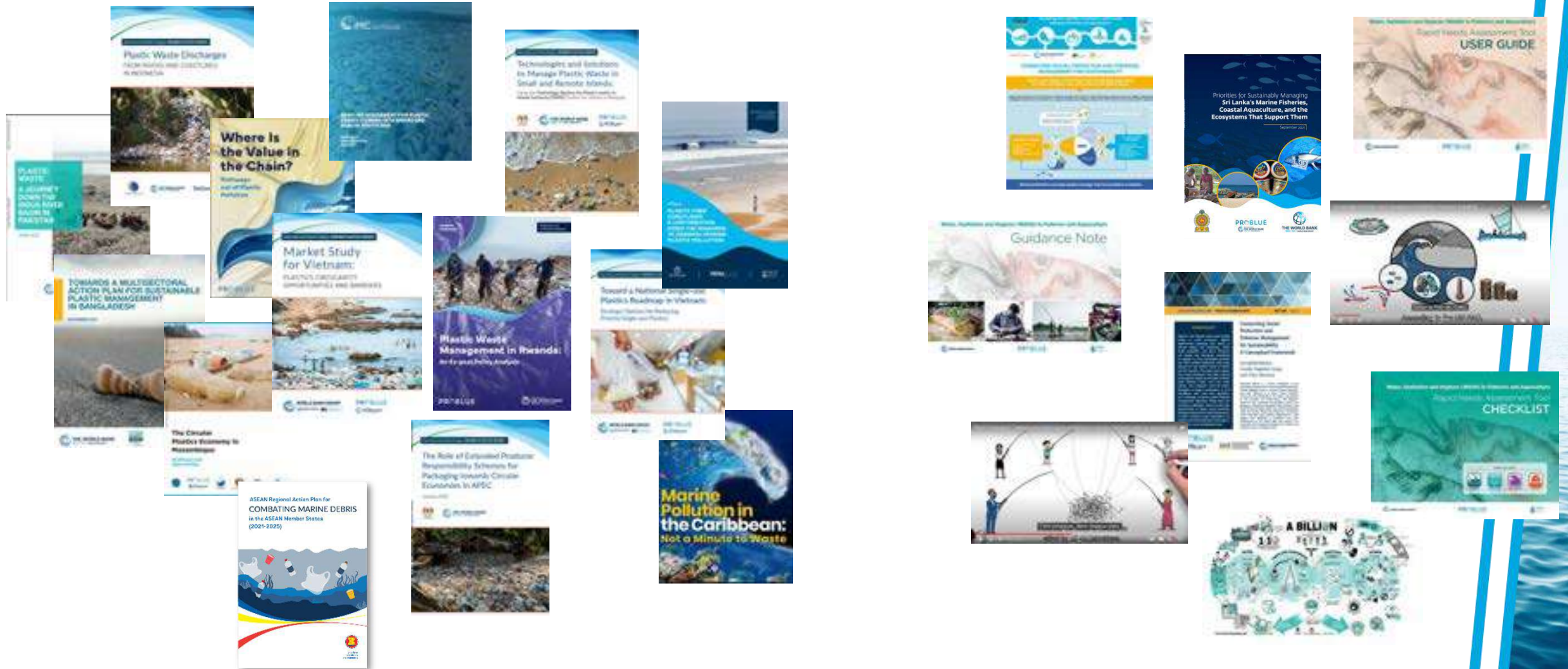
- Advance PROBLUE's priorities by engaging on new and emerging aspects of the Blue Economy
- Build relationships with key stakeholders
- Identify opportunities for collaborative and coordinated interventions in countries (investments, policy & regulatory reforms, ...)



2. Scope of the problem.



Moving to Global Plastics Action



Reporting and Monitoring

National action plans and commitments

Scientific and technical support

Financial and technical assistance

Legally Binding Instrument

Questions?



Fishing gear lifecycle approach: linkages to existing international initiatives/instruments

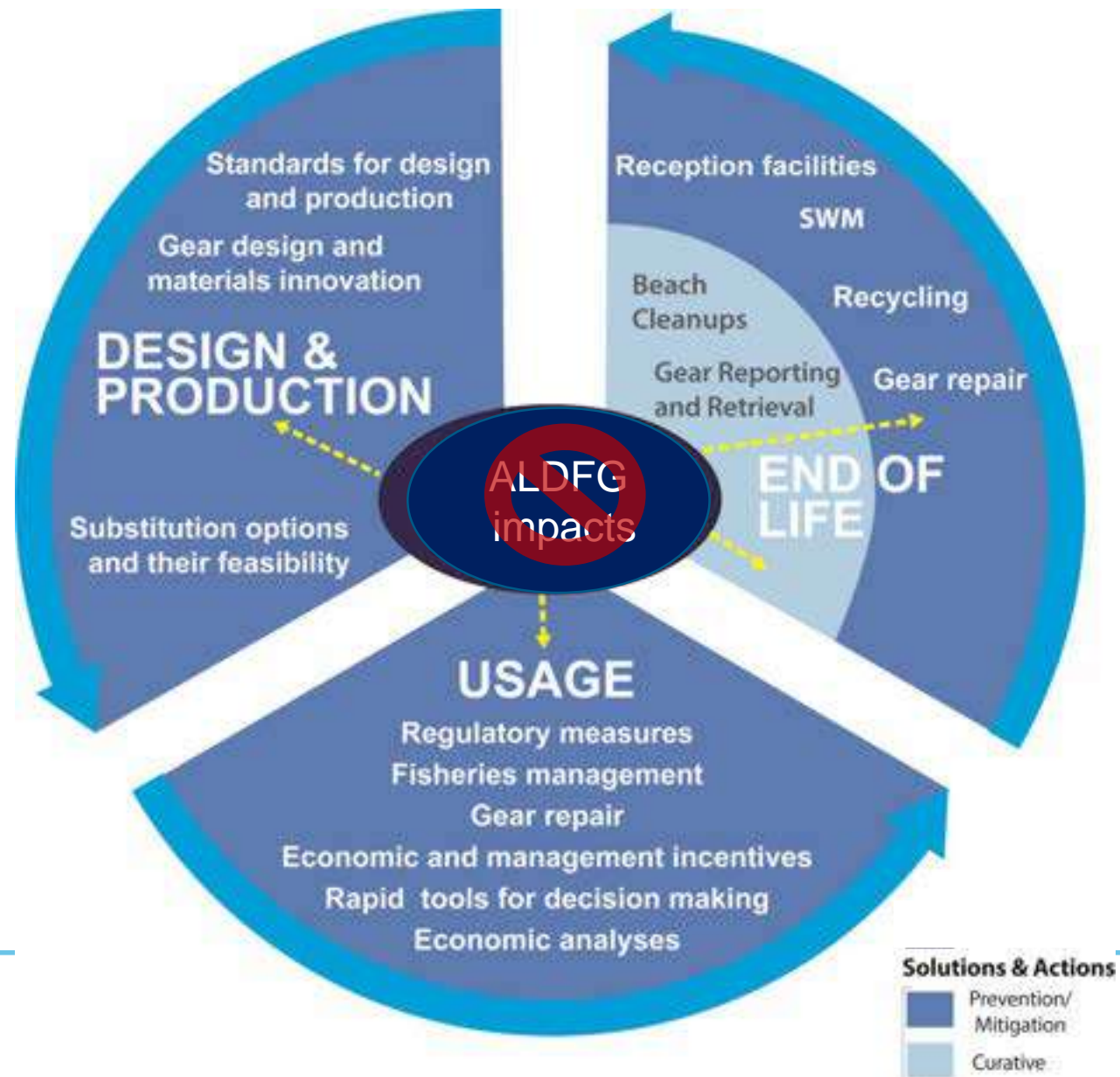
Amparo Perez
FAO Fishery Officer
amparo.perezroda@fao.org

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1. Life cycle approach to fishing gear management to prevent and reduce ALDFG



2. Existing regulatory and policy instruments

International Convention for the Prevention of Pollution from Ships (MARPOL) Annex V: Prevention of Pollution by Garbage from Ships

- Applies to **all ships** and sets a **general prohibition on the discharge of garbage** from ships into the sea **unless expressly permitted under specific regulations**.
- **Disposal into the sea of all forms of plastics** (including synthetic fishing nets and line scraps generated by the repair or operation of fishing gears) **is prohibited unless** it is carried out to secure the **safety** of a ship and those on board or to save life at sea or to **protect the marine environment**.
- The prohibition also **does not apply to the accidental loss of fishing gear** provided that all reasonable precautions have been taken to prevent such loss.
- In the event of accidental loss, an entry in the **Garbage Record Book or in the logbook** should be made and **reported to the flag state and coastal state** (when appropriate) **if poses a significant threat to the marine environment or navigation**.
- **Inspections** carried out by flag and port States **to ensure record keeping compliance and familiarity** with the requirements.
- Parties to MARPOL Annex V must **ensure the provision of reception facilities**

2. Existing regulatory and policy instruments

London Convention (LC), and the 1996 London Protocol (LP): Prevention of pollution from dumping of wastes and other matter at sea

- Sets **global regulations to prevent pollution from dumping of wastes at sea**, the LP prohibits all dumping except for **some wastes and only after a careful assessment** of other disposal options and potential impacts
- Applies to **all marine waters**
- Several actions in recent years to **improve understanding and mitigate the presence of plastics and microplastics in LC/LP waste streams**
- In **2016**, the Contracting Parties adopted a **recommendation to encourage action to combat marine litter**.

2. Existing regulatory and policy instruments

Fisheries management framework

Commercial traceability

Research and development



Special requirements of developing states and small-scale fisheries

Reporting of ALDFG

Production, organization and elimination of ALDFG

Fish Aggregating Devices

Awareness raising, communication and capacity development

Safe and environmentally sound disposal

3. Existing international initiatives



Global Partnership on Plastic Pollution and Marine Litter (GPML)



Global Ghost Gear Initiative (GGGI)



IMO Action Plan to Address Marine Plastic Litter From Ships
IMO MEPC decision to initiate development of a goal-based requirement for gear marking under MARPOL Annex V



Food and Agriculture Organization of the United Nations

Global Survey on ALDFG



GESAMP Working Group 43

4. Relevance on INC-2

- Current regulatory framework is fragmented and could be adjusted to more effectively address ALDFG
- The new international legally binding instrument agreement: a golden opportunity to fill gaps

WHAT IS NEEDED?

- Sectoral approach – specific articles/provisions covering upstream and downstream levels of the fishing gear life cycle
- Integration of existing international regulations and policy at the national and regional levels.
- A comprehensive strategy allowing coordination and expansion of existing initiatives.
- Multistakeholder engagement: all relevant authorities within governments, RFMOs, fishers representatives, fishing-gear producers, fishing and seafood companies, port authorities, local municipalities, recyclers, certification bodies...

Recommended reading:

- Policy brief on fishing gear by Environmental Investigation Agency, University of Wollongong, Ocean Care and SPREP.

<https://eia-international.org/wp-content/uploads/2023-Fishing-gear-policy-briefng.pdf>

Many thanks for your attention

Questions?



A photograph of ghost gear, including blue fishing nets, white floats, and a rusty metal cap, scattered on a sandy beach. The image is partially obscured by a white diagonal shape that serves as a background for the text.

COBSEA TOOLBOX ON COMBATTING GHOST GEAR IN THE EAST ASIAN SEAS

HEIDI SAVELLI, ON BEHALF OF THE COBSEA SECRETARIAT

COORDINATING BODY ON THE SEAS OF EAST ASIA – COBSEA



East Asian Seas Action Plan – adopted 1981, revised 1994

Intergovernmental body aimed at protection and sustainable development of the marine & coastal environment of East Asian Seas

Regional Seas – established 1974

One of 18 Regional Seas Conventions and Actions Plans

COBSEA countries

Cambodia, People's Republic of China, Indonesia, Republic of Korea, Malaysia, Philippines, Singapore, Thailand, Viet Nam

Secretariat

Hosted by Thailand (in Bangkok), administered by UNEP

www.cobsea.org

REGIONAL ACTION PLAN ON MARINE LITTER

Adopted by IGM 24 (2019), aligns with UNEA & 2030 Agenda
COBSEA Working Group on Marine Litter & Expert Group on Monitoring



ACTION 1: prevent and reduce marine litter from land-based sources



ACTION 2: prevent and reduce marine litter from sea-based sources



ACTION 3: strengthen monitoring and assessment



ACTION 4: create enabling conditions for action, e.g. knowledge sharing (Regional Node outreach and education, research, regional coordination)



► Welcome

- Introduction to ghost gear
- Overview of the toolbox
- 01. Preventing ghost gear
- 02. Minimizing damage from ghost gear
- 03. Recovering and reporting ghost gear
- 04. Cross-cutting reports and guidelines
- Acknowledgements
- Glossary

Welcome to the COBSEA ghost gear toolbox

The aim of the toolbox is to provide tools and guidance on environmentally sound and inclusive ghost gear prevention, mitigation, and management for the East Asian Seas region and share good practices for replication. The toolbox also compiles existing resources developed by partners. Products include downloadable infographics, reports, and videos in languages from the COBSEA region. More tools, case studies, and resources, will be added to expand the toolbox over time.

All tools and resources are available through the East Asian **Seas Regional Node** of the Global Partnership on Plastic Pollution and Marine Litter (GPML).



This Toolbox is for you if you represent:

1

Dive centres: managers, guides, and instructors

3

Organizations working on ghost gear prevention, recovery, and management

2

Local/national governments

4

Fishing/coastal communities



Combating ghost gear in the East Asian Seas

Case study series

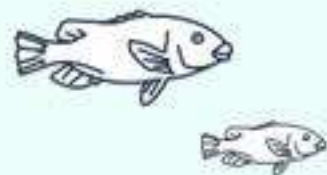


Net Free Seas, Thailand



Case overview:

The Net Free Seas (NFS) project was launched to build a circular economy approach to deal with derelict fishing gear and to empower local communities to become part of the solution. Currently, the Environmental Justice Foundation (EJF) works with over 100 artisanal fishing communities in 11 southern provinces across the Gulf of Thailand and along the Andaman Sea. The NFS project recycles three main types of plastic gear: Nylon 6 (or polyamide 6), which is predominantly used in gillnets and other nets, fishing ropes made of polypropylene (PP), and high-density polyethylene (HDPE), used in trawl nets. Collected fishing gear is recycled into a wide range of lifestyle products and industrial components by business partners.



HOW TO PREVENT LOST OR ABANDONED FISHING GEAR FROM HARMING THE MARINE ENVIRONMENT



UN 
**environment
programme**

COBSEA
COORDINATING BODY ON THE SEAS OF EAST ASIA



Contact us:
unep-cobsea@un.org | www.cobsea.org

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1. EPR as a Solution for ALDFG

- Economic Cost of ALDFG range between 1-30% of lost revenue and average 5% of revenue (n=17).
 - OECD defines Extended Producer Responsibility (EPR) as an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle.
 - It shifts responsibility upstream and provides incentives to producers when designing their products.
 - Most examples focus on terrestrial based products
 - Is it a suitable solution for addressing ALDFG ?
-

2. Opportunities & Challenges



The fishing industry can help in separation schemes

Many countries stockpile collected fishing nets

Leasing rather than buying gear to facilitate effective EPR schemes?

Good practice examples exist in Norway, Belgium, ROK support for new business.

Create incentives for fishermen that benefit the fishing community

2. Opportunities & Challenges



An effective EPR scheme has to accept both valuable and 'non-valuable' materials

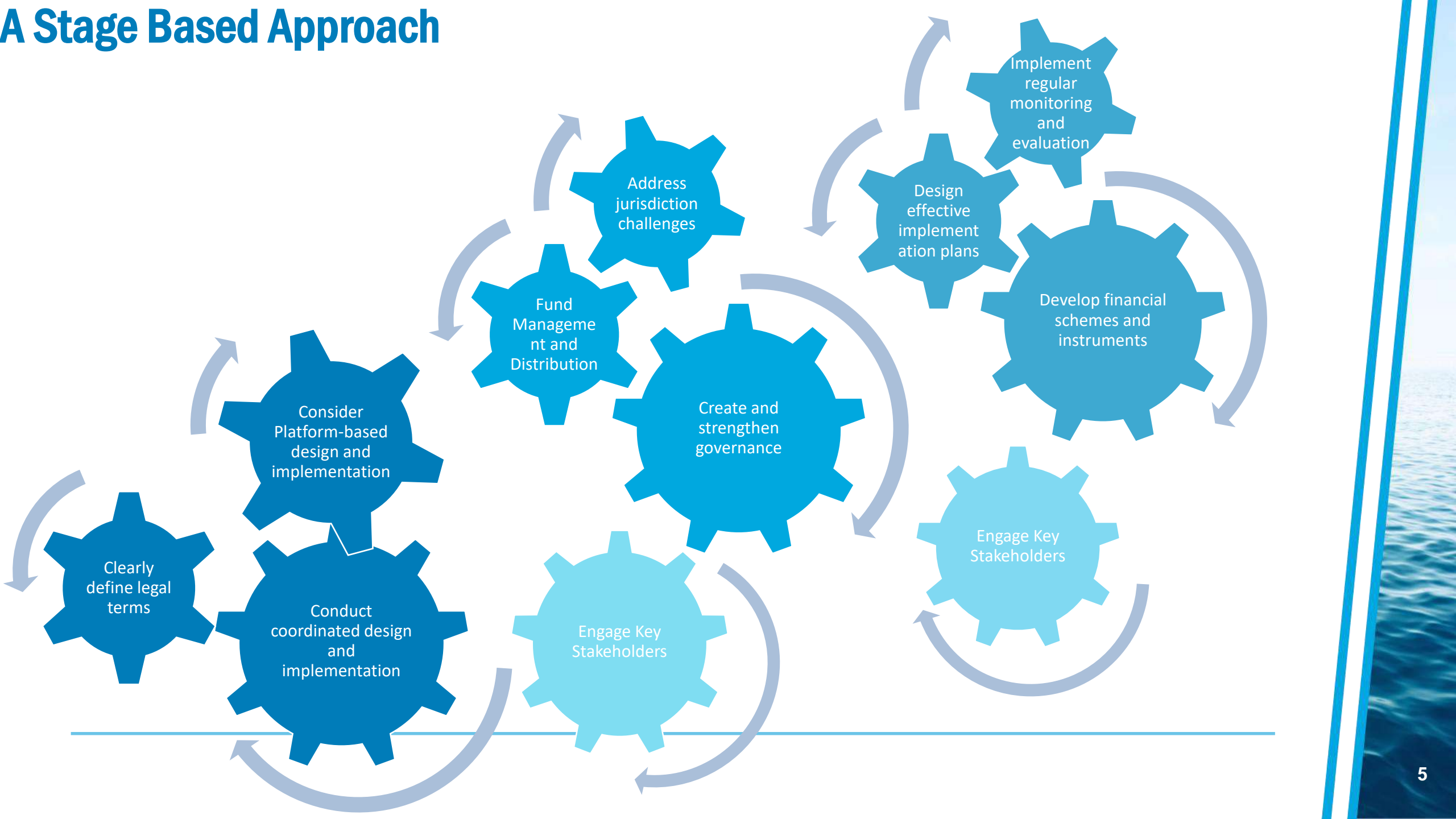
Recycling is up to the producers. Who is a producer ?

Recycling is a challenge for the producers of fishing gear

Mixed materials during manufacture, only some of which have value for recycling.

Product Characteristics e.g. colour separation is essential for recycling

A Stage Based Approach



4. Relevance on INC-2

- Wide support for EPR in general, but limited input on the How?
- Few States mention ALDFG. EPR for Fishing gear is noted
- Included in remediation and ocean cleanup
- Links to other MEA and regional agreements e.g. RFMO.



Questions?



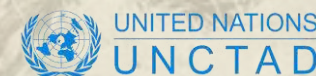
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Challenges in Design & production of fishing gear

An overview – and some reflections

Henrique Pacini, Economic Affairs Officer, UNCTAD

With contributions from Emma Algotsson (Gaia / Catchgreen) and Nadia Moalla (CEPESCA)

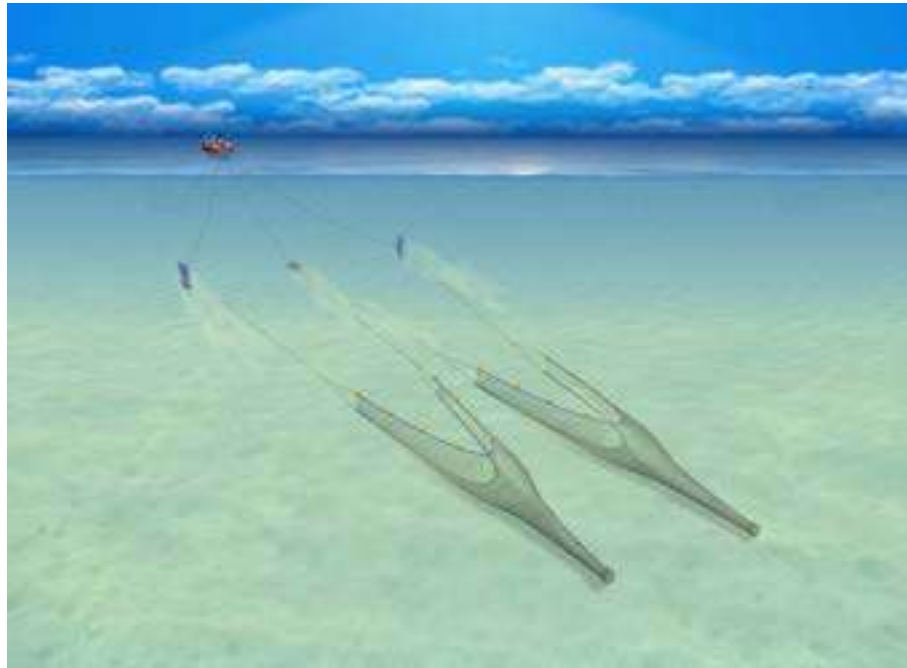
May 28th 2023



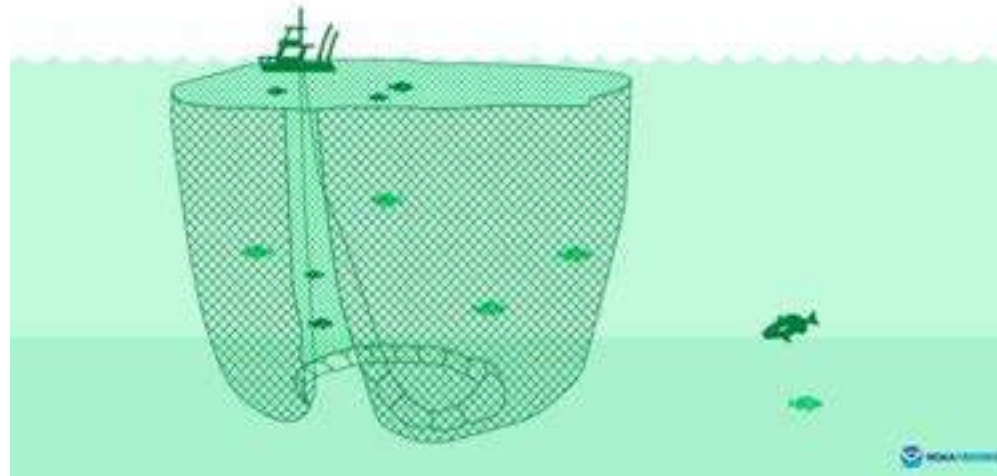
Fishing gear – Design & production basics

- Material make-up (Polypropylene PP, Polyethylene PE and Polyamide (Nylon/PA6)).
- Governance of innovation: – Most gear sourced from Asia
- 70-80% of ship fuel consumption spent on towing fishing gear

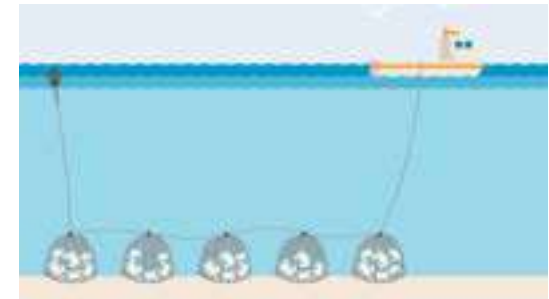
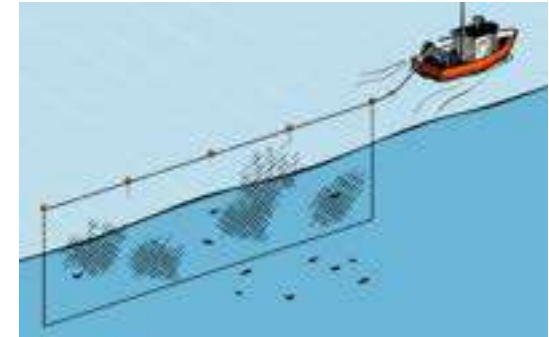
Towed



Encircling



Static



Sources: Seafish.org; NOAA Fisheries; MSC



General strategies to mitigate ALDFG at the design & production phase

- Focusing on materials
 - To last longer & enable repair and better recyclability (monomaterials)
 - To biodegrade
 - Use alternative / natural materials
- Focusing on traceability systems backed by enforcement

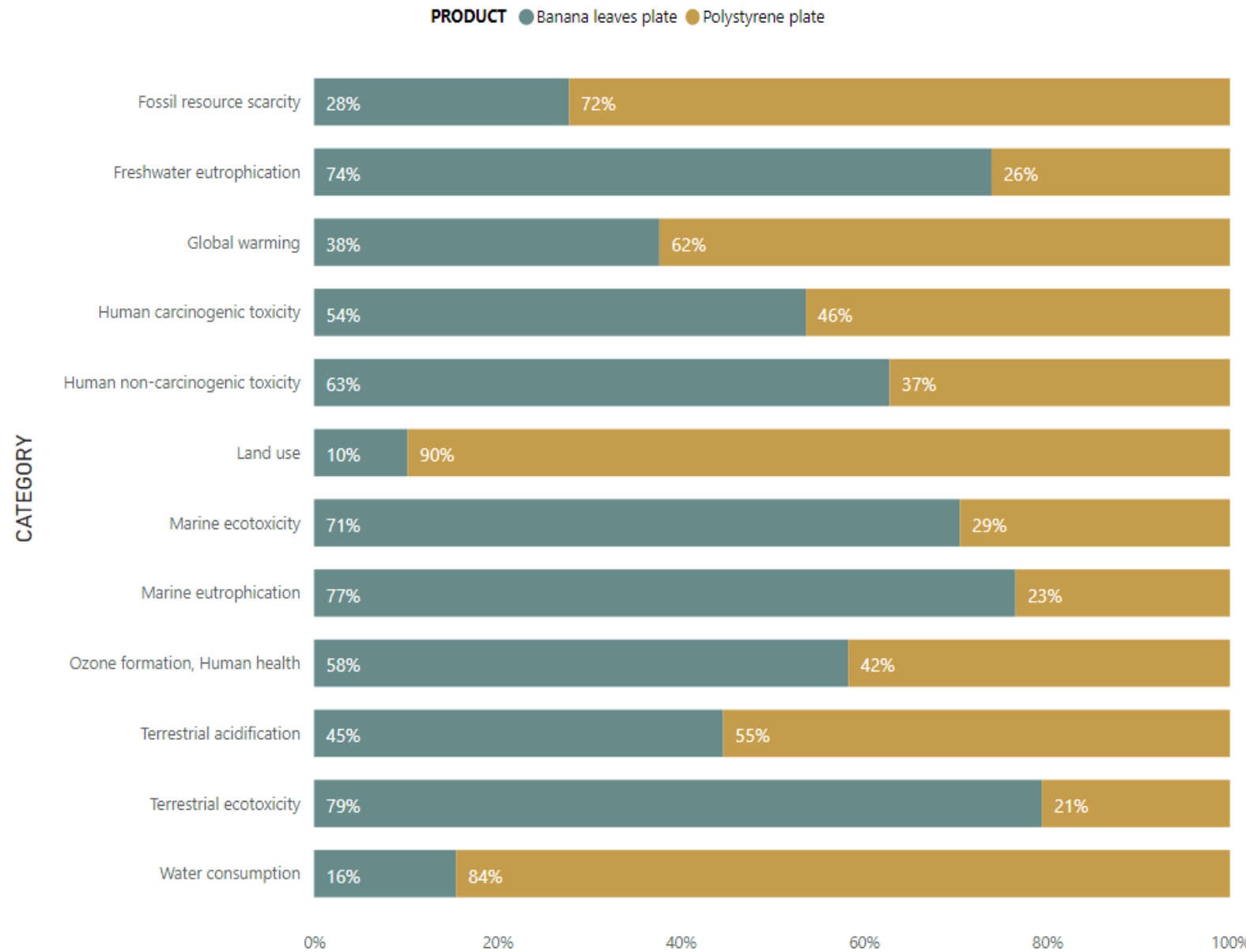
Design & Production actions alone not enough. Important to act across supply chain **SYSTEM**.

- production, use and end-of-life management of gear.

Gear design & production – substitution and alternatives also carry consequences.

SMEP plastics-substitutes dashboard

- Allows analysis plastics compared to material substitutes & reusables
- Reuse is fundamental for better environmental performance



<https://unctad.org/news/dashboard-shows-environmental-impacts-exports-african-and-south-asian-countries>

SMEP Programme plastic project portfolio



Agrimulch ←



GAIA /
CATCHGREEN ←



Organisation/ Project Name	Cooperation Members/ Partners	Description of Project	Geography
Blue Skies Pty Ltd.	Waitrose & Partners	Blue Skies aim to establish a multi-stakeholder Research and Development Hub, which addresses single-use plastic in the agri-business to the point-of-sale value chain. The hub will initially address single-use plastic in disposable workwear and agri-film.	Ghana
Chinhoyi University of Technology (CUT)	Kudwa Waste and Energy Solutions	Utilising plastics waste as a feedstock, Chinhoyi University will be establishing a manufacturing facility for plastic roof tiles with solar power features to address household energy needs.	Zimbabwe
The Council for Scientific and Industrial Research (CSIR) – South Africa	Elizade University, Nigeria	CSIR will undertake research and development into bio-degradable mulch film to replace Polyethylene (PE) mulch used in the agriculture value chain, tailoring biodegradation rates to climatic and soil conditions.	Nigeria
The Flipflop Project	Coastal Oceans Research and Development – Indian Ocean (CORDIO) East Africa; Northumbria University, School of Design; University of Portsmouth	The Flipflop Heritage Boats Project aims to establish a closed-loop waste management centre for the Lamu archipelago. This is linked to a heritage boat building centre, that aims to scale up plastic boat building in the region.	Kenya
Gaia Biomaterials	Kompost-it, Alnet, Sustainable Seas Trust	Gaia will undertake research and development into alternative biodegradable solutions for fishing nets, also working alongside regional fishing industry associations to ensure user acceptability, thus tackling the challenges of ghost nets in the marine environment.	South Africa, Tanzania & Kenya
International Synergies Limited (ISL) Limited	Maxwell Stamp Limited	ISL aim to address plastics pollution reduction through industrial symbiosis and will research, identify, and develop innovative reuse solutions for local uptake.	Bangladesh
PA Consulting	Global Access Diagnostics Ltd (GAD); PulPac	PA Consulting will research and develop compostable lateral flow test cassettes applying dry moulding of cellulose fibres obtained from sustainable sources as an alternative to single-use plastic.	To be confirmed.
RiverRecycle Limited	Beach Clean Up Ghana Ltd.; Ambitious.Africa	RiverRecycle will implement a patentable remediation system to collect plastic waste in rivers, utilising this as feedstock to end products, specifically plastic boards and pyrolysis oils.	Ghana
University of Cambridge	Nepal Communiere, Field Ready	The University of Cambridge will establish multiple small-scale plastics remanufacturing units, producing building and construction products suitable for local construction requirements.	Nepal
University of Warwick	Environmental Sustainability Associates Limited (ESAL); De Montfort University (DMU); Chatham House (CH); GVO; Zero Waste Goods Limited (ZWGL)	The University of Warwick will implement a technology-enabled plastic waste management system, processing waste plastics into flake products and pyrolysis oils.	Nigeria

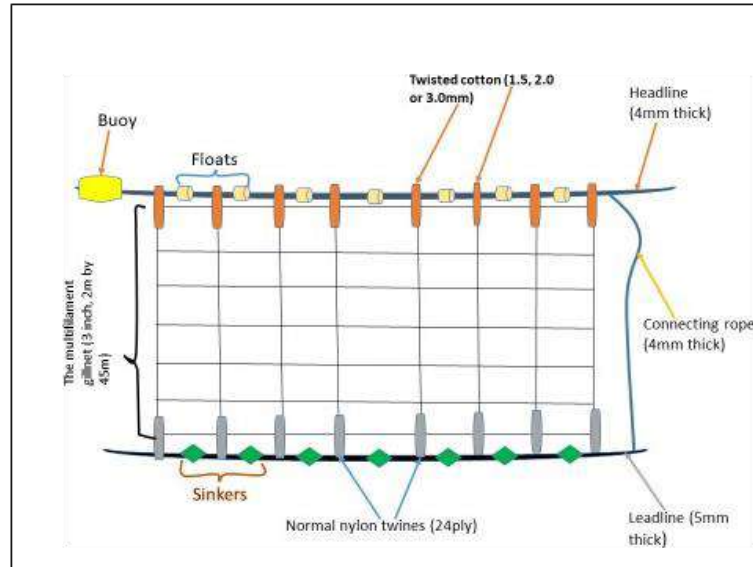


SMEP project
GAIA /Kompost-it

Biodegradable
fishing nets



Piloting



Piloting Kenyan and South African waters to confirm fishing efficiency.

PILOTS 2023

Trawl nets – South Africa

Modified gillnets. - Kenya

Coral restoration – Kenya and French Polynesia

Seaweed harvesting –Kenya

Kelp farming – Namibia

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Usage stage

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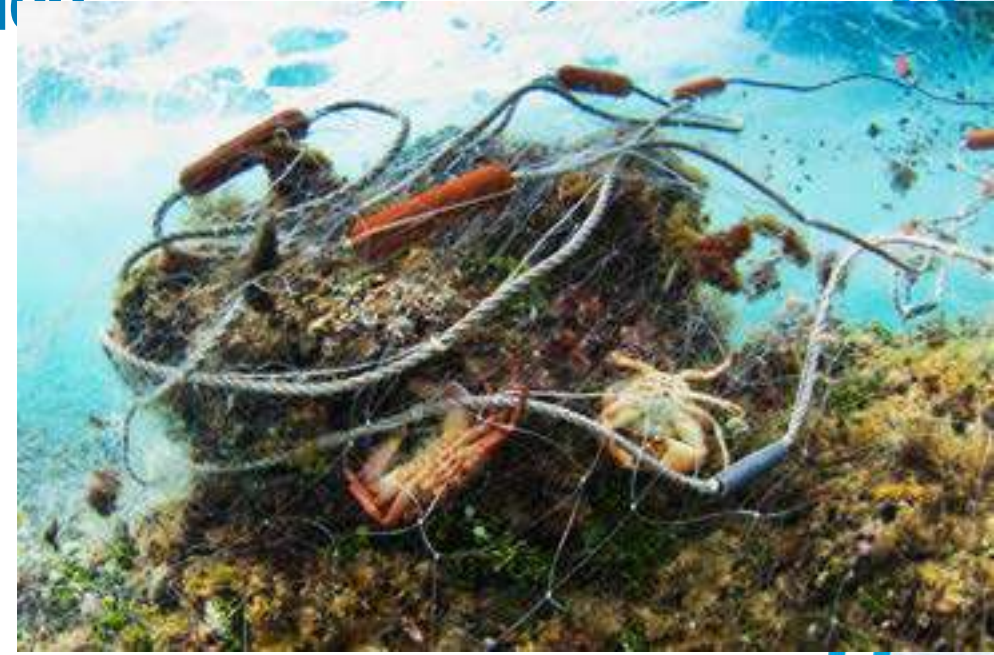
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1. Why fishing gear is abandoned, lost or discarded at sea?

Causes of ALDFG include:

- Bad weather
- Gear conflicts / traffic vessel
- Snagging on living and inert structures
- Operator error
- Deliberate discarding / abandonment
- IUU fishing



2. What can be done?

1. Identify the causes
2. Develop and implement appropriate solutions
3. Collaborative approach with active engagement from all stakeholders
 - Fishers and vessel operators
 - Fleet operators and fisheries organizations
 - Fisheries managers and regulators
 - Fisheries control agencies
 - NGOs

3. Options per stakeholder group at usage stage

Fisheries managers and regulators

- Identification of high risk areas and seasons and designate relevant spatio-temporal restrictions
- Development of technical regulations to prevent ALDFG and reduce ghost fishing potential in high-risk areas
- Development of appropriate gear marking and identification regulations
- Identify and implement incentives to facilitate uptake of relevant regulations
- Conduct impact assessment to gauge unintended consequences of management actions on gear loss and ghost fishing

Fisheries control agencies

- Establish registry and database of lost/abandoned gear
- Enforcement of gear marking and identification regulations and relevant technical regulations

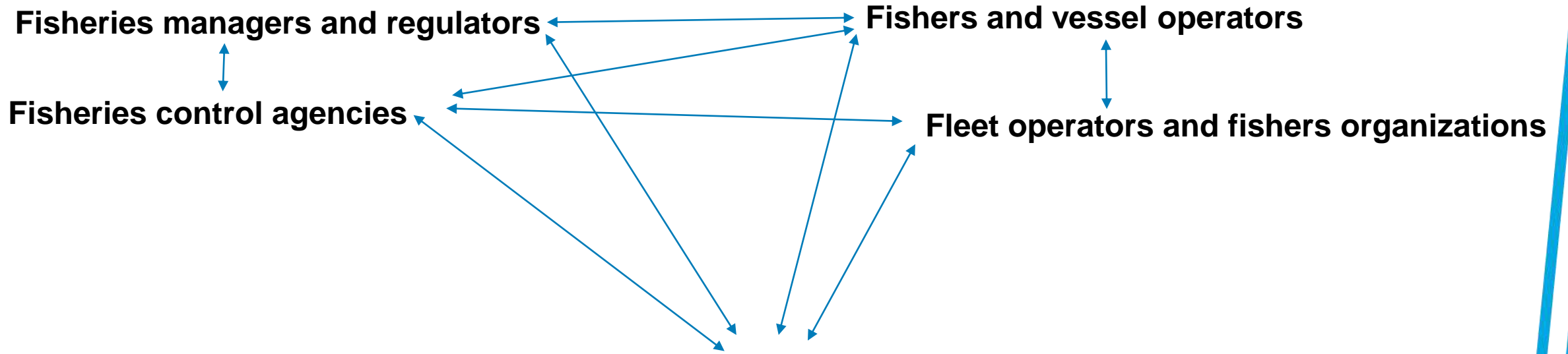
Fishers and vessel operators

- Reduced soak times
- Gear use limits in high-risk areas and during high-risk times
- Marking and identification of fishing gear and components
- Responsible storage and management of gear onboard
- Reporting of lost gear

Fleet operators and fishers organizations

- Code of Practices specific to fisheries and/or fishing fleets
- Spatio-temporal agreements with other metiers
- Monitoring of fishing gear losses, communication protocols.

3. Options per stakeholder group at usage stage



- NGOs**
- coordination of advocacy, actions and information gathering
 - awareness raising to both public and private stakeholders
 - contribute to a centralized ALDFG/ghost fishing information hub/forums

Thank you for your attention!



LOST AT SEA

Combating Abandoned, Lost, and otherwise Discarded Fishing Gear (ALDFG)

Options for End-of-Life Fishing Gear

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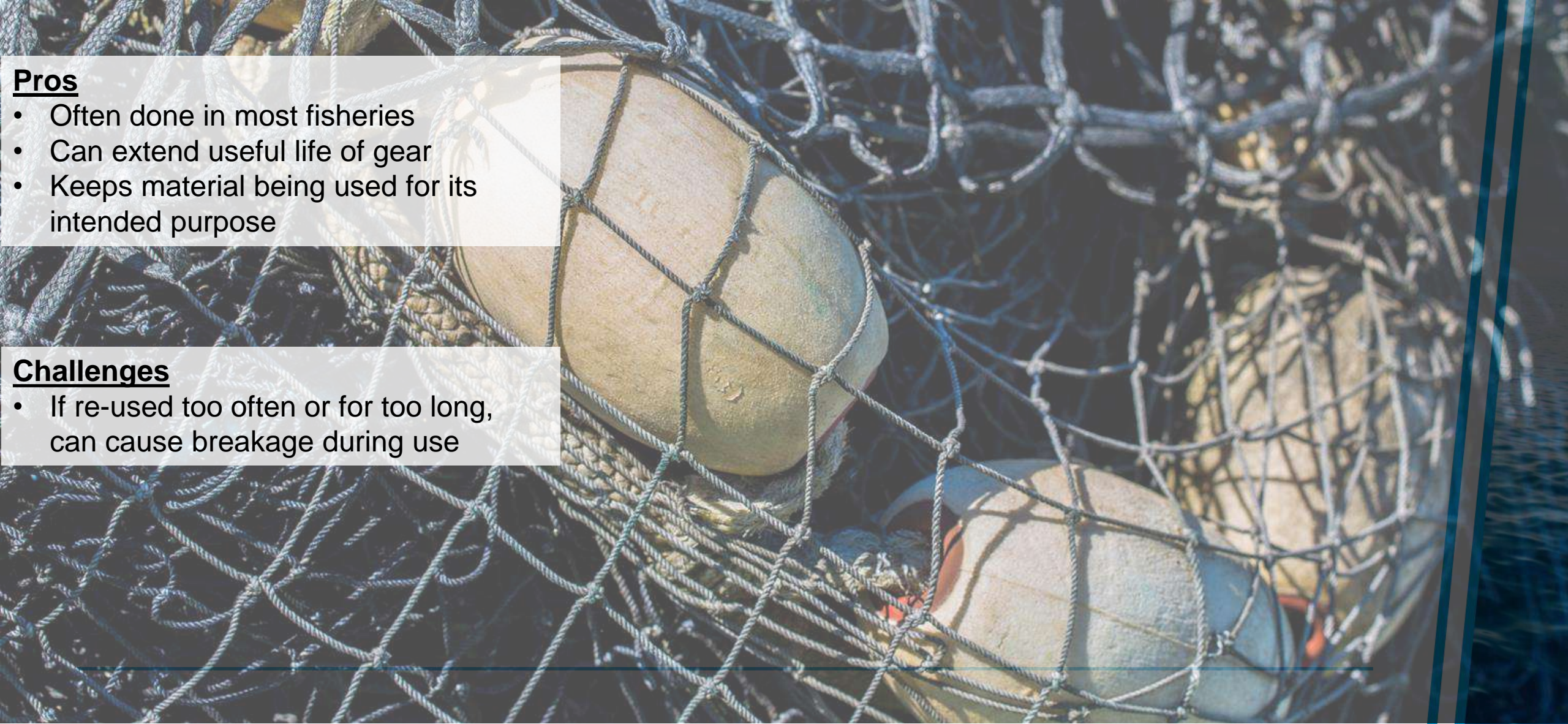
1. Re-use

Pros

- Often done in most fisheries
- Can extend useful life of gear
- Keeps material being used for its intended purpose

Challenges

- If re-used too often or for too long, can cause breakage during use



2. Recycling

Case Studies

- Bureo (Chile, Ecuador, Mexico); Plastix (Denmark); Aquafil (Slovenia); Net Free Seas (Thailand); Steveston Harbour/Ocean Legacy Foundation (Canada); WWF (Peru and other regions); Net Regeneration Scheme/Odyssey Innovation (UK); Coast 4 C/Net-Works (Philippines)

Pros

- Preserves material for use in other products
- Helps contribute to a more circular economy
- Presents business opportunities

Challenges

- Material must be collected, stripped , sorted
- Facilities are rare and expensive
- High transport/logistics costs
- High volume required
- Often requires external funding
- Can be energy intensive

3. Re-purposing

Case Studies

- Stand Out for Environment Restoration (Nigeria); Erub Arts (Australia); Bracenet (Germany);

Pros

- Preserves material for use in other products
- Helps contribute to a more circular economy
- Presents business opportunities

Challenges

- Requires systematized local collection points
- Requires buy-in from local community to engage with the material/systems
- Questions about what happens with the products when they reach the end of their useful life



4. Landfill

Pros

- Keeps waste out of the ocean
- Prevents/removes the threat to aquatic wildlife and fish stocks

Challenges

- Not a long-term solution
- Landfills are finite and can come with their own environmental challenges
- Exposed nets can pose a threat to terrestrial life



5. Incineration/Waste to Energy

Pros

- Keeps waste out of the ocean
- Prevents/removes the threat to aquatic wildlife and fish stocks

Challenges

- Creates toxic by-products such as ash, slag and desulfurization/sulfur byproducts
- Energy intensive
- Large CO2 footprint
- Eliminates materials entirely - antithesis of the circular economy

