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### REPORT OF THE 2019 FAO/GGGI REGIONAL WORKSHOPS ON BEST PRACTICES TO PREVENT AND REDUCE ABANDONED, LOST AND OTHERWISE DISCARDED FISHING GEAR





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**Report of the**

**2019 FAO REGIONAL WORKSHOPS ON BEST PRACTICES TO  
PREVENT AND REDUCE ABANDONED, LOST OR DISCARDED  
FISHING GEAR IN COLLABORATION WITH THE GLOBAL GHOST  
GEAR INITIATIVE**

**Port Vila, Vanuatu, 27–30 May 2019**

**Bali, Indonesia, 8–11 June 2019**

**Dakar, Senegal, 14–17 October 2019**

**Panama City, Panama, 18–23 November 2019**



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## PREPARATION OF THIS DOCUMENT

This document was derived from the series of four regional workshops on best practices to prevent and reduce abandoned, lost or otherwise discarded fishing gear in Southwest Pacific, Southeast Asia, West Africa, and South America and the Caribbean regions in 2019. The workshops were prepared and coordinated by Amparo Pérez Roda, Pingguo He and Ingrid Giskes of FAO Fisheries and Aquaculture Department, Fishing Operations and Technology Branch. The preparation of this document benefitted from the funding provided through the projects *Post COFI-33 related follow-up actions: VGMFG and Transshipment* (GCP/INT/358/EC) and *Reducing Ghostfishing and Marine Litter in Latin America and the Caribbean* (GCP/GLO/018/NET-F).

### ABSTRACT

FAO in collaboration with the Global Ghost Gear Initiative (GGGI), convened a series of regional workshops on best practices to prevent and reduce abandoned, lost and otherwise discarded fishing gear (ALDFG) between May and November 2019. The workshops which involved Government representatives, Regional Bodies, relevant intergovernmental and non-governmental organizations, the fishing industry and other regional stakeholders covered the Southwest Pacific, Southeast Asia, West Africa, and South America and the Caribbean regions. Workshop participants reviewed existing measures for addressing fishing-related marine debris in particular ALDFG, considered best available information that supports further development of best practices for the management of fishing gear, discussed provisions required within international instruments and identify region-specific challenges, opportunities and priority needs. The main objective was to increase understanding and awareness of the Voluntary Guidelines for the Marking of Fishing Gear (VGMFG) and relevant best practice as outlined in the GGGI's Best Practice Framework for the Management of Fishing Gear (BPF).

The main output of the workshops were a set of recommendations to inform next steps to be taken towards the development of national action plans or strategies to align, as appropriate, policies, legislation, systems and operations to the provisions of the VGMFG and the BPF, which will support the implementation of regional action plans to address marine litter from sea-based activities, especially ALDFG.





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These workshops were dedicated to Ms Joanna Toole who died tragically in the Ethiopian Airlines Flight 302 crash on 10 March 2019 while en route from Addis Ababa, Ethiopia to Nairobi, Kenya. Ms Toole played a key role in the development and finalisation of the Voluntary Guidelines on the Marking of Fishing Gear and the conceptualization and initial preparation of the four workshops.

## ABBREVIATIONS AND ACRONYMS

ALDFG	abandoned, lost and otherwise discarded fishing gear
APFIC	Asia-Pacific Fishery Commission
ARAP	Autoridad de los Recursos Pesqueros de Panamá
ASEAN	Association of Southeast Asian Nations
BPF	Best Practice Framework for the Management of Fishing Gear
BOBP-IGO	Bay of Bengal Programme - Inter-Governmental Organisation
BP	best practice
CARICOM	Caribbean Community
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CMMA	Coordinating Ministry of Maritime Affairs (CMMA) of Indonesia
COBSEA	Coordinating Body on the Seas of East Asia
COFI	FAO Committee on Fisheries
CROP	Council of Regional Organizations of the Pacific
CSIRO	Commonwealth Scientific and Industrial Research Organisation
ETP	endangered, threatened, or protected species
FAD	fish aggregating (or aggregation) device
FAO	Food and Agriculture Organization of the United Nations
FFA	Pacific Islands Forum Fisheries Agency
GGGI	Global Ghost Gear Initiative
IMO	International Maritime Organization
INFOPESCA	Center for information and advisory services on the marketing of fishery products from Latin America and the Caribbean
IOTC	Indian Ocean Tuna Commission
ISSF	International Seafood Sustainability Foundation
IUU	illegal, unreported and unregulated
LC/LP	London Convention/London Protocol
MARPOL	International Convention for the Prevention of Pollution from Ships
MCS	monitoring, control and surveillance
MMAF	Ministry of Marine and Fisheries
PADI	Professional Association of Diving Instructors
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
RAP	FAO Regional Office for Asia and the Pacific
SBMPL	sea-based sources of marine plastic litter
SEAFDEC	Southeast Asian Fisheries Development Center
SENAN	National Aeronaval Service of Panama
SICA/OSPESCA	Sistema de la Integración Centroamericana - Organización del Sector Pesquero y Acuicola del Istmo Centroamericano
SIDS	Small Island Developing States
SPC	Pacific Community
SPREP	Secretariat of the Pacific Regional Environment Programme
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
VGMFG	Voluntary Guidelines for the Marking of Fishing Gear

## EXECUTIVE SUMMARY

The United Nation's Sustainable Development Goal Target 14.1 (SDG14.1) specifically calls for a significant reduction of marine pollution of all kinds, including marine debris, by 2025. As abandoned, lost or otherwise discarded fishing gear (ALDFG), also known as 'ghost gear' is a significant component of marine litter (or marine debris), the Committee on Fisheries (COFI) of Food and Agriculture Organization of the United Nations (FAO) requested that the Organization continue its work develop and implement best practices to quantify and reduce the amount of ALDFG and to mitigate its impact. COFI considered the newly developed FAO Voluntary Guidelines for the Marking of Fishing Gear (VGMFG) as an important tool in combating ALDFG. As a part of this mandate, FAO, in partnership with the Global Ghost Gear Initiative (GGGI) convened a series of four three-day regional workshops in Southwest Pacific (Port Vila, Vanuatu), Southeast Asia (Bali, Indonesia), West Africa (Dakar, Senegal) and South America and the Caribbean (Panama City, Panama) between May and November 2019. The workshops were attended by 203 representatives from States, Regional Fishery Bodies, relevant intergovernmental and nongovernmental organizations, the fishing industry, and other interested regional stakeholders. The Panama workshop was followed by a three-day FAO/GGGI ghost gear diver removal and Professional Association of Diving Instructors (PADI) Ghost Gear Removal Certification Workshop.

### Workshop objectives

The objectives of the regional workshops were to:

- 1) Connect and build relationships with people working to address ALDFG in the region;
- 2) Enhance dialogue, and bilateral, sub-regional and/or regional cooperation and coordination between participating countries and stakeholders to address ALDFG, highlighting case studies of best practice being carried out by countries in the region;
- 3) Share regional perspectives and insights about challenges and solutions to preventing negative impacts from ALDFG;
- 4) Raise awareness and understanding of the FAO's VGMFG and relevant best practice measures as outlined in GGGI's Best Practice Framework for the Management of Fishing Gear (BPF);
- 5) Identify key challenges and capacity development needs at the regional level associated with addressing ALDFG and implementing tools such as the VGMFG and the BPF;
- 6) Identify regionally appropriate strategies to further develop, refine and promote their implementation; and
- 7) Inform subsequent steps to be taken by FAO to support countries in the region to implement instruments, measures and tools to prevent and reduce ALDFG.

### Workshop structure

Each workshop was preceded by a pre-workshop questionnaire to gauge participants' knowledge and awareness of the issue and national and regional actions and/or plans related to ALDFG and marine litter. Each workshop started with the provision of relevant information to facilitate the understanding of the global context on fishery-related marine litter, in particular ALDFG, through presentations on the FAO's VGMFG and the GGGI's BPF. Regional and country level presentations were followed to provide region-specific contents of issues and actions. Interactive working groups and breakout sessions were convened to undertaking tasks to fully understand the provisions of the VGMFG, to explore the requirements in the GGGI's BPF for different stakeholders in the fishery, and to discuss the implementation of VGMFG or formulation of regional or national action plans on ALDFG or marine litter. Each workshop produced a set of recommendations for the region to combat ALDFG and/or marine litter.

## Workshop recommendations

### Vanuatu workshop

- 1) FAO should support a comprehensive risk assessment and gap analysis of ALDFG at regional and national levels and in both inshore and offshore fisheries in the Southwest Pacific region and encourage national and regional bodies to collaborate during this process, especially between the Council of Regional Organizations of the Pacific (CROP) agencies, Regional Fisheries Management Organisations and other multi-stakeholder platforms, and relevant international agencies. Furthermore, a gap analysis of national legal frameworks related to fisheries and litter management plans on gear loss and ALDFG data collection and reporting should be carried out with a view to form the basis of a regional action plan to address ALDFG.
- 2) FAO should continue collaboration with GGGI to provide guidance to facilitate implementation of FAO's VGMFG and GGGI's BPF at regional and national levels, including sample wording and skeleton plans that can be adapted into policy documents, fisheries management plans and legislative frameworks. More specific guidelines and fact sheets for different fisheries and fishing gears should be developed or be adapted to be locally relevant.
- 3) FAO should lead on the technical aspects of pilot projects in the region to implement gear marking in inshore fisheries as per VGMFG.
- 4) The VGMFG and the BPF should be incorporated into relevant regional mechanisms including in RMFO-level measures and regulations (WCPFC) and in regional marine litter plans with a separate section, or a separate plan focusing exclusively on ALDFG to show leadership in the region (Pacific Community [SPC], Pacific Islands Forum Fisheries Agency [FFA], Secretariat of the Pacific Regional Environment Programme [SPREP], FAO, International Maritime Organization [IMO], United Nations Environment Programme [UNEP], GGGI).
- 5) A national/regional reporting mechanism using a standard reporting framework and categories for ALDFG should be created. Mandatory reporting of discard, abandonment or loss of fishing gear should be implemented as required in International Convention for the Prevention of Pollution from Ships (MARPOL), Annex V, and as recommended in the VGMFG and the BPF.
- 6) Further assessment, interpretation, quantification and impacts of ALDFG at the national and regional levels should be supported/facilitated to have a better understanding of the regional ALDFG baseline.
- 7) Awareness raising programmes on ALDFG should be supported and integrated at regional, national and community levels, including integration into existing marine debris awareness programmes, maritime training and observer programmes.
- 8) Mechanisms to involve fishers to create economic incentives and solutions to eliminate/reduce ALDFG as well as ALDFG recovery and retrieval programmes should be explored to help implement practical solutions through cost-effective technologies.
- 9) Regional bodies, research organisations and the fishing industry are encouraged to further develop methods to reduce fish aggregating device (FAD) impacts including biodegradable and non-entangling FAD designs, FAD recovery programs, and intelligent FADs to reduce their impact when they drift outside of their fishing zone. Such technology would transition FADs away from being completely disposable.
- 10) GGGI, in collaboration with FAO and other relevant bodies, should encourage the inclusion of the BPF and VGMFG in eco-labelling assessments/accreditations as well as in any current fisheries management programmes to combat and reduce ALDFG.
- 11) Recommendations and outputs from this workshop should be shared with all participants, including those participants/stakeholders/countries in the region that were not present.

### Bali workshop

- 1) ALDFG should be included in global and regional funding mechanisms and projects, dealing with the major drivers of environmental degradation.
- 2) International and regional organizations/bodies such as: FAO, IMO, United Nations Development Programme (UNDP), UNEP, Southeast Asian Fisheries Development Center (SEAFDEC), Coordinating Body on the Seas of East Asia (COBSEA), Bay of Bengal Programme - Inter-Governmental Organisation (BOBP-IGO), Asia-Pacific Fishery Commission (APFIC), Indian Ocean Tuna Commission (IOTC), Partnerships in Environmental Management for the Seas of East Asia (PEMSEA), Association of Southeast Asian Nations (ASEAN) and GGGI should collaborate and support initiatives for addressing ALDFG in the region. FAO should continue the collaboration with GGGI and ASEAN others to facilitate the implementation of FAO's VGMFG and GGGI's BPF at regional and national level, including through the development of a global ALDFG umbrella programme.
- 3) Government and industry are encouraged to appropriately manage gear throughout its lifecycle including retrieval, reuse and recycling of ALDFG by using appropriate incentive mechanisms. Government and industry are also encouraged to remove those incentives that increase the risk of ALDFG and discourage related actions.
- 4) Regional and national bodies, NGOs, associations and Governments are encouraged to facilitate the implementation of the VGMFG and best practice management of fishing gear framework through translation and localization of the gear marking guidelines and by developing outreach materials including train-the-trainer materials to raise awareness amongst fishing stakeholders and use them in solution projects.
- 5) FAO is encouraged to complete annex B of the VGMFG which provide technical details on how different gears should be marked.
- 6) FAO and other relevant organizations should assist developing countries, to develop and/or acquire cost-effective, easily accessible and environmentally friendly marking technologies in all types of fishing activities, in all oceans and seas.
- 7) FAO and other relevant bodies and Governments should support inter alia but not limited to capacity building activities, facilitate technology transfer and conduct projects or case studies in the region to implement gear marking guidelines and the best practice framework and to disseminate information, including awareness programme for fisheries stakeholders to prevent, reduce, reuse and recycle ALDFG.
- 8) Governments, NGOs and industry should involve fishers, their communities and other stakeholders to implement incentives, solutions, cost-effective technologies to eliminate, reduce, reuse, recycle and retrieve ALDFG as well as explore end of life gear recycling programmes, the development of biodegradable materials for fishing gear and support further research and development as well as the monitoring of the above
- 9) Regional organizations and governments are encouraged to develop standard reporting mechanisms for ALDFG. National reporting of discard, abandonment or loss of fishing gear is encouraged to be implemented, recalling the provisions in MARPOL Annex V and in the VGMFG and the BPF and to establish a baseline and monitoring system.
- 10) Global, regional and national bodies and organizations are encouraged to undertake assessments; collate and share knowledge on the causes, effects, impacts solutions and drivers of ALDFG at national and regional level.
- 11) IMO is encouraged to swiftly implement the ALDFG relevant actions contained in the IMO Action Plan on Marine Litter in collaboration with other agencies, organizations and countries.
- 12) Recommendations and outputs from this workshop should be shared with all participants including those stakeholders in the region that weren't present.

### Dakar workshop

- 1) International and regional organizations (such as FAO and IMO) and States coordinate and collaborate on implementation of guidelines and regulations such as the VGMFG, MARPOL Annex 5, and utilize the GGGI's BPF to ensure harmonized approach for the implementation and a solid legal framework for undertaking actions.
- 2) FAO and other organizations support States to assess the amount of ALDFG and their impact, including environmental, economic and social aspects, in Atlantic coast of Africa for all fisheries (artisanal, industrial, etc.) to establish baseline information about ALDFG in the region.
- 3) Regional Fisheries Management Bodies and States, in collaboration with fishers' organizations and NGOs, raise awareness of the issue across the region, and to leverage and integrate this into existing programs and initiatives.
- 4) International and regional organizations, States, and NGOs support pilot projects and capacity building programs to implement FAO's VGMFG and GGGI's best practice framework, and provide financial supports for the implementation of ALDFG mitigation measures.
- 5) Public-private partnerships and civil society collaborations be explored and supported in creating economic incentives and solutions to reduce and eliminate ALDFG, including ALDFG recovery and retrieval programs, to help implement practical solutions and technologies for cost effectiveness and efficiency, and with incentives.
- 6) Research on relevant and affordable gear marking technologies and systems (for all fishing gears) should be encouraged and supported.
- 7) Research on biodegradable FADs for African states should be encouraged and their use be incentivized to reduce ALDFG and/or ghostfishing. Pilot projects on biodegradable fishing gear or its components should be supported.
- 8) States in the West African region should be encouraged, with support from IMO, FAO and other organizations, to ratify, adopt and implement relevant international conventions/instruments such as the London Convention/Protocol.
- 9) Capacity to enforce relevant regulations (such as banning of monofilament gillnets in the region) should be enhanced to ensure sustainable fisheries and to reduce environmental impacts such as ALDFG. International funding instruments should include ALDFG in their environmental programs so that financial resources associated with gear replacements (for example, from monofilament to other gear) may be made available. Gear marking should be integrated into regulations to support monitoring and enforcement.
- 10) Port States and Regional Fishery Management Organizations/Bodies should be made aware of the linkage between illegal, unreported and unregulated (IUU) fishing and ALDFG, and leverage monitoring, control and surveillance (MCS) technologies and resources against IUU fishing for the reduction of ALDFG.
- 11) States and Regional Bodies are encouraged to establish cross-sectorial bodies or task forces and/or to further empower such bodies to deal with issues of ALDFG and to reduce its harmful impact.

### Panama workshop

- 1) FAO to deliver a presentation on its work on fishing gear marking and strategies to prevent and reduce ALDFG at the IMO's senior administrators' workshop in St. Lucia in March 2020 and urge States to become party to the London Convention/London Protocol (LC/LP) and request IMO to provide technical assistance in support of becoming party to the instruments. Based on the recommendations from this meeting, FAO will present a paper at a subsequent meeting of the Caribbean Community (CARICOM) Heads of Government after March 2020.
- 2) A geographically based working group which address ALDFG, including establishing a standard recording/reporting system and a mechanism to deposit and collate data, be established with the support of FAO, Center for information and advisory services on the marketing of fishery products from Latin America and the Caribbean (INFOPESCA), Regional Fisheries Management Organizations (RFMOs) and other relevant regional organizations. The working group will also advise States and RMFOs regarding gear marking and recording for ownership and incorporating reporting of gear loss in logbooks and observer programs.
- 3) FAO support States that participated in the four 2019 FAO/GGGI regional workshops for the localization of protocols/methods as stipulated in the VGMFG for marking and retrieval of fishing gear and their practical implementation, including the development of cost-effective, easily accessible, and environmentally friendly gear marking technologies and facilitation of sharing of best practices.
- 4) The possibility or feasibility of creating an insurance scheme that would promote the reduction and prevention of ALDFG and its harmful impacts within the wider Caribbean and Latin American regions be investigated by States, as desired, using the Caribbean Catastrophe Risk Insurance Facility (CCRIF) as a model.
- 5) Entities such as corporations, associations, Governments and NGOs support, encourage and empower fishers and fishing communities to take action to prevent ALDFG as appropriate. The fisheries authorities should create a mechanism to generate and localize methodology and information that all stakeholders can access to combat the issues of ALDFG including recovery of ALDFG when feasible.
- 6) FAO, RFMOs and relevant partner agencies develop and implement mechanisms to create economic incentives and solutions to eliminate and reduce ALDFG, including ALDFG recovery and retrieval programmes as well as more effective MCS programs with built-in incentive systems.
- 7) FAO seek and manage funds to implement programs at national and regional levels to formulate and promote best practices that would reduce ALDFG and its impact.
- 8) FAO identify and develop best practices guidelines to supplement and implement VGMFG for different fishing gears and for different fisheries, incorporating the concepts of GGGI's Best Practice Framework, to address ALDFG and to implement VGMFG.
- 9) FAO continue its work, such as a second phase of workshops with more participation of fishers and their representatives, to raise awareness on ghost gear.
- 10) FAO, IMO and appropriate regional entities support the creation of reception facilities for recovered ALDFG.



## BACKGROUND

Abandoned, lost or otherwise discarded fishing gear (ALDFG), also known as ‘ghost gear’, is a significant component of marine litter, with far-reaching impacts on marine ecosystems, fisheries resources and coastal communities. ALDFG continues to catch both target and non-target species (‘ghost-fishing’), entangling and killing marine animals, including threatened or protected species, and commercially important fish species. Near-bottom ALDFG can cause damage to coral reefs and physical damage to the seabed, whilst surface ALDFG presents a safety hazard for ocean users. Once washed ashore, ALDFG pollutes beaches with plastic litter. ALDFG is commonly composed of plastic, and does not readily degrade and may be present for hundreds of years. It can also be a source of secondary micro-plastic as it fragments over time. Retrieval and clean-up of ALDFG has great cost implications for authorities and for the fishing industry.

Marine litter, or marine debris, is also a matter of high international priority, particularly in the context of the United Nation’s 2030 Agenda for Sustainable Development. SDG Target 14.1 calls for a significant reduction of marine pollution of all kinds, including marine debris, by 2025.

In 2018, the Thirty-third Session of FAO’s Committee on Fisheries (COFI33) endorsed the Voluntary Guidelines for the Marking of Fishing Gear (VGMFG). The VGMFG are an important tool to guide States in preventing and reducing ALDFG and ghost fishing, and in combatting IUU fishing. The Voluntary Guidelines complement FAO’s *Code of Conduct for Responsible Fisheries*.

COFI33 requested that FAO continue its work to address ALDFG, in particular highlighting that work should be done to quantify the impacts of ALDFG and to document best practices for addressing it, including the recovery and recycling of gear, the use of biodegradable gear to minimize its contribution to marine plastic pollution, as well as the reduction of ghost fishing. COFI33 supported the development of a comprehensive global strategy to address ALDFG and to support implementation of the VGMFG.

The Global Ghost Gear Initiative (GGGI) is a cross-sector stakeholder alliance of fishing industry, private sector, corporates, NGOs, academia and governments focused on solving the problem of ALDFG worldwide. Currently the Initiative has 104 participating organizations, and the support of 15 national governments and 5 multilateral bodies. In 2017, FAO partnered with GGGI to implement a pilot project on gear marking in small-scale fisheries in Indonesia. This pilot project provided recommendations to the Technical Consultation for the Development of the Guidelines for the Marking of Fishing Gear which helped to inform the development of the VGMFG and learnings for the consideration for future projects. GGGI has initiated multiple projects with partners around the world to combat ALDFG, in particular, developed a comprehensive BPF through extensive consultation with experts including policy makers and fishing industry.

Within this context, FAO together with GGGI convened a series of four regional workshops with participation of government representatives of countries in the region, Regional Fishery Bodies, relevant intergovernmental and nongovernmental organizations, the fishing industry, and other regional stakeholders in Southwest Pacific, Southeast Asia, West Africa, and South America and the Caribbean regions. The first workshop was convened in Port Vila, Vanuatu. The second workshop was held in Bali, Indonesia. The third workshop was held in Dakar, Senegal. The fourth and last workshop of this series was held in Panama City, Panamá.

## WORKSHOP OBJECTIVES

The objectives of the workshops were to:

- 1) Connect and build relationships with people working to address ALDFG in the region;
- 2) Enhance dialogue, and bilateral, sub-regional and/or regional cooperation and coordination between participating countries and stakeholders to address ALDFG, highlighting case studies of best practice being carried out by countries in the region;
- 3) Share regional perspectives and insights about challenges and solutions to preventing negative impacts from ALDFG;

- 4) Raise awareness and understanding of the Voluntary Guidelines for the Marking of Fishing Gear (VGMFG) and relevant best practice measures as outlined in GGGI's BPF;
- 5) Identify key challenges and capacity development needs at the regional level associated with addressing ALDFG and implementing tools such as the VGMFG and the BPF;
- 6) Identify regionally appropriate strategies to further develop, refine and promote their implementation; and
- 7) Inform subsequent steps taken by FAO to support countries in the region to implement instruments, measures and tools to prevent and reduce ALDFG.

## **WORKSHOPS STRUCTURE AND AGENDAS**

The workshops were conducted over three days facilitated by FAO resource persons and representatives from the GGGI and supported by international and regional experts. In order to achieve the objectives of the workshops, we structured the workshops with the following components:

- 1) Providing information to aid understanding of the global context with regards to fisheries related marine litter;
- 2) Introducing the VGMFG and the GGGI BPF;
- 3) Exploring the regional context including by reviewing existing regulations, mechanisms, strategies and projects;
- 4) Structuring interactive plenary sessions, working group modalities and breakout groups undertaking tasks guided by the provisions of the VGMFG, the guidance provided in the GGGI BPF and with regard to specific regional challenges identified by participants; and
- 5) Consolidating the results of the workshop into recommendations which include the identification of priority capacity development needs to be addressed in the follow-up work.

The agendas of the four workshops are included in Appendix 1.

## **PRE-WORKSHOP QUESTIONNAIRES**

A pre-workshop questionnaire was prepared and sent to all participants of each workshop. The aim of the questionnaire was to assist understanding of the current practices, procedures and policy of countries in each region concerning efforts to prevent and reduce abandoned, lost or otherwise discarded fishing gear (ALDFG), including best practices in fishing gear management and marine litter action plans. The combined responses from all participating entities were analysed and discussed at the first day of the Workshops to provide a foundation of knowledge that were built upon during the workshop and were basis for recommendations on the way forward at national, regional and international levels.

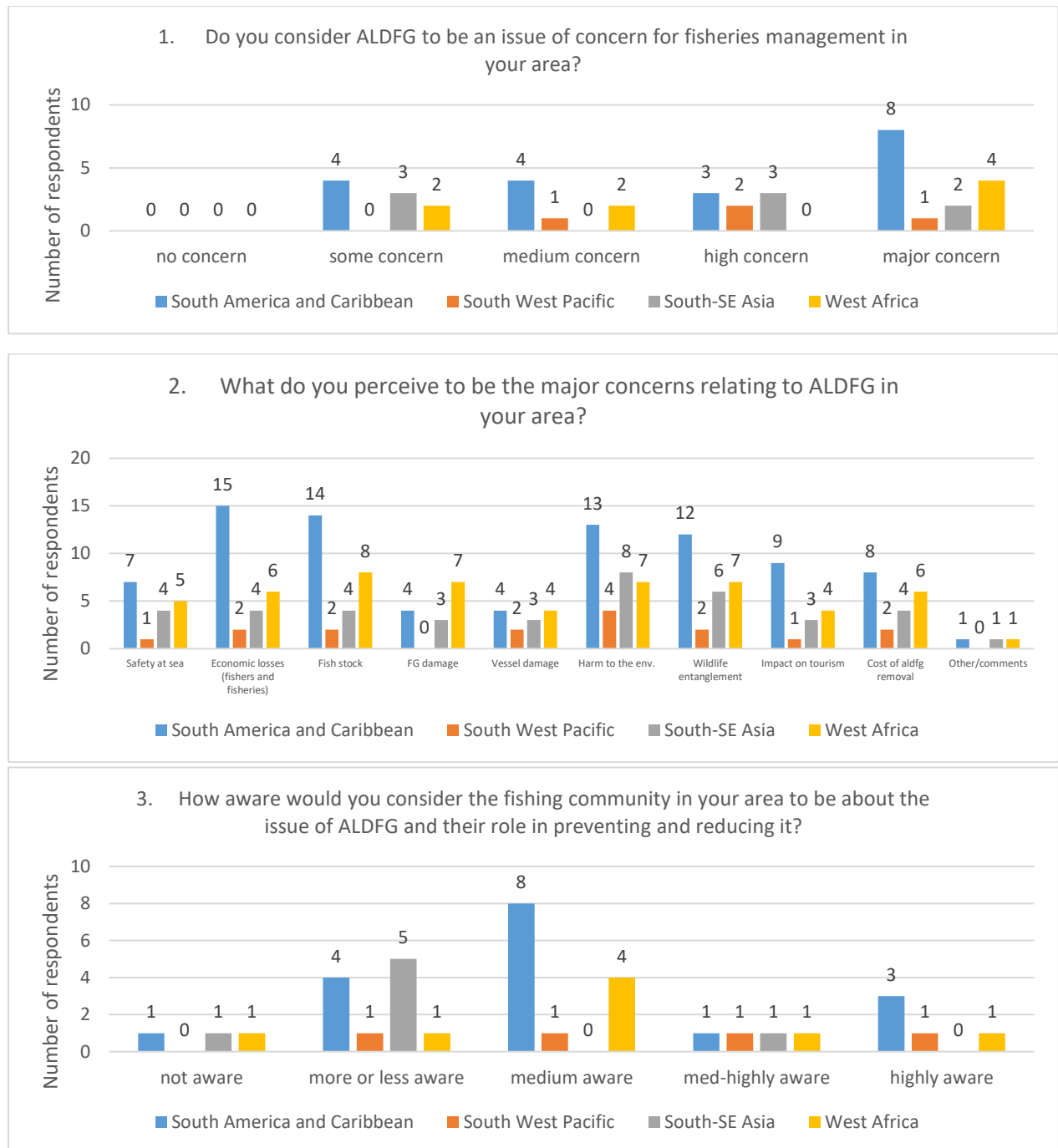
The questionnaire has three parts: i) perceptions of the issue; ii) current situation – existing regulations and implementation, and iii) workshop expectations. Since not all participants completed the questionnaire, the number of respondents from the region does not match with the number of participants for the corresponding workshop. Following is a summary of the responses by region. The list of participants and facilitators is included in Appendix 2 and a copy of the questionnaire is included in Appendix 3.

### ***Perceptions of the issue***

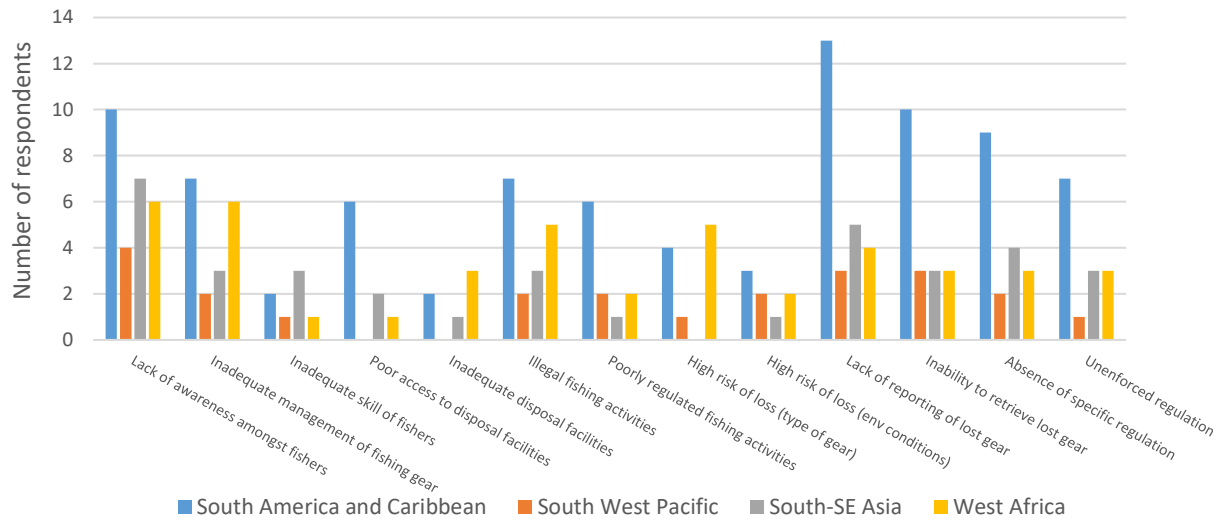
Responses from the pre-workshop questionnaire confirmed that ALDFG is an issue of major concern in all four regions, in particular, for potential harm to the environment, fish stock loss, economic loss for fishers and fisheries and wildlife entanglement. The biggest challenges identified by the participants to address ALDFG were lack of awareness amongst fishers, lack of reporting and inability to retrieve lost gear. Another challenge seems to be a lack of/poor communication between different regional organizations dealing with marine litter issues.

### At the national level

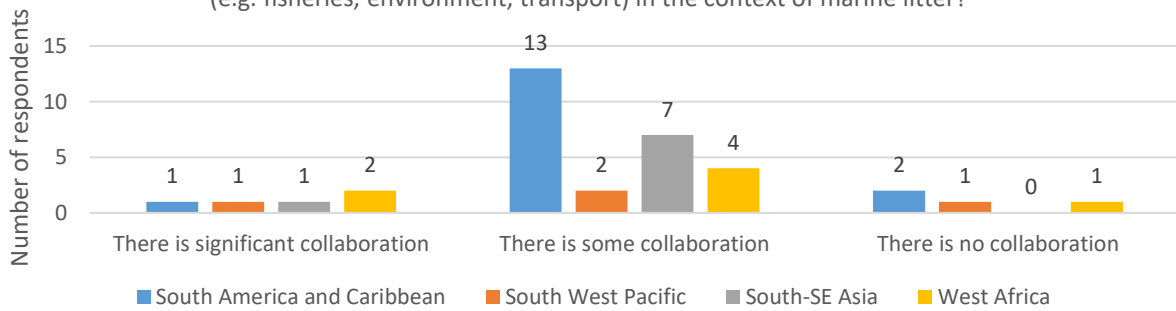
The following represents the number of responses from government representatives to each question for each region.



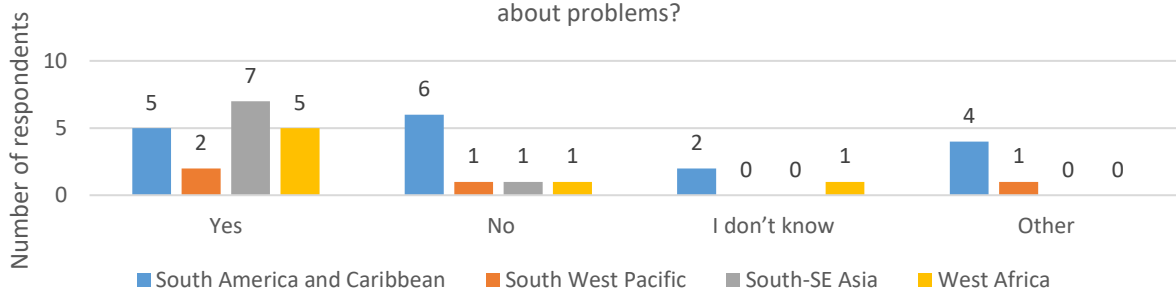
4. When considering the issue of ALDFG what do you believe to be the biggest challenges faced by your area?

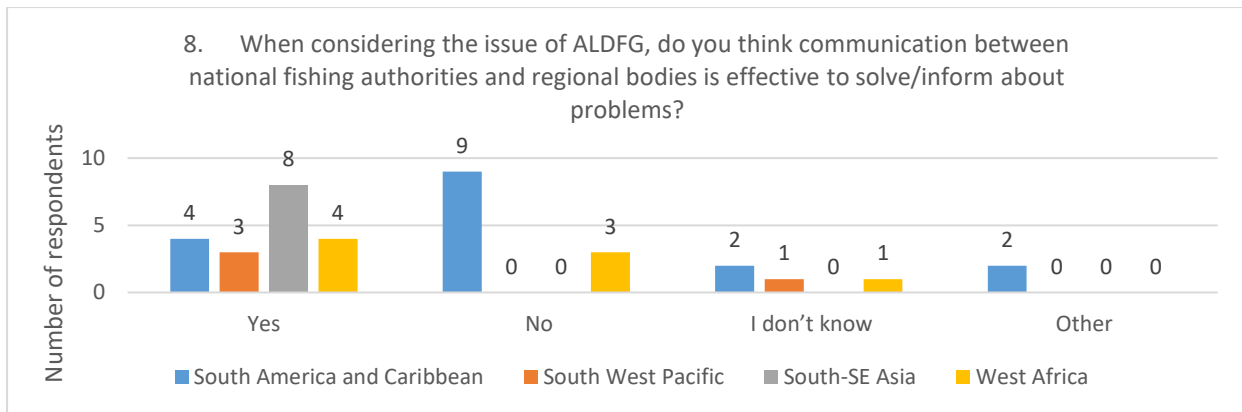


5. To what extent does collaboration exist between different line ministries (e.g. fisheries, environment, transport) in the context of marine litter?



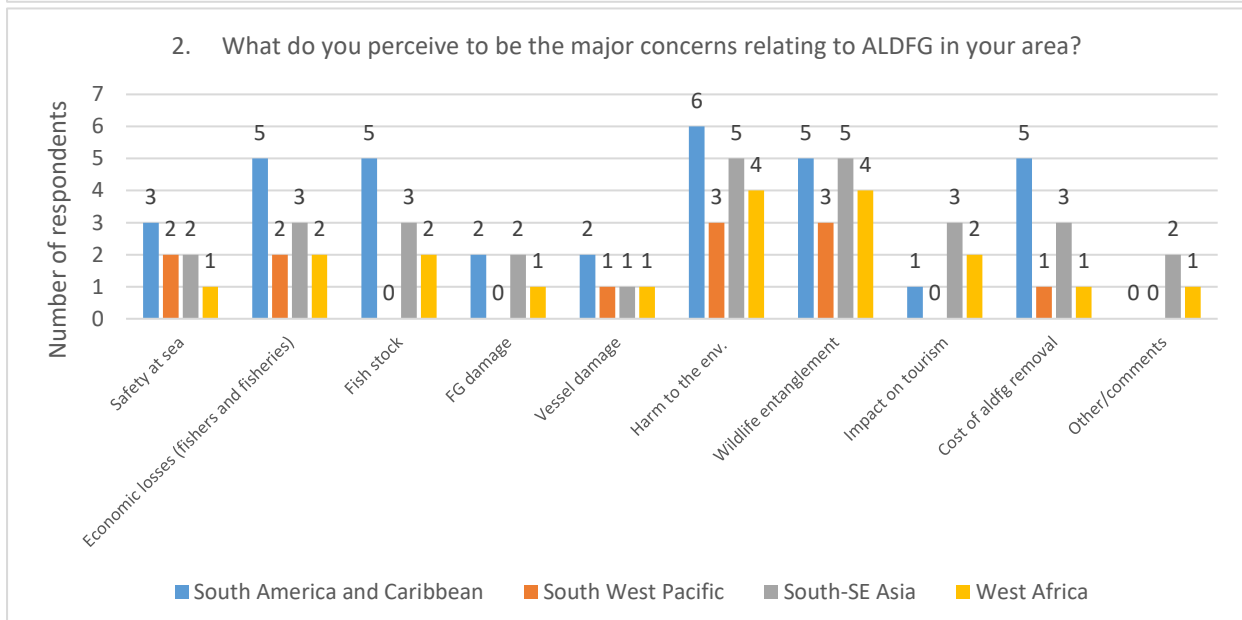
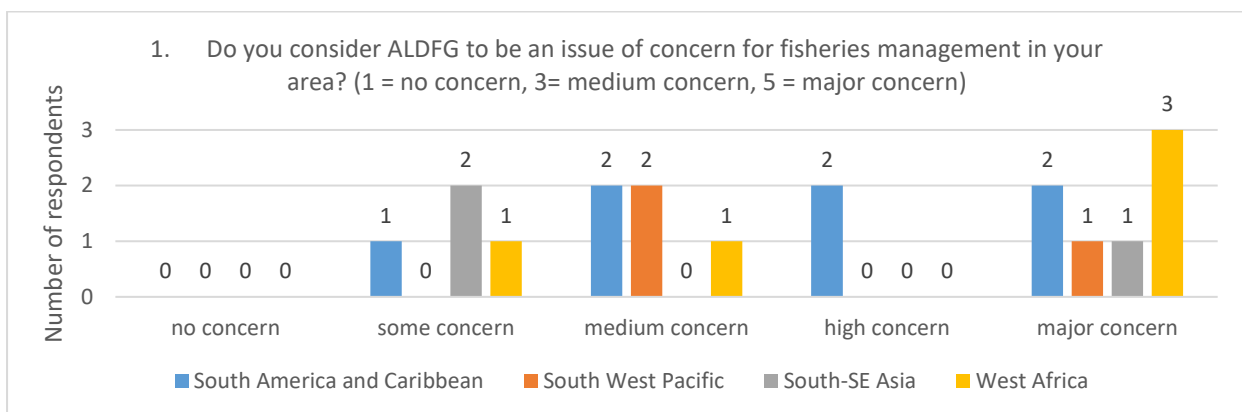
7. When considering the issue of ALDFG, do you think communication between national fishing authorities and fishers (and vice versa) is effective to solve/inform about problems?

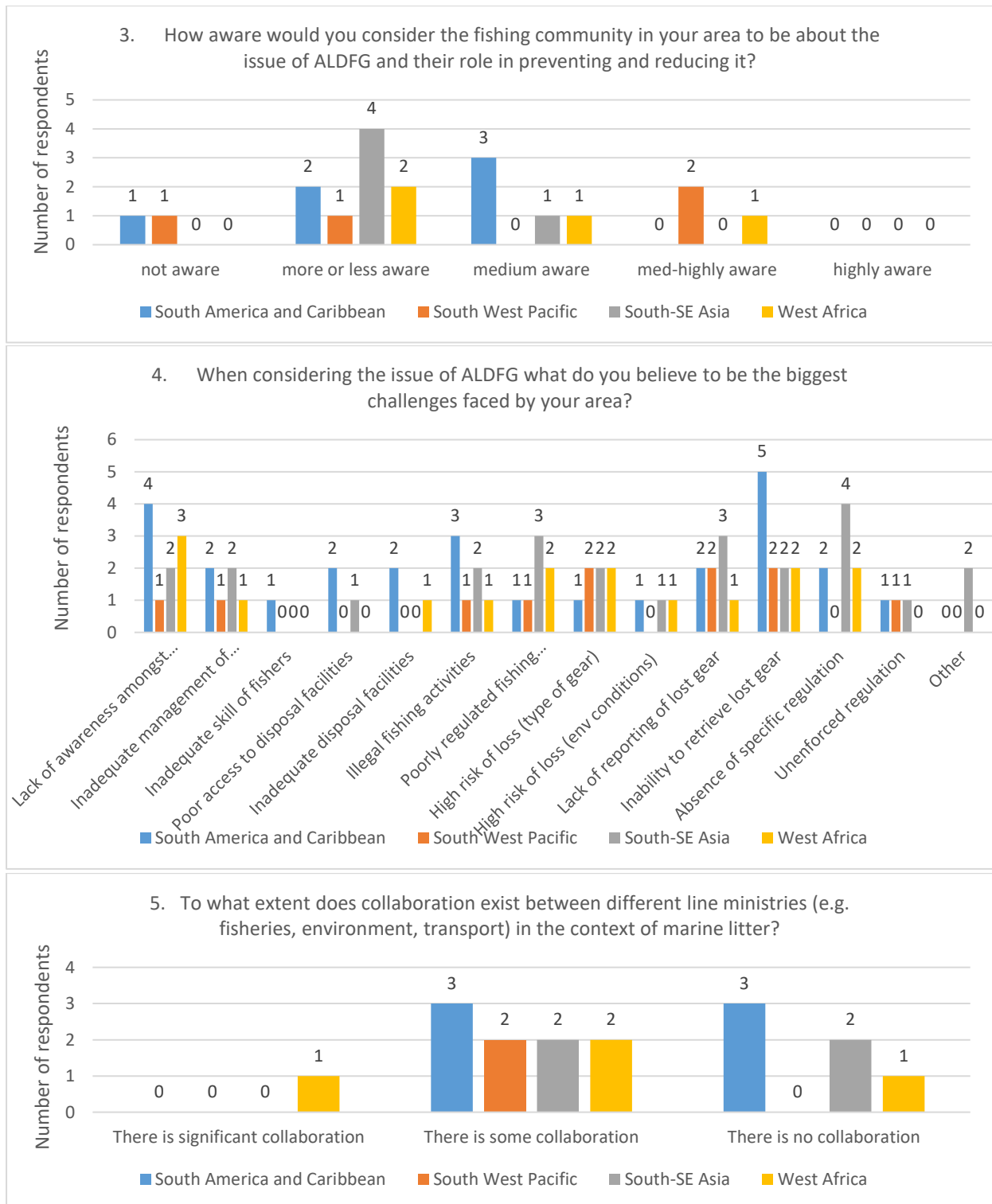


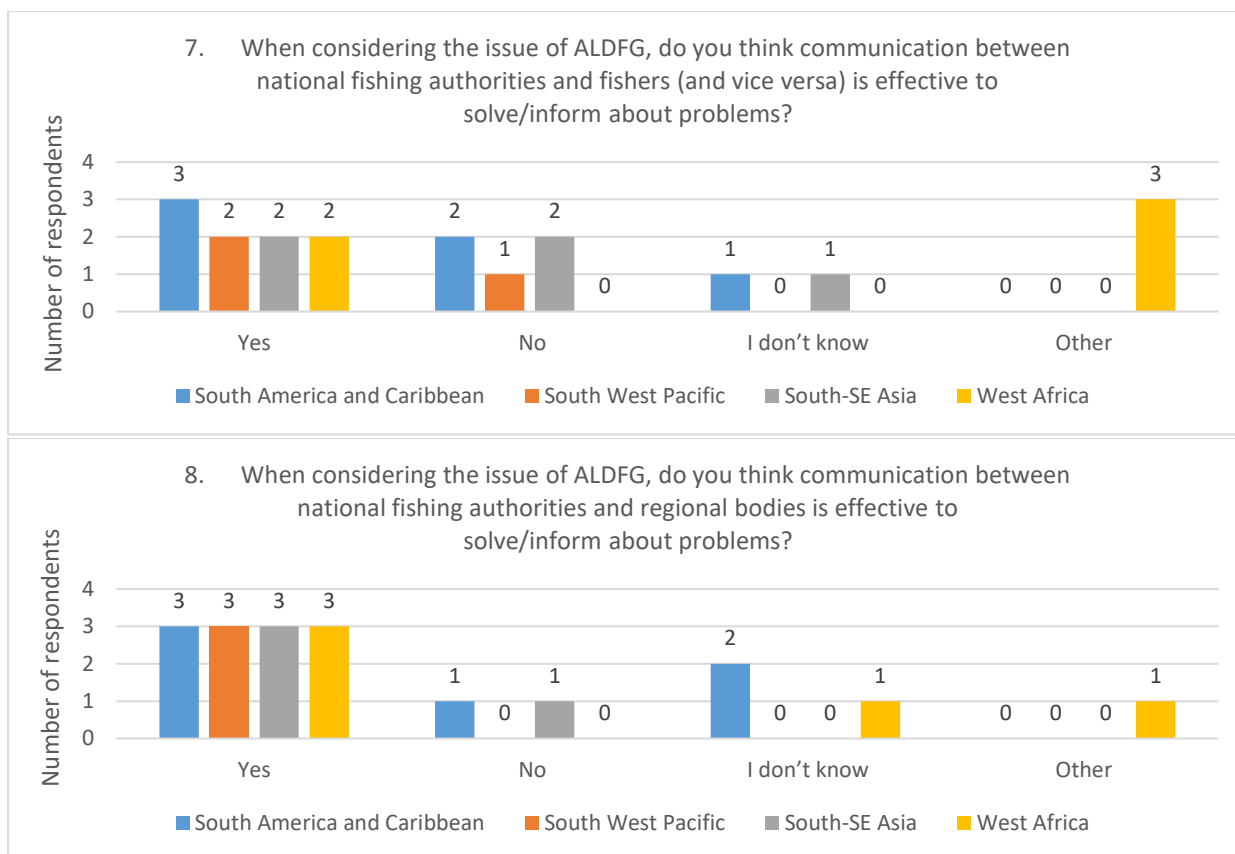


### At regional and local levels

Following are the graphics representing the number of responses to each question per region from the regional bodies, NGOs and private sector point of view.







### ***Current situation – existing regulations and implementation***

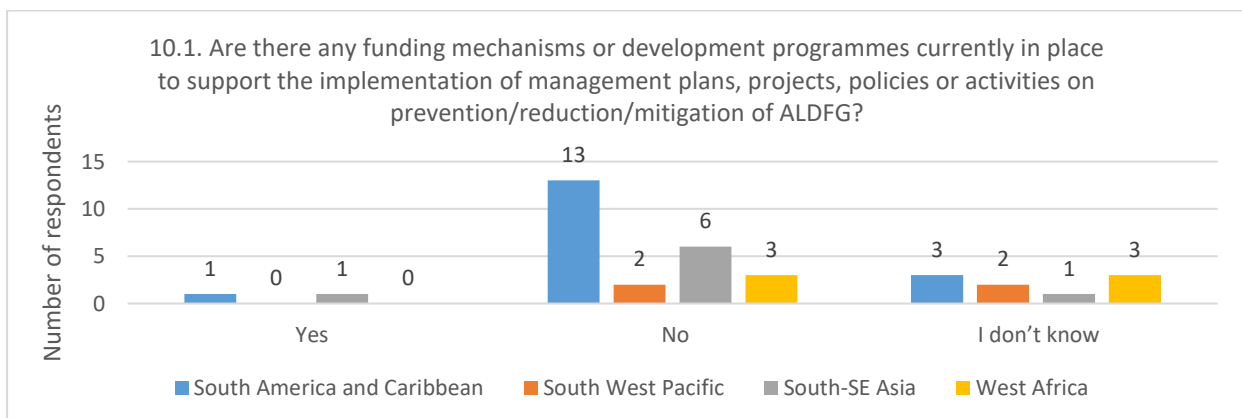
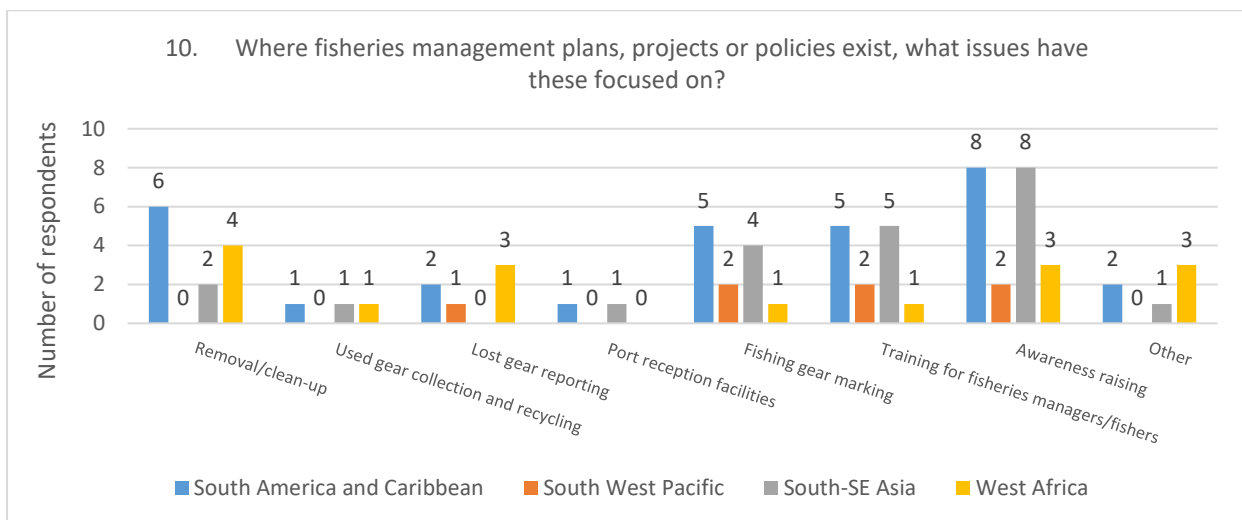
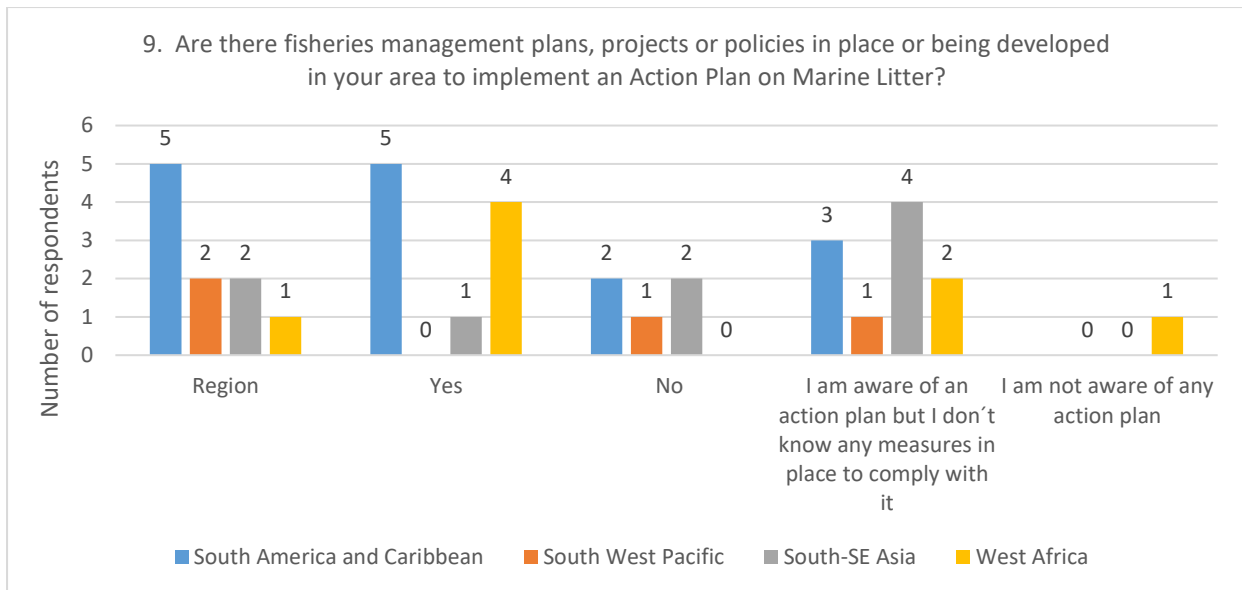
In all the 4 regions Action Plans on Marine Litter already exist or are in development (West Africa), however 19 percent of the respondents indicated that there are no management plans, projects or policies in place to implement such Action Plans and a 38 percent reported that don't know of their existence (38 percent). In those countries where management plans, projects or policies do exist the focus is on awareness raising, training for fisheries managers/fishers, fishing gear marking and removal/clean-up.

One third of the total number of respondents indicated that requirements for reporting ALDFG exist in their country/region and the most common mechanism used to report are observer programmes, followed by logbooks and other mechanisms like informing local navy or coastguards. However, there is very few information available on fishing gear loss rates, the causes of loss and ALDFG hotspots or the areas where ALDFG accumulates.

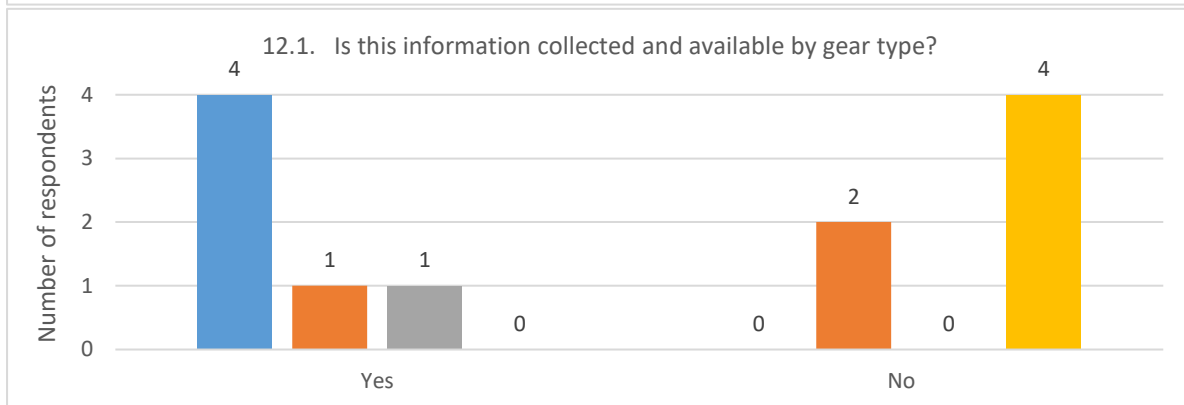
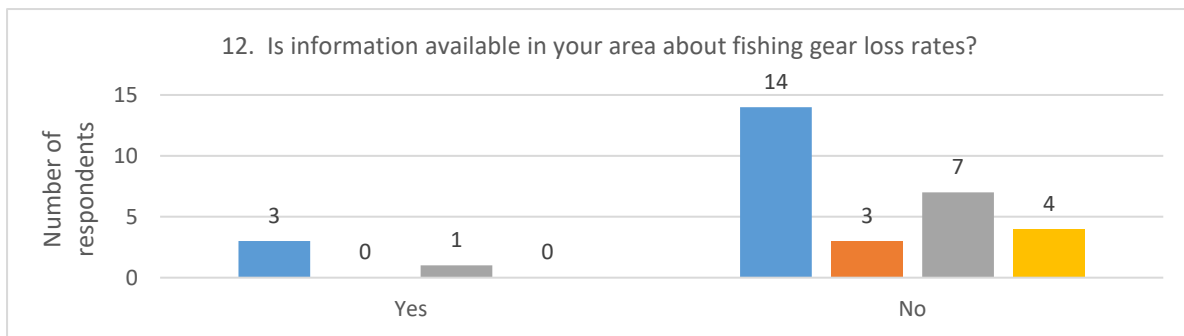
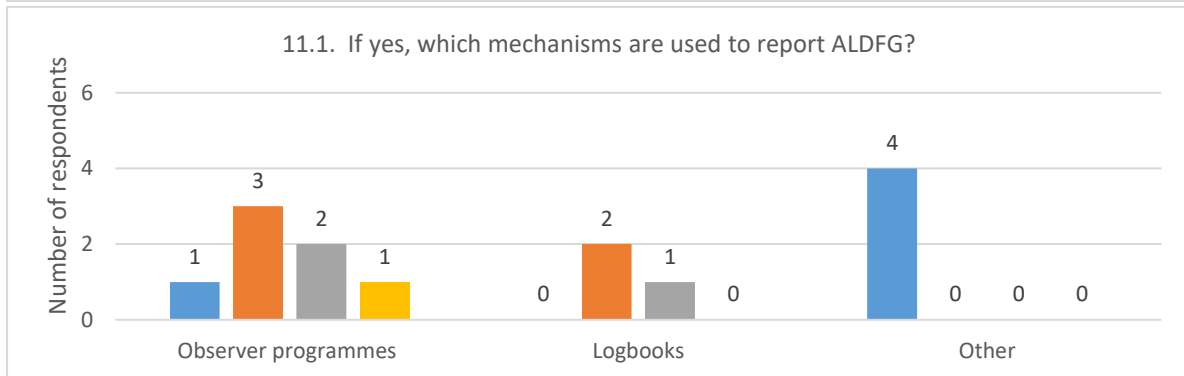
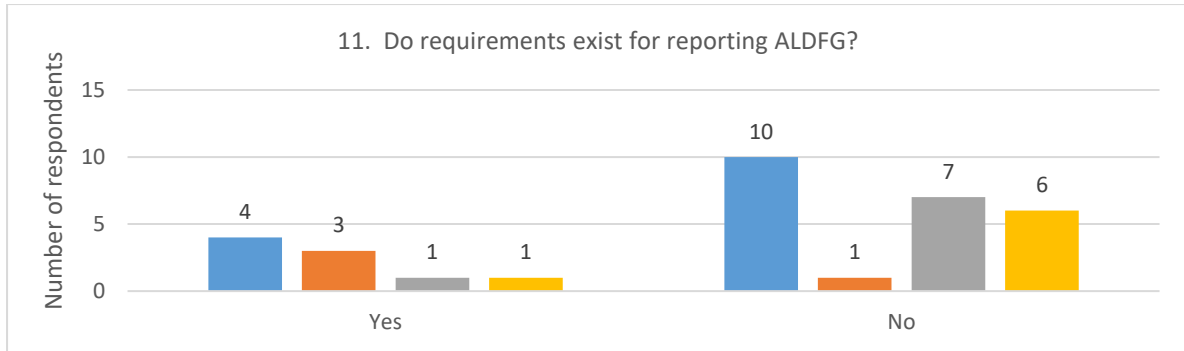
Regarding preventive measures in place, like the requirement for the marking of fishing gear, a significant number of respondents indicated that gear marking is a requirement in their legislations but there is a lack of capacity to implement or enforce such measures. Another challenge in terms of prevention is the lack of port reception facilities for fishing vessel waste and in particular for end-of-life fishing gear.

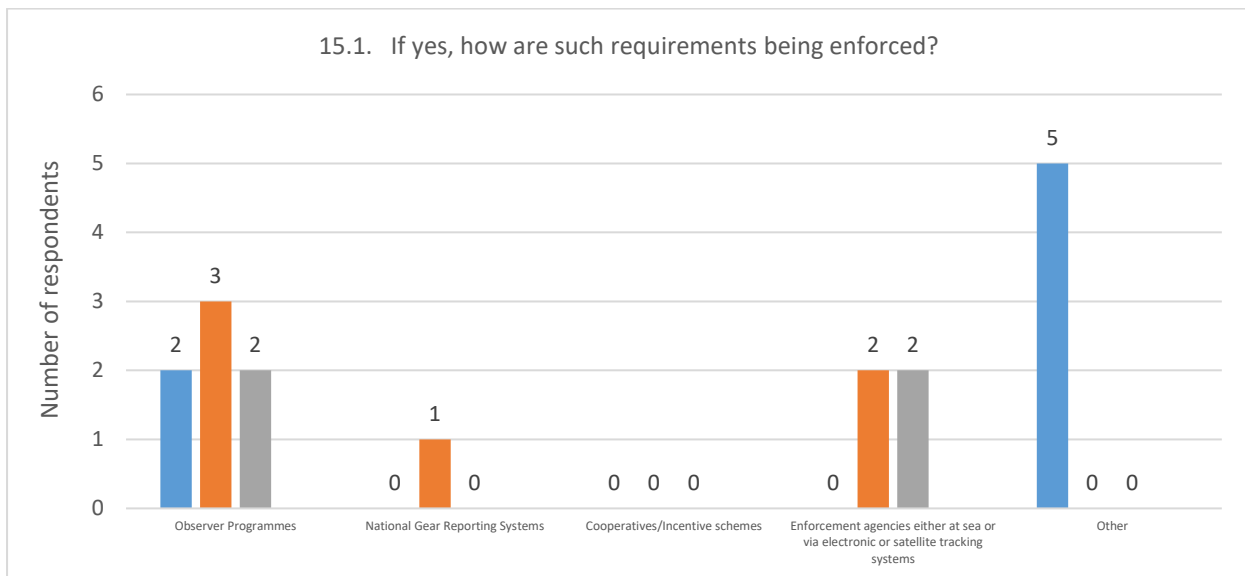
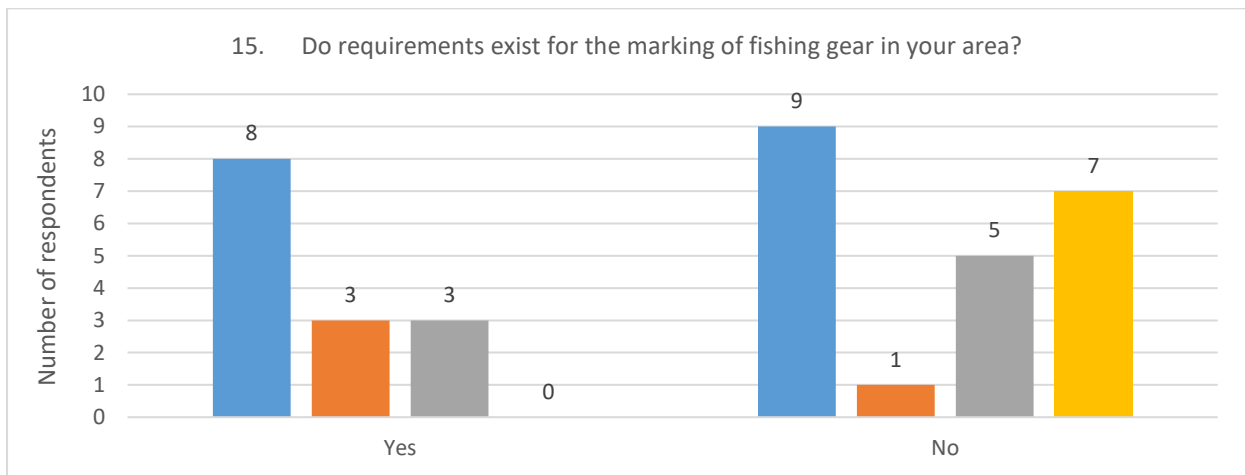
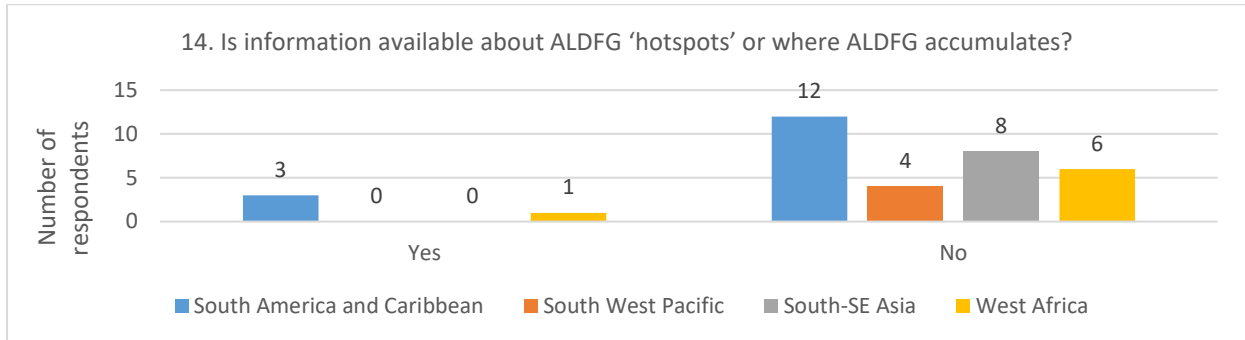
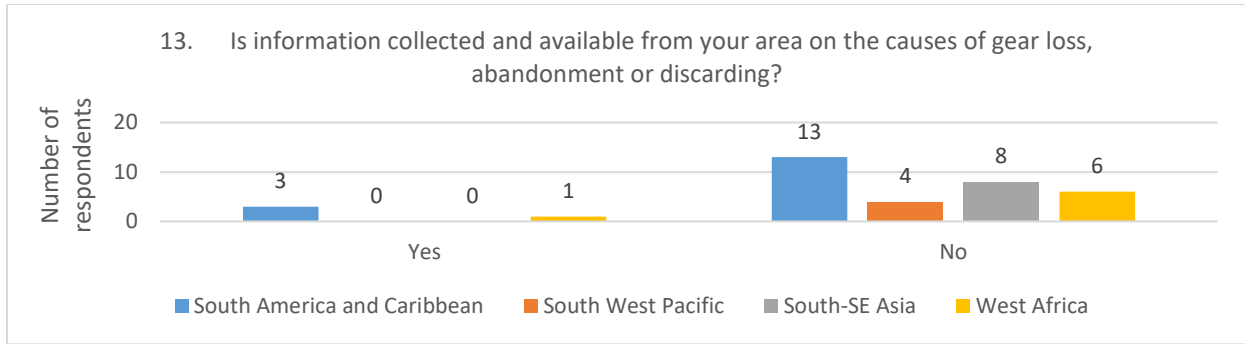
### **At national level**

Following are the graphics representing the number of responses to each question per region from government representatives' point of view.

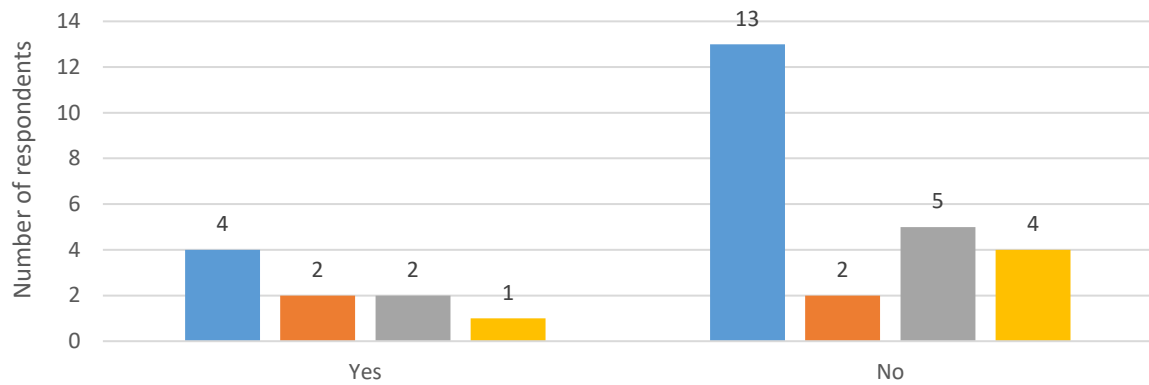




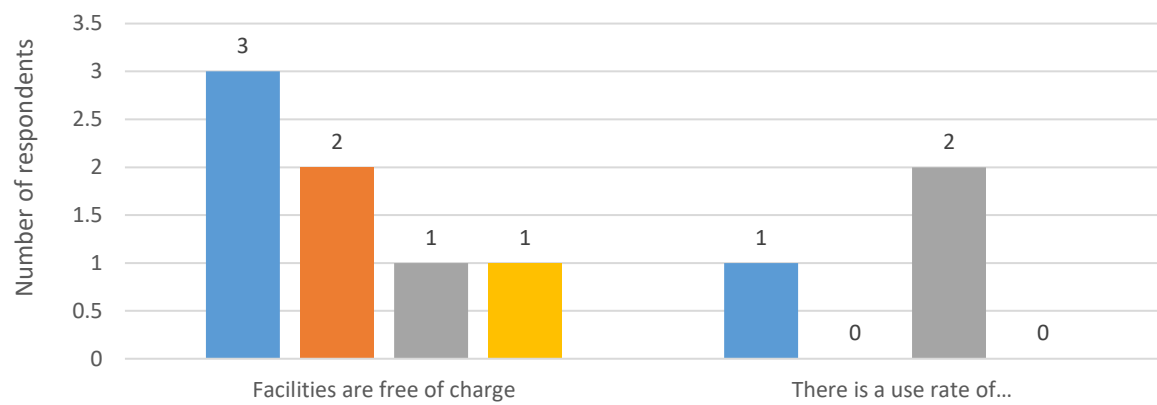




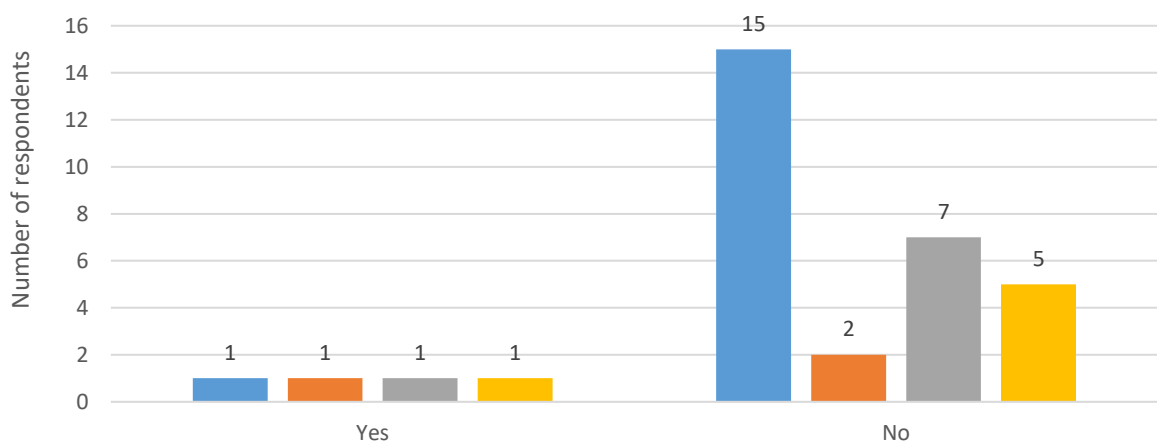
16. Do requirements exist for ports to provide reception facilities for fishing vessel waste?

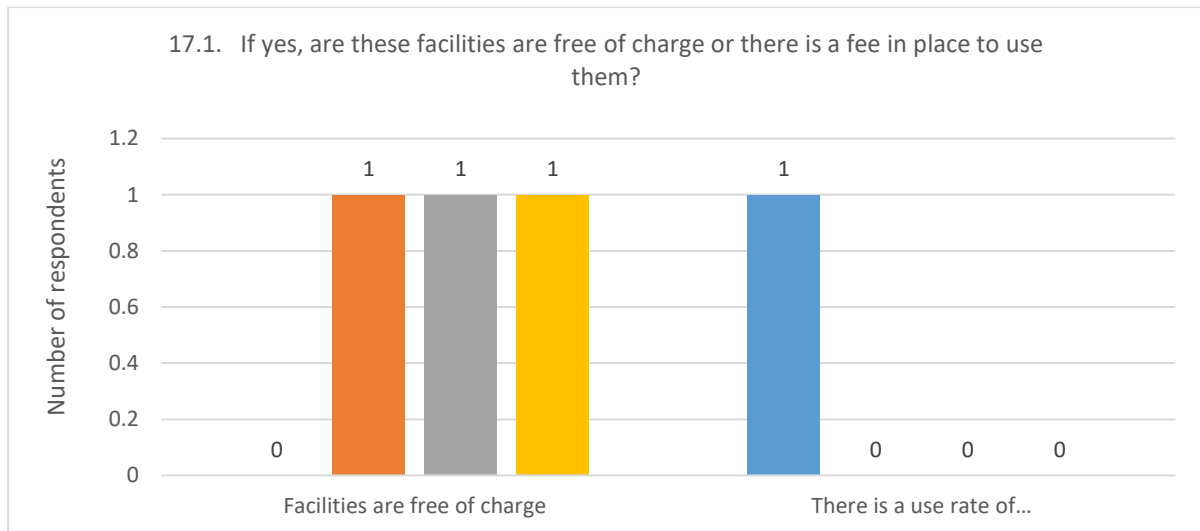


16.1. If yes, are these facilities are free of charge or there is a fee in place to use them?



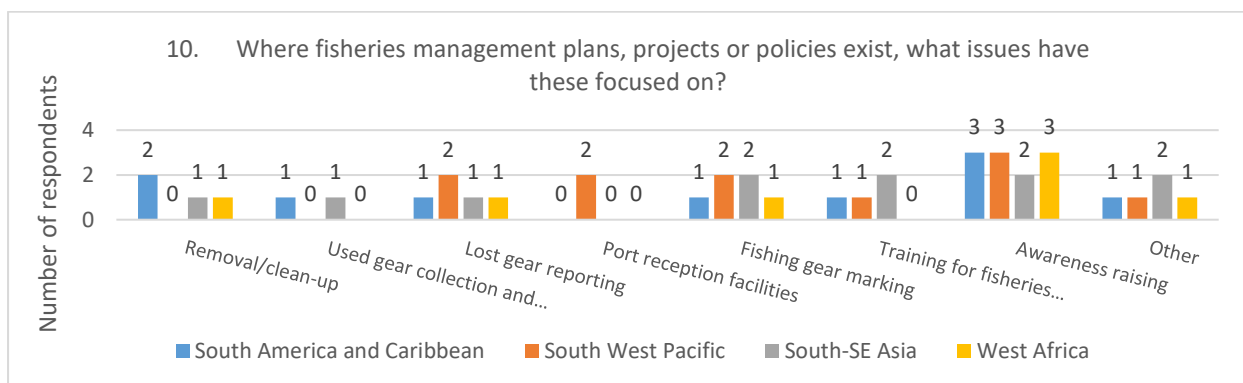
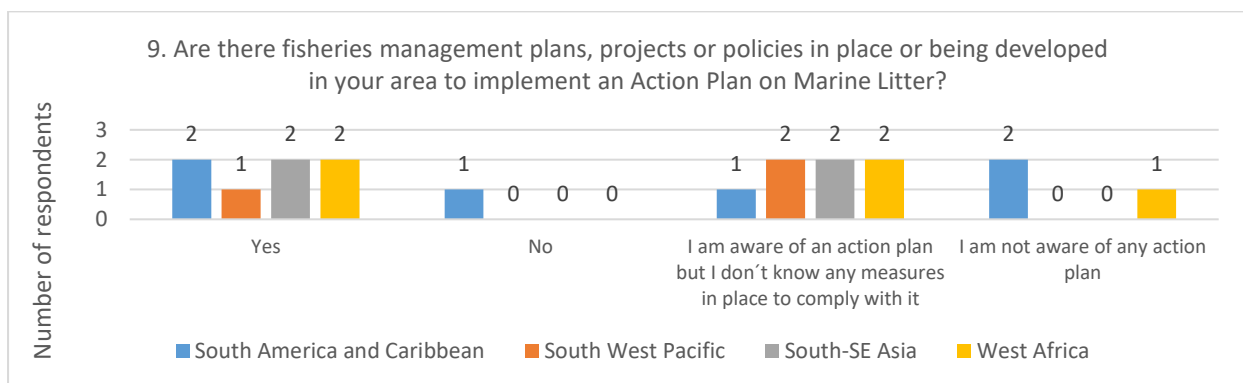
17. Do requirements exist for ports to include specific reception facilities for old fishing gear?

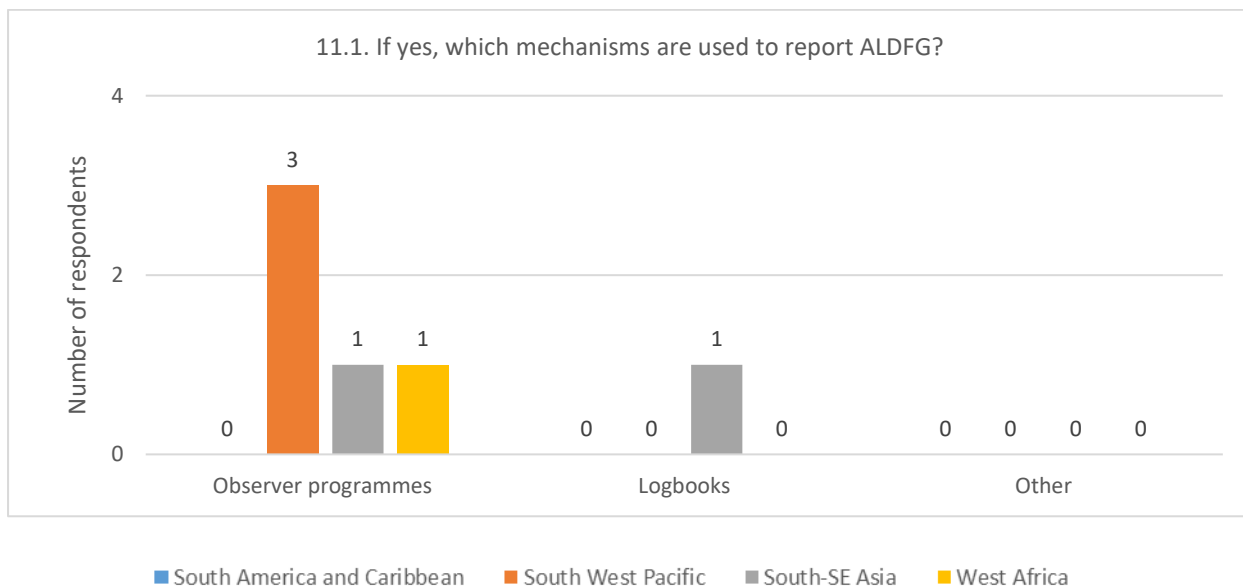
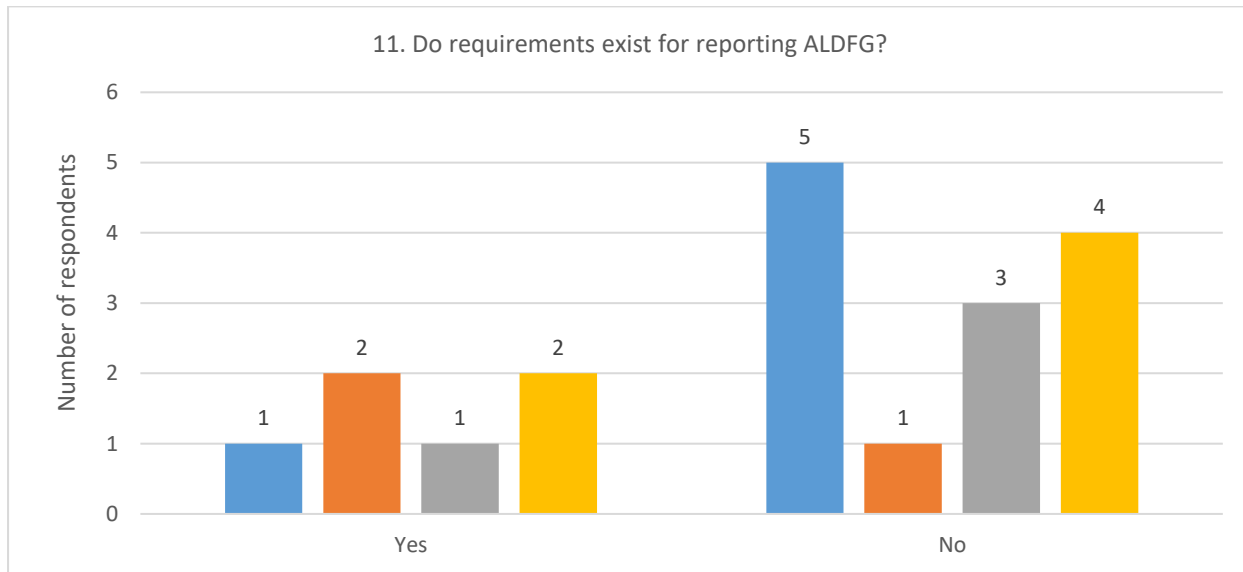
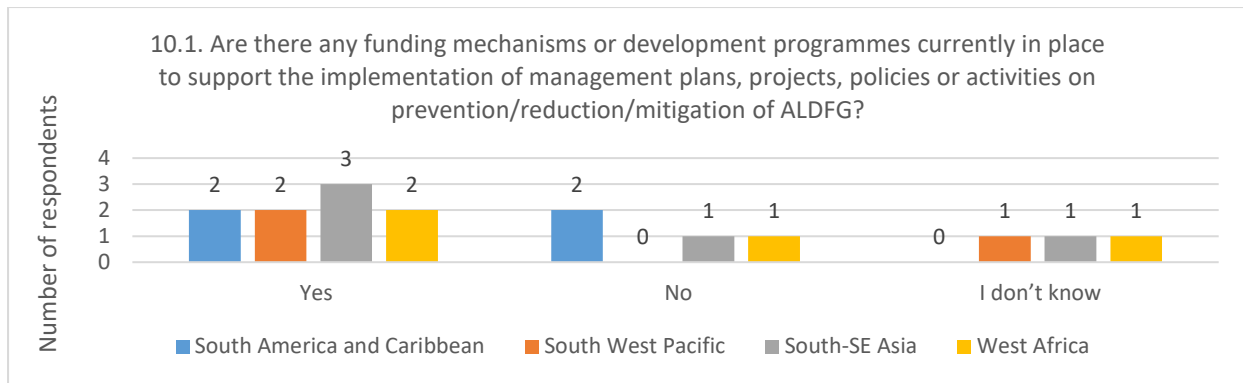


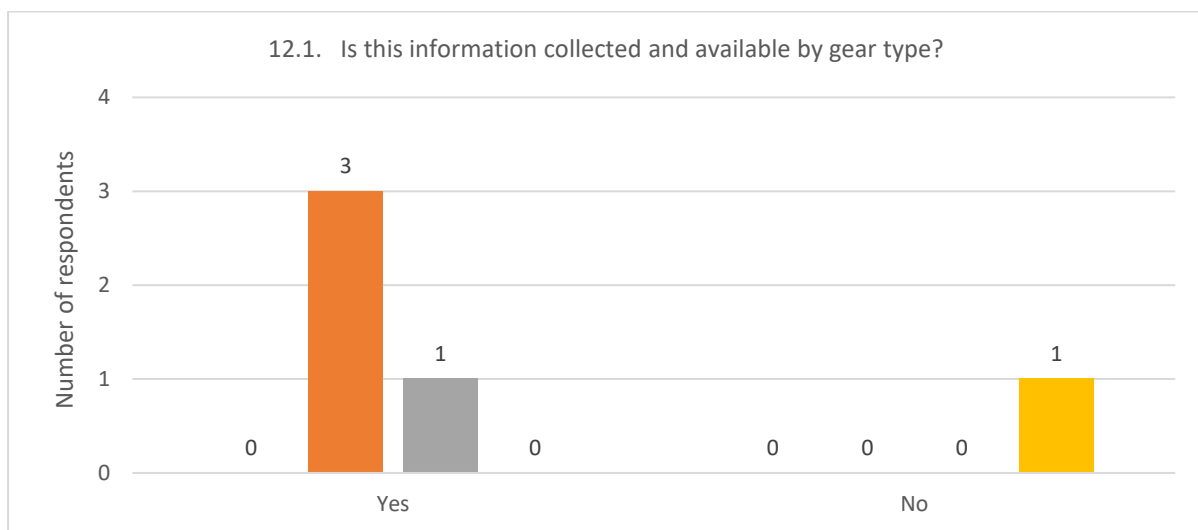
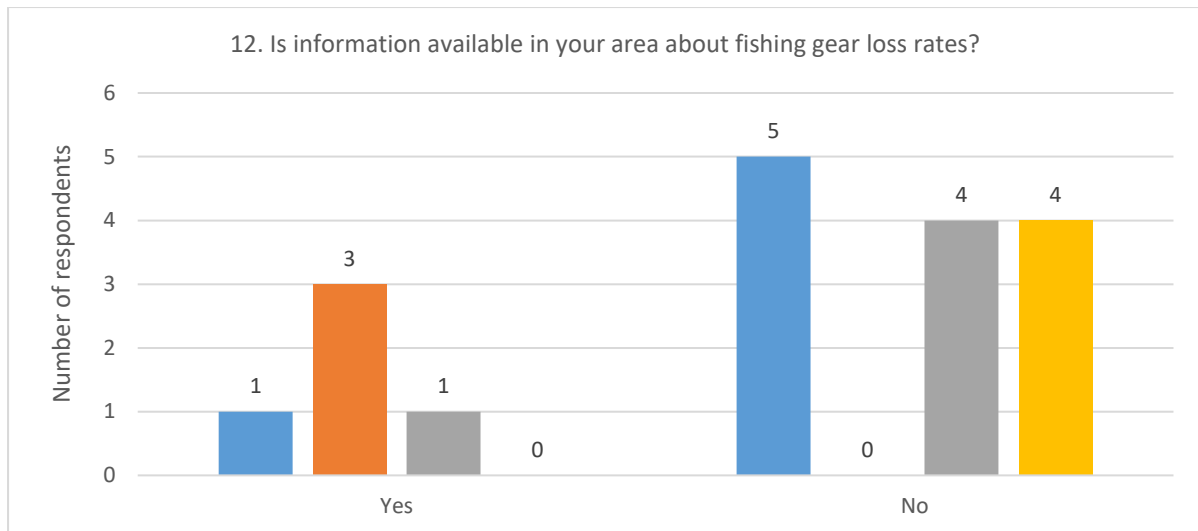


### At regional and local levels

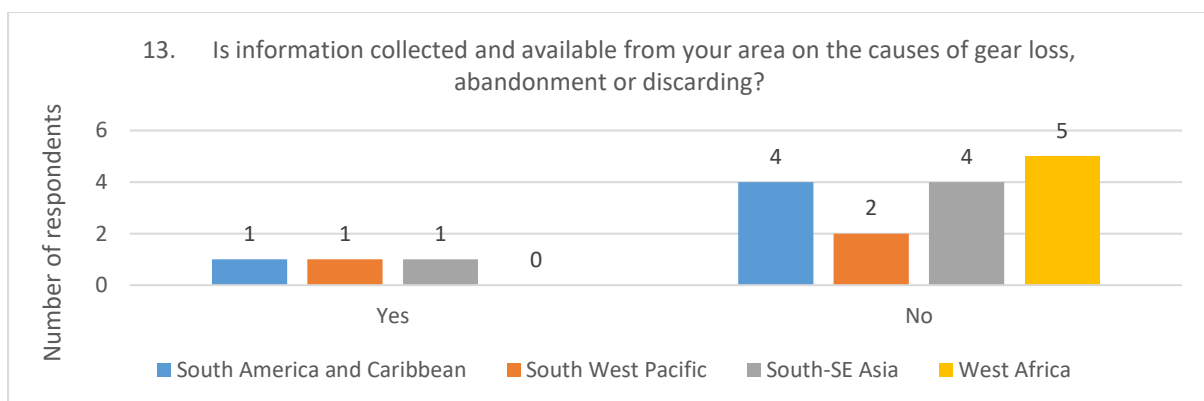
Following are the graphics representing the number of responses to each question per region from representatives of regional bodies, NGOs and private sector point of view.

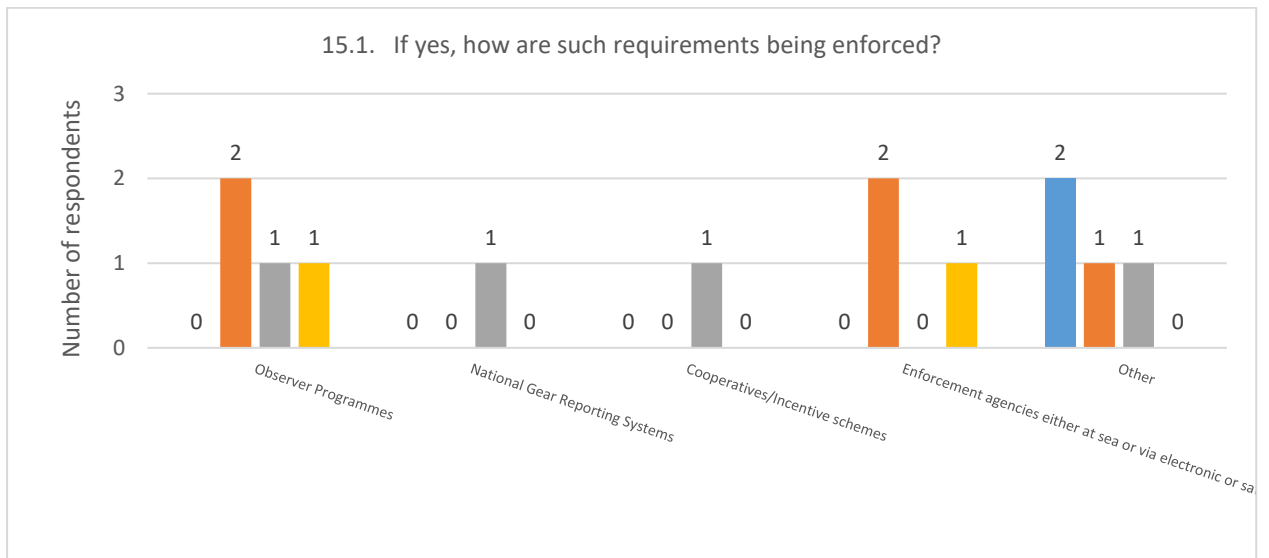
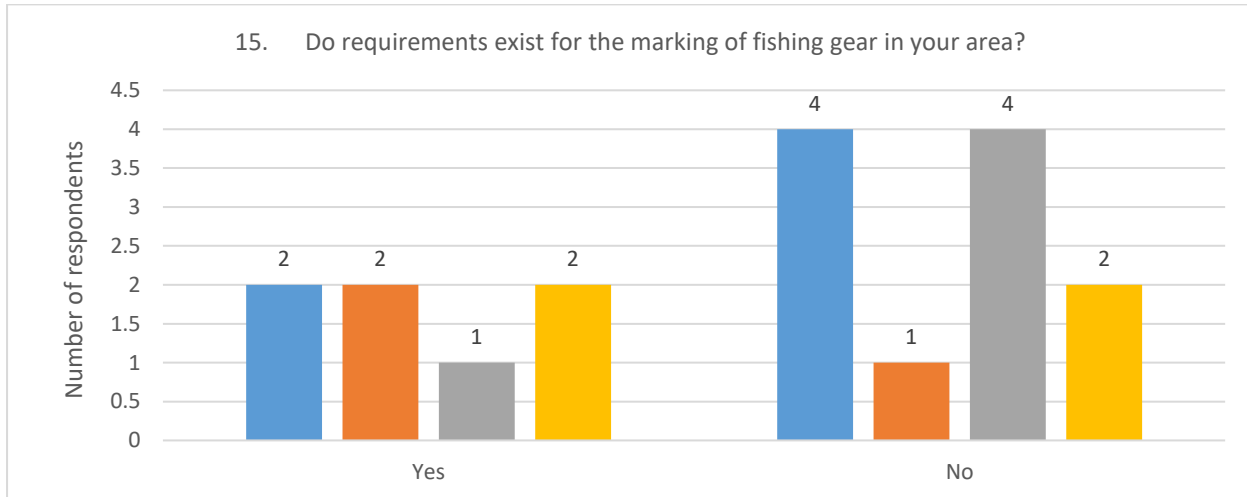
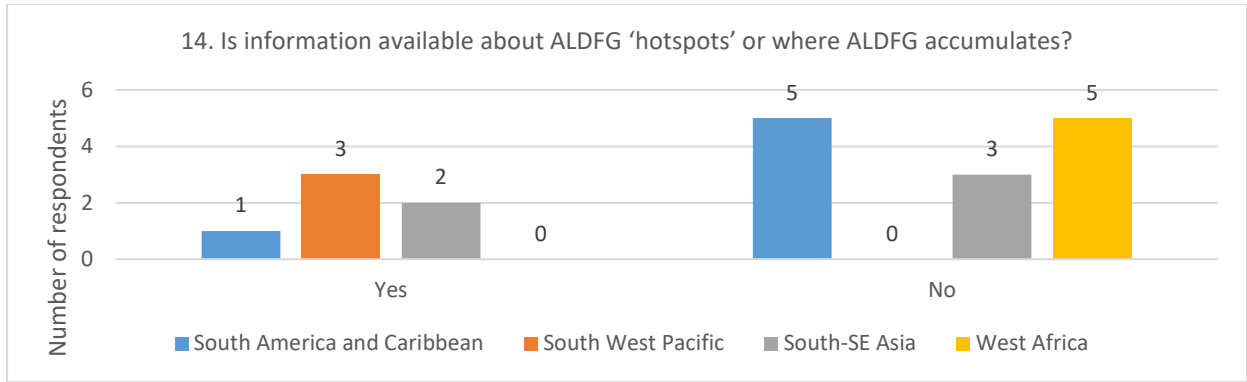




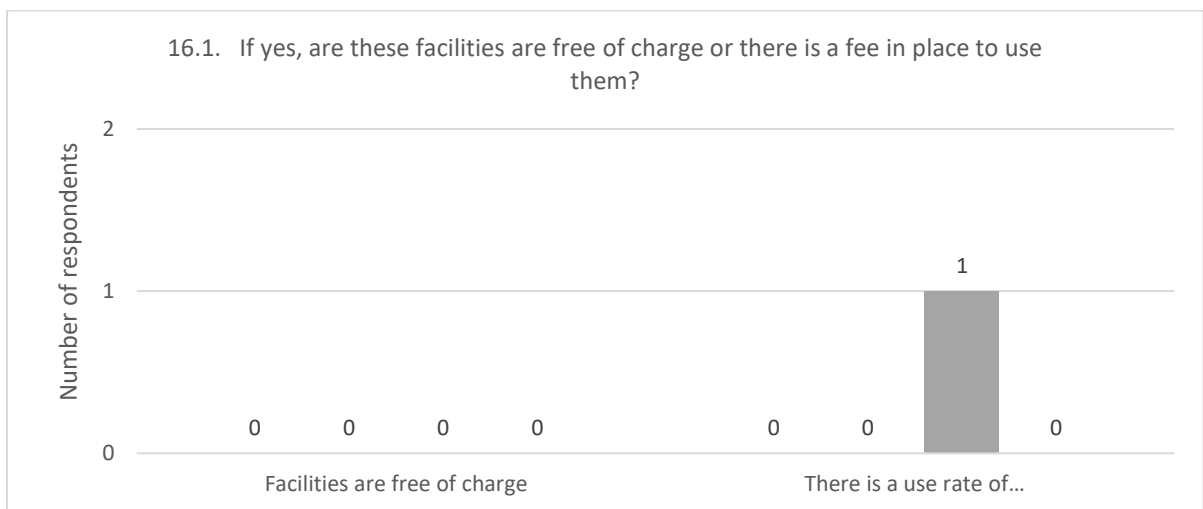
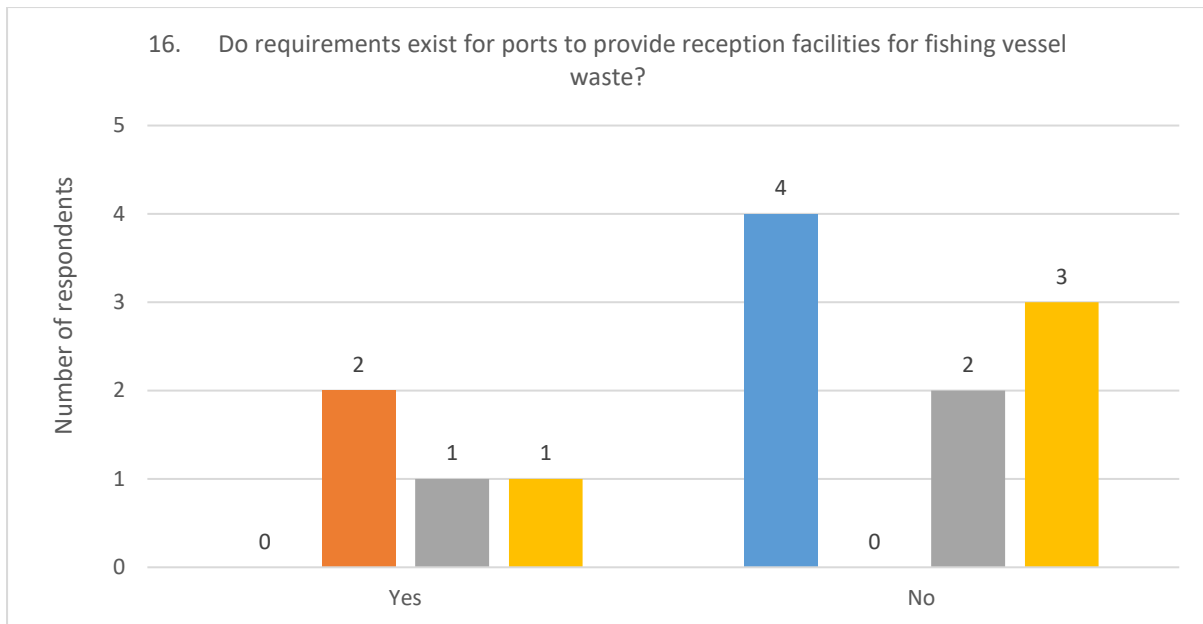


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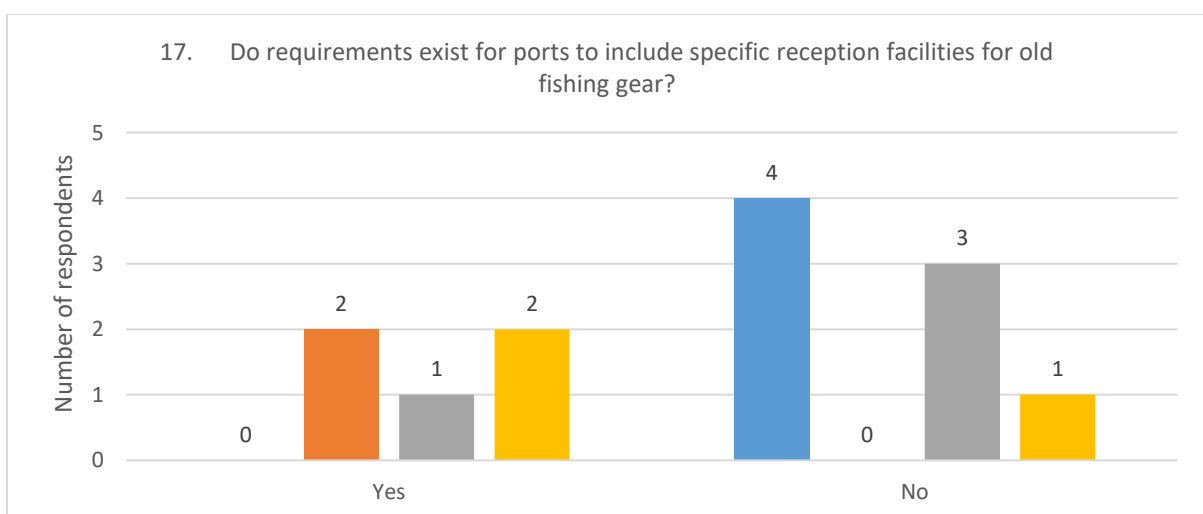




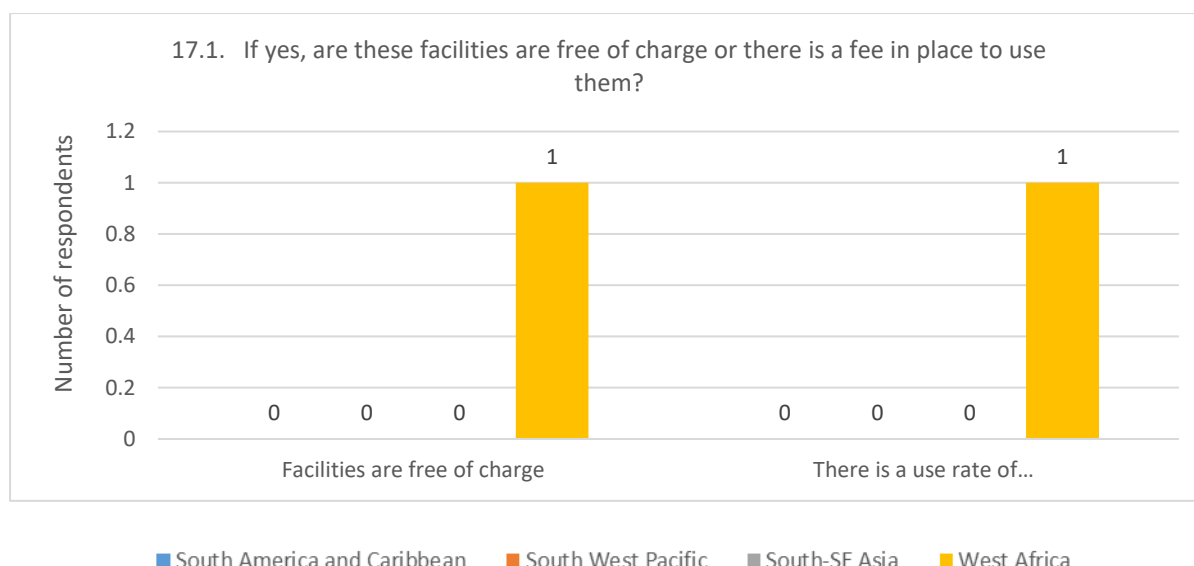
■ South America and Caribbean ■ South West Pacific ■ South-SE Asia ■ West Africa



■ South America and Caribbean ■ South West Pacific ■ South-SE Asia ■ West Africa







### Workshop expectations

This section of the questionnaire has two questions (see Appendix 3) about the expectations from the participants regarding the three main outcomes they wanted to see from the workshop and the key areas of guidance needed in their governments/organizations to increase efforts to prevent and reduce ALDFG.

The **three outcomes** that all categories of respondent (governments, regional bodies, NGOs and private sector) in the four regions **expected from the workshop** were:

- 1- **Awareness** raised on the ALDFG issue (impacts, causes, extent of the problem).
- 2- **Knowledge** on solutions to ALDFG issue **shared**.
- 3- **International and cross-sectorial cooperation established** to solve the problem.

More detailed responses from **South America and the Caribbean** included: knowledge shared on solutions for small scale and artisanal fisheries, information on best practices on ALDFG retrieval and gear marking methods by gear type.

In **Southwest Pacific**, respondents wanted to know if there are any regional/international standards to monitor and report ALDFG and how to engage fishers to be part of the solution.

Respondents from **Southeast Asia** were interested in receiving guidelines for determining appropriate regulations to reduce ALDFG and for managing ALDFG disposal facilities in a sustainable and efficient way.

Respondents from **West Africa** expected to identify the ALDFG impacts on both fisheries resources and coastal communities and the main stakeholders in the region in order to develop a regional action plan to combat ALDFG.

On the last question regarding the **areas where guidance or capacity building support is needed** to increase efforts to prevent and reduce ALDFG, the main areas identified by respondents from the four regions were:

- Policy formulation and implementation;
- Monitoring, Control and Surveillance enforcement;
- ALDFG reporting in a standard/harmonized way allowing data to be comparable within and between regions;
- ALDFG retrieval (trainings, protocols);
- Specific measures applicable to Small Island Developing States (SIDS) and in Small Scale Fisheries (SSF).

More detailed responses flagged the need for financial support to implement measures to reduce and prevent ALDFG, awareness raising on responsible use and management of fishing gear to fishers, guidance for sustainable management of end-of-life fishing gear, guidance on how to assess ALDFG impacts on fisheries resources and coastal communities.

## 1. SOUTHWEST PACIFIC

### 1.1. Opening session and presentations

The Southwest Pacific Workshop on the Best Practices to Prevent and Reduce Abandoned, Lost or Otherwise Discarded Fishing Gear was held in 27-30 May 2019 in Port Vila, Vanuatu. A total of 24 persons participated in the workshop. The participants represented nine national governments, three regional bodies, two NGOs, two United Nations (UN) agencies, one from the private sector and one from academia. A full attendance list is available in Appendix 2.

Mr Graham Nimoho, Assistant FAO Programme Representative for Vanuatu and Mr Rocky Kaku (on behalf of the Director of Fisheries Vanuatu) opened the workshop by giving the welcoming address and opening remarks.

After an introductory exercise (more details are provided in section *b. Working Groups*), the international context on prevention and reduction of ALDFG was introduced including pre-workshop survey results by Amparo Pérez, the GGGI's BPF by Ingrid Giskes, and the FAO Voluntary Guidelines on the Marking of Fishing Gear (VGMFG) by Pingguo He. Ms Mavis Joseph presented on IMO's work on marine litter and ALDFG, which included two international instruments - MARPOL Annex V and the LC/LP and the IMO Action Plan to address marine litter from ships.

To finalize Day 1 and to lead discussions towards the regional context, some regional studies and actions were presented, including a summary of results from a pre-workshop questionnaire used to query responding participants' perceptions of ALDFG issues, current regulations and actions, and perspectives at local, regional and international scale (see last section); a global review of gear loss data from Commonwealth Scientific and Industrial Research Organisation (CSIRO); a study of the dynamics of Fish Aggregating Devices (FADs) in the West Central Pacific Ocean by SPC; a best practice management project in Vanuatu and the voluntary measures adopted by Industry to address FAD impacts.

More presentations on regional actions and perspectives were delivered during the first half of Day 2 including regional perspectives on waste management from SPREP, an analysis of observer records in the Pacific and New Zealand's work on ALDFG at national and international level.

### 1.2. Working groups

#### Working group task 1 – ALDFG in region's source fisheries

A first working group activity was done right after the opening of the workshop to identify the main fisheries in the region where gear loss is an issue and to explore the causes and impacts of such losses. Participants were also asked to identify actions to prevent gear lost or to reduce their harmful impacts after their loss.

#### Working group task 2

This task consisted of two activities.

The **first activity** was aimed at familiarizing participants with the BPF practices, identify the degree to which practices are already implemented and identify challenges to their implementation. See Handout 1 in Appendix 4. Each working groups was instructed to select three stakeholder groups<sup>1</sup> out of ten identified in the BPF to discuss during the hour. They were asked to discuss the following questions:

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<sup>1</sup> The three stakeholder groups selected were: Fisheries Managers (FM), Seafood companies (SF) and Non-Governmental Organizations (N).

- How do best practices for the stakeholder group fit in their fisheries or policy authority?
- Is it applicable?
- How is it currently implemented and how could it be implemented in future?
- What collaborations are needed to make the practices truly effective?

The participants were brought back together in plenary and working groups were asked to identify the stakeholders they selected and how well the best practices for those stakeholder groups aligned with regional and local practices.

The stakeholder groups selected included Fisheries managers and control agencies, seafood companies, and NGOs (non-governmental organizations). These choices reflected the makeup of the attendees of the workshop. The following are consolidated observations and comments from the working groups. Where possible, the number of the applicable best practices (from Handout 1, Appendix 4) is noted.

#### Fisheries Managers stakeholder group

FM2 Mandate temporal and/or spatial separation of fishing gear to avoid gear loss caused by conflicts.

- There was agreement that in some places spatial control and planning is happening, but it is not driven by a goal to prevent gear loss. Generally, it is fisheries management related, but a side effect is that it also reduces gear loss caused by gear conflict.
- Zoning is done by vessel size and is not gear loss related.

FM3 Require the use of biodegradable materials on fishing gears to minimize ghost fishing – Fisheries managers

- BioFADs has been quite commonly used for anchored FADs in the region.

FM4 Provide education to build awareness of the harm caused by lost fishing gear and the practices available to avoid losing fishing gear & FM10 Collaborate with appropriate partners to provide education to ensure fishers have the capacity and training to follow gear marking guidelines

- There was an expectation that regional agencies would be responsible for training and awareness, but this was not happening at national level.

FM8 Implement and coordinate a fishing gear marking system consistent with the FAO Voluntary Guidelines for the Marking of Fishing Gear

- There is a limited number of places where gear is bought.
- Licensing could be linked to marking.
- Participants were interested in looking at different technologies.

FM11 Ensure there is an effective system in place to report lost or abandoned fishing gear

- Systems could be put in place to incentivize reporting.

FM13 Coordinate, communicate, and share information about lost fishing gear with other entities such as RFMOs, and regional and State fisheries managers

- Participants noted that offshore lost gear reporting has not been communicated back to the country level.

#### Seafood company stakeholder group

SF2 Source from fisheries whose fleets require recovery of lost gear (when safe and feasible to do so)

- A program similar to the FAD WATCH program in the Seychelles could be replicated in the region with a funding mechanism.

SF3 Promote the inclusion of lost fishing gear prevention and management in third-party certification schemes & SF4 Source from fisheries certified by third-party certification schemes that include benchmarks and scoring guidance related to impacts and management of lost fishing gear

- There are opportunities for increased engagement with Marine Stewardship Council (MSC) to implement best practices.

SF5 Provide cost effective disposal options for end-of-life or damaged gear to encourage/facilitate the retrieval of lost fishing gear

- There is a strong need for cost effective disposal options for end of life gear and recycling.

### NGOs

- In general, there was an observation that NGOs compete with each other over priorities. The lack of coordination between NGOs is confusing.

N1 Advocate for solutions to the problems posed by lost and abandoned fishing gear using objective, evidence-based information & N2 Build capacity for consensus-driven solutions to the problems of lost fishing gear, including providing examples of codes of practice

- The VGMFG are still quite new and there is much work to be done to implement them.

For the **second activity**, each working group was instructed to note the best practice numbers (from Handout 1 (see Appendix 4) identified for their chosen stakeholder group in *working group task 2*. Using Handout 2 (see Appendix 4), groups were instructed to note the degree to which each best practice had already been in place in national, sub-regional and regional levels and the level of challenge the implementation represents. The following scoring system was used to fill out the Handout 3 chart (see Appendix 4) for each country of regional body represented in the group:

- Level of action: The extent to which the action is already taking place in the jurisdiction
- (0 – don't know/no information 1 – not at all 2- in some places 3 – widely)
- Level of challenge: The level of challenge that implementing this action represents for the region
- (0 – don't know/no information, 1 – low level challenge 2- medium level challenge 3 – highly challenging)

The following are consolidated observations and comments from the working groups per stakeholder group:

### Fisheries Managers

The majority of best practices listed in the first activity under the Fisheries Managers (FM) stakeholder group are already implemented in some places (or fisheries) and are scored as medium level of challenge in average at both national and regional level, except for FM8 (Implement and coordinate a fishing gear marking system consistent with the FAO Voluntary Guidelines for the Marking of Fishing Gear) which was reported as highly challenging for some SIDS.

### Seafood companies

Best practices number SF2 (Source from fisheries whose fleets require recovery of lost gear, when safe and feasible to do so) and SF3 (Promote the inclusion of lost fishing gear prevention and management in third-party certification schemes) were reported as not being implemented at all, while SF5( Provide cost effective disposal options for end-of-life or damaged gear to encourage/facilitate the retrieval of lost fishing gear) was reported to be implemented in some places. Regarding the level of challenge all were reported as being medium-highly challenging.

## NGOs

N1 (Advocate for solutions to the problems posed by lost and abandoned fishing gear using objective) evidence-based information was reported to be implemented in some places while N2 (Build capacity for consensus-driven solutions to the problems of lost fishing gear, including providing examples of codes of practice) was reported to be between not at all in some SIDS and in some places in others. Regarding the level of challenge that these best practices entail, almost all groups reported that are highly challenging to implement.

### **Working group task 3 – Applying GGGI’s BPF to ALDFG fishery scenarios**

The objective of this task was to identify practical solutions from the suite of options outlined in the BPF and VGMFG to prevent and mitigate harmful impacts of ALDFG in a given scenario.

For this activity, four scenarios where fishing gear becomes abandoned, lost or discarded were presented. See Scenarios in Appendix 4, Handout 6. Groups were instructed to select two scenarios to focus their discussions. For each scenario, groups were asked to comment on:

- Which best practices were most useful to prevent lost gear? To prevent harmful impacts after gear is lost?
- Which of the stakeholder groups had the most control over preventing gear loss? Preventing harmful impacts after loss?
- Which kinds of actions were identified as most helpful to prevent gear loss? To prevent harmful impacts after loss?

The following is a synopsis of common observations and comments from the plenary.

- It is difficult to lump the regions together because they are so diverse.
- “Best Practices” is not the right term. Perhaps “Appropriate Practice” is better to accommodate local differences.
- For the first workshop, some participants thought this was ‘too big a task’ for the first step. Participants recommended a more detailed discussion of best practices.
- Best practices seemed more applicable to the industrial scenario than the artisanal scenario.
- One stakeholder category is missing: donors.
- Best practices related to prevention came out as more important than recovery and reporting.
- Sometimes it was hard to rank by priority. It was more logical to rank in chronological order or sequencing of activities.
- Priorities changed depending on stakeholder group.
- Innovation/gear technology was most relevant to dFADs.
- Market-based pressure from consumers could change fishers’ behaviour.
- Effective reporting of lost and disabled gear was important for both scenarios.
- For the gillnet scenario, responsibility for marking and bio-panels could be on the gear seller, not the fisher.
- Existing practice versus best practice is not the same.

### **Working group task 4 – Best practice feasibility analysis**

The objective of this activity was to identify existing strengths and gaps or constraints to reducing harm from ALDFG at national, sub-regional and regional levels and propose measures and actions that could address the gaps or constraints.

For this activity, participants were asked to fill out the table in Handout 5 (see Appendix 4). Using the numbered best practices from Handout 1, participants were instructed to note the numbers of best practices previously identified as most important to prevent loss of fishing gear and to prevent harmful impacts of lost gear. They were asked to rate the ease of implementation using the scoring measures assigned to each of the following criteria: Cost, Effectiveness, Feasibility, Complexity, and Time.

#### Results of task 4

Several best practices from the Fisheries Managers stakeholder group were identified multiple times. This reflects the sentiment that progress can best be made through appropriate fisheries management strategies. However, the propensity to select best practices from this stakeholder category may also reflect the make-up of the participants, many of whom were national fisheries department personnel. See Table 2 for the most frequently identified best practices.

The best practice FC1, Fishing licensing processes should explicitly include requirement to mark and identify fishing gear as a condition to fish, was one of the highest noted best practice and participants scored it as highly effective and some scored it as easy to implement within one year.

**Table 1.** Most frequently scored best practices (BP).

BP Code	Best Practice	Scores	Stakeholder
FC1	Fishing licensing processes should explicitly include requirement to mark and identify fishing gear as a condition to fish	9	Fisheries control Agencies
FM11	Ensure there is an effective system in place to report lost or abandoned fishing gear	9	Fisheries managers
FM4	Provide education to build awareness of the harm caused by lost fishing gear and the practices available to avoid losing fishing gear	9	Fisheries managers
N3	Coordinate projects establishing innovative solutions to the problems of lost fishing gear, including retrieval programs and reuse and recycling of waste fishing gears	8	NGOs
FM3	Require the use of biodegradable materials on fishing gears to minimize ghost fishing	7	Fisheries managers
FM6	Collaborate on and support the retrieval of lost fishing gear	7	Fisheries managers
FM12	Maintain a lost fishing gear register that includes the following information: type of gear lost, identifying marks, date/time/position of loss or retrieval, reason for loss, weather conditions, other relevant information	6	Fisheries managers
FM5	Require on-board lost fishing gear retrieval equipment and crew training where practical	6	Fisheries managers
P2	Develop onshore waste disposal strategies, including waste segregation, to reduce, reuse, and recycle ship-generated wastes and waste fishing gear	5	Ports

After participants filled out their charts, the groups were brought together in plenary to discuss the task. The following is a synopsis of common observations and comments from the plenary.

- Awareness building could be low cost and highly effective. The scope will determine the cost, etc.
- N3 Coordinating projects could be small-scale to large-scale.
- F15 End of life gear disposal – Put receptacles in villages for gillnets. There is a need to develop collection and disposal systems.
- Regular meetings with industry are needed to get them to think about best practices.

- Including gear marking in gear licensing practices could be fairly straightforward.
- Only set gear that fishers can responsibly manage would be an easy win.
- Biodegradable technologies will be highly effective, but it is a longer-term solution because the cost is high at the moment.
- Ensuring there are adequate port reception facilities would be highly effective but would take time and funding.

### 1.3. Recommendations

Following are some recommendations to FAO (see from 1 to 3) and, in general to the relevant stakeholders in the region that were agreed by all participants during the last day of the workshop:

- 1) FAO should support a comprehensive risk assessment and gap analysis of abandoned, lost or otherwise discarded fishing (ALDFG) at regional and national levels and in both inshore and offshore fisheries in the Southwest Pacific region and encourage national and regional bodies to collaborate during this process, especially between the CROP agencies, Regional Fisheries Management Organisations and other multi-stakeholder platforms, and relevant international agencies. Furthermore, a gap analysis of national legal frameworks related to fisheries and litter management plans on gear loss and ALDFG data collection and reporting should be carried out with a view to form the basis of a regional action plan to address ALDFG.
- 2) FAO should continue collaboration with the Global Ghost Gear Initiative (GGGI) to provide guidance to facilitate implementation of FAO's Voluntary Guidelines on the Marking of Fishing Gear (VGMFG) and GGGI's BPF at regional and national levels, including sample wording and skeleton plans that can be adapted into policy documents, fisheries management plans and legislative frameworks. More specific guidelines and fact sheets for different fisheries and fishing gears should be developed or be adapted to be locally relevant.
- 3) FAO should lead on the technical aspects of pilot projects in the region to implement gear marking in inshore fisheries as per the VGMFG.
- 4) The VGMFG and the BPF should be incorporated into relevant regional mechanisms including in RMFO-level measures and regulations (Western and Central Pacific Fisheries Commission, WCPFC ) and in regional marine litter plans with a separate section, or a separate plan focusing exclusively on ALDFG to show leadership in the region (SPC, FFA, SPREP, FAO, IMO, UNEP, GGGI).
- 5) A national/regional reporting mechanism using a standard reporting framework and categories for ALDFG should be created. Mandatory reporting of discard, abandonment or loss of fishing gear should be implemented as required in MARPOL Annex V and as recommended in the VGMFG and the BPF.
- 6) Further assessment, interpretation, quantification and impacts of ALDFG at the national and regional levels should be supported/facilitated to have a better understanding of the regional ALDFG baseline.
- 7) Awareness raising programmes on ALDFG should be supported and integrated at regional, national and community levels, including integration into existing marine debris awareness programmes, maritime training and observer programmes.
- 8) Mechanisms to involve fishers to create economic incentives and solutions to eliminate/reduce ALDFG as well as ALDFG recovery and retrieval programmes should be explored to help implement practical solutions through cost-effective technologies.
- 9) Regional bodies, research organisations and the fishing industry are encouraged to further develop methods to reduce FAD impacts including biodegradable and non-entangling FAD designs, FAD recovery programs, and intelligent FADs to reduce their impact when they drift outside of their fishing zone. Such technology would transition FADs away from being completely disposable.

- 10) GGGI, in collaboration with FAO and other relevant bodies, should encourage the inclusion of the BPF and VGMFG in eco-labelling assessments/accreditations as well as in any current fisheries management programmes to combat and reduce ALDFG.
- 11) Recommendations and outputs from this workshop should be shared with all participants, including those participants/stakeholders/countries in the region that were not present.

## **2. SOUTHEAST ASIA**

### **2.1. Opening session and presentations**

The second of four regional workshops on “Best Practices to Prevent and Reduce Abandoned, Lost or Otherwise Discarded (ALDFG)” was held in Bali, Indonesia from 8 to 11 June 2019. The workshop was co-organized with the Global Ghost Gear Initiative (GGGI) and the Coordinating Ministry of Maritime Affairs (CMMA) of Indonesia. A total of 70 persons participated in this workshop, representing 12 national governments in the Southeast, East and South Asia regions, NGOs, industry representatives, RFMOs, UN agencies and private sector. A full attendance list is available in Appendix 2.

The workshop agenda was modelled after the first FAO-GGGI ALDFG workshop in Vanuatu (May 2019), and adapted as the Bali work sessions progressed (see Appendix 1).

Mr Purbaya Yudhi Sadewa, Deputy Minister for Maritime Sovereignty Affairs provided a welcome and opening address outlining the importance of addressing ALDFG issues and the workshop’s key role in FAO and GGGI continuing to pursue practical solutions in the region. Ms Cassandra DeYoung, FAO Regional Office for Asia and the Pacific (RAP), followed with a welcome and overview reflecting FAO’s views and commitment to address the challenges of ALDFG in the region.

Presentations began with a summary of results from a pre-workshop questionnaire used to query responding participants’ perceptions of ALDFG issues, current regulations and actions, and perspectives at local, regional and international scale by Amparo Pérez. Then, complementary presentations regarding the international policy framework for ALDFG, development of FAO’s VGMFG and a detailed examination of the VGMFG’s specific provisions, including complementary recommendations for FADs were delivered by Pingguo He. Finally, this section was completed with an informative presentation on GGGI’s BPF, including the process for its development, and its structure and contents by Ingrid Giskes.

The final afternoon segment of Day 1 was led by Roel Hoenders of the International Maritime Organization, presenting a description of IMO’s work on marine litter and ALDFG, MARPOL Annex V, the London Convention/Protocol, and the IMO Action Plan on ship-based source of marine litter.

On Day 2 seven presentations provided important ALDFG information for the region related to fishery and ALDFG background, planning, technical assistance, gear marking and net recycling. Judging by audience attention, questions and answers, the presentations were well received and served to provide practical, regionally relevant information that provided important context for applying the VGMFG and BPF. Specific presenters and titles of the presentations can be found in the agenda (see Appendix 1).

Day 2 was concluded by six short lightening (5-10 minute) presentations on examples of ALDFG projects in the regions, which included ALDFG surveys, efforts to establish baselines, strategies related to fishery permit licensing approaches, gear research and technology, and national policy. See agenda in Appendix 1 for more details on the titles and presenters’ names.



## **2.2. Working groups**

### **Working group task 1 – ALDFG in region's source fisheries**

The purpose of this breakout groups exercise was to get people acquainted and begin sharing ALDFG challenges and opportunities related to specific gears and fisheries in the region, as a way to engage participants in thinking about actual problems and potential priority solution areas that might be needed. Seven tables comprised of mixed geographical representation to promote diverse dialogue and sharing among attendees. The exercise was framed by four key questions:

- 1) What fisheries are losing gear in your region?
- 2) Why is this gear being lost?
- 3) What harm might the lost gear be causing (ecological, economic, societal, etc.)?
- 4) What can be done to prevent gear from being lost or reducing its harmful impacts after loss?

All gear types were mentioned in reporting back from the breakout groups, though gillnets, traps/pots and fish aggregating devices (FADs) were the most discussed. Trawls were most mentioned in the context of partial gear damage and end of life cycle disposal but also as a cause of loss of other gears, for example competition or conflict between gears such as where trawlers might tow their nets through stationary fishing grounds of crab pots or gillnets. Traditional, small scale fisheries were mentioned as perhaps the most significant source of ALDFG in the region, and lack of education on the consequences of ALDFG was mentioned as an associated, contributing factor. Other causes of lost or discarded gear described by the groups included weather and sea conditions, entanglement with bottom habitats such as coral, difficulty of retrieval, discarding to avoid enforcement of illegal fishing activity, and lack of disposal facilities for recovered gear or end of life disposal.

Participants described wide ranging impacts of ALDFG in the region, which included: loss of stock health through ghost fishing and associated conservation and lost economic benefits, benthic habitat/coral damage, government costs to subsidize replacement of lost gear, reputational risk, food security (microplastics), transportation safety from lost nets, transboundary impacts (gear lost in one area but impacting another location), and impacts to endangered, threatened, or protected (ETP) species. Regarding potential solutions, one common theme was the potential to develop economic incentives for fishers to encourage their retrieval and recycle of lost fishing gear. For instance, this included possibly retooling or expanding government subsidies to replace or recycle old gear and to support lost gear recovery rather than simply providing money to fishers to purchase new gear. The need for fisher education and raising awareness (for example accessible, easily understood information and outreach) about ALDFG impacts also was widely discussed. Other key strategies mentioned included: legislation/regulation and associated enforcement, locally relevant research and testing of gear innovation (such as low cost gear marking approaches tailored to artisanal fisheries), cross sector collaboration such as partnering with NGOs, private business, and recycling solutions (for example port reception facilities for old or recovered gear and reuse of recycled material for value added products).

### **Working group task 2 – Applying GGGI's BPF to ALDFG fishery scenarios**

For this session each breakout group was asked to discuss how the GGGI's best practice strategies across all stakeholder groups might be useful to reduce or mitigate the problem described in one of five hypothetical ALDFG fishery scenarios (see Handout 6, Appendix 4) assigned to each table. The groups also discussed the potential priority of the various strategies in tackling the scenario, noting their rationale for ranking the importance. Each group attached the GGGI's list of best practices (see Handout 1, Appendix 4) on the walls so they could be easily visualized and discussed in the context of the specific fishery scenario. Priorities were generally assigned as high, medium and low. The total number of strategies, as well as viewing each in the context of the stakeholder group it belonged to within the BPF, made for a challenging and interesting exercise designed to better understand the BPF and consider its practical application.

### Working group task 3 – Current best practice gap analysis

The purpose of this breakout exercise was to build further awareness around the BPF by exploring two key dimensions:

- The extent to which best practice strategies are currently being applied in the region; and
- How challenging it might be to apply each best practice strategy within the various countries represented in each group.

Because the BPF contains 79 ALDFG strategies across 10 stakeholder categories, each table was given a cross-section of stakeholders and their strategies to make the exercise more manageable from a time standpoint. Each table was provided descriptive lists of the assigned best practice strategies and a template to record the level of action and challenge for each strategy by country (see Handouts 2 and 3, Appendix 4). The ratings used were as follows:

- How widely BPF strategy applied (level of action)?  
0 = don't know    1 = not at all    2 = in some places    3 = widely
- How challenging would it be to implement the BPF strategy (level of challenge)?  
0 = don't know    1 = easy    2 = somewhat challenging    3 = highly challenging

The results were quite variable across the various BPF strategies, but a common rating for the level of current application was low or little information, while for level of challenge, many strategies were rated by the groups as being somewhat or highly challenging. The quantitative scores were not as important for this exercise as was the opportunity to compare practice and potential impediments to solutions across strategies and jurisdictions, while continuing to build and reinforce understanding of the BPF strategies to prevent, mitigate or retrieve ALDFG.

### Working group task 4 – Integrating BPF strategies across stakeholder groups

The purpose of this exercise was to explore the potential for creating integrated actions across stakeholder categories identified in GGGI's BPF. Each table was provided with a miniature set of BPF strategies, sorted by the ten colour-coded stakeholder categories. Groups were asked to look for common best practice themes, such as gear marking, and find/match together strategies in the various stakeholder categories that contributed to the common approach.

The activity was structured as a friendly competition —groups had only 20 minutes— to see which group could find the largest number of cross cutting themes and allocate the most strategies to the common thematic strategy areas. Discussions were very lively and the plenary consensus upon completion was that the exercise was a very effective way to understand how collaboration on BPF strategies across stakeholder categories could enhance the effectiveness for addressing ALDFG issues.

## 2.3. Recommendations

The workshop was concluded with a set of recommendations. These recommendations are for FAO and relevant stakeholders in the region and were agreed by all participants on the last day of the workshop:

- 1) ALDFG should be included in global and regional funding mechanisms and projects, dealing with the major drivers of environmental degradation.
- 2) International and regional organizations/bodies such as FAO, IMO, UNDP, UNEP, SEAFDEC, COBSEA, BOBP-IGO, APFIC, IOTC, PEMSEA, ASEAN and GGGI should collaborate and support initiatives for addressing ALDFG in the region. FAO should continue the collaboration with the Global Ghost Gear Initiative (GGGI) and ASEAN others to facilitate the implementation of FAO's Voluntary Guidelines for the Marking of Fishing Gear (VGMFG) and GGGI's Best

Practice Framework (BPF) at regional and national level, including through the development of a global ALDFG umbrella programme.

- 3) Government and industry are encouraged to appropriately manage gear throughout its lifecycle including retrieval, reuse and recycling of ALDFG by using appropriate incentive mechanisms. Government and industry are also encouraged to remove those incentives that increase the risk of ALDFG and discourage related actions.
- 4) Regional and national bodies, NGOs, associations and Governments are encouraged to facilitate the implementation of the VGMFG and best practice management of fishing gear framework through translation and localization of the gear marking guidelines and by developing outreach materials including train-the-trainer materials to raise awareness amongst fishing stakeholders and use them in solution projects.
- 5) FAO is encouraged to complete annex B of the VGMFG which provide technical details on how different gears should be marked.
- 6) FAO and other relevant organisations should assist developing countries, to develop and/or acquire cost-effective, easily accessible and environmentally friendly marking technologies in all types of fishing activities, in all oceans and seas.
- 7) FAO and other relevant bodies and Governments should support inter alia but not limited to capacity building activities, facilitate technology transfer and conduct projects or case studies in the region to implement gear marking guidelines and the best practice framework and to disseminate information, including awareness programme for fisheries stakeholders to prevent, reduce, reuse and recycle ALDFG.
- 8) Governments, NGOs and industry should involve fishers, their communities and other stakeholders to implement incentives, solutions, cost-effective technologies to eliminate, reduce, reuse, recycle and retrieve ALDFG as well as explore end of life gear recycling programmes, the development of biodegradable materials for fishing gear and support further research and development as well as the monitoring of the above
- 9) Regional organizations and governments are encouraged to develop standard reporting mechanisms for ALDFG. National reporting of discard, abandonment or loss of fishing gear is encouraged to be implemented, recalling the provisions in MARPOL Annex V and in the Voluntary Guidelines for the Marking of Fishing Gear (VGMFG) and the BPF and to establish a baseline and monitoring system.
- 10) Global, regional and national bodies and organisations are encouraged to undertake assessments, collate and share knowledge on the causes, effects, impacts solutions and drivers of ALDFG at national and regional level.
- 11) IMO is encouraged to swiftly implement the ALDFG relevant actions contained in the IMO Action Plan on Marine Litter in collaboration with other agencies, organizations and countries.
- 12) Recommendations and outputs from this workshop should be shared with all participants including those stakeholders in the region that weren't present.

### **3. WEST AFRICA**

#### **3.1. Opening session and presentations**

The third of four regional workshops on “Best Practices to Prevent and Reduce Abandoned, Lost or Otherwise Discarded (ALDFG)” was held in Dakar, Senegal from 14 to 17 October 2019. The workshop was co-organized with the GGGI. A total number of 31 persons participated in this workshop, representing 11 national governments in the West Africa region, NGOs, industry representatives, RFBs and UN agencies. Simultaneous interpretation was provided in English and in French as countries in the region were mainly in these two UN official languages.

Dr. Mamadou Goudiaby, Director of Senegal Ministry of Fisheries and Maritime Economy welcomed participants to Senegal and provided regional highlights on the importance of addressing ALDFG issues. Mr Gouantoeue Robert Guie, the Coordinator for FAO Subregional Office for West Africa followed with a welcome and overview reflecting FAO's views and commitment to address the challenges of ALDFG in the region.

A series of informational presentations that formed an essential foundation for addressing the workshop's awareness building objective was delivered. Presentations began with a summary of results from a pre-workshop questionnaire used to query responding participants' perceptions of ALDFG issues, current regulations and actions, and perspectives at local, regional and international scale. Then, complementary presentations regarding the international policy framework for ALDFG, development of FAO's VGMFG and a detailed examination of the VGMFG's specific provisions, including complementary recommendations for FADs were delivered. Ingrid Giskes, Director of Global Ghost Gear Initiative, completed this section of the workshop with a recorded video presentation on GGGI's BPF, including the process for its development, its structure and content.

On Day 2, participants received a series of three presentations that provided important ALDFG information for the region related to Senegalese fisheries types and sizes, managing vessel contributions to marine litter and ALDFG, and biodegradable FADs. Presenters were, respectively, Mr Abdoulaye Diedhiou from the Division of Industrial Fishing at Senegal Ministry of Fisheries and Marine Economy; Mr. Honorat Hoba, Regional Coordinator at International Maritime Organization; and Gala Moreno, Marine Scientist and Fisheries Consultant at International Seafood Sustainability Foundation (ISSF). Judging by audience attention, questions and answers, the presentations were well received and served to provide practical, regionally relevant information that provided important context for applying the VGMFG and BPF.

Day 2 was concluded with a series of five, concise (5-10 minute) presentations on excellent examples of ALDFG projects, which included biodegradable FADs, the circular economy of fishing gear, Nigerian grassroots ALDFG solutions initiatives, ALDFG issues in Ghana and ALDFG impacts on wildlife in Kenya.

### **3.2. Working groups**

#### **Working group task 1 – ALDFG in region's source fisheries**

The purpose of this breakout exercise was to get people acquainted with one another, ALDFG issues and begin sharing ALDFG challenges and opportunities related to specific gears and fisheries in the region, as a way to engage participants in thinking about actual problems and potential priority solution areas that might be needed. Four groups (two French and two English) had a roundtable discussion framed by four key questions:

- 1) What fisheries are losing gear in your region?
- 2) Why is this gear being lost?
- 3) What harm might the lost gear be causing (ecological, economic, societal, etc.)?
- 4) What can be done to prevent gear from being lost or reducing its harmful impacts after loss?

While most all gear types were mentioned in reports back from the breakout groups, small scale monofilament nets, traps/pots and fish aggregating devices (FADs) were perhaps the most discussed. Traditional, small scale fisheries were mentioned as the most significant source of ALDFG in the region, specifically monofilament nets used by small scale fisheries.

A significant source of this ALDFG is a result of conflicts between artisanal and industrial fisheries, such as competition and conflict between gears such as where trawlers might tow their nets through stationary fishing grounds and a lack of regulation or processes for gear marking, resulting in gear often being unintentionally lost or intentionally discarded. Other causes of lost or discarded gear described by the groups included weather and sea conditions, entanglement with bottom habitats such as coral, difficulty of retrieval, discarding to avoid enforcement of illegal fishing activity, and lack of disposal facilities for recovered gear or end of life gear disposal.

Participants described wide ranging impacts of ALDFG in the region, which included: loss of stock health through ghost fishing and associated conservation and lost economic benefits, benthic habitat/coral damage, reputational risk for fishers, transportation and navigational safety, marine debris and waste, and impacts to ETP species.

Regarding potential solutions to ALDFG, common themes across regions and discussions groups included building awareness around the issue, especially with fishers and fishery managers (for example accessible, easily understood information and outreach activities), developing methods to reduce gear conflict, such as marine spatial use of zoning plans, and developing infrastructure and processes for collecting and recycling end of life gear and retrieving lost gear.

### **Working group task 2 – Applying GGGI’s BPF to ALDFG fishery scenarios**

For this session each breakout group was asked to discuss how the GGGI’s best practice strategies across all stakeholder groups might be useful to reduce or mitigate the problem described in one of five hypothetical regional ALDFG fishery scenarios assigned to each table (see Handout 6, Appendix 4). The groups also discussed the potential priority of the various strategies in tackling the scenario, noting their rationale for ranking the importance.

Groups then reported back on their scenarios and how different strategies from the BPF might be prioritized and used to address ALDFG issues described in their respective scenario. It was interesting to see that each table had a different approach to ranking and assign BPF strategies. For example, one table listed all relevant best practices across each stakeholder group for their scenario, while a second table selected most relevant best practices then voted on their importance to assign a weighted value ranking to each, and a third table first discussed which stakeholders were most important to their scenario and then established their “solution” to the scenario through a process of elimination of less relevant strategies.

### **Working group task 3 – Current best practice gap analysis**

The purpose of this breakout exercise was to build further awareness around the BPF by exploring two key dimensions:

- The extent to which best practice strategies are currently being applied in the region; and
- How challenging it might be to apply each best practice strategy within the various countries represented in each group.

Because the BPF contains 79 ALDFG strategies across 10 stakeholder categories, each table was given a cross-section of stakeholders and their strategies to make the exercise more manageable from a time standpoint. Each table was provided descriptive lists of the assigned best practice strategies and a template to record the level of action and challenge for each strategy by country (see Handouts 2 and 3, Appendix 4). The ratings used were as follows:

- How widely BPF strategy applied (level of action)?  
0 = don’t know    1 = not at all    2 = in some places    3 = widely
- How challenging would it be to implement the BPF strategy (level of challenge)?  
0 = don’t know    1 = easy    2 = somewhat challenging    3 = highly challenging

The groups were also asked to place an asterisk by those strategies that seemed to have the highest priority to address ALDFG issues in the regional areas discussed by each table.

The results were quite varied across the various BPF strategies and regions, but a common rating for the level of current application was low or little information, while for level of challenge, many strategies were rated by the groups as being somewhat or highly challenging (often due to a lack of funding, awareness, adequate regulation and collaboration). The list of BPF strategies is available as Handout 1 in Appendix 4.

#### **Working group task 4 – Action planning using BPF strategies**

The purpose of this exercise was to create and/or refine an ALDFG solutions project in the form of an action plan that participants could then implement after the workshop. Participants self-organized into small groups (seven individuals each) by country, shared stakeholder interests, or ideas and each created a unique action plan, using the provided action plan template (available as Handout 7 in Appendix 4) and BPF strategies. The BPF strategies were provided in both list form and with individual miniature strategy cards to support the exercise. Groups were asked to use discussions and information from the workshop in their action plans. After lunch, each group described the problem, objectives and approach to solutions represented in their respective plans.

### **3.3. Recommendations**

The workshop was concluded with a set of recommendations that were agreed by all participants on the last day of the workshop. These recommendations are for FAO and relevant stakeholders in the region to take forward:

- 1) International and regional organizations (such as FAO and IMO) and States coordinate and collaborate on implementation of guidelines and regulations such as the Voluntary Guidelines on the Marking of Fishing Gear (VGMFG), MARPOL Annex 5, and utilize the Global Ghost Gear Initiative's (GGGI) Best Practice Framework (BPF) for the management of fishing gear to ensure harmonized approach for the implementation and a solid legal framework for undertaking actions.
- 2) FAO and other organizations support States to assess the amount of abandoned, lost or otherwise discarded fishing gear (ALDFG) and their impact, including environmental, economic and social aspects, in Atlantic coast of Africa for all fisheries (artisanal, industrial, etc.) to establish baseline information about ALDFG in the region.
- 3) Regional Fisheries Management Bodies and States, in collaboration with fishers' organizations and NGOs, raise awareness of the issue across the region, and to leverage and integrate this into existing programs and initiatives.
- 4) International and regional organizations, States, and NGOs support pilot projects and capacity building programs to implement FAO's VGMFG and GGGI's best practice framework, and provide financial supports for the implementation of ALDFG mitigation measures.
- 5) Public-private partnerships and civil society collaborations be explored and supported in creating economic incentives and solutions to reduce and eliminate ALDFG, including ALDFG recovery and retrieval programs, to help implement practical solutions and technologies for cost effectiveness and efficiency, and with incentives.
- 6) Research on relevant and affordable gear marking technologies and systems (for all fishing gears) should be encouraged and supported.
- 7) Research on biodegradable FADs for African states should be encouraged and their use be incentivized to reduce ALDFG and/or ghostfishing. Pilot projects on biodegradable fishing gear or its components should be supported.
- 8) States in the West African region should be encouraged, with support from IMO, FAO and other organizations, to ratify, adopt and implement relevant international conventions/instruments such as the London Convention/Protocol.
- 9) Capacity to enforce relevant regulations (such as banning of monofilament gillnets in the region) should be enhanced to ensure sustainable fisheries and to reduce environmental impacts such as ALDFG. International funding instruments should include ALDFG in their environmental programs so that financial resources associated with gear replacements (for example, from monofilament to other gear) may be made available. Gear marking should be integrated into regulations to support monitoring and enforcement.

- 10) Port States and Regional Fishery Management Organizations/Bodies should be made aware of the linkage between IUU fishing and ALDFG, and leverage MCS technologies and resources against IUU fishing for the reduction of ALDFG.
- 11) States and Regional Bodies are encouraged to establish cross-sectorial bodies or task forces and/or to further empower such bodies to deal with issues of ALDFG and to reduce its harmful impact.

## 4. SOUTH AMERICA AND THE CARIBBEAN

### 4.1. Opening session and presentations

The FAO/GGGI workshop held in Panama City, Panama from 18 to 20 November 2019 was the last of the four regional workshops delivered in 2019 on “Best Practices to Prevent and Reduce Abandoned, Lost or Otherwise Discarded (ALDFG)”. This workshop was followed by a related workshop was delivered by the Global Ghost Gear Initiative on 21-23 November 2019 on “Ghost Gear Diver Removal and PADI Ghost Gear Removal Certification” with the support of the Government of the Netherlands (see section 8.d for further details).

The workshop on Best Practices to Prevent and Reduce ALDFG was co-organized with the Global Ghost Gear Initiative (GGGI) and the Autoridad de los Recursos Pesqueros de Panamá (ARAP). A total of 78 persons participated in this workshop, representing 28 national governments from the Caribbean and South America region, NGOs, Academia, industry representatives, RFMOs, UN agencies and private sector.

Welcome addresses were provided by Ms. Yarelis de Castillo, Director Ordenación de Autoridad de los Recursos Acuáticos de Panamá (ARAP) and by Mr. Adoniram Sanches Peraci, FAO Coordinator Subregional Office for Mesoamerica.

The opening session was followed by a series of presentations to set up the **international context** by introducing **existing guidelines, instruments and best practices** including: FAO work on ALDFG in collaboration with other organizations, a summary of results from a pre-workshop questionnaire used to query responding participants’ perceptions of ALDFG issues, current regulations and actions, and perspectives at local, regional and international scale. Then, complementary presentations regarding the international policy framework for ALDFG, development of FAO’s VGMFG and a detailed examination of the VGMFG’s specific provisions, including complementary recommendations for FADs were delivered. Ms Ingrid Giskes (FAO and GGGI) and Ms Lynn Kavanagh gave a presentation on GGGI’s BPF, including the process for developing it and its structure and content. This section of the workshop was completed with presentations from IMO’s work on marine litter and the GGGI data portal and data tools.

On Day 2, three presentations under the section on **regional actions, mechanisms and perspectives** provided participants with an overview of the main fishing gears used in the region, the collaboration between GGGI and Global Partnership for Marine Litter – Caribbean Node on reducing fishing gear loss into the marine environment and the regional action plan on marine litter in the Southeast Pacific.

Then, a series of six presentations on **local actions, mechanisms and perspectives** were delivered on: the Panamanian action plan to address ALDFG; a proposal to regulate the use and possession of gillnets and other monofilament fishing gears in Venezuela; an overview of the status and measures on ALDFG in Uruguayan fisheries; the requirement to report on gear loss in the Costa Rica longline fishery; work done in the Yucatan Peninsula of Mexico to address marine litter and ALDFG impacts to manta rays and other marine megafauna and some studies and initiatives on ALDFG in Peru.

As done in the previous workshops, a series of six, concise (5-10 minute) presentations on excellent examples of ALDFG projects within the region and abroad were delivered. These six short talks included: PlastiX Global, a Danish manufacturer of ‘green plastics’ that specializes in recycling waste fishing nets, trawls and ropes into high quality raw plastics materials; *Olive Ridely Project*, an NGO documenting impacts from ALDFG on sea turtles and modeling the fate and transport of ALDFG affecting sea turtles in the Maldives; TUNACONS work on developing biodegradable FADs for tuna fishing; the work that Sistema de la Integración Centroamericana - Organización del Sector Pesquero y

Acuícola del Istmo Centroamericano (*SICA/OSPESCA*) is doing in the region in terms of fisheries management; Fisheries and Oceans Canada's Initiatives around ALDFG and; CEFAS' work to understand science around ALDFG.

## **4.2. Working groups**

### **Working group task 1 – ALDFG in region's source fisheries**

The objective of this activity was initial identification of problem source fisheries in the region. Participants were asked to discuss with others at their table and answer four questions:

- 1) What fisheries are losing gear in your region?
- 2) Why is this gear being lost?
- 3) What harm might the lost gear be causing (ecological, economic, societal, etc.)?
- 4) What can be done to prevent gear from being lost or reducing its harmful impacts after loss?

After ample time, the facilitator brought the group back into plenary and harvested answers to each question from the group. The size of the region represented in the room was evident in the types of fishing gear identified and the causes of loss. This exercise was a good start for the participants to understand the scope and scale of the ALDFG problem in the region.

### **Working group task 2 – Identifying practical applications of the BPF and VGMFG**

The objective of this activity was to identify practical solutions from the suite of options outlined in the BPF and VGMFG to prevent and mitigate harmful impacts of ALDFG. Participants were provided with a list of the best practices from the BPF arranged according to which stakeholder group they apply. The groups were also provided with written ALDFG scenarios that described fishing gear loss in a specific fishery situation.

Groups were instructed to choose one or multiple scenarios for consideration. For each scenario, they had to identify two or three stakeholder group best practices and determine which best practices (see Handout 1 in Appendix 4) were applicable, not applicable, or not sure. For the applicable practices, they had to focus on the top ten. Then the group had to rank those applicable practices in order of importance.

Most groups selected to focus on best practices associated with Fishers, Fisheries Managers, and Fisheries Control Agencies/Regulators. This selection likely reflected the makeup of the participants. The groups spent time going through each best practice for their chosen stakeholder group to determine whether the practice could help to prevent the gear loss described in the chosen scenarios or minimize harmful impacts of the gear loss.

Groups ranked over 30 of the best practices from six of the stakeholder groups. The best practices most frequently ranked in the top ten most applicable were F20, F6, F19, FC1, FC4, and FM1. See Table 3 for frequency of ranking.



**Table 2 - Most frequently ranked best practices in Working Group Task 2**

BP #	Best Practice	Times ranked in top ten
F20	Report all lost fishing gear, including FADs, to appropriate authorities, including date, time and location of and reason for loss	5
F6	Share information about local conditions and underwater obstructions with others to prevent snagging and gear loss	4
F19	Communicate location of lost gear to other fishers if it poses a navigation risk	3
FC1	Fishing licensing processes should explicitly include requirement to mark and identify fishing gear as a condition to fish	3
FC4	Inspections should be conducted at sea and at port to ensure that gear marking and other requirements relevant to preventing gear loss are adhered to	3
FM1	Restrict use of some fishing gears in areas with a high risk of loss due to local conditions	3

The need to develop reporting systems was a common theme throughout the discussions. Another recurring comment was that the definitions of ‘abandoned,’ ‘lost,’ and ‘discarded’ in the VGMFG were unclear to many participants.

### **Working group task 3 – Regional application of the BPF**

The objective of this exercise was to familiarize participants with the BPF practices as they apply nationally and regionally, identify the degree to which practices had already been implemented, and identify regional challenges to their implementation.

Each working group was instructed to select one to three stakeholder groups’ best practices to discuss during the exercise and note the best practice numbers (from Handout 1 in Appendix 4) identified for their chosen stakeholder group. Groups were instructed to note the degree to which each best practice had already been in place in national, sub-regional and regional levels and the level of challenge the implementation represented. The following scoring system was used to fill out the Handout 3 chart for each country of regional body represented in the group:

- Level of action: The extent to which the action is already taking place in the jurisdiction  
(0 – don’t know/no information; 1 – not at all; 2 - in some places; 3 – widely)
- Level of challenge: The level of challenge that implementing this action represents for the region  
(0 – don’t know/no information; 1 – low level challenge; 2 - medium level challenge; 3 – highly challenging)

When groups were brought back into plenary, tables were asked to comment on:

- What was learned?
- What were the biggest challenges identified?
- What is already being done well?

In general, the groups had mixed insights as to whether there was good knowledge about ALDFG in their regions. Some felt they knew what to do to but needed better compliance and some assistance, while some tables acknowledged that participants were in the learning stage. Many said that some necessary regulatory and administrative best practices had been in place already but acknowledged that compliance and enforcement was lacking. Indeed, many tables noted that enforcement, compliance, and

lack of political will were their greatest challenges. Data collection was another noted common challenge across regions. Identifying what was being done well was harder for the groups. It was noted that FAD marking was doing well. In addition, it was noted that there was good work being done across the region by NGOs.

#### **Working group task 4 – Action planning**

The objective of this activity was for participants to develop initial plans for actions to be taken to reduce harm from ALDFG in their region or area. For this activity, participants were asked to divide into groups with people in their region. For example, it was suggested that people from Caribbean SIDS should sit together and people from Pacific South America should sit together.

Working groups were to identify:

- Problem: Key issue to be addressed in the region represented at the table;
- Goals: Primary outcomes to be achieved;
- Actions: Best practices or other actions that need to be implemented during the first year of action;
- Core Stakeholders for implementing identified actions;
- Secondary stakeholders important for accomplishing the actions;
- Conditions, capacity needs, enabling conditions and potential barriers might exist to implementing the actions identified;
- Key organizations likely to be supporters or enablers;
- Secondary organizations that may need to be persuaded to support the actions;
- Next Steps: First step after the workshop to carry this plan of action forward.

During the plenary, each working group was asked to give a brief synopsis of its action plan, focusing on what problem it was addressing, its goals, best practices identified, key stakeholders and next steps. Participants formed five working groups with the following geographic focuses: South American, the Caribbean, Mesoamerica, Western Countries (Canada, United Kingdom of Great Britain and Northern Ireland, United States of America, ), and Panama.

Groups identified regionally specific problems to address, such as lost shellfish pots or gear loss from the artisanal fishing sector. Groups identified which stakeholders and which best practices would be most appropriate to take action to achieve identified objectives. All groups identified fishers as a key stakeholder group and most focused actions on fisheries management and awareness building. Some groups emphasized the need to collect baseline data and establish reporting mechanisms. Groups identified political will as a condition that needed to be overcome to make progress on objectives. Another challenge was that there are currently no good biodegradable gear options for most fisheries. Table 4 summarizes results from four of the working groups.

**Table 3 - Summary results of Working Group Task 4 – Action Planning**

COUNTRIES IN WORKING GROUP	PROBLEM	GOALS	OBJECTIVES	ACTIONS	NEXT STEPS
Antigua and, Saba, Barbuda, Bahamas, Barbados, Grenada, Guyana, Jamaica, Montserrat, Trinidad and Tobago, Puerto Rico, Saint Lucia, Saint Kitts and Nevis	Within the Western Caribbean, ALDFG has been identified as a pressing issue with associated negative ecological and socio-economic impacts.	Reduce the quantity and impact of ALDFG in the Western Caribbean Region	<p>Develop or improve:</p> <p>Governance (legislative, political will, enforcement, compliance, overlapping jurisdictions)</p> <p>Communications (education, awareness, reporting, stakeholder communications, data management)</p> <p>Capacity building (training)</p> <p>Implementation (retrieval, enforcement)</p>	Best practices of Fishers (F1 - F20)	<p>Establish baseline</p> <p>Insurance</p> <p>Funding/ extended producer responsibility / taxes/ levies (how to address trust funds, infrastructure, port facilities)</p> <p>CARICOM member states would join GGGI (17 agreed but only 1 joined) – need to reconfirm pledge</p> <p>GGGI to prepare a paper to present to members in 2020</p> <p>Couple work with achieving SDG 14 goals</p>
El Salvador, Nicaragua, Cuba, Costa Rica, Mexico, Honduras, Guatemala	Loss of fishing gear	Reduce and prevent ALDFG in the region	Establish a prevention program and best practices adapted to locality and/or region	<p>Best practices of Fisheries Managers (FM7, FM4, FM10, FM11, FM12)</p> <p>Best practices of Fisheries Organizations (FO1, FO2, FO3, FO4)</p> <p>Best practices of Fishers (F1, F2, F3, F4, F6, F8, F9, F12-F20)</p> <p>Best practices of Port Operators (P1, P4, P5)</p> <p>Best practices of Researchers (R1, R2, R3, R5, R6)</p>	<p>Collect diagnostic evidence, through surveys of fishers that allow us to know the perspectives regarding ALDFG</p> <p>Working schedule with stakeholders</p> <p>Budget</p> <p>Program to raise awareness in the fishing sector</p>

COUNTRIES IN WORKING GROUP	PROBLEM	GOALS	OBJECTIVES	ACTIONS	NEXT STEPS
				Best practices of NGOs (N1, N2, N3)	
Chile, Uruguay, Peru, Suriname, Venezuela, Colombia, Ecuador	Loss, discard, and abandonment of artisanal fishing gear	Implement fisheries management measures to reduce ALDFG in the artisanal fishing sector	Quantify and identify ALDFG in the artisanal sector differentiated by fisheries  Establish an ALDFG mitigation plan in the artisanal fishing sector	Surveys of fishers and other relevant actors to quantify ALDFG and environmental and socioeconomic impacts  Identify priority hotspots of ALDFG  Design specific actions for fishing gear with greater impact risk  Education aimed at fishers and other relevant actors  Develop or improve the artisanal fishing gear registration systems  Develop an efficient reporting and registration system for ALDFG	Look for financing  International organizations assistance  Continue this process
Australia, Canada, United Kingdom of Great Britain and Northern Ireland, United States of America,	Pot loss which leads to gear conflict and ghost fishing	Minimize loss of gear (reduce)	Minimize gear loss from gear conflict due to ineffective fisheries management measures (zoning – trawling through fixed gear)  Assess marine traffic damaging, cutting lines leading to gear loss  Minimize gear loss due to extended soak times	Explore alternative fisheries management regimes to reduce zoning competition (rotational allocations)  Explore consultative process to allow relationship-building and agreements to develop voluntary measure for sharing fishing grounds	Spatial analysis, fishing footprint, risk assessment  Consultations with harvesters  Data collection (strategies), ground- truthing reporting, underwater surveys  Marine spatial planning, engaging various stakeholders  Prioritize gear removal programs in areas of highest recorded gear loss

COUNTRIES IN WORKING GROUP	PROBLEM	GOALS	OBJECTIVES	ACTIONS	NEXT STEPS
			<p>Develop government relationships regarding use/ share of natural resources in areas of high conflict</p> <p>Remove ALDFG (prioritize new/ recent loss)</p>	<p>Education to various user groups</p> <p>Limits on soak times</p> <p>Limits on # of pots</p> <p>Enforcement capacity</p> <p>National and Regional Government</p> <p>Stakeholder mapping</p>	<p>Material testing (for example Biodegradability) to determine opportunities for gear innovation</p> <p>Fund innovation for gear modifications to reduce ghost fishing, engage harvesters through system</p> <p>Build trust with fishers through workshops, etc. Bottom up approach</p>

### 4.3. Recommendations

The workshop was concluded with a set of recommendations. These recommendations were agreed by all participants on the last day of the workshop and are for FAO and relevant stakeholders in the region to take forward:

- 1) FAO to deliver a presentation on its work on fishing gear marking and strategies to prevent and reduce abandoned, lost or otherwise discarded fishing gear (ALDFG) at the International Maritime Organization's (IMO) senior administrators' workshop in St. Lucia in March 2020 and urge States to become party to the LC/LP and request IMO to provide technical assistance in support of becoming party to the instruments. Based on the recommendations from this meeting, FAO will present a paper at a subsequent meeting of the CARICOM Heads of Government after March 2020.
- 2) A geographically based working group which address ALDFG, including establishing a standard recording/reporting system and a mechanism to deposit and collate data, be established with the support of FAO, INFOPESCA, Regional Fisheries Management Organizations (RFMOs) and other relevant regional organizations. The working group will also advise States and RMFOs regarding gear marking and recording for ownership and incorporating reporting of gear loss in logbooks and observer programs.
- 3) FAO support States that participated in the four 2019 FAO/GGGI regional workshops for the localization of protocols/methods as stipulated in the Voluntary Guidelines on the Marking of Fishing Gear (VGMFG) for marking and retrieval of fishing gear and their practical implementation, including the development of cost-effective, easily accessible, and environmentally friendly gear marking technologies and facilitation of sharing of best practices.
- 4) The possibility or feasibility of creating an insurance scheme that would promote the reduction and prevention of ALDFG and its harmful impacts within the wider Caribbean and Latin American regions be investigated by States, as desired, using the CCRIF as a model.
- 5) Entities such as corporations, associations, Governments and NGOs support, encourage and empower fishers and fishing communities to take action to prevent ALDFG as appropriate. The fisheries authorities should create a mechanism to generate and localize methodology and information that all stakeholders can access to combat the issues of ALDFG including recovery of ALDFG when feasible.
- 6) FAO, RFMOs and relevant partner agencies develop and implement mechanisms to create economic incentives and solutions to eliminate and reduce ALDFG, including ALDFG recovery and retrieval programmes as well as more effective MCS programs with built-in incentive systems.
- 7) FAO seek and manage funds to implement programs at national and regional levels to formulate and promote best practices that would reduce ALDFG and its impact.
- 8) FAO identify and develop best practices guidelines to supplement and implement VGMFG for different fishing gears and for different fisheries, incorporating the concepts of GGGI's Best Practice Framework, to address ALDFG and to implement VGMFG.
- 9) FAO continue its work, such as a second phase of workshops with more participation of fishers and their representatives, to raise awareness on ghost gear.
- 10) FAO, IMO and appropriate regional entities support the creation of reception facilities for recovered ALDFG.

#### 4.4. Ghost Gear Diver Removal Workshop and PADI Ghost Gear Removal Certification

The GGGI Ghost Gear Diver Removal Workshop was held November 21-22 in Panama City, Panama. The workshop was held back to back with the FAO/GGGI Workshop on Best Practices to Prevent and Reduce ALDFG. The Ghost Gear Diver Removal Workshop included an option for divers to obtain PADI Ghost Gear Removal Certification. Field gear removal training was conducted at three sites near Tobago Island. The workshop was convened by FAO and the GGGI. Additional support for the workshop was provided by PADI and Conservation International.

The objectives of the workshop were to:

- 1) Provide guidance on developing a ghost gear recovery program in the Caribbean and Latin America.
- 2) Demonstrate an in-water experience of lost net recovery.
- 3) Provide PADI Ghost Gear Removal certification to select participants.

To achieve these objectives, the workshop spanned three days. Day 1 focused on the first objective and featured presentations from global and regional experts and interactive working groups sessions. Days 2 and 3 focused on the second and third objectives. On Day 2 non-diving participants observed lost net removal operations conducted by divers seeking PADI Ghost Gear Removal certification. Divers conducted lost net removal as part of their training. The third day included classroom instruction as part of the PADI Ghost Gear Removal certification. The agenda of the workshop is available in Appendix 1.

Approximately 60 people participated in Day 1 of the workshop, most of which were participating in the FAO/GGGI Workshop on Best Practices to Prevent and Reduce ALDFG held 3 days before.

##### Day 1

The workshop was opened with a welcome address provided by Mr. Hamed Tuñón, Deputy Director of ARAP, who reiterated Panama's commitment to addressing the problems associated with ALDFG. Joel Baziuk, Deputy Director of the Global Ghost Gear Initiative, also welcomed the participants.

The first of two group activities for the day was to develop a removal plan. The objective was to provide participants with some experience considering the steps needed to develop a regional removal plan in their local area. Each group was provided with a description of a program plan with an explanation of steps that should be considered. The plan was developed using the MARELITT EU<sup>2</sup> Program Plan Development template and was modified and shortened for use during the workshop. The template with example language and instructions can be found in Appendix 4.

Ms Joan Drinkwin (facilitator of this Workshop) explained the program plan development exercise and the various components that need to be considered when developing a removal program. In particular, she emphasized that removal of gear should be undertaken as part of a large program more focused on preventing fishing gear from being lost.

Participants should consider the local situation and need for actions in terms of what gear is being lost and why. The regulatory and cultural context of the area should be considered, such as necessary permits to remove lost gear. The culture of the fishing community should also be considered to ensure acceptance of any plan of action. Clear goals and objectives should be articulated and anticipated or desired outcomes should be considered to be able to measure success. Partners should be identified. The means of locating lost fishing gear are varied and participants should consider the best source of this information in their area. Likewise, removal of gear can be accomplished through a variety of ways (not just by diving) and different methods should be considered before decisions are made. Determining what data will be collected is critical to both measuring success, establishing baseline information, and assessing impacts from ALDFG. It should also be determined what data should be collected and how the data will be managed to ensure easy access and dissemination. Disposal of any removed gear should be considered. Finally, the expense and funding for actions should be considered.

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<sup>2</sup> [www.marelitt.eu](http://www.marelitt.eu)

Blank program plan templates were provided to each participant. They were encouraged to listen to the upcoming presentations of local and regional ALDFG programs and identify how each program addressed the items in the program plan template.

Presentations delivered during the day included: the *Global Ghost Gear Initiative* Data Portal and its companion app (the Ghost Gear Reporter App); *Project AWARE*'s work on ALDFG data collection its 'Dive Against Debris' SCUBA-based marine debris cleanup program; *ARAP*'s programme on ALDFG removal in collaboration with the National Aeronaval Service of Panama (SENAN); *Conservacion ConCiencia*'s work to remove ALDFG from Puerto Rico waters; *Conservation International*'s work on educational workshops and diver training; the *Olive Ridley Project* focusing on awareness raising on sea turtles entanglements on ALDFG and how to release them in a safe way; and *Natural Resources Consultants*' work on the ALDFG program in Puget Sound, Washington, USA since 2005.

To finalize the day, a third group activity was done with the objective of giving participants a tool to determine when ALDFG should be removed or not. A simple decision tree flow chart was presented to the participants (Figure 1). The flow chart illustrates the decision process, beginning with assessing the ALDFG and its impacts, determining safety factors, and assessing potential habitat damage during removal. The result of the process is a decision to either remove the ALDFG or leave it in place for the time being.

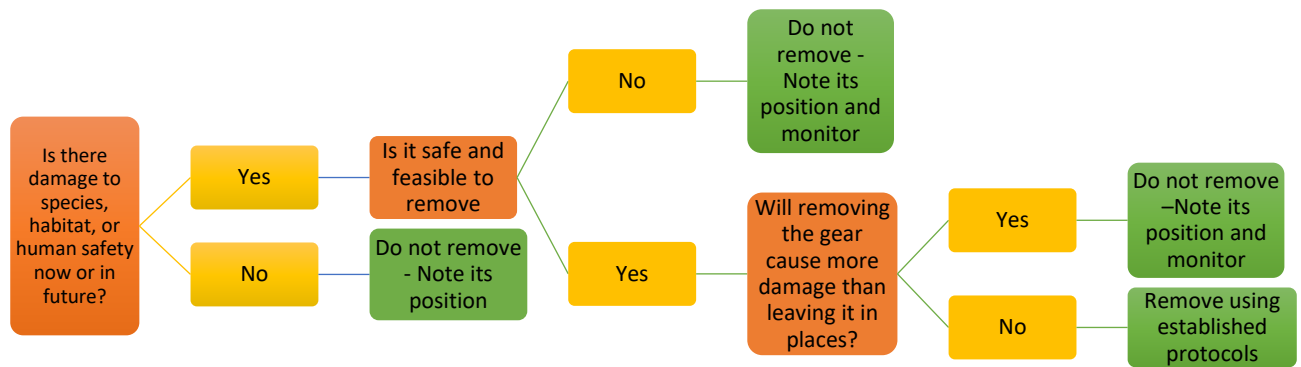


Figure 1. Simple decision tree presented to workshop participants.

#### Planning for divers pursuing PADI Ghost Gear Removal Certification

As the instructor of the PADI Ghost Gear Removal Specialty Course, Mr Ochoa gathered the divers together to brief them on what to expect during the field dive removal operations to be held on Day 2, November 22.

He presented on the PADI Ghost Gear Removal Specialty and the need to mobilize trained recreational divers to remove ALDFG. He showed the divers the kinds of tools needed to gather and cut nets underwater and after they have been pulled out of the water. He discussed how to streamline SCUBA gear (weights, regulators, etc.) to minimize entanglement risk. He illustrated how the net should be cut into manageable pieces so that they can be packed into a lift bag for lifting to the surface.

He discussed the plan for the next day, instructing selected divers to put coloured tape on parts of the nets to show where the nets would be cut and where they should be attached to lift bags.

ARAP identified four gillnets for the exercise the next day. They were all located near Tobago and Taboguilla Islands. Two were on rocky reefs, one was on sand bottom, and one was on coral.



## Day 2

Activities for Day 2 were split between divers pursuing PADI Ghost Gear Removal Certification (Divers) their support team (Support), and workshop participants observing the dive removal operations (Observers).

The diver removal activities were focused on 4 nets previously identified by ARAP near Taboga and Taboguilla Islands.

After the removal of the 4 nets, they were transported back to ARAP offices in Panama City where they were dried. ARAP stores and combines removed nets for eventual reuse or recycling. ARAP transcribed its field records into electronic format as part of its program record-keeping. The removed nets weighed a total of 16.6 Kg and measured a total of 45.5 m in length. Nets contained dead coral fragments, cirripeds, and shells.

## Day 3

Divers reconvened at the workshop hotel on Day 3 for final classroom instruction. Edgardo Ochoa presented additional information from the Ghost Fishing Gear Removal Diver Distinctive Specialty Instructor Outline. During this session, participants were encouraged to provide comments about the Day 2 operations and how it related to the classroom material.

The outline of topics covered by Mr. Ochoa and general points covered in the discussion were as follows:

### Sea/diving conditions

#### Visibility

- Visibility is particularly important related to multiple divers in the water.
- Highly visible gear is recommended. Dual colors are more visible.
- Shade affects visibility.
- Suggest making mesh collection bags highly visible.

#### Wind and Waves

- Need well-prepared surface support team.
- Boat diver needs to be really good, so divers don't have to swim with nets.

#### Water Temperature

- In cold water you use your air faster.
- You can lose your ability to manage clips, etc.

#### Currents and Surge

- Abort the dive if strong currents are encountered.
- On the fourth net, the current was strong on the surface but calm on bottom. This was a consideration when bringing the net to the surface.
- Know how much weight to use so you can descend in currents.
- Slack tide is a good time to dive.
- Sometimes there are different currents at different depths.
- Recommend having a diver holding the dive marker so it doesn't drift off.
- Need to communicate current conditions.
- Avoid sites with surge.

## Potential Hazards

### Entanglement

- Streamline gear.
- Keep net down current.
- Keep knives on inside of leg.
- Practice taking off/putting on rig.
- Dive buddies are very important.
- Return with plenty of air because you can get entangled at the end of a dive.
- National Oceanic and Atmospheric Administration (NOAA) free divers keep a pony tank at the ready.
- Safety divers also can have extra gas.

### Entanglement of marine life

- Exercise caution around live animals for diver and animal safety.
- Report mammals or sea turtles to local stranding network.
- Do not attempt to disentangle large mammals without proper training.

### Falling objects

- Take precautions to keep out from under a lifting device and recovered object as they ascend and after it is on the surface.
- It helps to bundle gear with carabiners.
- Bundling nets helped to make them more manageable.
- Use lift bags to lift gear to the surface.

### Gas management

- Have a team of safety divers to check gas.
- Emphasize buoyancy control to help manage gas and avoid entanglement.

## Post Dive Activities

- Data is very important. Use the GGGI Ghost Gear Reporter App.
- Data is important to influence policy, etc.
- The GGGI Ghost Gear Reporter App allows you to report found gear and removed gear.
- Advise to keep your own program data as well.
- Minimum data to collect is date, location, gear type.

Mr Edgardo Ochoa conducted post-workshop follow up communications with each diver to assess knowledge uptake and finalize the certification process. Those divers achieving PADI Ghost Gear Removal Certification received their cards following this instructor assessment.

## **GENERAL DISCUSSIONS AND CONCLUSIONS**

The analysis of the responses to the pre-workshop questionnaire that were further discussed in each workshop through the working group exercises resulted in the following the recommendations:

- 1) support for risk assessment, including pilot project on risk assessment to implement the Annex on risk assessment in VGMFG;
- 2) campaign to raise awareness about ALDFG and its impact;
- 3) actions to build capacity to deal with ALDFG;

- 4) development of environmentally friendly and affordable gear marking technologies and technical details on how gear should be marked;
- 5) assessment, interpretation, quantification of ALDFG and its impact;
- 6) development of standardized reporting mechanism for ALDFG; and
- 7) funding support to implement VGMFG and BPF, including the inclusion of ALDFG issue in global funding mechanisms.

These recommendations will be incorporated into the new umbrella programme of work on *Responsible practices for sustainable fisheries and reduction of impacts of fishing operations*. Full implementation of the programme will depend on funding availability. The programme will be presented during COFI 34 to seek funding and collaboration with relevant stakeholders involved in marine litter management.

There is already a formal collaboration between IMO and FAO through the Global Partnerships for Marine Litter programme (GloLitter) aimed to assist developing countries to prevent and reduce marine plastic litter from the maritime transport and fisheries sectors; and identify opportunities for the reduction of plastic uses in both industries. The first phase of this programme will address many challenges identified during this series of regional workshops including:

- 1) The development of knowledge products and capacity building tools in support of wider capacity building on the subject, and their dissemination to expand global awareness and stakeholders' support in dealing with sea-based sources of marine plastic litter (SBMPL);
- 2) The preparation of countries' national status, policies and action plans in dealing with SBMPL as a basis for undertaking Legal, Policy and Institutional Reforms at national levels;
- 3) The delivery of capacity building activities to enhance the enforcement of MARPOL Annex V, LC/LP and relevant FAO instruments as well as port waste management inclusive of port reception facilities;
- 4) The development of regulatory and best practice guidelines and tools to prevent and reduce ALDFG;
- 5) Establishment of public-private partnerships in order to spur the development of cost-effective marine plastic litter management solutions, promotion of women empowerment in dealing with SBMPL and definition of a follow-up Phase II scaling-up and demonstration projects.

## APPENDIX 1: FAO/GGGI WORKSHOPS ON THE BEST PRACTICES TO PREVENT AND REDUCE ALDFG - AGENDAS

Port Vila, (Vanuatu) 27–30 May 2019

Monday, 27 May 2019

Introduction	
08.30–09.00	Registration
09.00–09.45	Opening Ceremony <ul style="list-style-type: none"> <li>• Call to order – <i>Ingrid Giskes, Director, Global Ghost Gear Initiative</i></li> <li>• Opening Prayer</li> <li>• Welcoming Address – <i>Mr. Graham Nimoho, Assistant FAO Programme Representative for Vanuatu</i></li> <li>• Opening Remarks – <i>Mr. Rocky Kaku on behalf of Mr. William Naviti, Director of Fisheries Vanuatu</i></li> </ul>
09.45–10.00	Introduction to the workshop, moderators and workshop objectives <i>Ingrid Giskes, GGGI &amp; Pingguo He, FAO</i>
10.00–10.45	<b>Working Group Task 1:</b> Initial identification of problem lost gear in source fisheries in the region. <i>Ingrid Giskes, GGGI</i>
10.45–11.00	Coffee break
International Context, Guidelines, Instruments and Best Practice.	
11.00–11.20	Preventing and reducing marine litter from fishing operations, challenges and solutions: Introducing the GGGI's Best Practice Framework <i>Ingrid Giskes, GGGI</i>
11.20–11.30	Questions and discussion
11.30–11.50	International policy framework and FAO's Voluntary Guidelines for the Marking of Fishing Gear <i>Amparo Pérez, FAO</i>
11.50–12.10	Overview of the provisions of FAO's Voluntary Guidelines for the Marking of Fishing Gear <i>Pingguo He, FAO</i>
12.10–12.30	Questions and discussion
12.30–13.30	Lunch
13.30–13.50	IMO's work on marine litter and ALDFG: MARPOL Annex V, the London Convention/Protocol, and the IMO Action Plan. <i>Ms. Mavis Joseph, IMO</i>
13.50–14.15	Stakeholder perceptions of gear marking issues. <i>Pingguo He, FAO</i>
14.15–14.30	Questions and discussion
14.30–14.45	Coffee Break

Regional actions, mechanisms and perspectives	
14:45–15:10	Understanding gear loss globally – results of CSIRO/FAO study and GGGI data portal platform <i>Kelsey Richardson, CSIRO/GGGI Build Evidence Working Group</i>
15:10–15:30	Scale, connectivity and loss of drifting FADs in the WCPO. <i>Dr Joe Scutt Philips, SPC</i>
15:30–15:50	FAD Best Practice Management Vanuatu <i>Vanuatu Fisheries Department</i>
15:50–16:10	Voluntary Measures Adopted by Industry to Address FAD Impacts. <i>Matthew Owens, TriMarine</i>
16:10–16:30	Questions and discussion
16:30	Close for the day

### Tuesday, 28 May 2019

Regional actions, mechanisms and perspectives (cont.)	
09:00–09:10	Recap day 1 and overview of the day 2 <i>Ingrid Giskes, GGGI</i>
09:10–09:30	Summary of responses to the pre-workshop questionnaire on management of fishing gear. <i>Amparo Pérez, FAO</i>
09:30–09:50	Regional Waste Management Perspectives. <i>Ms. Karen Baird, SPREP</i>
09:50–10:00	Questions and Discussion
10:00–10:20	Analysis of the observer records in the Pacific. <i>Kelsey Richardson, CSIRO</i>
10:20–10:30	Questions and Discussion
10:30–10:50	Coffee break
10:50–11:10	New Zealand's work on ALDFG nationally and internationally. <i>James Andrew, New Zealand</i>
11:10–11:30	Overview of the Commonwealth Marine Litter Programme in Vanuatu and the Solomon Islands <i>David Ward, British High Commission</i>
11:30–11:45	Questions and Discussion
11:45–12:00	Introduction to workshop sessions that will take place after lunch <i>Joan Drinkwin, NRC</i>
12:00–13:30	Lunch
Working Groups	
13:30–13:45	Overview of the main source fisheries in the region <i>Dr Julie Lloyd, FFA</i>
13:45–14:45	<b>Working Group Task 2:</b> In depth analysis of the application of different forms of best practice to the regional situation. <i>Joan Drinkwin, NRC</i>
14:45–15:00	Coffee break
15:00–15:45	Working groups continue. <i>Joan Drinkwin, NRC</i>
15:45–16:00	Each working group report to plenary + Questions and discussion on the working group reports. <i>Joan Drinkwin, NRC</i>
16:00	Close for the day – leave for Harbour Cruise on the bus
Field trip	
Sunset cruise in the harbour followed by a dinner at the Warwick hotel.	

**Wednesday, 29 May 2019**

<b>Working Groups</b>	
09.00–09.30	Recap and overview of Plan for Day 3 Discussion and formulation of priority scenarios in the region. <i>Joan Drinkwin, NRC</i>
09.30–10.30	<b>Working groups task 3:</b> Working groups will be formed to discuss identified challenges/scenarios in the region and identify how best practice could be better applied. <i>Joan Drinkwin, NRC</i>
10.30–10.45	Coffee break
10.45–11.15	Continuation of working groups. <i>Joan Drinkwin, NRC</i>
11.15–12.00	Each working group report to plenary, questions and discussion. <i>Joan Drinkwin, NRC</i>
12.00–13.30	Lunch
13.30–14.30	<b>Working Group Task 4:</b> The participants will be divided into the following four groups to address the implementation best practices to reduce ALDFG taking into account the outcomes of the previous workshop sessions and the information that has been shared throughout the workshop: <ul style="list-style-type: none"> <li>• Legal and policy</li> <li>• Institutional and capacity development</li> <li>• Operational</li> <li>• Cooperation through regional mechanisms (RFB/RFMOs)</li> </ul> <i>Joan Drinkwin, NRC</i>
14.30–14.45	Coffee Break
14.45–15.45	Continuation of working groups. <i>Joan Drinkwin, NRC</i>
15.45–16.45	Each working group report to plenary and questions and discussion the working group reports.
16.45	Close for the day

**Thursday, 30 May 2019**

<b>Working groups and outcomes</b>	
09:00–10:30	Adoption of Workshop conclusions on priorities, actions and next steps, based on reports by Working Groups <i>Pingguo He, FAO</i>
10:30–10:45	Coffee break
10:45–11:30	Adoption of workshop conclusions (continued) <i>Pingguo He, FAO</i>
<b>Closure of workshop</b>	
11:30–12:00	Evaluation of workshop <i>Ingrid Giskes, GGGI</i>
12:00	Close of Workshop <i>Ingrid Giskes, GGGI</i>
12:00	Lunch

**Bali (Indonesia), 8–11 July 2019****Monday, 8 July 2019**

<b>Introduction</b>	
08:30–09:00	Registration
09:00–09:45	Opening Ceremony <ul style="list-style-type: none"> <li>• Call to order – <i>Ingrid Giskes, GGGI/FAO</i></li> <li>• Welcoming Address - <i>Mr. Purbaya Yudhi Sadewa, Deputy Minister for Maritime Sovereignty Affairs</i></li> <li>• Opening Remarks - <i>Cassandra DeYoung, FAO RAP</i></li> </ul>
09:45–10:00	Introduction to the workshop, moderators and workshop objectives <i>Ingrid Giskes, GGGI &amp; Pingguo He, FAO</i>
10:00–11:00	<b>Working Group Task 1:</b> Initial identification of problem lost gear in source fisheries in the region. <i>Ingrid Giskes, GGGI</i>
11:00–11:15	Coffee break
<b>International Context, Guidelines, Instruments and Best Practice.</b>	
11:15–11:30	Summary of responses to the pre-workshop questionnaire on management of fishing gear. <i>Amparo Pérez, FAO</i>
11:30–11:45	International policy framework and FAO's Voluntary Guidelines for the Marking of Fishing Gear. <i>Amparo Pérez, FAO</i>
11:45–12:15	Overview of the provisions of FAO's Voluntary Guidelines for the Marking of Fishing Gear & Stakeholder perceptions on gear marking issues. <i>Pingguo He, FAO</i>
12:15–12:30	Questions & Discussion
12:30–13:30	Lunch
13:30–14:00	Preventing and reducing marine litter from fishing operations, challenges and solutions: Introducing the GGGI's Best Practice Framework <i>Ingrid Giskes, GGGI</i>
14:00–15:30	<b>Working groups task 2:</b> Working groups will be formed to discuss identified challenges/scenarios in the region and identify how best practice could be better applied – including discussion and report back. <i>Rich Lincoln, Ocean Outcomes</i>
15:30–15:45	Coffee Break
15:45–16:05	IMO's work on marine litter and ALDFG: MARPOL Annex V, the London Convention/Protocol, and the IMO Action Plan. <i>Roel Hoenders</i>
16:05–16:30	Questions and discussion
16:30	Close for the day

**Tuesday, 9 July 2019**

<b>Regional actions, mechanisms and perspectives</b>	
09:00–09:10	Recap day 1 and overview of the day 2 <i>Ingrid Giskes, GGGI</i>
09:10–09:20	Overview of main fishing gears used in the region. <i>Taweekiet Amornpiyakrit, SEAFDEC</i>
09:20–09:40	'COBSEA Regional Action Plan on Marine Litter 2019: regionally identified priorities and needs related to sea-based sources of marine litter and ongoing efforts through COBSEA' <i>Jerker Tamelander, COBSEA</i>
09:40–9:50	'Supporting activities through technical assistance for responsible fishing practices in Southeast Asia' <i>Mr. Akito Sato, SEAFDEC</i>
<b>Local actions, mechanisms and perspectives</b>	
09:50–10:10	Gear marking Project in Indonesia - a case study <i>Dr Fayakun Satria, Research Institute for marine fisheries, Ministry of Marine and Fisheries (MMAF)</i>
10:10–10:25	Gear Marking in Indonesia - a case study (continued) <i>Alan Steele, Septillion</i>
10:25–10:45	Net recycling Project in Merauke <i>Tonny Wagey, TierraMar</i>
10:45–11:00	Evaluation of current net recycling initiatives in Indonesia <i>Roderic Hodges, Marine Change</i>
11:00–11:15	Questions and Discussion
11:00–11:30	Coffee break
11:30–13:30	<b>Working Group Task 3:</b> In depth analysis of the application of different forms of best practice to the regional situation – including report back. <i>Rich Lincoln, Ocean Outcomes</i>
13:30–14:30	Lunch
<b>Local actions, mechanisms and perspectives</b>	
14:30–15:30	Lightening talks of projects in the region ( 5 to 10 mins each): <ul style="list-style-type: none"> <li>- <i>Thanda Kho Gyi, Myanmar Ocean Project – Pilot survey of ghost gear in Myanmar's Myeik Archipelago"</i></li> <li>- <i>Hannah Pragnell-Raasch, Project Aware – The importance of creating a baseline</i></li> <li>- <i>Mr. Li Lingzhi, East China Sea Fisheries Research Institute of Chinese Academy of Fishery Sciences - The basic technology research for China coast fishing gear management.</i></li> <li>- <i>Joeren S. Yleaña, Researcher at DA-BFAR - Philippine's Fisheries Policies/Programs for ALDFG</i></li> <li>- <i>Pedro Rodrigues, Ministry of Agriculture and Fisheries, Timor Leste - Timor Leste Fishing Licensing system</i></li> <li>- <i>Rocky Pairunan, IPNLF - 'Establishing a global ALDFG baseline for one-by-one tuna through data collection'</i></li> </ul>
TBC	Close of workshop



### Wednesday, 10 July 2019

Working Groups	
09:00–09:30	Recap and overview of Plan for Day 3 <i>Rich Lincoln, Ocean Outcomes</i>
09:30–11:30	<b>Working Group Task 4:</b> The participants will be divided into the following four groups to address the implementation best practices to reduce ALDFG taking into account the outcomes of the previous workshop sessions and the information that has been shared throughout the workshop: <ul style="list-style-type: none"> <li>• Legal and policy</li> <li>• Institutional and capacity development</li> <li>• Operational</li> <li>• Cooperation through regional mechanisms (RFB/RFMOs)</li> </ul> <i>Rich Lincoln, Ocean Outcomes</i>
11:30–11:45	Coffee Break
11:45–13:00	Continue <b>Working Group Task 4</b> <i>Rich Lincoln, Ocean Outcomes</i>
13:00–14:00	Lunch
14:00–14:45	TBC
14:45–15:00	Coffee Break
15:00–16:30	Discussion and adoption of workshop recommendations, discussion on priorities, actions and next steps, based on reports by Working Groups <i>Pingguo He, FAO</i>
16:30–16:45	Evaluation of workshop <i>Amparo Perez, FAO</i>
16:45	Close for the day

### Thursday, 11 July 2019

Field Trip to Port of Benoa	
8:00	Gathering at the hotel lobby

**Dakar (Senegal), 14–17 October 2019****Monday, 14 October 2019**

<b>Introduction</b>	
08:30–09:00	Registration
09:00–09:45	Opening Ceremony <ul style="list-style-type: none"> <li>• Call to order and Joanna’s memorial – <i>Pingguo He, FAO</i></li> <li>• Welcoming Address - <i>Dr Mamadou Goudiaby – Director Maritime Fisheries</i></li> <li>• Opening Remarks - <i>Mr Gouantoueu Robert GUEI, Coordinator of the FAO Sub-Regional Office for West Africa and FAO Representative in Senegal</i></li> </ul>
09:45–10:00	Introduction to the workshop, moderators and workshop objectives <i>Rich Lincoln, GGGI/O2</i>
10:00–11:00	<b>Working Group Task 1:</b> Initial identification of problem lost gear in source fisheries in the region preceded by an introduction of major fishing gears (Pingguo He). <i>Rich Lincoln, GGGI/O2</i>
11:00–11:15	Group photo & Coffee break
<b>International Context, Guidelines, Instruments and Best Practice.</b>	
11:15–11:30	Summary of responses to the pre-workshop questionnaire on management of fishing gear. <i>Amparo Pérez, FAO</i>
11:30–11:45	International policy framework and FAO’s Voluntary Guidelines for the Marking of Fishing Gear. <i>Amparo Pérez, FAO</i>
11:45–12:15	Overview of the provisions of FAO’s Voluntary Guidelines for the Marking of Fishing Gear & Stakeholder perceptions on gear marking issues. <i>Pingguo He, FAO</i>
12:15–12:30	Questions & Discussion
12:30–13:30	Lunch
13:30–14:00	Preventing and reducing marine litter from fishing operations, challenges and solutions: Introducing the GGGI’s Best Practice Framework <i>Ingrid Giskes, GGGI/FAO</i>
14:00–15:30	<b>Working groups task 2:</b> Working groups will be formed to discuss identified challenges/scenarios in the region and identify how best practice could be better applied. <i>Rich Lincoln and Perry Broderick, GGGI/O2</i>
15:30–15:45	Coffee Break
15:45–16:05	<b>Working groups task 2 ( continued):</b> discussion and report back. <i>Rich Lincoln and Perry Broderick, GGGI/O2</i>
16:05–16:30	Discussion
16:30	Close for the day
	Welcome dinner at 19:00

## Tuesday, 15 October 2019

Regional actions, mechanisms and perspectives	
09:00–09:10	Recap day 1 and overview of the day 2 <i>Rich Lincoln, GGGI/O2</i>
09:10–09:30	IMO's work on marine litter and ALDFG: MARPOL Annex V, the London Convention/Protocol, and the IMO Action Plan. <i>Mr. Honorat Hoba, IMO, Regional Coordinator</i>
09:30–09:50	Engins de pêche utilisés au Sénégal. <i>Mr Abdoulaye Diedhiou, Division of Industrial Fishing, Senegal Ministry of Fisheries and Marine Economy</i>
09:50–10:10	Lost and abandoned FADs, impacts and solutions. <i>Gala Moreno, ISSF</i>
10:10– 10:30	Questions and Discussion
10:30–11:00	Coffee break
11:00–13:00	<b>Working Group Task 3:</b> In depth analysis of the application of different forms of best practice to the regional situation – including report back. <i>Rich Lincoln and Perry Broderick, GGGI/ O2</i>
13:00–14:00	Lunch
Local actions, mechanisms and perspectives	
14:00–15:00	Lightening talks of projects/initiatives in the region ( 5 to 10 mins each) <ul style="list-style-type: none"> <li>- Large scale test of Biodegradable FADs with Ghanaian fleets - <i>Gala Moreno (ISSF)</i></li> <li>- Circular Economy in the fishing gear value chain - <i>Christina Dixon (EIA)</i></li> <li>- Fishing Net Gains in Nigeria - <i>Nathaniel Joshua (SOFER Initiative)</i></li> <li>- Ecological Impacts of Abandoned, Lost or Otherwise Discarded Fishing Gear (ALDFG) on Fisheries Resources at the coastal communities in Ghana - <i>Charles K. Darko Jnr (Fishery Manager in Ghana)</i></li> <li>- Economical solutions to conservation challenges - <i>Mike Mwang'ombe</i></li> </ul> <i>Perry Broderick, GGGI/ O2</i>
15:00–15:30	Coffee break
15:30–15:3	Review of two previous workshops <i>Pingguo He, FAO</i>
16:15–16:30	Introduction to action plan <i>Perry Broderick, GGGI/ O2</i>
16:30–17:00	Questions and discussions
17:00	Close for the day

## Wednesday, 16 October 2019

Working Groups	
09:00–09:30	Recap and overview of Plan for Day 3 <i>Perry Broderick, GGGI/ O2</i>
09:30–11:30	<b>Working Group Task 4 – Action Planning:</b> The participants will be divided into groups according to geographic or stakeholder categories to develop action plans aimed to prevent and reduce ALDFG, considering outcomes of the previous workshop sessions and information that has been shared throughout the workshop. <i>Perry Broderick, GGGI/O2</i>
11:30–11:45	Coffee Break

11:45–13:00	<b>Working Group Task 5: Workshop recommendations</b> Small groups will discuss draft recommendations provided for consideration the previous day and consider refinements, additions and relative importance in context of addressing ALDFG in the region <i>Pingguo He, FAO</i>
13:00–14:00	Lunch
14:00–14:45	<b>Working Group Task 4</b> (continued) Discussion of action plans back in plenary. <i>Perry Broderick, GGGI/ O2</i>
14:45–15:00	Coffee Break
15:00–16:30	Discussion and adoption of workshop recommendations, discussion on priorities, actions and next steps, based on reports by Working Groups <i>Pingguo He, FAO</i>
16:30–16:45	Evaluation of workshop <i>Amparo Perez, FAO</i>
16:45	Farewells and Workshop Close

**Thursday, 17 October 2019**

**Field visit to Yoff landing site and fish market**

**Panama City (Panama), 18–23 November 2019**

**Agenda Part I, 18–20 November 2019**

**Monday, 18 November 2019**

<b>Introduction</b>	
08:30–09:00	Registration
09:00–09:45	Opening Ceremony <ul style="list-style-type: none"> <li>• Call to order – <i>Ingrid Giskes, GGGI/FAO</i></li> <li>• Opening Remarks - <i>Adoniram Sanches Peraci, FAO Coordinator Subregional Office for Mesoamerica</i></li> <li>• Welcoming Address - <i>Yarelis Castillo, ARAP</i></li> </ul>
09:45–10:00	Introduction to the workshop, moderators and workshop objectives <i>Ingrid Giskes, GGGI/FAO &amp; Jon Lansley, FAO</i>
10:00–10:15	Coffee break
10:15–11:15	<b>Working Group Task 1:</b> Initial identification of problem lost gear in source fisheries in the region. <i>Ingrid Giskes, GGGI/FAO</i>
<b>International Context, Guidelines, Instruments and Best Practice.</b>	
11:15–11:30	Summary of responses to the pre-workshop questionnaire on management of fishing gear. <i>Amparo Pérez, FAO</i>
11:30–11:45	International policy framework and FAO's Voluntary Guidelines for the Marking of Fishing Gear. <i>Amparo Pérez, FAO</i>
11:45–12:15	Overview of the provisions of FAO's Voluntary Guidelines for the Marking of Fishing Gear & Stakeholder perceptions on gear marking issues. <i>Pingguo He, FAO</i>
12:15–12:30	Questions & Discussion
12:30–13:30	Lunch
13:30–14:00	Preventing and reducing marine litter from fishing operations, challenges and solutions: Introducing the GGGI's Best Practice Framework <i>Ingrid Giskes, GGGI/FAO and Lynn Kavanagh, WAP</i>
14:00–15:30	<b>Working groups task 2:</b> Working groups will be formed to discuss identified challenges/scenarios in the region and identify how best practice could be better applied – including discussion and report back. <i>Joan Drinkwin, NRC</i>
15:30–15:45	Coffee Break
15:45–16:05	IMO's work on marine litter and ALDFG: MARPOL Annex V, the London Convention/Protocol, and the IMO Action Plan. <i>Colin Young, IMO</i>
16:05–16:25	The GGGI data portal. <i>Gideon Jones, Emerald Sea Protection Society</i>
16:25–17:00	Questions and discussion
17:00	Close for the day
	<b>Welcome dinner 19:00</b>

**Tuesday, 19 November 2019**

<b>Regional actions, mechanisms and perspectives</b>	
09:00–09:10	Recap day 1 and overview of the day 2 <i>Ingrid Giskes, GGGI/FAO</i>
09:10–09:20	Overview of main fisheries and fishing gears used in Central America and South America. <i>Javier Villanueva, FAO</i>
09:20–09:45	Reducing fishing gear loss into the marine environment: a collaboration between GGGI and GPML-Caribe. <i>Fadilah Ali, Gulf and Caribbean Fisheries Institute</i>
09:45–10:10	Plan de acción regional sobre basura marina en el Pacífico Sudeste. <i>Fernando Félix, CPPS</i>
<b>Local actions, mechanisms and perspectives</b>	
10:00–10:45	National initiatives from governments, NGOs, private sector... <ul style="list-style-type: none"> <li>- Panamenian Action Plan_<i>Alexis Peña, Panamá</i></li> <li>- Motion for resolution on the technical standards for regular use and possession of monofilament gillnets and trammel nets_<i>Cristian O. Palma G, Venezuela</i>.</li> <li>- Abandoned, lost or discarded fishing gear. The Uruguayan case <i>Julio Chocca, Uruguay</i>.</li> </ul>
10:45–11:00	Coffee break
11:00–11:45	<ul style="list-style-type: none"> <li>- Abandoned, lost and discarded fishing gear: context in Costa Rica_<i>Jesús Alfaro Rodríguez, Costa Rica</i></li> <li>- Addressing ghost fishing in the Mexican Caribbean region through capacity building, community engagement, and public-private collaboration_<i>Karen Fuentes, Manta Caribbean Project</i></li> <li>- Artisanal fisheries, fishing gears and ghost fishing in Peru /Pesca Artesanal, artes de pesca, y pesca fantasma en el Perú_<i>Wilbert Marín Soto, PERU</i></li> </ul>
11:45–12:45	<b>Working Group Task 3:</b> In depth analysis of the application of different forms of best practice to the regional situation – including report back. <i>Joan Drinkwin, NRC</i>
12:45–13:45	Lunch
13:45–14:45	<b>Working Group Task 3 (cont):</b> In depth analysis of the application of different forms of best practice to the regional situation – including report back. <i>Joan Drinkwin, NRC</i>
<b>Local actions, mechanisms and perspectives</b>	
14:45–15:25	Lightening talks of projects in the region and elsewhere: <ul style="list-style-type: none"> <li>- PLASTIX from “END OF LIFE FISHING GEAR” to “GREEN PLASTIC” <i>Kalin Todorov Varbanov, PlastiX Global</i></li> <li>- The Cryptic and transboundary nature of ghost gear in the Maldivian archipelago_<i>Martin Stelfox, Olive Ridely Project</i></li> <li>- Work carried out by TUNACONS on the R&amp;D for the biodegradable FADs_ <i>Carlos A. Rodriguez, TriMarine group</i></li> </ul>
15:25–15:40	Coffee break

15:40–16:25	<ul style="list-style-type: none"> <li>- The sustainable use of fishery resources in the framework of the Fisheries and Aquaculture Integration Policy_<i>Violeta Reina, SICA/OSPESCA</i></li> <li>- Reducing Abandoned, lost or otherwise discarded fishing gear in Canada_<i>Marina Petrovic, Fisheries and Oceans Canada</i></li> <li>- Cefas Ghost Gear Initiatives_<i>Bryony Townhill and Stephen Mangi, Cefas</i></li> </ul>
16:25–16:40	Review of previous workshop recommendations <i>Pingguo He, FAO</i>
16:40–17:00	Introduction to next day exercise on Action Planning <i>Joan Drinkwin, NRC</i>
17:00	Close for the day

### Wednesday, 20 November 2019

Working Groups	
09:00–09:30	Recap and overview of Plan for Day 3 <i>Joan Drinkwin, NRC</i>
09:30–11:30	<b>Working Group Task 4 - Action Planning:</b> The participants will be divided into groups according to their stakeholder category to develop action plans with as aim the prevention and reduction of ALDFG taking, into account the outcomes of the previous workshop sessions and the information that has been shared throughout the workshop. <i>Joan Drinkwin, NRC</i>
11:30–11:45	Coffee Break
11:45–13:00	<b>Working Group Task 5: Workshop recommendations</b> Small groups will discuss draft recommendations provided for consideration the previous day and consider refinements, additions and relative importance in context of addressing ALDFG in the region <i>Joan Drinkwin, NRC</i>
13:00–14:00	Lunch
14:00–14:45	Continue <b>Working Group Task 4 – Action Planning:</b> Each group reporter will present their Action Plan in plenary. <i>Joan Drinkwin, NRC</i>
14:45–15:00	Coffee Break
15:00–16:30	Discussion and adoption of workshop recommendations, discussion on priorities, actions and next steps, based on reports by Working Groups <i>Pingguo He, FAO</i>
16:30–16:45	Evaluation of workshop <i>Amparo Perez, FAO</i>
16:45	Close of workshop

### Thursday, 21 November 2019

<b>Field Trip to Vacamonte port<sup>3</sup></b>
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<sup>3</sup> This **activity** is foreseen for those participants **only attending PART I**.

## Agenda Part II, 21–23 November 2019

### GGGI ghost gear diver removal workshop and PADI ghost gear removal certification

#### Thursday, 21 November 2019

8:30	Registration
9:00	Introductions Opening Remarks, and Workshop Objectives <i>Joan Drinkwin - facilitator</i> <i>Joel Bazuik, Deputy Director, Global Ghost Gear Initiative</i> <i>Yarelis de Castillo, ARAP</i>
9:15	Case study: Global and regional efforts to address ghost gear <i>Joel Bazuik, Global Ghost Gear Initiative Hannah Pragnell-Raasch, Project AWARE</i>
9:45	Group Discussion – Participants’ goals and regional ghost gear considerations
10:15	Break
10:30	Considerations for developing a program: It’s not just Diving! <i>Ynes Sanchez, ARAP</i>
11:00	Developing a removal program <i>Joan Drinkwin – facilitator</i>
11:30	Program descriptions <i>Raimundo Espinoza, Conservacion ConCiencia</i> <i>Pascal Van Erp, Ghostfishing</i>
12:00	LUNCH
13:00	Handling Sea Turtles <i>Martin Stelfox, Olive Ridley Project</i>
13:30	Program descriptions: <i>Joan Drinkwin, Puget Sound Program, Natural Resources Consultants</i> <i>Edgardo Ochoa, Conservation International</i>
14:00	Data collection and reporting <i>Joel Bazuik, Global Ghost Gear Initiative</i> <i>Joan Drinkwin, Natural Resources Consultants</i>
14:30	Program Plan Development
15:15	Break
15:30	Coral Considerations <i>Dr. David Kline, Scripps Institution of Oceanography</i>
16:00	Determining whether to remove gear <i>Practical exercise/scenarios/decision trees</i>
16:45:45	Wrap-up <i>Joan Drinkwin – facilitator</i>
17:00	Break
17:30–18:30	Planning meeting for divers pursuing PADI Ghost Gear Removal Certification

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**Participants attending PART II** will stay at the hotel to start the theoretical session of the Ghost Gear Removal Workshop.



**Friday November 22**

**All participants - to observe net removal activity and for divers signed up to receive PADI ghost gear removal certification**

8:00	Bus departs hotel for net removal & observation
	Transit to removal site & observation LUNCH to be provided
17:00	Return to hotel

**Saturday November 23**

**Only for divers signed up to receive PADI Ghost Gear Removal Certification**

8:30	Debrief from Day 2 <i>Joan Drinkwin – facilitator</i>
9:00	Types of fishing gear <i>Edgardo Ochoa – Conservation International</i>
9:45	Site inspection <i>Edgardo Ochoa – Conservation International</i>
10:15	Break
10:30	Dive planning <i>Edgardo Ochoa - Conservation International</i> <i>Ynes Sanchez - ARAP</i>
11:30	Post dive activities <i>Edgardo Ochoa - Conservation International</i>
12:00	Lunch
13:00	Safety protocols – 1.5 hours <i>Edgardo Ochoa - Conservation International</i>
14:30	Wrap-up <i>Joan Drinkwin - facilitator</i>

## APPENDIX 2: LIST OF PARTICIPANTS AND FACILITATORS

### Workshop Port Vila, Vanuatu May 27–30, 2019

Title	Participant's name	Stakeholder category	Organisation name	Region
Ms	Kelsey Richardson	Academia	CSIRO	Australia
Ms	Anissa Lawrence	Consultancy Company	TieraMar Consulting	Australia
Mr	Graham Nimoho	FAO	FAO	VANUATU
Mr	Matt Owens	Fishing Industry	TriMarine	USA
Mr	James Andrew	Government	Ministry for Primary Industries's Fisheries & Aquaculture Sector	New Zealand
Mr	Julian Itsimaera	Government	Nauru Fisheries and Marine Resources Authority	NAURU
Mr	Kamalieli Fidow	Government	Ministry of Agriculture and Fisheries	SAMOA
Mr	Percy Rechelluul	Government	Ministry of Natural Resources, Environment & Tourism - Bureau of Marine Resources	PALAU
Mr	Semesa Banuve	Government	Ministry of Fisheries	FIJI
Ms	Angelica Mafileo	Government	Ministry of Fisheries	TONGA
Ms	Ronelle Panda	Government	Ministry of Fisheries and Marine Resources	SOLOMON ISLANDS
Ms	Teeteu Moriti	Government	Ministry of Fisheries and Marine Resources Development-Licensing Compliance Division	KIRIBATI
Mr	Rocky Kaku	Government	Ministry of Agriculture, Livestock, Fisheries, Forestry and Biosecurity	Vanuatu
Ms	Christina Shaw	NGO	Vanuatu Environmental Science Society - Director	Vanuatu
Ms	Jenny Funusui	NGO	Youth Leader, Tavaruhu Community on Mataniko Rover	Solomon Islands
Mr	Dave Loubser	Regional Body	SPREP	Southwest and Central Pacific
Mr	Dr Joe Scutt Phillips	Regional Body	SPC	Southwest and Central Pacific
Ms	Dr Julie Lloyd	Regional Body	FFA	Southwest and Central Pacific
Mr	Jamie Davies	Regional Body	SPREP	Southwest and Central Pacific
Ms	Karen Baird	Regional Body	SPREP	Southwest and Central Pacific
Ms	Léa Le Bris	Regional Body	SPREP	Southwest and Central Pacific
Mr	Peter Davies	Regional Body	SPREP	Southwest and Central Pacific
Ms	Mavis Joseph	UN Agency	IMO	Southwest Pacific
Ms	Ingrid Giskes	Organizer/Facilitator	GGGI/FAO	Global
Ms	Joan Drinkwin	Organizer/Facilitator	Natural Resource Consultants	USA
Ms	Amparo Perez Roda	Organizer/Facilitator	FAO	Global
Mr	Pingguo He	Organizer/Facilitator	FAO	Global

**Workshop Bali, Indonesia, 8–11 July 2019**

<b>Title</b>	<b>Participant's name</b>	<b>Stakeholder category</b>	<b>Organisation name</b>	<b>Region</b>
Mr	Roderic Wayne Hodges	Consultancy Company	Marine Change	Indonesia, Hong Kong
Mr	Tonny Wagey	Consultancy Company	Tierra Mar	Indonesia
Mr	Abdul Muis Sulaiman	Fishing Industry	Indonesian Pole & Line and Handline Fisheries Association (AP2HI)	Indonesia
Mr	Afien Sudarli	Government	CMMA	Indonesia
Mr	Agus Priyono	Government	MMAF, C. DG for Marine and Fisheries Resources Surveillance	Indonesia
Ms	Agustinah	Government	Coordinating Ministry for Maritime Affairs (CMMA)	Indonesia
Mr	Andri Purnojatmiko	Government	MMAF, Benoa Marine and Fisheries Resources Surveillance Station	Indonesia
Mr	ANNADA BHUSAN KAR	Government	Visakhapatnam Base of Fisheries Survey of India (FSI)	India
Mr	Ayodhia G.L. Kalake	Government	CMMA	Indonesia
Mr	Basilio Dias Araujo	Government	CMMA	Indonesia
Mr	Darus Ismiarto	Government	MMAF, Benoa Marine and Fisheries Resources Surveillance Station	Indonesia
Mr	Dedy Miharja	Government	CMMA	Indonesia
Ms	Desri Yanti	Government	Ministry of Marine and Fisheries (MMAF), Secretariat General	Indonesia
Ms	Dessy Rahmayanti	Government	CMMA	Indonesia
Mr	Endroyono Endroyono	Government	Directorate of Fishing Vessel and Gears, DGCF, MoMAF	Indonesia
Mr	Erfind Nurdin	Government	Capture Fisheries Research Unit, Research Institute for marine fisheries, MMAF	Indonesia
Mr	Fayakun Satria	Government	Capture Fisheries Research Unit, Research Institute for marine fisheries, MMAF	Indonesia
Mr	Fitrianto Dwi Setyawan	Government	MMAF, C. DG for Marine and Fisheries Resources Surveillance	Indonesia
Mrs	Guo Rui	Government	Ministry of Agriculture and Rural Affairs (MARA)	China
Mr	Hamdan Al Mawardi	Government	Directorate of Fishing Vessel and Gears, DGCF, MoMAF	Indonesia
Mr	Helyus Komar	Government	CMMA	Indonesia
Mr	Henri Nurfian	Government	CMMA	Indonesia

Title	Participant's name	Stakeholder category	Organisation name	Region
Mr	Imron Rosyidi	Government	Directorate of Fishing Vessel and Gears, DGCF, MoMAF	Indonesia
Mr	Irfan Kurniawan Danuwidjaja	Government	CMMA	Indonesia
Mr	Ishak Manafe	Government	CMMA	Indonesia
Ms	Iyus	Government	MMAF, DG for Marine Spatial Management	Indonesia
Mr	Jiman Riyadi	Government	CMMA	Indonesia
Mr	Jodi Mahardi	Government	CMMA	Indonesia
Mr	Joeren S. Yleaña	Government	Department of Agriculture, Bureau of Fisheries and Aquatic Resources (DA-BFAR)	Philippines
Ms	Latifa Martini	Government	CMMA	Indonesia
Mr	Li Lingzhi	Government	East China Sea Fisheries Research Institute of Chinese Academy of Fishery Sciences	China
Mr	Markus Chrisvando	Government	CMMA	Indonesia
Ms	Masud Ara Mome	Government	Department of Fisheries	Bangladesh
Mr	Medawaththe Gedara Nishantha Jayakody	Government	Ministry of Agriculture, Livestock Development, Irrigation and Fisheries & Aquatic Resources Development	Sri Lanka
Mr	Mir Allah Dad Talpur	Government	Livestock & Fisheries Department Government of Sindh	Pakistan
Mr	Nanang Widiatmojo	Government	CMMA	Indonesia
Mr	Nengah Bagus Sugiarta	Government	Bali Provincial Government	Indonesia
Mr	Nurhayadi	Government	CMMA	Indonesia
Mr	Pedro Rodrigues	Government	Ministry of Agriculture and Fisheries Dili, Timor - Leste	Timor-Leste
Ms	RA. Adriani Kusumawardan	Government	MINISTRY OF FOREIGN AFFAIRS	Indonesia
Mr	Sahat Panggabean	Government	CMMA	Indonesia
Mr	Sapta Putra	Government	Directorate General for Marine Spatial Management, Ministry of Marine Affairs and Fisheries	Indonesia
Mr	Sehudin	Government	CMMA	Indonesia
Mr	Singgih Yuwono	Government	MINISTRY OF FOREIGN AFFAIRS	Indonesia
Mr	Suko	Government	Ministry of Marine and Fisheries (MMAF), DG for Marine Spatial Management	Indonesia

Title	Participant's name	Stakeholder category	Organisation name	Region
Mr	Suparman	Government	CMMA	Indonesia
Mr	Suy Serywath	Government	Marine Fishery Research and Development Institute (MaFReDI)	Cambodia
Mr	Than Chaung	Government	Ministry of Agriculture, Livestock and Irrigation Department of Fisheries	Myanmar
Ms	Tri Wahyu	Government	Capture Fisheries Research Unit, Research Institute for marine fisheries, MMAF	Indonesia
Mr	Turman Hardianto Maha	Government	MMAF, C. DG for Marine and Fisheries Resources Surveillance	Indonesia
Ms	Vaani Muniandy	Government	Resource Management Section, Marine Parks and Resource Management DivisionDepartment of Fisheries Malaysia	Malaysia
Mr	Widodo Widodo	Government	Directorate of Fishing Vessel and Gears, DGCF, MoMAF	Indonesia
Mr	Wudtichai Wungkahart	Government	Marine Fisheries Research and Development Division, DOF	Thailand
Mr	Yohanes Sulistiono	Government	MMAF, Benoa Marine and Fisheries Resources Surveillance Station	Indonesia
Mr	Rajdeep Mukherjee	Regional Body	BOBP-IGO	Bay of Bengal
Ms	Jing WANG	NGO	Global Environmental Institute	China
Ms	Thanda Ko Gyi	NGO	Myamar Ocean Project	Myanmar
Mr	Rocky Pairunan	NGO / Fishing Industry	International Pole and Line Foundation (IPNLF)	SE Asia
Mr	Jeremy Crawford	NGO / Fishing Industry	International Pole and Line Foundation (IPNLF)	SE Asia
Mr	Richard Hampton Lincoln	Facilitator	Ocean outcomes	USA
Mr	Alan Steele	Private Company	Septillion	Indonesia
Mr	Akito Sato	RFMO	SEAFDEC	SE Asia
Ms	Cassandra De Young	RFMO	FAO RAP and APFIC	Pacific and Indian Ocean
Mr	Taweekiet Amornpiyakrit	RFMO	SEAFDEC	SE Asia
Mr	Roel Hoenders	UN agency	IMO	Global
Mr	Jerker Tamelander	UN Agency	UNEP/COBSEA	SE Asia
Ms	Ingrid Giskes	Organizer/Facilitator	GGGI/FAO	Global
Ms	Amparo Perez Roda	Organizer/Facilitator	FAO	Global
Mr	Pingguo He	Organizer/Facilitator	FAO	Global

**Workshop Dakar, Senegal, 14–17 October 2019**

<b>Title</b>	<b>Participant's name</b>	<b>Stakeholder category</b>	<b>Organisation name</b>	<b>Region</b>
Mr	Lamine Mbaye	FAO	FAO Senegal	Senegal
Ms	Paula Anton	FAO	FAO SWF	West Africa
Ms	Elizabeth Guerra	Fishing Vessel	Asociación de Atuneros Cañeros Dakartuna	Senegal
Mr	Abdelbarcka hmettou Dadda	Government	Service de l'Aquaculture Marine et de l'Océanographie à la Direction de l'Aménagement des Ressources et des Etudes	Mauritania
Mr	Abdoulaye DIEDHIOU	Government	Division Pêche industrielle	Senegal
Mr	ASOOGBA Kokouvi Dziedzom	Government	Suivi, Contrôle et Surveillance des pêches. Direction des Pêches et e l'Acquaculture	Togo
Mr	Charles Kwame Darko Jnr	Government	Ministry of Fisheries and Aquaculture Development	Ghana
Mr	Cheikh FALL	Government	Division Inspection et Contrôle de la Direction de la Protection et de la surveillance des Pêches.	Senegal
Mr	Gobledi Armand Zegbeu (will pass the info to his govt)	Government	Ministry of Fisheries and marine Resources	Côte d'Ivoire
Ms	Hafsat O. Abdullah (she is very good)	Government	Direction de l'Aquaculture et des Pêches	Nigeria
Mr	Hortencio Lima	Government	Federal Department of Fisheries and Aquaculture, Federal Ministry of Agriculture and Rural Development	Cape Verde
Mr	Mamadou DRAME	Government	DGRM	Guinea
Mr	Mamadou SEYE	Government	Division Pêche Industrielle	Senegal
Mr	Famara Darboe	Government	Division Aménagement des Pêches	Gambia
Ms	Geraldine Labor-Sesay	Government	Fisheries Department Ministry of Fisheries & Water Resources	Sierra Leone
Mr	Sidiya DIOUF	Government	Division Pêche artisanale	Senegal
Mr	William Y. Boeh	Government	Technical Services , Ministry of Agriculture	Liberia
Ms	Christina Dixon	NGO	Environmental Investigations Agency (EIA)	UK/Global
Ms	Danica Marlin	NGO	Sustainable Seas Trust	South Africa

<b>Title</b>	<b>Participant's name</b>	<b>Stakeholder category</b>	<b>Organisation name</b>	<b>Region</b>
Ms	Gala Moreno	NGO	ISSF	Global
Mr	Gaoussou Gueye	Fishing Industry	Confederation Africaine des Organisations Professionnelles de Pêche Artisanale (CAOPA)	Mauritanie, Sénégal, Guinée Conakry
Mr	Joshua Nathaniel	NGO	Stand Out for Environmental Restoration (SOFER Initiative)	Nigeria
Ms	Kat Collinson	NGO	Key Traceability	UK
Mr	Mike Mwang'ombe	NGO	Watamu Marine Association	Kenya
Ms	Sophie Decelle	NGO	Calao	Senegal and Cape Verde
Mr	Mohamed Sadiki	RFMO	Ministerial Conference on Fisheries Cooperation among African States Bordering the Atlantic (COMHAFAT-ATLAFCO)	Atlantic African Coast
Mr	Honorat Hoba	UN Agency	IMO	Regional Office for west and central Africa (Francophone)
Mr	Perry Broderick	Facilitator	GGGI/ Ocean Outcomes	USA
Mr	Richard Hampton Lincoln	Facilitator	GGGI/ Ocean outcomes	USA
Ms	Amparo Perez Roda	Organizer/Facilitator	FAO	Global
Mr	Pingguo He	Organizer/Facilitator	FAO	Global

**Workshop Panama City, Panama, 18–23 November 2019**

Name		Stakeholder category	Organisation name	Region
Ms	Fadilah Ali	Academia	Gulf and Caribbean Fisheries Institute	USA
Mr	Isaac Pearlman	Academia	Universidad Maritima Internacional de Panama/Fulbright	Panama
Ms	Jenna Bright	Academia	Archipelago Marine Research	Canada
Mr	Luis Montes	Academia	independent biologist from Panama	Panama
Mr	Bradley Johnson	Fishers Cooperative	Saba Fishers Association	Saba
Mr	Cecil Marquez	Fishers Cooperative	Gouyave Fishers Cooperative Society Ltd	Grenada
Ms	Dahlia Hassell	Fishers Cooperative	Saba Fishers Association	Bonaire
Mr	Luis Acosta	Fishers Cooperative	fisher	Grenada
Mr	Otto de Vries	Fishers Cooperative	Saba Fishers Association	Saba
Mr	Carlos Rodriguez	Fishing Industry	TriMarine group	Panama
Mr	Javier Diaz	Fishing Industry	independent	Panama
Mr	Alex Augusto Gonçalves	Government	Secretaria de Aquicultura e Pesca (SAP/MAPA)	Brazil
Mr	Alexis Peña	Government	ARAP	Panama
Mr	Alwyn Ponteen	Government	Fisheries and Ocean Governance Unit – Department of Agriculture – Ministry of Agriculture, Trade, Lands, Housing and the Environment	Montserrat
Ms	Ana Lorena Rodriguez Castillo	Government	Minister for the Environment	Panama
Ms	Anielka Yorshira Barillas Aguilar	Government	<u>Instituto Nicaragüense de la Pesca y Acuicultura (INPESCA)</u>	Nicaragua
Mr	Aquiles Cardenas	Government	ARAP	Panama
Ms	Bryony Townhill	Government	Cefas	United Kingdom of Great Britain and Northern Ireland
Mr	Carlos Marín Arriola	Government	Dirección de la normatividad de la Pesca y la Acuicultura (DIPESCA), Ministerio de Agricultura, Ganadería y Alimentación	Guatemala
Ms	Cecilia Solís Fernández	Government	SERNAPESCA	Chile
Mr	Charlie Prospere	Government	Fisheries department of the Ministry of Agriculture, Fisheries, Physical Planning, Natural Resources and Co-operatives	Saint Lucia
Mr	Colvin Taylor	Government	Fisheries division	Barbados



Name		Stakeholder category	Organisation name	Region
Mr	Cristian Orlando Palma González	Government	Ministerio del Poder Popular de Pesca y Acuicultura (MINPESCA)	Venezuela, Bolivarian Republic of
Mr	Dimitri Bagatelas	Government	ARAP	Panama
Mr	Enrique Glasgow	Government	ARAP	Panama
Mr	Eusebio Gaona	Government	ARAP	Panama
Ms	Felicia Cruz	Government	Belize Fisheries Department	Belize
Ms	Georgina Ivonne Mariona Castillo	Government	Ministerio del Medio Ambiente	El Salvador
Mr	Hilroy Simon	Government	Fisheries division Antigua and Barbuda	Antigua and Barbuda
Mr	Howard Simpson	Government	National Fisheries Authority	Jamaica
Mr	Jeremie Saunders	Government	Department of Marine Resources	Bahamas
Mr	Jesús Rodríguez Rull	Government	GEIA Dept. Acuicultura y Pesca	Cuba
Mr	Jesús Alberto Alfaro Rodríguez	Government	Instituto Costarricense de Pesca y Acuicultura (INCOPESCA)	Costa Rica
Mr	Jorge Abadía	Government	ARAP	Panama
Mr	Julio Caicedo	Government	SENAN	Panama
Mr	Julio Lozano	Government	Ministerio de Ambiente	Panama
Mr	Julio Fernando Chocca Bosio	Government	DINARA	Uruguay
Mr	Junior Squire	Government	National Fisheries Authority	Jamaica
Mr	Kapel Williams	Government	National Fisheries Authority	Jamaica
Ms	Katherine Bustamante	Government	ARAP	Panama
Mr	Komal Seereram	Government	Ministry of Agriculture - Fisheries department	Guyana
Ms	Maria Jose Coello Chandias	Government	Direccion General de Pesca y Acuicultura	Honduras
Ms	Marina Petrovic	Government	Fisheries and Oceans Canada	Canada
Mr	Mario Achmed Yspol	Government		Suriname
Ms	Maylin Díaz	Government	ARAP	Panama
Ms	Nadia Ramphal	Government	Ministry of Agriculture, land and fisheries - Fisheries Division	Trinidad and Tobago
Ms	Nelly Scott	Government	ARAP	Panama
Mr	Orlando Arauz	Government	ARAP	Panama
Mr	Ricardo Robert Roth	Government	Instituto Nacional de Investigación y Desarrollo Pesquero (INIDEP)	Argentina
Mr	Richard Cañarte	Government	Ministerio de Producción, Comercio Exterior, Inversiones y Pesca (MPCEIP)	Ecuador
Mr	Romeo Guerrero	Government	Centro de Desarrollo de la Pesca y la Acuicultura (CENDEPESCA), Ministerio de Agricultura y Ganadería	El Salvador

Name		Stakeholder category	Organisation name	Region
Ms	Shellene Berry	Government	National Fisheries Authority	Jamaica
Mr	Stephen Mangi	Government	Centre for Environment, Fisheries and Aquaculture Science (Cefas)	United Kingdom of Great Britain and Northern Ireland
Mr	Vladimir Enoch Torres De Leon	Government	ARAP	Panama
Mr	Wilberto Angulo Viveros	Government	Autoridad nacional de acuicultura y pesca (AUNAP), DTIV	Colombia
Mr	Wilberto Marín soto	Government	Instituto del Mar del Perú (IMARPE)	Peru
Mr	Wilmot Alleyne	Government	Department of Marine Resources (DMR)	Saint Kitts and Nevis
Ms	Xenia Vergara	Government	ARAP	Panama
Ms	Yarelis de Castillo	Government	Autoridad de los Recursos Acuáticos de Panamá (ARAP)	Panama
Ms	Yazmin Ruiz	Government	ARAP	Panama
Mr	Yesuri Pino	Government	ARAP	Panama
Ms	Ynes Sánchez	Government	ARAP	Panama
Ms	Zethra Baron	Government	Fisheries Division	Dominica
Mr	Tylon Joseph	Fishers Cooperative	fisher	Grenada
Mr	Ben Harris	NGO	The Other Panama	Panama
Mr	Edgardo Ochoa	NGO	Conservation International	USA
Ms	Gala Moreno	NGO	International Seafood Sustainability Foundation (ISSF)	Global
Mr	Gideon Jones	NGO	Emerald Sea Protection Society	Canada
Ms	Hannah Pragnell-Raasch	NGO	Project Aware	Australia
Mr	José Alvarez	NGO	WWF Perú	Peru
Ms	Lynn Kavanagh	NGO	World Animal Protection (WAP)	Canada
Ms	Karen Fuentes	NGO	Manta Caribbean Project	Mexico
Mr	Kenrith Carter	NGO	Ocean Spirits Inc	Grenada
Ms	Lorena Rocha Tejeda	NGO	Conservación y Pesquerías de COBI (Comunidad y Biodiversidad)	Mexico
Mr	Martin Stelfox	NGO	Olive Ridely Project	UK
Ms	Orisha Joseph	NGO	Sustainable Grenadines Inc (SusGren)	St Vincent and the Grenadines
Mr	Raimundo Espinoza	NGO	Conservacion ConCiencia	Puerto Rico
Mr	Rodolfo García	NGO	Solidaridad Network	Mexico
Mr	Zacari Edwards	NGO	International Pole and Line Foundation	Global
Mr	Haraldur Einarsson	Organizer	FAO	Global
Ms	Jaclyn McGarry	Organizer	GGGI/OC	USA
Mr	Javier Villanueva García Benítez	Organizer	FAO	SLM

Name		Stakeholder category	Organisation name	Region
Mr	Joel Baziuk	Organizer	GGGI/OC	Canada
Mr	Jon Lansley	Organizer	FAO	Global
Ms	Juliana Do Lum	Organizer	FAO	SLM
Ms	Maddie Black	Organizer	Ocean Conservancy	USA
Ms	Cory Coates	Private Company	Scuba Coiba	Panama
Mr	Herbert Sunk	Private Company	Scuba Coiba	Panama
Mr	Jared Berg	Private Company	Monterey Bay Diving	USA
Mr	Kalin Varbanov Todorov	Private Company	PlastiX Global	Denmark
Mr	Paul Strike	Private Company	Fourth Element	UK
Mr	Fernando Félix	RFMO	Permanent Commission for the South Pacific (CPPS)	Chile, Colombia, Ecuador, Peru
Ms	Violeta María Reina Gómez	RFMO	SICA/OSPESCA	America Central
Mr	Carlos Pulgarin	FAO	FAO	Panama
Mr	Colin Young	UN Agency	IMO	The Caribbean region
Ms	Ingrid Giskes	Organizer/facilitator	GGGI/FAO	Global
Ms	Joan Drinkwin	Organizer/facilitator	Natural Resource Consultants	USA
Ms	Amparo Perez Roda	Organizer/facilitator	FAO	Global
Mr	Pingguo He	Organizer/facilitator	FAO	Global

### APPENDIX 3: PRE-WORKSHOP QUESTIONNAIRE

FOR SUBMISSION BY DD/MM/2019

TO: ALDFG@fao.org

#### Stakeholder questionnaire on prevention and reduction of abandoned, lost or otherwise discarded fishing gear

COUNTRY:

ORGANIZATION/INSTITUTION:

FIRST NAME:

LAST NAME:

POSITION:

EMAIL CONTACT:

DATE:

**Purpose:** This questionnaire will assist understanding of the current practices, procedures and policy of countries in the (name of the) region concerning efforts to prevent and reduce abandoned, lost or otherwise discarded fishing gear (ALDFG), including through best practice in fishing gear management and marine litter action plans. The combined responses from all participating entities will be analyzed and discussed at the *FAO Workshop on the Best Practices to Prevent and Reduce ALDFG* to provide a foundation of knowledge to build upon during the Workshop and for recommendations on the way forward at regional and international levels.

**Background:** ALDFG also known as ‘ghost gear’ is a significant component of marine litter, with far-reaching impacts on marine ecosystems, fisheries resources and coastal communities. ALDFG continues to catch both target and non-target species (*‘ghostfishing’*), entangling and killing marine animals, including threatened or protected species, and commercially important fish species. Near-bottom ALDFG can cause damage to coral reefs and physical damage to the seabed, whilst surface ALDFG presents a safety hazard for ocean users. Once washed ashore, ALDFG pollutes beaches with plastic litter. ALDFG is commonly composed of plastic that does not readily degrade and may be present for hundreds of years. It can also be a source of secondary micro-plastic as it fragments over time. Retrieval and clean-up of ALDFG has great cost implications for authorities and for the fishing industry.

Marine debris is a matter of high international priority, particularly in the context of the United Nation’s 2030 Agenda for Sustainable Development, under which SDG14.1 calls for a significant reduction of marine pollution of all kinds, including marine debris, by 2025.

#### Instructions:

1. Please collaborate with your expert colleagues in relevant areas in completing this questionnaire.
2. Please indicate if you are completing this questionnaire from a
  - ☐ REGIONAL (if you represent a Regional Body/NGO/private sector),
  - ☐ NATIONAL (if you represent a Government/NGO/private sector) or
  - ☐ LOCAL (if you represent an NGO/private sector) perspective.
1. Throughout the questionnaire, the term ‘YOUR AREA’ refers to the area you have indicated above (regional, national or local) and should reflect the area of competency for the authority or organization that you represent.

- I. PERCEPTIONS OF THE ISSUE
- II. CURRENT SITUATION - EXISTING REGULATIONS AND IMPLEMENTATION
- III. WORKSHOP EXPECTATIONS

# QUESTIONNAIRE

I. PERCEPTIONS OF THE ISSUE	
1. Do you consider ALDFG to be an issue of concern for fisheries management in your area? (1 = no concern, 3= medium concern, 5 = major concern)	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
2. What do you perceive to be the major concerns relating to ALDFG in your area? (Check all that apply)	<input type="checkbox"/> Hazards to navigation <input type="checkbox"/> Economic losses to fishers and fisheries <input type="checkbox"/> Loss of fish stocks <input type="checkbox"/> Damage to fishing gear <input type="checkbox"/> Damage to vessels <input type="checkbox"/> Harm to the environment <input type="checkbox"/> Entanglement of wildlife <input type="checkbox"/> Negative impacts on tourism <input type="checkbox"/> Costs of cleanup activities (removal of ALDFG) <input type="checkbox"/> Other (please specify):
3. How aware would you consider the fishing community in your area to be about the issue of ALDFG and their role in preventing and reducing it? ( 1= not aware 3= medium aware 5= highly aware)	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/>
4. When considering the issue of ALDFG what do you believe to be the biggest challenges faced by your area? (Please select up to four that you feel are priority issues)	<input type="checkbox"/> Lack of awareness amongst fishers <input type="checkbox"/> Inadequate management of fishing gear <input type="checkbox"/> Inadequate skill of fishers <input type="checkbox"/> Poor access to disposal facilities <input type="checkbox"/> Inadequate disposal facilities <input type="checkbox"/> Illegal fishing activities <input type="checkbox"/> Poorly regulated fishing activities <input type="checkbox"/> High risk of loss (type of gear) <input type="checkbox"/> High risk of loss (environmental conditions) <input type="checkbox"/> Lack of reporting of lost gear <input type="checkbox"/> Inability to retrieve lost gear <input type="checkbox"/> Absence of specific regulation <input type="checkbox"/> Unenforced regulation <input type="checkbox"/> Other (please specify):
5. To what extent does collaboration exist between different line ministries (e.g. fisheries, environment, transport) in the context of marine litter?	<input type="checkbox"/> There is significant collaboration <input type="checkbox"/> There is some collaboration <input type="checkbox"/> There is no collaboration
6. Please list the relevant competent authority or authorities on marine litter issues (including ALDFG) within your area.	- - -

	-
7. When considering the issue of ALDFG, do you think communication between national fishing authorities and fishers (and vice versa) is effective to solve/inform about problems?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I don't know <input type="checkbox"/> Other (please specify):
8. When considering the issue of ALDFG, do you think communication between national fishing authorities and regional bodies is effective to solve/inform about problems?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I don't know <input type="checkbox"/> Other (please specify):

II. CURRENT SITUATION, EXISTING REGULATIONS AND IMPLEMENTATION	
9. Are there fisheries management plans, projects or policies in place or being developed in your area to implement an Action Plan on Marine Litter?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I am aware of an action plan but I don't know any measures in place to comply with it. <input type="checkbox"/> I am not aware of any action plan.
9.1. If yes, please specify the name and area covered by such an Action Plan.	
10. Where fisheries management plans, projects or policies exist, what issues have these focused on? Check all that apply	<input type="checkbox"/> Removal/clean-up <input type="checkbox"/> Used gear collection and recycling <input type="checkbox"/> Lost gear reporting <input type="checkbox"/> Port reception facilities <input type="checkbox"/> Fishing gear marking <input type="checkbox"/> Training for fisheries managers/fishers <input type="checkbox"/> Awareness raising <input type="checkbox"/> Other (please specify):
10.1. Are there any funding mechanisms or development programmes currently in place to support the implementation of management plans, projects, policies or activities on prevention/reduction/mitigation of ALDFG?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> I don't know
10.2. If yes to 10.1, please specify what is the funding mechanism.	
11. Do requirements exist for reporting ALDFG?	<input type="checkbox"/> Yes <input type="checkbox"/> No
11.1. If yes, which mechanisms are used to report ALDFG?	<input type="checkbox"/> Observer programmes <input type="checkbox"/> Logbooks <input type="checkbox"/> Other (please specify): _____
12. Is information available in your area about fishing gear loss rates?	<input type="checkbox"/> Yes <input type="checkbox"/> No
12.1. Is this information collected and available by gear type?	<input type="checkbox"/> Yes <input type="checkbox"/> No
12.2. If yes, please specify for which gear types you have information collected and available:	

13. Is information collected and available from your area on the causes of gear loss, abandonment or discarding?	<input type="checkbox"/> Yes <input type="checkbox"/> No
13.1. If yes, please list the most frequently cited causes for gear loss in your area	
14. Is information available about ALDFG 'hotspots' or where ALDFG accumulates?	<input type="checkbox"/> Yes <input type="checkbox"/> No
15. Do requirements exist for the marking of fishing gear in your area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
15.1. If yes, how are such requirements being monitored?	<input type="checkbox"/> Observer Programmes <input type="checkbox"/> National Gear Reporting Systems <input type="checkbox"/> Cooperatives/Incentive schemes <input type="checkbox"/> Enforcement agencies either at sea or via electronic or satellite tracking systems <input type="checkbox"/> Other (please specify): _____
16. Do requirements exist for ports to provide reception facilities for fishing vessel waste?	<input type="checkbox"/> Yes <input type="checkbox"/> No
16.1. If yes, are these facilities are free of charge or there is a fee in place to use them?	<input type="checkbox"/> Facilities are free of charge <input type="checkbox"/> There is a use rate of _____ (please specify)
17. Do requirements exist for ports to include specific reception facilities for old fishing gear?	<input type="checkbox"/> Yes <input type="checkbox"/> No
17.1. If yes, are these facilities are free of charge or there is a fee in place to use them?	<input type="checkbox"/> Facilities are free of charge <input type="checkbox"/> There is a use rate of _____ (please specify)
<b>III. WORKSHOP EXPECTATIONS</b>	
18. What three outputs would you like to see from the upcoming Workshop?	1. _____ 2. _____ 3. _____
19. In your area, what key areas of guidance or capacity-building support is needed to increase efforts to prevent and reduce ALDFG?	

## APPENDIX 4: WORKSHOP MATERIALS

*Handout 1. GGGI best practices list.*

**Stakeholders who can act to prevent lost fishing gear or reduce harm from gear after it is lost:**

- **Fishers (F)**
- **Fisher Organizations (Cooperatives) (FO)**
- **Fisheries Control Agencies/Regulators (FC)**
- **Fisheries Managers (FM)**
- **Ports/Port Operators (P)**
- **Seafood Companies (SF)**
- **Fishing Gear Designers/Manufacturers (GD)**
- **Seafood Certification Programs (E)**
- **Fisheries and Marine Researchers (R)**
- **Non-governmental Organizations (NGOs) (N)**

### **Best Practice Checklist for Fishers (F)**

- F1 Follow gear zoning initiatives to reduce conflicts with other fishers
- F2 Communicate the locations of set static gear to other fleets using the same area
- F3 Set only the size of gear that can be responsibly managed (e.g. limit length and depth when necessary for control)
- F4 Limit soak time for static gear to the minimum time needed to achieve catch
- F5 Alter fishing methods (gear type, size, etc.) to match ocean fishing conditions
- F6 Share information about local conditions and underwater obstructions with others to prevent snagging and gear loss
- F7 Mark static gear to make it visible, including with lighting if necessary
- F8 Mark gear and components with vessel ownership details
- F9 Mark FADs and FAD components with ownership details
- F10 Equip drifting FADs with position tracking devices
- F11 Provide FAD position data in real time to relevant authority
- F12 Maintain garbage management plans and record book
- F13 Train crew on proper gear storage and disposal methods
- F14 Recycle and reuse fishing gear components whenever possible
- F15 Dispose of end of life fishing gear responsibly at on shore facilities
- F16 Wherever possible, use fishing gear that becomes disabled if lost at sea (escape mechanisms, biodegradable materials, etc.)
- F17 Carry gear retrieval equipment on board and train crew in its use
- F18 Immediately retrieve any gear that is lost at sea if possible to do so safely
- F19 Communicate location of lost gear to other fishers if it poses a navigation risk



- F20 Report all lost fishing gear, including FADs, to appropriate authorities, including date, time and location of and reason for loss

#### **Best Practice Checklist for Fisheries Organisations (FO)**

- FO1 Develop and promote codes of practice (voluntary or otherwise) that include fishing gear loss prevention strategies and gear recovery protocols
- FO2 Encourage members to comply with MARPOL Annex 5 regulations on waste management at sea
- FO3 Contribute to the development of marine spatial planning tools to avoid gear conflicts
- FO4 Promote measures to avoid harm from lost fishing gear in Fisheries Improvement Projects and third party seafood certification schemes
- FO5 Collaborate with fisheries authorities to develop procedures for reporting lost or abandoned fishing gear
- FO6 Cooperate in the removal of lost fishing gear from pre-selected fishing areas where lost gear is a hazard or is causing harm to the fishery, marine animals, or marine habitats
- FO7 If purchasing collectively for members, develop a responsible procurement strategy favoring suppliers that conform to standards of design, quality and traceability
- FO8 When purchasing for its members, purchase gear that conforms to standards of design, quality and traceability
- F09 Explore new markets in sustainable seafood and ecolabelling to see if it could benefit your membership

#### **Best Practice Checklist for Fisheries Control Agencies/Regulators (FC)**

- FC1 Fishing licensing processes should explicitly include requirement to mark and identify fishing gear as a condition to fish
- FC2 Required fishing gear marking and spatial or temporal fishing separation should be included in Monitoring, Control, and Surveillance activities
- FC3 Port State inspection of fishing gear should be conducted in accordance with the procedures set out in Annex B, paragraph e) of the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing
- FC4 Inspections should be conducted at sea and at port to ensure that gear marking and other requirements relevant to preventing gear loss are adhered to
- FC5 Deployed gear found without required marking should be reported to the relevant authority
- FC6 Appropriate penalties or other sanctions should be established to prevent and deter non-compliance with gear marking and other regulations relevant to preventing gear loss
- FC7 Penalties or sanctions should be proportionate to the non-compliance, clearly communicated to the fishing industry, and should include appropriate consultation and appeal processes

#### **Best Practice Checklist for Fisheries Managers (FM)**

- FM1 restrict use of some fishing gears in areas with a high risk of loss due to local conditions
- FM2 Mandate temporal and/or spatial separation of fishing gear to avoid gear loss caused by conflicts
- FM3 Require the use of biodegradable materials on fishing gears to minimize ghost fishing
- FM4 Provide education to build awareness of the harm caused by lost fishing gear and the practices available to avoid losing fishing gear
- FM5 Require on-board lost fishing gear retrieval equipment and crew training where practical

- FM6 Collaborate on and support the retrieval of lost fishing gear
- FM7 Complete a risk assessment process to identify the scope and priorities for a fishing gear marking system
- FM8 Implement and coordinate a fishing gear marking system consistent with the FAO Voluntary Guidelines for the Marking of Fishing Gear
- FM9 Identify fishing gear marking systems to be used and identify to which fisheries, gears, vessels and areas the systems apply
- FM10 Collaborate with appropriate partners to provide education to ensure fishers have the capacity and training to follow gear marking guidelines
- FM11 Ensure there is an effective system in place to report lost or abandoned fishing gear
- FM12 Maintain a lost fishing gear register that includes the following information: type of gear lost, identifying marks, date/time/position of loss or retrieval, reason for loss, weather conditions, other relevant information
- FM13 Coordinate, communicate, and share information about lost fishing gear with other entities such as RFMOs, and regional and State fisheries managers
- FM14 Facilitate the reporting of lost fishing gear by small-scale, artisanal and recreational fisheries to appropriate authorities

#### **Best Practice Checklist for Ports/Port Operators (P)**

- P1 Provide reception of garbage and waste fishing gear without causing undue delay to ships
- P2 Develop onshore waste disposal strategies, including waste segregation, to reduce, reuse, and recycle ship-generated wastes and waste fishing gear
- P3 Provide up-to-date information to authorities for inclusions in the IMO's PRF database to ensure that waste fishing gear facilities are easily located
- P4 Provide waste fishing gear collection facilities specific to the fisheries being served
- P5 Include waste fishing gear in Port Waste Management Plans

#### **Best Practice Checklist for Seafood Companies (SF)**

- SF1 Source from fisheries or fleets that employ management practices to prevent harmful impacts from lost fishing gear including spatial temporal separation of fisheries, use of low-risk gear, gear marking, and crew training
- SF2 Source from fisheries whose fleets require recovery of lost gear (when safe and feasible to do so)
- SF3 Promote the inclusion of lost fishing gear prevention and management in third-party certification schemes
- SF4 Source from fisheries certified by third-party certification schemes that include benchmarks and scoring guidance related to impacts and management of lost fishing gear
- SF5 Provide cost effective disposal options for end-of-life or damaged gear to encourage/facilitate the retrieval of lost fishing gear

#### **Best Practice Checklist for Fishing Gear Designers/Manufacturers (GD)**

- GD1 Design and manufacture gear to allow for gear traceability and recycling – gear designers, etc.
- GD2 Design gear that becomes disabled when lost at sea
- GD3 Design and manufacture gear with biodegradable components
- GD4 Mark key gear components (ropes, net panels, traps, and tracking buoys) with manufacturer name, year, type of product and production batch

- GD5 Facilitate and promote fishing gear recycling and responsible disposal schemes including buy-back schemes
- GD6 Design and manufacture gear with end-of-life recycling in mind, reducing use of mixed polymer materials
- GD7 Include gear traceability information and ownership in sales record-keeping

**Best Practice Checklist for Seafood Certification Programs (E)**

- E1 Include benchmarks and scoring guidance that recognize best practices for preventing gear loss
- E2 Include benchmarks and scoring guidance that recognize best practices for preventing ghost fishing if gear is lost
- E3 Include benchmarks and scoring guidance that recognize efforts to build information about causes and impacts of lost fishing gear

**Best Practice Checklist for Fisheries and Marine Researchers (R)**

- R1 Develop innovative solutions to fishing gear marking, position tracking, identification and traceability
- R2 Collaborate with fishers, fishery organisations and gear designers to test and improve gear design and materials
- R3 Further develop biodegradable materials for practical, cost-effective methods to disable gear if it is lost at sea
- R4 Develop cost-effective survey systems to locate and quantify lost fishing gear at sea
- R5 Develop cost-effective lost fishing gear retrieval techniques
- R6 Quantify the causes of fishing gear loss as well as lost fishing gear's impacts and costs

**Best Practice Checklist for Non-governmental Organizations (NGOs) (N)**

- N1 Advocate for solutions to the problems posed by lost and abandoned fishing gear using objective, evidence-based information
- N2 Build capacity for consensus-driven solutions to the problems of lost fishing gear, including providing examples of codes of practice
- N3 Coordinate projects establishing innovative solutions to the problems of lost fishing gear, including retrieval programs and reuse and recycling of waste fishing gears

1. Using the numbered Best Practices from Handout B, note the numbered Best Practices from the three stakeholder categories discussed.
2. Note which countries, regional bodies, etc. are present at the table (first row).
3. Note the degree to which each best practice is already in place in national, sub-regional and regional levels and the level of challenge the implementation represents:

Level of challenge: The level of challenge that implementing this action represents for the region  
(0 – don't know/no information, 1 – low level challenge 2 – medium level challenge 3 – highly challenging)

Jurisdiction	Country A	Country B	Country C	Reg Body A	Reg Body B	Country D	Country E
Best practice	Level of action/ challenge	Level of action/ challenge	Level of action/ challenge	Level of action/ challenge	Level of action/ challenge	Level of action/ challenge	Level of action/ challenge
F11	0/3	0/3	1/3	0/0	0/2	1/3	1/2
P4	2/2	2/2	2/1	2/2	2/2	0/0	1/3

[illegible]

*Handout 4. In depth analysis of implementation and feasibility to implement best practices. Instructions and example. Handout B here below refers to Handout 1 of this Appendix.*

**DIRECTIONS:** Using the numbered Best Practices from Handout 1, note the numbers of best practices previously identified as most important to prevent loss of fishing gear and to prevent harmful impacts of lost gear.

Discuss if and where the practice is already in place. Rate the ease of implementation using the scoring measures assigned to each criteria: Cost, Effectiveness, Feasibility, Complexity, and Time.

**EXAMPLE**

Best practice	L - Legal and policy I - Institutional and capacity development O - Operational C - Cooperation through regional mechanisms	<u>Cost:</u> H - High M - Medium L - Low	<u>Effectiveness:</u> H - High M - Medium L - Low	<u>Feasibility/ ease of implementation</u> H - High M - Medium L - Low	<u>Complexity</u> H - Requires regional coordination M- Requires partnerships at local level L - Requires consent from one entity	<u>Time to implement</u> H - Multiple years M - One year L - Immediate
F11	O, C	L	H	H	M	L, M
FM8	L	M	H	L	H	H

*Handout 5. In depth analysis of implementation and feasibility to implement best practices. Template.*

Best practice	L - Legal and policy I - Institutional and capacity development O - Operational C - Cooperation through regional mechanisms	<u>Cost:</u> H - High M - Medium L - Low	<u>Effectiveness:</u> H - High M - Medium L - Low	<u>Feasibility/ ease of implementation</u> H - High M - Medium L - Low	<u>Complexity</u> H - Requires regional coordination M- Requires partnerships at local level L - Requires consent from one entity	<u>Time to implement</u> H - Multiple years M - One year L - Immediate

*Handout 6. Scenarios. The following scenarios used in the West Pacific Workshop. All scenarios were adapted to each one of the four regions where the workshops took place*

### **Scenario 1**

A commercial tuna company deploys a drifting Fish Aggregation Device (DFAD) in the fishing area of the Parties to the Nauru Agreement (PNA). The DFAD consists of a raft of PVC piping, covered by canvas, with subsurface appendages consisting of old purse seine nets rolled up and tied into 'sausage rolls'. The DFAD is equipped with a satellite buoy and echo sounder. The buoy is marked with the deploying vessel's name. There is an observer on the vessel.

The company provides the PNA fisheries managers with the position data for this FAD, but with a lag time of two months. After some time, fishing on the DFAD with purse seine gear, the DFAD drifts out of the PNA area into an area where the tuna company does not have permission to fish. The tuna company deactivates the satellite buoy and stops tracking its position.

After two months, the DFAD drifts into a nearshore area of Palau and becomes caught on coral, eventually sinking. Its subsurface appendages and raft sink and become entangled in the coral.

### **Scenario 2**

A national fisheries management agency assists a local community to deploy an anchored fish Aggregation Device (AFAD) 2 nautical miles from shore in 300 meters of water. The AFAD consists of a string of purse seining buoys with a shallow subsurface appendage of fine mesh netting attached to the seafloor with rope and shackles and anchored with concrete blocks. The AFAD is marked for visibility with a pole and flag. After some months of fishing on the AFAD, a cyclone comes through the area. After the cyclone, the AFAD cannot be located by the local fishers.

### **Scenario 3**

A longline vessel is operating in Vanuatu, fishing for tuna. The fishing gear is marked with radio beacons on the end buoys and the mid-section floats. No observers are on board this vessel.

One day the vessel deploys its line. During operations, the weather unexpectedly turns foul and the vessel is forced to cut the line, leaving it in the sea. The vessel is unable to retrieve the gear and is unable to return to find the gear.

Eventually, some of this gear washes up on a local beach, with evidence of animal entanglement and coral pieces in the gear.

### **Scenario 4**

A local fisherman is fishing with a gillnet offshore near a coral reef in a high current area. A portion of his gillnet gets snagged on a subsurface reef. He is unable to retrieve the whole net and, for safety, cuts his net and retrieves the portion that is not snagged. He returns to his village and repairs the part of his net he was able to retrieve.

The net that he could not retrieve remains snagged on the coral in high current. It continues to be suspended in the water column and captures fish, which are preyed upon by sharks, which also are captured in the net.

### **Scenario 5**

A shrimp fisher is trawling for shrimp. He is working an area that he has never fished before. His gear gets caught on a bottom obstruction and part of his gear breaks off. He retrieves the gear he can. Then he circles back to where he thinks he lost his gear and uses a grapple to try to retrieve the lost components.

He is unable to find his lost gear and, wanting to continue fishing, he abandons the lost gear, which remains on the seafloor.

*Handout 7. Action Planning exercise. Template.*

## ALDFG Country (or Project) Plan of Action Summary Template

Country (or Project) Name: \_\_\_\_\_

[illegible]



## APPENDIX 5: GROUP PHOTOS



Group photo Southwest Pacific Workshop.  
Photo: © FAO/Ingrid Giskes.



Group photo Southeast Asia Workshop  
Photo: © Coordinating Ministry of Maritime Affairs (CMMA) of Indonesia/Galuh Pamungkas.





West Africa Workshop. Photo: © FAO/Paula Anton.



Group photo South America and the Caribbean Workshop  
© FAO/Alberto Gonzalo.

The United Nation's Sustainable Development Goal Target 14.1 (SDG14.1) specifically calls for a significant reduction of marine pollution of all kinds, including marine debris, by 2025. As abandoned, lost or otherwise discarded fishing gear (ALDFG), also known as 'ghost gear' is a significant component of marine litter (or marine debris), the Committee on Fisheries (COFI) of Food and Agriculture Organization of the United Nations (FAO) requested that the Organization continue its work develop and implement best practices to quantify and reduce the amount of ALDFG and to mitigate its impact. COFI considered the newly developed FAO Voluntary Guidelines for the Marking of Fishing Gear (VGMFG) as an important tool in combating ALDFG. As a part of this mandate, FAO, in partnership with the Global Ghost Gear Initiative (GGGI) convened a series of four three-day regional workshops in Southwest Pacific (Port Vila, Vanuatu), Southeast Asia (Bali, Indonesia), West Africa (Dakar, Senegal) and South America and the Caribbean (Panama City, Panama) between May and November 2019.

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