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Implementation of the FAO International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity)

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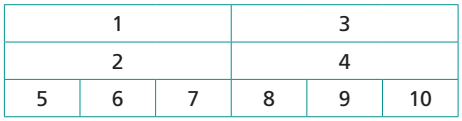

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Preparation of this document

This technical paper on the implementation of the FAO International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity) was prepared in 2025 by Sandy Davies and Andréa Durighello of Stop Illegal Fishing and Raymon van Anrooy of FAO's Fisheries and Aquaculture Division (NFI). The information presented in this technical paper is based on responses compiled from a dedicated IPOA-Capacity survey held among members of FAO's Committee on Fisheries (COFI) in 2024, responses to the biennial Questionnaire for Monitoring the Implementation of the Code of Conduct for Responsible Fisheries and related instruments in 2020 and 2024, and a desk study into the subject of fishing capacity management.

The preparation of this technical paper was funded by FAO's regular programme. The IPOA-Capacity is one of the voluntary fisheries instruments developed in support of the implementation of the 1995 FAO Code of Conduct for Responsible Fisheries, which was adopted by the Twenty-third Session of COFI in 1999. The study carried out to prepare this technical paper contributes to FAO's duties in relation to the IPOA-Capacity and the Blue Transformation Roadmap.

The IPOA-Capacity requests that Member States should report on the progress of the assessment, development and implementation of their plans for the management of fishing capacity as part of their biennial reporting to FAO on the Code of Conduct for Responsible Fisheries (Article 44).

FAO will collect all relevant information and data which might serve as a basis for further analysis aimed at identifying factors that contribute to overcapacity, such as, among other things, lack of input and output control, unsustainable fisheries management methods, and subsidies that contribute to overcapacity (Article 45).

Article 48 of the IPOA-Capacity states that FAO will, through COFI, report biennially on the state of progress in the implementation of the International Plan of Action.

Ever since the Technical Consultation to Review Progress and Promote the Full Implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing and the International Plan of Action for the Management of Fishing Capacity, held in Rome, 24–29 June 2004, FAO's global activities in monitoring the implementation of the IPOA-Capacity have been largely limited to analysis of the results of the related questions in the biennial Code of Conduct for Responsible Fisheries questionnaire.

Recognizing the gaps in monitoring the implementation of the IPOA-Capacity, FAO conducted the survey and desk study to inform COFI members about the status of implementation and to facilitate discussions and decision-making by COFI on the way forward with fishing capacity management.

This document was edited by Maria Giannini and layout assistance was provided by Chorouk Benkabbour (FAO).

Abstract

This technical paper reviews progress in implementing the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity), adopted in 1999 within the framework of the FAO Code of Conduct for Responsible Fisheries. The IPOA-Capacity complements other key international fisheries instruments, such as the FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, the Port State Measures Agreement, the Voluntary Guidelines for Flag State Performance, and the World Trade Organization Agreement on Fisheries Subsidies. Together, these instruments provide a comprehensive governance framework for sustainable management of global fishing fleets.

Global trends indicate that, despite some progress, fishing capacity continues to increase in many regions. Since its adoption, the global fishing fleet capacity has expanded. Between 1999 and 2022, the total number of fishing vessels increased by about 10 percent, driven by a 34 percent rise in motorized vessels, while nonmotorized vessels declined by 20 percent. The average fishing vessel grew in size (i.e. in length and gross tonnage) and in engine power. At the same time the global marine capture fisheries production stabilized, the percentage of overfished stocks grew, fishing technologies improved, seafood prices increased, consumption increased, and fishing fleets continued to be profitable.

Numerically, small-scale fleets still dominate the global fishing fleet, though data on artisanal and inland fleets remain incomplete. Regional disparities persist with fleet capacities expanding in Africa and Asia but declining in Europe and Northern America. Statistical data availability on fishing fleets remains uneven, with only about 70 percent of FAO Members reporting fleet data regularly, limiting the ability to monitor global trends accurately.

At the national level, implementation of the IPOA-Capacity has been uneven. Many Member States have integrated capacity controls into fisheries legislation and management plans, applying measures such as licensing, gear restrictions, total allowable catches, buyback programmes and rights-based management systems. However, socioeconomic incentives, weak monitoring systems and limited data have constrained effective implementation of fleet capacity management.

Regional fishery bodies and regional fisheries management organizations have progressively incorporated capacity management into their mandates and conservation and management measures. Nonetheless, significant gaps remain in the application of regional plans of action, information exchange and coordination across jurisdictions.

Lessons learned highlight that assessing and managing fishing capacity require coherent policy frameworks integrating biological, economic and social dimensions. Effective approaches combine legal measures with incentive-based systems, technical- and market-based instruments and co-management schemes, underpinned by stakeholder engagement.

Opportunities to strengthen implementation of the IPOA-Capacity include improving data and vessel registries, enhancing capacity assessment methodologies, expanding technical assistance to developing countries, and reinforcing coordination among Member States, regional fishery bodies and FAO. Renewed global attention to the IPOA-Capacity is essential to ensure that fishing fleet capacity is balanced with the productive potential of fisheries resources for long-term sustainability.

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Acknowledgements

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Abbreviations

ASEAN	Association of Southeast Asian Nations
BOBP-IGO	Bay of Bengal Programme Inter-Governmental Organisation
CCRF	Code of Conduct for Responsible Fisheries
CECAF	Fishery Committee for the Eastern Central Atlantic
COFI	Committee on Fisheries (FAO)
Compliance Agreement	Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas
COPPESAALC	Commission on Small-Scale, Artisanal Fisheries and Aquaculture for Latin America and the Caribbean
CPC	contracting parties and cooperating non-contracting parties
CTMFM	Joint Technical Commission of the Maritime Front (Comisión Técnica Mixta del Frente Marítimo)
DEA	data envelopment analysis
eCAS	electronic data collection system
EEZ	exclusive economic zone
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FIFG	Financial Instrument for Fisheries Guidance
GISIS	Global Integrated Shipping Information System
Global Record	Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels
GT	gross tonnage
HP	horsepower
IATTC	Inter-American Tropical Tuna Commission
IMO	International Maritime Organization
IOTC	Indian Ocean Tuna Commission
IPOA	international plan of action
IPOA-Capacity	International Plan of Action for the Management of Fishing Capacity
IPOA-IUU	International Plan of Action to Prevent, Deter and Eliminate IUU Fishing
ITQ	individual transferable quota
IUU	illegal, unreported and unregulated (fishing)
kW	kilowatt
LOA	length overall
LVFO	Lake Victoria Fisheries Organization
m	metre
MCS	monitoring, control and surveillance

MSY	maximum sustainable yield
NFI	Fisheries and Aquaculture Division
NPOA	national plan of action
NPOA-Capacity	National Plan of Action for the Management of Fishing Capacity
OSPESCA	Organization for the Fishing and Aquaculture Sector of the Central American Isthmus
PSMA	Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (referred to in short as the Port State Measures Agreement (PSMA)
RFB	regional fishery body
RFMO	regional fisheries management organization
RPOA	regional plan of action
RPOA-Capacity	Regional Plan of Action for the Management of Fishing Capacity
SDG	Sustainable Development Goal
SIOFA	Southern Indian Ocean Fisheries Agreement
SOFIA	The State of World Fisheries and Aquaculture
STECF	Scientific, Technical and Economic Committee for Fisheries
TAC	total allowable catch
SWIOFC	South West Indian Ocean Fisheries Commission
WCPFC	Western and Central Pacific Fisheries Commission
WTO	World Trade Organization

1. Managing fishing fleet capacity

1.1 INTRODUCTION TO FISHING FLEET CAPACITY

In 2022, FAO estimated that the number of fishing vessels worldwide amounted to 4.9 million, showing a decrease after peaking at 5.3 million in 2019 (FAO, 2024). The 2022 decrease reflected a reduction in the size of fishing fleets on all continents except Africa, including many major fishing countries such as China, Japan and European Union Member States. While the decrease in the number of fishing vessels is a positive trend for the sustainability of fisheries, it does not provide a complete picture of global fishing capacity.

The fishing capacity of an individual vessel is determined by a combination of the total internal volume of the vessel measured in gross tonnage (GT), the vessel's length overall in metres (LOA), and the engine power measured in kilowatts (kW). While complete information on these parameters is not available for all fishing vessels, industrial and semi-industrial fishing vessels have, on average, become larger in size and have more engine power today than they did in 2000. Additionally, vessels are now lasting longer because of the ongoing transition from wood to steel and fibreglass construction. Their efficiency is also increasing as a result of improvements in gear, engine and cooling technology. Despite the reductions in the number of recorded fishing vessels, there has been an overall increasing trend in global fishing capacity over the past two decades, which equates to a greater capacity for fishing vessels to catch fish. Furthermore, trends in the small-scale fishing sector are difficult to assess, as the number of small fishing vessels is largely unknown and therefore the capacity of these fleets to catch fish is not included in most estimates of global fishing capacity.

Managing the world's fishing fleet capacity is a complex challenge for sustainable fisheries management and is a key challenge to ensuring that aquatic food systems are sustainable, resilient, and contribute to food security, nutrition and economic growth.

1.2 GLOBAL MANAGEMENT OF FISHING FLEET CAPACITY

1.2.1 Development of the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity)

In 1995, the FAO Conference adopted the Code of Conduct for Responsible Fisheries (CCRF), marking a significant milestone in global fisheries management. It was the first time internationally agreed-upon principles were established to define how fisheries should be managed. In doing this, the global community shifted its focus from maximizing catches to ensuring sustainability, responsibility, equity and transparency across the fisheries sector.

The CCRF recognized the issue of excess fishing capacity as a major impediment to sustainable fisheries. In particular, Article 6.3 of the CCRF recommends that "States should prevent overfishing and excess fishing capacity and should implement management measures to ensure that fishing effort is commensurate with the productive capacity of the fishery resource and their sustainable utilization." Further, Article 7.1.8 states that "States should take measures to prevent or eliminate excess fishing capacity and should ensure that levels of fishing effort are commensurate with the sustainable use of fishery resources as a means of ensuring the effectiveness of conservation and management measures" (FAO, 1995).

Following the adoption of the CCRF, at the next session of the Committee on Fisheries (COFI) in 1997 – the Twenty-second Session – fishing capacity was recognized as a priority issue. During the session, COFI urged FAO and Member States to give special consideration to the issues of excessive fishing capacity and fishing effort leading to overfishing (FAO, 1997). COFI members agreed that a form of international agreement was necessary and, after deliberations, a voluntary international plan of action (IPOA) was found to be the most suitable solution.

In the following year, in 1998, FAO organized three meetings on the subject: a Technical Working Group in April, a Preparatory Meeting in July, and a formal FAO Consultation on the Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries in October (FAO, 1998). This process resulted in a draft plan of action for implementation by countries and regional fisheries organizations, including to assess their fishing capacity, reduce excessive capacity and prevent future overcapacity. The International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity) was developed as part of the overall drive in the 1990s to promote international cooperation in managing the challenges related to sustainable fishing. The IPOA-Capacity was adopted by the Twenty-third Session of COFI in February 1999 (FAO, 1999a). An FAO Ministerial Meeting on Fisheries, held in March 1999, declared to "attach high priority to the implementation of the International Plan of Action for the Management of Fishing Capacity [...] and on putting into place within the framework of national plans, measures to achieve a balance between harvesting capacity and available fisheries resources."[1] The plan was later endorsed by the Hundred and Sixteenth Session of the FAO Council in June 1999, reflecting its wide political support and giving it legitimacy and relevance well beyond fisheries.

In addition to being drafted to support the implementation of the CCRF, the IPOA-Capacity was developed to build on and align with other international fisheries instruments and processes, such as the 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas known as the Compliance Agreement (FAO, 1993). Entered into force in 2003, the Compliance Agreement supports and strengthens the need for flag states to improve monitoring and control of their fishing capacity on the high seas.[2] By focusing on flag state responsibilities, the Compliance Agreement also indirectly seeks to prevent the "re-flagging" of high seas fishing vessels to flags of states that are unable or unwilling to enforce international fisheries conservation and management measures on their vessels. Other important elements of the Compliance Agreement include the maintenance of high seas fishing vessels records, international cooperation, and enforcement. It requires parties to maintain a record of fishing vessels entitled to fly their flag and authorized to carry out fishing on the high seas and provide this information to FAO (FAO, 2022a). The IPOA-Capacity, in Article 19, refers to the importance of an international record of fishing vessels, following the model outlined in the Compliance Agreement.

The IPOA-Capacity also reinforces the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (known as the United Nations Fish Stocks Agreement, or UNFSA), which entered into force in 2001 (United Nations, 1995). The United Nations Fish Stocks Agreement states in Article 5, "General principles," that "In order to conserve and manage straddling fish stocks and highly migratory fish

[1] *The Rome Declaration on the Implementation of the Code of Conduct for Responsible Fisheries*. Adopted by the FAO Ministerial Meeting on Fisheries. Rome, Italy, 10–11 March 1999.

[2] Notably in Part III – Urgent Actions, Section III: International considerations, Articles 31, 33, 35, 37 and 38.

stocks, coastal States and States fishing on the high seas shall, in giving effect to their duty to cooperate in accordance with the Convention: (h) take measures to prevent or eliminate overfishing and excess fishing capacity and to ensure that levels of fishing effort do not exceed those commensurate with the sustainable use of fishery resources" (United Nations, 2025a).

1.2.2 Overview of the IPOA-Capacity

The primary goal of the IPOA-Capacity is to achieve a sustainable balance between fishing capacity and available fish stocks, thereby addressing the issue of overcapacity in global fisheries. This involves reducing existing overcapacity, preventing the emergence of excess capacity and promoting responsible fishing practices.

The IPOA-Capacity applies to both marine and inland capture fisheries and encourages a focus on fisheries already experiencing significant overcapacity. The IPOA-Capacity goes hand in hand with improving the accountability of Member States in managing their fleets while also calling on them to adopt a precautionary approach to ensure that long-term sustainability objectives are supported. It enables countries to tailor responses to their specific fisheries, while encouraging the assessment and monitoring of fishing capacity, including the identification of fisheries and fleets that require urgent measures and the establishment of records for fishing vessels. The development of national plans of action (NPOAs) and policies to manage fishing capacity, the assessment of the impact of subsidies and economic incentives contributing to fleet overcapacity, and the elimination of those factors are all key components of the IPOA-Capacity (see Box 1 for an overview of IPOA-Capacity and Annex 1 for the complete document).

Recognizing that many fisheries operate beyond national jurisdictions, the IPOA-Capacity encourages regional and international cooperation to manage capacity, especially in transboundary, straddling, highly migratory or high-seas fisheries. Priority is given to regional fisheries organizations that are confronted with an overcapacity problem. Common actions include promoting information exchange and data collection, dealing with flag states that do not fulfil their international responsibilities, encouraging greater engagement and application of measures, and preventing the irresponsible transfer of vessels.

While the IPOA-Capacity is a voluntary international fisheries instrument, this did not diminish the expectation that COFI had when it adopted the plan in 1999. The immediate objective of the IPOA-Capacity is for "States and regional fisheries organizations, in the framework of their respective competencies and consistent with international law, to achieve worldwide preferably by 2003 but no later than 2005, an efficient, equitable and transparent management of fishing capacity" (FAO, 1999b).

BOX 1

Overview of the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity)

The IPOA-Capacity (see Annex 1 for the full text) has four main parts, which are briefly summarized below.

Nature and Scope (Part I, Articles 4 to 6)

The IPOA-Capacity is a voluntary plan developed under the framework of the FAO Code of Conduct for Responsible Fisheries. The plan emphasizes global collaboration and compliance with international law to address fishing capacity issues, ensuring sustainable fishery practices.

Objective and Principles (Part II, Articles 7 to 10)

The IPOA-Capacity aims to manage fishing capacity effectively by 2003 or, at the latest, by 2005. Its principles include:

- conducting assessments at national, regional and global levels;
- developing and implementing national action plans for capacity management;
- strengthening regional and global fisheries organizations to address capacity challenges; and
- addressing urgent measures for fisheries targeting overfished stocks.

Key strategies involve phased implementation and holistic approaches, with a focus on conservation, technology adoption and stakeholder participation.

Urgent Actions (Part III, Articles 11 to 40)

This section contains the main provisions for the implementation of immediate actions:

1. Assessment and monitoring of fishing capacity:
   - support research on measuring fishing capacity;
   - conduct preliminary assessments of capacity at national and regional levels by 2000; and
   - establish records of fishing vessels to monitor activity.
2. Preparation and implementation of national plans:
   - develop and monitor national plans to balance fishing capacity with available resources by 2002;
   - address socioeconomic considerations, providing alternatives for affected fishing communities;
   - reduce subsidies and economic incentives that contribute to overcapacity; and
   - cooperate regionally and internationally to ensure effective management.
3. International considerations:
   - encourage participation in international agreements, such as the FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement);
   - share data and collaborate regionally and globally to manage fishing capacity effectively;
   - improve the collection of data on catches on the high seas; and
   - manage the transfer of capacity to other states or the high seas.
4. International fisheries requiring urgent measures:
   - focus on transboundary, straddling and high seas fisheries requiring immediate action to reduce overcapacity.

Mechanisms for Implementation (Part IV, Articles 41 to 48)

Mechanisms include:

- developing awareness campaigns and education;
- promoting scientific and technical cooperation;
- reporting regularly to FAO on progress; and
- supporting developing countries with training and financial assistance.

FAO's role includes organizing technical consultations, providing guidance and monitoring the plan's global implementation.

1.2.3 Implementation of the IPOA-Capacity

Following the adoption and endorsement of the IPOA-Capacity in 1999, global efforts led by FAO to support national implementation included consultation processes, development of tools and guidelines, and direct support to countries to assist them in developing their National Plan of Action for the Management of Fishing Capacity (NPOA-Capacity). This section provides an overview of the FAO activities that supported the implementation of the IPOA-Capacity.

1.2.3.1 The FAO 1999 Technical Consultation

After the adoption of the IPOA-Capacity by the Twenty-third Session of COFI in February 1999, FAO organized the Technical Consultation on the Measurement of Fishing Capacity, held in Mexico City, Mexico, on 29 November–3 December 1999. The technical consultation aimed to discuss in depth the matters related to the measurement of fishing capacity. The outcome of the consultation would be used as a basis for FAO to prepare technical guidelines for measuring fishing capacity to facilitate the implementation of the IPOA-Capacity (FAO, 2000).

The technical consultation was attended by delegations from 56 FAO Member States and observers. Twenty-six technical papers were presented and served as a foundation for further deliberations. Working groups examined methodological approaches for measuring capacity, including input- and output-based indicators, and discussed their application across diverse fisheries. The consultation also featured discussions on various topics, including the incorporation of complementary economic information in the measurement and evaluation of capacity, measuring capacity in fisheries based on highly migratory resources, fisheries that show high fluctuations in stock abundance or availability, capacity measurement in small-scale fisheries, shared stock fisheries, and multispecies fisheries.

The technical consultation recommended strengthening national capacity monitoring systems, improving data collection on fleet characteristics and fishing effort, and promoting the use of standardized methodologies. The consultation emphasized that timely reduction of excess capacity was essential to achieve long-term biological and economic sustainability in world fisheries.

One of the accomplishments of the 1999 Technical Consultation in Mexico was the publication of a fisheries technical paper containing selected papers that were originally presented at the consultation (Pascoe and Greboval, 2003).

Additionally, FAO also published two guidance documents: (i) Measuring and Assessing Capacity in Fisheries. 1. Basic Concepts and Management Options (Ward *et al.*, 2004); and (ii) Measuring and Assessing Capacity in Fisheries. Issues and Methods (Pascoe *et al.*, 2003). Both documents have been widely used by FAO Members in their efforts to manage fleet capacity.

1.2.3.2 The 2002 FAO Expert Consultation

In 2002, FAO organized the Expert Consultation on Catalysing the Transition away from Overcapacity in Marine Capture Fisheries, which was held in Rome on 15–18 October 2002. The expert consultation aimed to develop a set of general recommendations to assist in addressing the challenging issue of overcapacity in marine capture fisheries. The consultation resulted in guidance on a general, flexible process to help transition fisheries that are characterized by overcapacity into fisheries that are fully utilized, economically efficient and aligned with relevant management objectives.

It was recognized that long-lasting regulatory solutions to the symptoms of excess and overcapacity in fisheries had been developed by experts in the fields of fisheries sociology, marine policy, economics, biology and anthropology. However, problems continued to exist. The transition process was not well understood, nor was a procedure identified. Therefore, the transitional procedure that was developed was intended to

assist administrators and others in overcoming some of the constraints that inhibited or slowed the introduction and implementation of capacity reduction programmes. The transition process involved building understanding and consensus on various goals and objectives, and although quantitative or qualitative analysis was recommended, the guidance did not require extensive data collection or analysis. The expert consultation recognized that different fisheries would likely adopt different capacity reduction programmes to address specific social, management, economic and other needs, as well as different long-term objectives and goals. The report outlined various approaches to the challenge of transitioning fisheries, and it was anticipated that capacity reduction programmes would adopt a combination of these approaches to develop a programme tailored to their specific needs (Metzner and Ward, 2002).

1.2.3.3 The FAO 2004 Technical Consultation

When endorsing the IPOA-Capacity in 1999, the Twenty-third Session of COFI stressed the importance and urgency of holding a technical consultation on the measurement of fishing capacity. The emphasis on "the need to develop simple methods that could be widely applicable in both developed and developing countries" was followed (FAO, 1999a, paragraph 36). It was later reinforced by reports from COFI members at the Twenty-fourth Session of COFI in 2001, stating that there were "methodological challenges […] in carrying out an assessment of their fishing capacity" (FAO, 2001, paragraph 34). Linked to this, it was recommended that case studies be developed to better understand the challenges associated with the implementation of the IPOA-Capacity, including taking into account regional contexts (FAO, 2001, paragraph 37).

At the Twenty-fifth Session of COFI in 2003, the Committee endorsed a proposal that FAO convene a technical consultation in early 2004 to review progress and promote the full implementation of two interlinked IPOAs: the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) and the IPOA-Capacity (FAO, 2003, paragraph 23). Responding to the COFI proposal, FAO organized a technical consultation on 24–29 June 2004 (FAO, 2004). Participating Member States were invited to report on the progress of implementation of the IPOA-Capacity through questionnaires, and 80 Members provided details on their activities. Based on this information, the consultation noted some progress in implementing the IPOA-Capacity but also noted that increased efforts were needed. The efforts made by Member States had been particularly focused on improving measurement and assessment of the fleet (e.g. vessel registers or records); managing capacity (e.g. legal instruments and management tools, rights-based approaches, and monitoring, control and surveillance); and reducing overcapacity (e.g. scaling-down schemes through buybacks, transfers, reduction in subsidies, and freezing the number of vessels). Rights-based approaches and individual transferable quota systems were among the most commonly implemented measures applied to address overcapacity in industrial fisheries.

The ongoing evolution of fishing vessel characteristics and technology was considered a key cause of increased efficiency of fishing fleets despite a decrease in vessel numbers and fleet sizes. However, the technical consultation highlighted the difficulty of assessing global fishing capacity, a key element of the IPOA, mainly due to diverging assessment parameters used by the Members, and advocated for the need for "common parameters acceptable to all Members" to measure fishing capacity. Monitoring, control and surveillance capacity (MCS) constraints were noted as a cause for reduced monitoring of fleets by many delegations. Other challenges included addressing fishing capacity in small-scale fisheries because of the expected socioeconomic impacts of capacity reduction, especially for developing countries. In response, the consultation recommended fostering greater participation of local

authorities and stakeholders in decisions, increasing sensitization and supporting alternative activities.

The technical consultation also emphasized the importance of regional cooperation, particularly through regional fisheries management organizations (RFMOs), to fulfil the objectives of the IPOA, and called on RFMOs to "develop plans of actions for capacity management." It was essential for RFMOs to address regional issues and concerns, such as overcapacity in the high seas and the importance of adopting procedures to ensure that buyback schemes are controlled and do not result in the transfer of capacity to another fishery. During the consultation, a fishery that received prominent attention was the "uncontrolled expansion of fishing capacity in the tuna fishery in the western and central Pacific," with mitigating measures being proposed.

The main recommendations for FAO included to "provide technical assistance to developing states to prepare and implement their NPOAs; provide simplified concepts and terminology relating to capacity management in relation to resource sustainability and socioeconomic concerns; establish common parameters for fleet monitoring; design a programme to monitor fishing capacity management effort; publish case studies/examples of best practice used in capacity assessment and management; and undertake a global review of fleet capacity by region"(FAO, 2004).

1.2.3.4 The FAO 2008 Technical Guidelines for Responsible Fisheries

After the adoption of the CCRF in 1995, FAO developed a series of technical guidelines to assist countries in implementing the CCRF. These guidelines focused on providing practical steps for key areas of importance. One area of focus was managing fishing capacity, and in 2008, based on various studies, FAO produced technical guidelines directly intended to support the implementation of the IPOA-Capacity: Fisheries Management. 3. Managing fishing capacity. FAO Technical Guidelines for Responsible Fisheries, No. 4. Suppl. 3. (FAO, 2008a). The guidelines were designed to support a thorough understanding of the concept of fishing capacity and its consequences for fisheries management, linking biological to economic and social consequences and the link recognized by COFI between excess capacity and illegal, unreported and unregulated (IUU) fishing.

The guidelines provide fisheries officers with methods to determine the level of overcapacity and understand contributing factors, highlighting open access regimes and subsidies as major contributors to overcapacity. To further support the identification of the origin of excess fishing capacity, the guidelines indicate mechanisms that fisheries managers can implement to address the issue, with possible measures drawn from extensive studies conducted by FAO. The technical guidelines provide detailed guidance on developing an NPOA to manage fishing capacity (Section 3), including information on the key components needed. Section 8 of the same document provides examples of actions for states to consider when developing and implementing an NPOA-Capacity. This includes advice related to developing a national definition of fishing capacity, stakeholder engagement, capacity assessments, measuring and monitoring, choice of management instruments, transitional and institutional issues, capacity building, subsidies and international fisheries. These technical guidelines are available in Chinese, English, Spanish and Tamil languages.[3]

[3] English (https://openknowledge.fao.org/handle/20.500.14283/i0318e); Spanish (https://openknowledge.fao.org/handle/20.500.14283/i0318s); Chinese (https://openknowledge.fao.org/handle/20.500.14283/i0318c); Tamil (https://openknowledge.fao.org/handle/20.500.14283/i0318ta).

1.2.3.5 FAO support for awareness-raising, research, case studies and technical guidance

FAO published the IPOA-Capacity together with the IPOA-Seabirds and IPOA-Sharks in all six United Nations languages (Arabic, Chinese, English, French, Russian and Spanish) (FAO, 1999b), and various COFI Members translated the IPOAs into their national language.

Annually, FAO collects fishing fleet statistics from its Members, using specific forms and Excel datasheets. The data received are analysed and published in the FAO Fishery and Aquaculture Statistics Yearbooks (e.g. FAO, 2025), the biennial publication of *The State of World Fisheries and Aquaculture* (e.g. FAO, 2024) and other FAO publications. Fisheries scientists who are interested in fishing fleet data are often assisted with the necessary data for their analysis, and FAO's technical officers occasionally contribute to scientific papers that discuss fishing capacity and fishing effort (e.g. Bell, Watson and Ye, 2017).

Regular assessments on the evolution of fishing capacity by FAO have identified challenges reported by Members and have informed the development of additional technical activities and orientations. These have included documents supporting a more standardized classification of fishing vessels to facilitate a global assessment of the fleet by fishing vessel type and size. In 2019, the Coordinating Working Party on Fishery Statistics reviewed and endorsed a revision of the Handbook of Fishing Statistics – International Standard Statistical Classification of Fishery Vessels by Vessel Types (FAO, 2019). In line with those standards, FAO published a technical paper titled Classification and Definition of Fishing Vessel Types (Thermes *et al.*, 2023), which updated a previous version from 1985. The technical paper proposes a standardized classification for all types of semi-industrial and industrial fishery vessels, thereby facilitating reporting by flag and coastal states.

In line with the recommendation at the Twenty-fourth Session of COFI that "in future reporting on the application of the Code and the related IPOAs, more in-depth analysis of problems associated with its efficient implementation should be carried out on the basis of appropriate case studies and ensuring adequate regional coverage" (FAO, 2001), FAO conducted case studies in selected regions, but these studies related mainly to the IPOA-Seabirds and IPOA-Sharks. Chapter 5 contains various case studies of successful implementation of the IPOA-Capacity.

Technical and economic information on fishing fleets is important for FAO Members in their implementation of the CCRF, particularly regarding Article 7 on Fisheries Management and Article 8 on Fishing Operations (FAO, 1995), and for implementing the IPOA-Capacity. FAO collects information on the techno-economic performance of the world's fishing fleets, as economic information on fishing fleets is important for understanding the value added by the fishing industry to the economy at national, regional and global levels. Information on the contribution of the fishing industry to the economy is also essential information for fisheries policy and decision-makers when deciding on investments and expenditures in the fisheries sector.

FAO regularly conducts global studies to analyse the cost structure and economic and financial performance of fishing fleets. These studies are part of the regular monitoring of the economic and financial viability of marine capture fisheries conducted by FAO in close cooperation with national fisheries research institutions, fisheries administrations, and experts in selected countries in Africa, the Americas, Asia, the Caribbean and Europe. The findings of techno-economic performance studies of major fishing fleets were carried out from 1995–1997, 1999–2000 and 2003–2005 and were reported in FAO Fisheries Technical Papers No. 377 (FAO, 1999c), No. 421 (Tietze *et al.,* 2001) and No. 482 (Tietze *et al.*, 2005), respectively. The most recent round of techno-economic performance review studies was conducted in 2019–2020. The findings were published as regional reviews for Europe

No. 653/1 (Carvalho *et al.*, 2020); North and South America No. 653/2 (Kitts *et al.*, 2020); Asia No. 653/3 (van Anrooy *et al.*, 2020); and as a world review No. 654 (van Anrooy *et al.*, 2021). Following an update of the review methodology, FAO and partners, including the European Commission Joint Research Centre, the National Oceanic and Atmospheric Administration of the United States of America, the Bay of Bengal Programme Inter-Governmental Organisation, and the Centre for Marketing Information and Advisory Services for Fishery Products in Latin America and the Caribbean (INFOPESCA), will conduct a new round of fleet reviews in 2025–2026.

1.2.3.6 FAO support for regional and national plans of action

In accordance with Article 47 of the IPOA-Capacity, FAO provided technical assistance to Members in the development of NPOAs and regional plans of action (RPOAs). The following are some examples of FAO officers providing technical assistance in fleet capacity planning processes.

- The Lake Victoria Fisheries Organization (LVFO) and FAO organized the Regional Stakeholders' Workshop on Fishing Effort and Capacity on Lake Victoria, in Mukono, Republic of Uganda, on 8 November 2006, to discuss fishing capacity (FAO, 2008b). This workshop discussed a draft LVFO Regional Plan of Action for the Management of Fishing Capacity on Lake Victoria and Its Basin (RPOA-Capacity) (see Chapter 5 for details).
- Through collaboration with the Organization for the Fishing and Aquaculture Sector of the Central American Isthmus (OSPESCA) and national experts, various draft NPOA-Capacity planning documents were developed for Central American countries, such as Guatemala, Nicaragua and Panama, in 2005. However, there is no evidence of their formal approval by the authorities in these countries.
- The 73rd meeting of the Inter-American Tropical Tuna Commission (IATTC) (IATTC, 2005), held in Lanzarote, Spain, in June 2005, discussed and endorsed a Plan of Action for the Regional Management of Tuna Fishing Capacity (the EPO Plan), which had been previously discussed in draft versions at earlier IATTC meetings.
- Organized by the Southeast Asian Fisheries Development Center, the Regional Technical Consultation on Development of Regional Plan of Action–Management of Fishing Capacity was held in Kuala Lumpur, Malaysia, on 24–26 February 2015 (SEAFDEC, 2015). Through a participatory stakeholder process, the RPOA-Capacity of the Association of Southeast Asian Nations (ASEAN) was developed (SEAFDEC, 2017). It was endorsed by the ASEAN Fisheries Consultative Forum, the SEAFDEC Council and ASEAN ministers in October 2016. The RPOA-Capacity applies across ASEAN member states, such as Indonesia, Malaysia, the Philippines, Thailand and Viet Nam.

1.3 INTEGRATION INTO THE FISHERIES MANAGEMENT FRAMEWORK

Ever since the adoption of the IPOA-Capacity in 1999, the issue of managing fishing fleet capacity has been recognized and integrated into subsequent globally agreed instruments.

1.3.1 The Rome Declaration on Illegal, Unreported and Unregulated Fishing

In 2005, the FAO Ministerial Meeting on Fisheries adopted the Rome Declaration on Illegal, Unreported and Unregulated Fishing (FAO, 2005a). The Declaration brought international attention to the harmful and worldwide consequences of IUU fishing on the sustainability of fisheries, the conservation of marine living resources and biodiversity, and the economies of developing countries. The Declaration recognized "that there is often a relationship between fleet overcapacity and IUU fishing" and

called for actions to prevent the creation of overcapacity. This marked a point when managing fishing fleet capacity arguably became more frequently considered as a tool to reduce IUU fishing rather than as a tool required to secure sustainable fishery resources.

1.3.2 The Voluntary Guidelines for Flag State Performance

Aligned with the focus on combating IUU fishing in 2005, two years later at the Twenty-seventh Session of COFI (FAO, 2007), discussions shifted to the lack of control by some flag states over their fishing fleets. These deliberations resulted in a proposal to "develop criteria for assessing the performance of flag states as well as to examine possible actions against vessels flying the flags of states not meeting such criteria". In response to this, FAO organized a technical consultation to address the issue, which involved three sessions: in May 2011, March 2012 and February 2013. The result of this consultation was the elaboration of the Voluntary Guidelines for Flag State Performance, which were later adopted at the Thirty-first Session of COFI in 2014 (FAO, 2015a). Although a non-binding instrument, these guidelines provide a valuable tool for strengthening the compliance of flag states with their international duties and obligations regarding the flagging and subsequent control of fishing vessels.

For the implementation of the IPOA-Capacity, flag state monitoring and control of fishing fleets are key, and the links are evident throughout the guidelines. To start, the performance assessment criteria adopted in the guidelines explicitly reference, in paragraph 10, the responsibility of the flag state to manage fishing capacity, making it a minimum standard of accountability for flag states: "The flag state supports cooperation among flag states on managing capacity and fishing effort, catch limits and output controls." As a performance criterion, actions related to implementing this criterion should be integrated into national frameworks to ensure their routine and systematic implementation, such as in national plans or programmes. The guidelines also set criteria on minimum standards for "information, registration and records"; for example, paragraph 15 states that "The flag state cooperates with other states by exchanging information on registration, deregistration and suspension of registration of vessels, all as part of the procedure to verify a vessel's record and, where applicable, history for purposes of registration, deregistration and suspension of registration." This requirement for the exchange of information on the record and history of fishing vessels directly supports Article 37 and Article 38 of the IPOA-Capacity to ensure that transfers of capacity are controlled and do not undermine sustainable fisheries management.

1.3.3 The Global Record of Fishing Vessels

The 2005 Rome Declaration on Illegal, Unreported and Unregulated Fishing also called for the development of a "comprehensive global record of fishing vessels within FAO, including refrigerated transport vessels and supply vessels, that incorporates available information on beneficial ownership, subject to confidentiality requirements in accordance with national law" (FAO, 2005a). This significant mandate laid the foundation for the development of another global milestone in fisheries management, resulting in the launch, in 2018, of the publicly available Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (Global Record).[4] While the main objective of the Global Record is to deter and eliminate IUU fishing activities, it also aims to improve traceability and accountability by creating a central, standardized database of large-scale fishing vessels that provides global information on fishing fleets, including capacity characteristics and their operations, thereby supporting

[4] For more information, see https://www.fao.org/global-record/background/about/en.

the implementation of the IPOA-Capacity. In addition, the Global Record provides an overarching framework to support states to achieve Article 17 of the IPOA-Capacity, which requires that "States should develop and maintain appropriate and compatible national records of fishing vessels, further specifying conditions for access to information." At the Thirty-fifth Session of COFI in 2022 (FAO, 2023), the Committee welcomed the launch of the second iteration of the FAO Global Record and called on FAO Members to strengthen their participation in this instrument to improve global fleet management.

1.3.4 The Port State Measures Agreement

The Rome Declaration on Illegal, Unreported and Unregulated Fishing and the strong political will behind it were key catalysts in promoting the development and adoption of the 2009 Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (referred to in short as the Port State Measures Agreement (PSMA)), the first binding international agreement specifically targeting IUU fishing, which entered into force in 2016 (FAO, 2016). The PSMA emphasizes the responsibility of port states to prevent vessels engaged in IUU fishing from landing or transshipping their catch. For port states to identify such vessels, they often need to exchange information with the flag state and regional fishery bodies, which aligns well with the maintenance of information on fishing vessels, indirectly supporting the implementation of the IPOA-Capacity.

1.3.5 The World Trade Organization Agreement on Fisheries Subsidies

The World Trade Organization (WTO) Agreement on Fisheries Subsidies was adopted by the Twelfth Session of its Ministerial Conference, held in Geneva, Switzerland, 12–15 June 2022 (WTO, 2022) and came into force on 15 September 2025.

The aim of the Agreement on Fisheries Subsidies is to contribute to the sustainability of global fisheries by addressing harmful subsidies that result in overfishing, overcapacity and IUU fishing. It covers subsidies for marine wild capture fishing and fishing-related activities at sea. FAO collaborates with the WTO to provide targeted technical assistance and capacity-building assistance to developing states for implementation of the Agreement.

Article 8 on notification and transparency of the Agreement requires the members "to the extent possible, provide the following information as part of its regular notification of fisheries subsidies under Article 25 of the SCM Agreement [Agreement on Subsidies and Countervailing Measures]:

(i) status of the fish stocks in the fishery for which the subsidy is provided (e.g. overfished, maximally sustainably fished, or underfished) and the reference points used, and whether such stocks are shared with any other Member or are managed by an RFMO/A [regional fisheries management organization or arrangement];
(ii) conservation and management measures in place for the relevant fish stock;
(iii) fleet capacity in the fishery for which the subsidy is provided;
(iv) name and identification number of the fishing vessel or vessels benefiting from the subsidy; and
(v) catch data by species or group of species in the fishery for which the subsidy is provided."

The WTO does not describe how fleet capacity is measured and relies on the FAO definition and descriptions. FAO supports WTO members in implementing the Agreement by providing data and information (e.g. on fish stock status, IUU fishing, fishing fleets), technical support for implementation, and normative advice through its voluntary instruments, such as the CCRF, IPOA-Capacity and IPOA-IUU.

1.4 ALIGNMENT WITH THE SUSTAINABLE DEVELOPMENT FRAMEWORK

1.4.1 United Nations Sustainable Development Goals

Reinforced by the 2015 launch of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs), particularly for fisheries, through SDG Target 14 to "conserve and sustainably use the oceans, seas and marine resources for sustainable development," fisheries managers have been urged to incorporate ecosystem and conservation approaches alongside traditional fisheries management concerns. This commitment was reiterated in the 2021 COFI Declaration for Sustainable Fisheries and Aquaculture (FAO, 2021) and integrated into FAO's Blue Transformation Roadmap (FAO, 2022b). The Roadmap places aquatic food systems at the centre of management with the aim to ensure they are sustainable, resilient, and contribute to food security, nutrition and economic growth while addressing challenges such as overfishing, climate change and biodiversity loss. This approach sets the stage to consider fishing capacity and the consequences of overcapacity more holistically.

An example is the multiple associations between fishing capacity and global efforts to adapt to and mitigate the effects of climate change. Fishing fleets are a source of greenhouse gas emissions as they heavily rely on fossil fuels (UNCTAD, 2024). This makes fish production the most energy-intensive food production system in the world, using about 1 tonne of fuel to produce 2 tonnes of catch (Tyedmers, Watson and Pauly, 2005). Therefore, reducing fleet capacity or improving vessel technologies to be more pro-environment, as proposed in the International Maritime Organization's greenhouse gas strategy for global shipping (IMO, 2023), which aims to reduce emissions to reach net zero by 2050, will help meet international targets such as those set in the Paris Agreement (United Nations, 2015). Fisheries are also impacted by climate change, such as by changes in the distribution, productivity and composition of fish stocks, with the sector's resilience being determined by its ability to adapt (Barange *et al.,* 2018). From a fishing capacity perspective, this entails anticipating phenomena such as overcapitalization in fisheries, which can lead to changes in fish distribution patterns or fishing capacity shifting from one fishery to another. Efforts to reduce greenhouse gas emissions from fishing fleets should consider socioeconomic aspects, as well as the energy transition in artisanal fisheries in developing countries. This could include support for adaptation, such as transitioning to cleaner energy sources or anticipating the vulnerability of small-scale fisheries actors with respect to changing patterns in fishing activity, ensuring integration of the principles of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (FAO, 2015b) into fleet capacity management plans.

Another example is the subsidies given to the fisheries sector. They contribute to overcapacity, as identified in the IPOA-Capacity (Article 25 and Article 26) and considered in SDG Target 14.6, which called for the prohibition by 2020 of fisheries subsidies that contribute to overcapacity, overfishing and IUU fishing. A step towards this target was taken in June 2022 with the adoption of the WTO Agreement on Fisheries Subsidies. After over two decades of negotiations, the Agreement came into force in 2025 (see Section 1.3.5).

1.4.2 United Nations General Assembly resolutions

The United Nations General Assembly's annual resolutions on "oceans and the law of the sea" and on "sustainable fisheries, including through the 1993 Compliance Agreement, and related instruments" frequently refer to the problems of overcapacity and overfishing (United Nations, 2025b). In fact, all "sustainable fisheries" resolutions since the first one in 2003 until the most recent resolution in 2024 call upon states and relevant fisheries management organizations to prioritize managing fishing capacity and to implement the IPOA-Capacity. For example, Resolution A/RES/79/145 of

the Seventy-ninth Session of the General Assembly in 2024 (United Nations, 2024) includes the following about fishing capacity:

> 143. Calls upon States to commit themselves to urgently reducing the capacity of the world's fishing fleets to levels commensurate with the sustainability of fish stocks, through the establishment of target levels and plans or other appropriate mechanisms for ongoing capacity assessment, while avoiding the transfer of fishing capacity to other fisheries or areas in a manner that undermines the sustainable management of fish stocks, including those areas where fish stocks are overexploited or in a depleted condition, and recognizing in this context the legitimate rights of developing States to develop their fisheries for straddling fish stocks and highly migratory fish stocks consistent with Article 25 of the Agreement, Article 5 of the Code and Article 10 of the International Plan of Action for the Management of Fishing Capacity of the Food and Agriculture Organization of the United Nations;
>
> 144. Calls upon, in this regard, States, individually or through regional fisheries management organizations and arrangements, to develop and implement a range of measures to adjust fishing intensity, including fishing capacity where relevant, to levels commensurate with the sustainability of fish stocks, and including capacity assessment and capacity management plans providing incentives for voluntary reduction, which take into account all aspects that contribute to fishing capacity, considering, inter alia, engine power, fishing gear technology, fish detection technology and storage space, and also to improve transparency on fishing capacity, including by identifying, sharing and publicizing relevant information in this regard, subject to confidentiality requirements;
>
> 145. Reiterates its call upon States, individually and through regional fisheries management organizations and arrangements, to ensure that the urgent actions required in the International Plan of Action for the Management of Fishing Capacity are undertaken expeditiously and that its implementation is facilitated without delay;
>
> 146. Invites the Food and Agriculture Organization of the United Nations to report on the state of progress in the implementation of the International Plan of Action for the Management of Fishing Capacity, as provided for in Article 48 of the Plan of Action;

The above and similar previous resolutions also call upon states to take measures to halt the increase in large-scale fishing vessels, ratify and implement the FAO Compliance Agreement, contribute to the establishment of a Global Record, and address subsidies and participate in the implementation of the WTO Agreement on Fisheries Subsidies.

In summary, the IPOA-Capacity is rooted and linked to multiple issues related to the fisheries and global sustainable development agenda. Its implementation should thus not be done in isolation, and the IPOA-Capacity should not be seen as a stand-alone document.

1.5 REVIEW OF THE IMPLEMENTATION OF THE IPOA-CAPACITY

Following the landmark adoption of the CCRF in 1995, it was initially anticipated that global management of fishing capacity could be achieved by 2005 through the implementation of the IPOA-Capacity. However, this expectation was not realized. The June 2004 technical consultation (FAO, 2004) noted that while some progress had been achieved, significantly greater efforts were still required. In its conclusions, the consultation urged Member States to improve their fleet monitoring programmes, encouraged regional fisheries organizations to develop action plans for capacity

management, and called for the continued preparation and implementation of NPOAs, highlighting the need for a long-term policy framework.

At the Twenty-sixth Session of COFI in 2005 (FAO, 2005b), Members observed that numerous international fisheries instruments had been agreed since the 1992 United Nations Conference on Environment and Development and emphasized the importance of shifting the focus towards implementation rather than creating new instruments. In this context, some Members proposed a "decade of implementation."

With this call and the link between fishing vessel overcapacity and sustainable development, it could have been expected that the implementation of the IPOA-Capacity would gain renewed momentum; however, in reality, fishing fleet management received limited attention.

This trend is evident from the records of COFI sessions from 1997 to 2024. During the first decade, fishing fleet overcapacity and the IPOA-Capacity were addressed in detail, with recommendations that included reducing capacity transfers, utilizing tools such as marine protected areas, engaging in discussions about the drivers of overcapacity such as subsidies, and examining the links to related issues such as IUU fishing and the impacts of depleted fish stocks (Table 1; Annex 2).

From 2009 onwards, however, as more holistic and cross-sectoral agenda items took precedence, the IPOA-Capacity was seldom mentioned directly. When mentioned, it was typically in indirect reference to broader related issues, or as a supporting tool in efforts to combat IUU fishing, which had by then become the primary focus of fisheries management within the COFI agenda.

Over the past two decades, FAO's global efforts to monitor the implementation of the IPOA-Capacity have largely relied on the analysis of responses to the biannual CCRF questionnaire. However, this approach has notable limitations, including inconsistent participation by FAO Members and incomplete responses. To address these shortcomings, FAO initiated a new effort in 2021 to collect fleet management plans with the goal of establishing a publicly accessible database. Despite this progress, it was found that many countries that had reported having such plans did not, in fact, possess a specific NPOA-Capacity.

This technical paper provides an in-depth analysis of the status of the implementation of the IPOA-Capacity. Chapter 2 examines the evolution of global fishing capacity. This is followed by Chapter 3 and Chapter 4, which provide overviews and analyses of IPOA-Capacity implementation, first by individual countries and then by RFMOs and regional fishery bodies. Case studies illustrating how specific countries and organizations have addressed fishing fleet capacity are presented in Chapter 5. Chapter 6 discusses lessons learned in managing fishing capacity, while Chapter 7 outlines opportunities for strengthening fishing capacity management.

The main objective of this technical paper is to reignite the global discussion on fishing capacity and provide background information to support renewed dialogue and concrete recommendations for addressing this ongoing global challenge within international fisheries governance.

TABLE 1
Summary of references to fishing capacity or the IPOA-Capacity in the Committee on Fisheries records, 1997–2024

Year	Session	Priority given to addressing fishing overcapacity	IPOA-Capacity addressed	Prioritization of fishing capacity
1997	**22nd**	High	Not relevant	Fishing capacity was recognized as a high priority.
1999	**23rd**	High	Fully	Adoption of the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity).
2001	**24th**	High	Fully	Recommendations made and IPOA-Capacity implementation challenges and lessons learned discussed.
2003	**25th**	High	Fully	Recommendations made, including how to reduce transfer of fishing effort. Links between illegal, unreported and unregulated (IUU) fishing and subsidies to overcapacity discussed. Agreed to hold the Technical Consultation on the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) and the IPOA-Capacity.
2005	**26th**	High	Fully	Recommendation for guidelines to support IPOA-Capacity implementation was made. The report of the technical consultation (2004) was endorsed. Links to subsidies and IUU reiterated. A request for studies on the impact of subsidies was made. Marine protected areas identified as a capacity management tool.
2007	**27th**	High	Fully	Agreed to ensure that urgent actions would be implemented expeditiously. Links to subsidies were stressed and the need for regional fisheries management organizations and regional fishery bodies to address overcapacity and fishing fleet statistics was highlighted.
2009	**28th**	Medium	Partially	Less prioritized but still seen as important: a call for regional fisheries management organizations or arrangements to implement capacity measures.
2011	**29th**	Low	Partially	A call for IPOA implementation was made.
2012	**30th**	Low	No	The transfer of capacity as a cause for IUU fishing was noted and links between implementing port state measures and managing capacity were recognized.
2014	**31st**	None	No	The adoption of Voluntary Guidelines on Flag State Performance only agreed upon indirectly.
2016	**32nd**	Low	No	A call for better management of fishing capacity was made.
2018	**33rd**	Low	No	Fishing capacity partially addressed through the contributing factor of fisheries subsidies.
2021	**34th**	Low	No	Fishing capacity partially addressed through the contributing factor of fisheries subsidies.
2022	**35th**	None	No	Fishing capacity indirectly addressed through the Global Record, IUU fishing and links to managing fishing fleets.
2024	**36th**	Low	No	Fishing capacity partially addressed, with overcapacity mentioned as one of the causes of degrading marine fish stocks. It was also partially addressed in relation to distant water fishing vessels and vessel ownership.

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2. Analysis of the evolution of global fishing capacity

2.1 FAO'S FISHING FLEET DATABASE

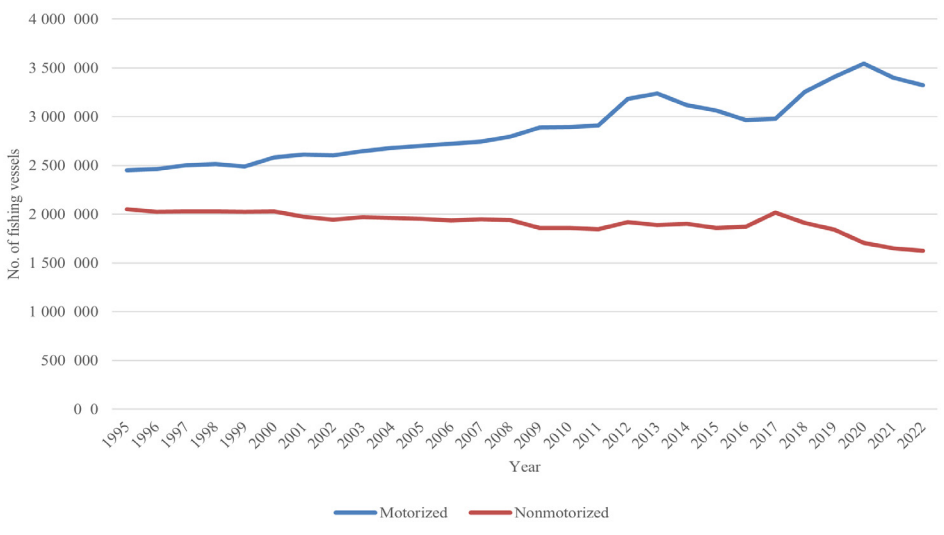
2.1.1 Fishing vessels by number

FAO Members report annually to FAO on the number of fishing vessels recorded in their country. They distinguish between motorized and nonmotorized vessels, such as those that use oars or sails. The total number of fishing vessels reported by Members increased from 4.51 million in 1999, when the IPOA-Capacity was adopted, to 5.25 million in 2020. However, there has been a slight reduction in recent years, decreasing to 4.95 million in 2022. The total global fishing fleet increase, by number, over the past two decades was around 10 percent. Whereas the number of nonmotorized fishing vessels showed a downward trend of 20 percent (–399 000 vessels), the number of motorized fishing vessels increased by 34 percent (+834 000 vessels) over the period 1999–2022 (Figure 1).

In 1999 when the IPOA-Capacity was adopted, FAO Members reported 2.48 million motorized fishing vessels. This number gradually increased until 2020, when Members reported 3.54 million motorized fishing vessels. In 2022, there was a slight reduction in the number of these vessels, decreasing to 3.32 million (Figure 2). However, the total number of reported motorized fishing vessels is now 34 percent higher than in 1999. Most countries do not report vessel length categories to FAO, which is why two-thirds of the vessels in FAO's fishing fleet database are listed as "unknown."

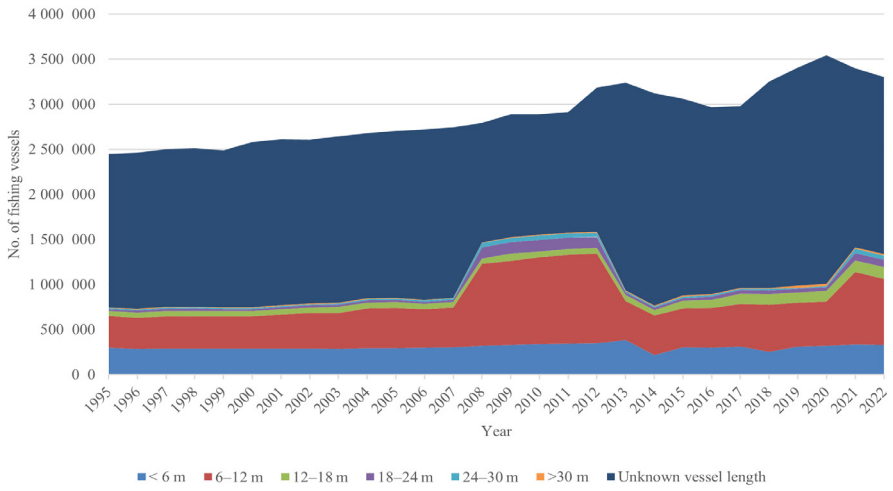
Fishing vessels with a length overall of 24 m or more can be categorized as industrial fishing vessels, vessels of 12–24 m in length as semi-industrial vessels, and vessels less than 12 m in length as small-scale fishing vessels.

FIGURE 1
Number of motorized and nonmotorized fishing vessels, 1995–2022



Source: FAO. 2024. *FishStat. Fleet 1995–2022* (unpublished data).

FIGURE 2
Number of motorized fishing vessels by length category, 1995–2022

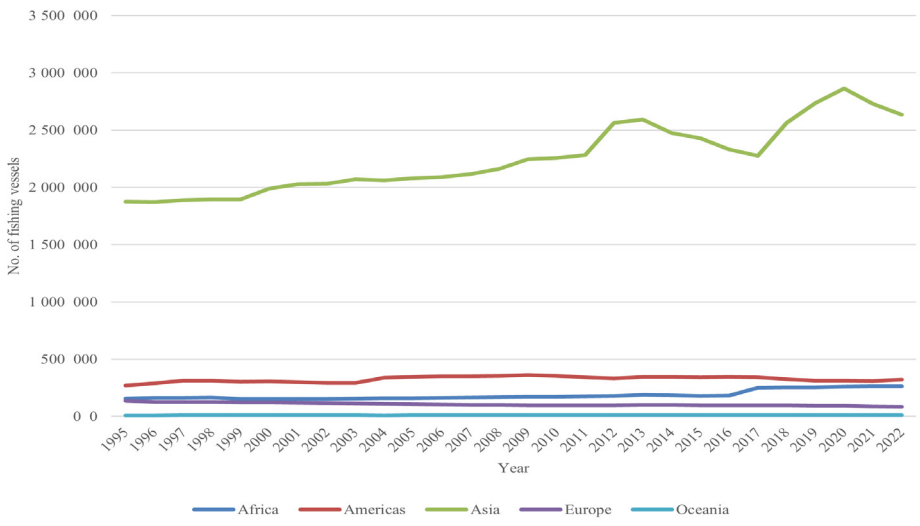


Notes: Note 1: FAO obtained information on vessel size only for the three length overall groups for China for the periods 2008–2012 and 2021–2022. This is reflected in the changes in the numbers between "Unknown" and mainly "< 12 m" for these periods. Note 2: Indonesia revised its data collection system causing major changes in the vessel numbers, from 0.7 million in 2014 to 1.4 million in 2019.
Source: FAO. 2024. *FishStat. Fleet 1995–2022* (unpublished data).

Analysing the distribution trends of fishing vessels by major length category shows that the reported number of industrial fishing vessels increased from 19 000 to 63 000 in the 1999–2022 period. During this same period, the number of semi-industrial vessels in the 12–24 m length category increased from 77 000 to 215 000 (Figure 2).

A comparison of fishing fleets by continent reveals that the Asian fishing fleet is significantly larger than those of other continents. The Asian fleet of motorized fishing vessels increased from 1.89 million fishing vessels in 1999 to 2.63 million fishing vessels in 2022 (+39 percent). Over the same period, the motorized fishing fleet in Africa increased from 151 000 vessels to 265 000 vessels (+78 percent), while in the Americas it increased by 6 percent. In contrast, the size of the European motorized fishing fleet decreased from 125 000 vessels in 1999 to 85 000 vessels in 2022 (-32 percent) (Figure 3; Table 2).

FIGURE 3
Number of motorized fishing vessels by continent, 1995–2022



Source: FAO. 2024. *FishStat. Fleet 1995–2022* (unpublished data).

TABLE 2
Fishing fleet trends by continent, 1999–2022

Continent	1999 (vessels)	1999 (%)	2010 (vessels)	2010 (%)	2020 (vessels)	2020 (%)	2022 (vessels)	2022 (%)
Africa	151 359	6	172 783	6	260 308	7	264 831	8
Americas	304 064	12	353 327	12	311 710	9	322 998	10
Asia	1 895 179	76	2 255 276	78	2 863 761	81	2 634 854	79
Europe	124 697	5	97 837	3	94 940	3	84 517	3
Oceania	10 932	0	11 433	0	13 240	0	13 452	0
Total	2 486 231	100	2 890 656	100	3 543 959	100	3 320 652	100

Source: FAO. 2024. *FishStat. Fleet 1995–2022* (unpublished data).

2.1.2 Motorized fishing vessels by vessel type

FAO also collects fishing fleet data by vessel type, using the categories from the International Standard Statistical Classification of Fishery Vessels by Vessel Types (ISSCFV, Rev.1, 2019) (FAO, 2021a). In total, 75 percent of FAO Members provide data on fishing vessel types: 43 percent of the Members provide the data for their entire motorized fleets, while 32 percent provide the data for only a portion of their motorized fleet. However, when examining the number of vessels from 1999 to 2022, it was found that around 80 percent of motorized fishing vessels were reported under "Other fishing vessels." This is mainly because some countries with the largest fishing fleets in the world do not collect data by vessel type.

The reported number of trawlers (01)[3] gradually declined from 53 000 vessels in 1999 to 35 000 vessels in 2018. The number of purse seiners (02) increased slowly, from 15 000 in 1999 to 25 000 in 2020 and has since been stable. A similar increase can be observed in the gillnetter (04) fleet, which increased from 150 000 vessels in 1999 to 280 000 vessels in 2022. As for the longliner (06) fleet, it was steady at around 40 000–50 000 vessels over the period 1999–2022. The group of unspecified (other) fishing vessels (09) increased from 1.84 million vessels in 1999 to 2.81 million in 2020, decreasing slightly to 2.61 million vessels in 2022. Small fishing vessels, with a length of less than 12 m, are generally reported as other fishing vessels (09) or multipurpose fishing vessels (08), as multiple gear and fishing methods are used by small-scale fishers.

FAO also collects data from its Members on both decked and undecked fishing vessels. However, many countries, as well as the European Union, do not differentiate between decked and undecked fishing vessels in their own data collection systems and registries. As a result, the annual reporting to FAO on this characteristic is poor.

2.1.3 Fishing vessels by length class

The current fishing fleet data collection forms of FAO request Members to report by length class, using the International Standard Statistical Classification of Fishery Vessels by Length Classes (FAO, 2021b). Only about 40 percent of the data reported by Members to FAO includes information on vessels distributed by length class (Table 3).

[3] The number in parentheses refers to the vessel type numbers assigned in the ISSCFV, Rev.1, 2019.

TABLE 3
Motorized fishing fleet data reported to FAO by length class, 1999–2022

Length classes	1999	2000	2005	2010	2015	2020	2022
Decked vessels (motorized)							
0–12 m	221 814	221 557	238 177	746 959	186 503	175 219	433 537
12–24 m	54 970	57 093	62 759	164 564	86 929	119 288	158 253
More than 24 m	19 142	19 023	21 946	55 210	28 383	36 719	61 972
Undecked vessels (motorized)							
0–12 m	427 140	426 612	501 863	556 805	546 723	633 791	628 764
12–24 m	22 051	21 219	28 024	26 492	28 873	42 491	53 653
More than 24 m	6	5	29	91	101	396	444
Unknown	1 741 108	1 835 506	1 848 378	1 340 535	2 184 213	2 536 055	1 965 866
Total	**2 486 231**	**2 581 015**	**2 701 176**	**2 890 656**	**3 061 725**	**3 543 959**	**3 302 489**

Source: FAO. 2024. *FishStat. Fleet 1995–2022* (unpublished data).

2.1.4 FAO Member reporting on fishing vessels

Not all Members report annually to FAO on their fishing fleets. About 70 percent of Members regularly report this information. Additionally, among the top ten marine fisheries countries, there are some countries that either do not report at all or do so infrequently (Table 4). As a result, the quality of FAO's global statistics on fishing fleets is compromised.

FAO reports on fishing capacity in the biennial *The State of World Fisheries and Aquaculture* (SOFIA) reports; a summary of the key issues from the SOFIA reports between 2000 and 2024 is provided in Annex 4.

TABLE 4
Fishing fleet data reported to FAO by the top ten marine fish-producing countries, 2019–2023

Rank	Country	2019	2020	2021	2022	2023
1	China	Yes	Yes	Yes	Yes	Yes
2	Indonesia	Published	Yes	Published	Published	Published
3	Peru	Yes	Yes	Yes	Yes	Yes
4	India	Published	Yes	No	Published	No
5	Russian Federation	No	No	No	No	No
6	United States	No	No	No	No	No
7	Viet Nam	No	No	Yes	Yes	Yes
8	Japan	Yes	Yes	Yes	Yes	Yes
9	Norway	Yes	Yes	Yes	Yes	Yes
10	Bangladesh	Yes	Yes	Yes	Yes	Yes

Source: FAO. 2024. *FishStat. Fleet 1995–2022* (unpublished data).

In conclusion, global trends in FAO's fishing fleet data reveal a moderate overall increase of 10 percent in the number of fishing vessels from 1999 to 2022, which was driven primarily by a 34 percent increase in motorized vessels. In contrast, nonmotorized vessels declined by 20 percent, reflecting a shift toward mechanization. Notably, small-scale vessels (< 12 m) still dominate but are largely reported under unspecified categories. Regional disparities persist: while Asia and Africa experienced significant expansions in their fishing fleets (39 percent and 78 percent, respectively), Europe's motorized fleet contracted by 32 percent. By vessel type, gillnetters and purse seiners showed steady growth, whereas trawlers and longliners exhibited fluctuating trends, with longliners declining sharply after 2013. These patterns underscore the dynamic nature of global fleets and the continuing need for improved, standardized reporting on vessel size and type to support fleet capacity management, aligning with the objectives of the IPOA-Capacity.

2.2 THE GLOBAL INTEGRATED SHIPPING INFORMATION SYSTEM OF THE INTERNATIONAL MARITIME ORGANIZATION

In 1999, the global fleet of merchant vessels (over 100 GT) comprised 86 817 vessels, with an average age of 20 years. The number of fishing vessels (over 100 GT) was 23 003, with a combined GT of 10.6 million GT and an average age of 21 years. Other fishing vessels numbered 838, with a total tonnage of 1.8 million GT and an average age of 19 years (Lloyd's Register of Ships, 1999).

In 2023, the merchant fleet consisted of 108 789 vessels (over 100 GT), with an average age of 21 years (UNCTAD, 2024).

The Global Integrated Shipping Information System (GISIS) of the International Maritime Organization (IMO) included more than 155 000 vessels (in service/commission or launched) in November 2024, including 32 784 fishing vessels.

2.2.1 Fishing vessel age

In 2024, the total tonnage of the 32 784 fishing vessels in IMO's GISIS database was 10.4 million GT, with an average age of 31 years. The average age of fishing vessels was higher than that of vessels in most merchant marine fleets (Table 5).

TABLE 5
Average age of vessels by vessel type in the International Maritime Organization GISIS database

Vessel type	Average age (years)
Oil tankers	21
Bulk carriers	12.5
Container ships	6.5 to 15 (larger ships are latest generation)
Liquified natural gas carriers	10.5
Cruise ships	21
Ferries	29
Fishing vessels	31
Reefers	31.5

Note: GISIS=Global Integrated Shipping Information System.
Source: International Maritime Organization. 2024. *GISIS database*. [Cited November 2024]. https://gisis.imo.org/public/default.aspx

While the average age of fishing vessels in the IMO database is 31 years, there are large differences among flag states in the database. The average age of industrial and semi-industrial fishing vessels in China, Kiribati, the Marshall Islands, Seychelles and Sri Lanka is less than 15 years. Conversely, fishing vessels from flag states such as Ecuador, the Philippines, Republic of Korea, Senegal and the United States have an average age exceeding 40 years (Table 6).

TABLE 6
Average age of fishing vessels by country in the International Maritime Organization GISIS database

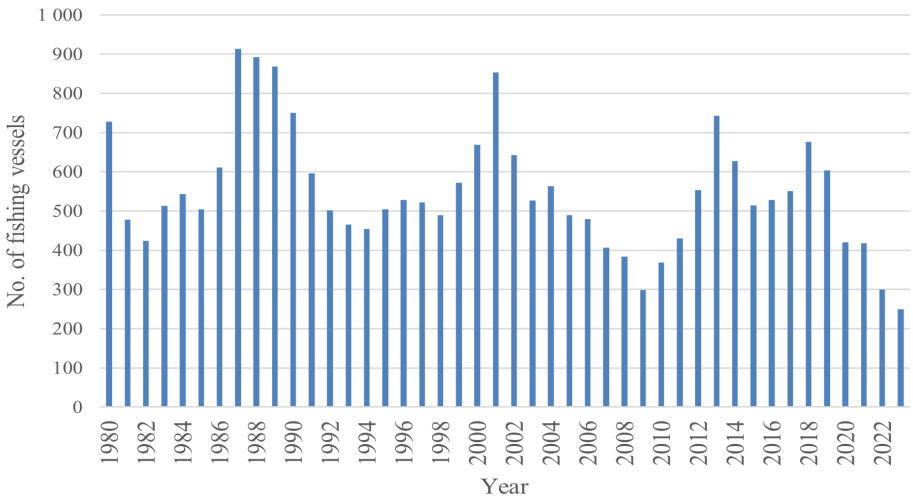
Flag state*	Average fishing vessel age (years)	No. of fishing vessels
China	13.3	2 611
United States	40.3	2 492
Sri Lanka	10.8	1 576
Indonesia	17.1	1 526
Taiwan Province of China	29.0	1 521
Italy	26.7	1 180
Japan	21.8	1 095
Türkiye	19.8	1 090
Spain	24.8	1 046
Russian Federation	32.7	951
Republic of Korea	48.0	940
United Kingdom	29.2	671
France	27.8	670
Philippines	41.3	600
Tunisia	24.7	511
Greece	34.2	486
Norway	23.6	475
Morocco	36.2	425
Canada	37.0	389
Argentina	33.9	384
Netherlands (Kingdom of the)	39.9	327
Nigeria	32.7	318
Other countries	35.0	6377
Unknown flag state	45.3	5123

Note: GISIS=Global Integrated Shipping Information System.
*Flag states listed in this table are those with 300 or more fishing vessels in the IMO GISIS database (per November 2024).
Source: International Maritime Organization. 2024. *GISIS database*. [Cited November 2024]. https://gisis.imo.org/public/default.aspx

2.2.2 Trends in fishing vessel construction

The construction of large fishing vessels with an IMO number has shown significant fluctuations over the past four decades. The peak years for fishing vessel construction were 1987–1989 and 2001, when more than 800 industrial fishing vessels were built annually. In contrast, only 300 large fishing vessels with an IMO number were constructed in 2009 and 2022 (Figure 4).

FIGURE 4
Number of large fishing vessels constructed per year with an International Maritime Organization number, 1980–2023



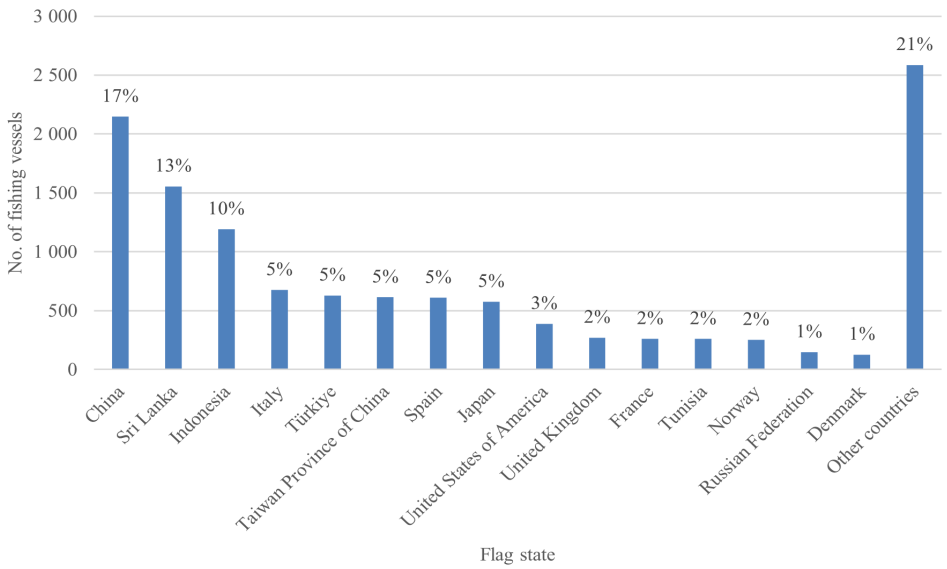
The construction of large fishing vessels varies by regions. The IMO GISIS database contains 12 300 fishing vessels that were constructed in the period 2000–2024. Of these fishing vessels, 51 percent were reported by Asian flag states, 29 percent by European flag states and 8 percent by African flag states (Table 7). This, however, does not necessarily mean that these vessels were constructed in those regions.

TABLE 7
Number of fishing vessels with an International Maritime Organization number by region constructed in the period 2000–2024

Region (based on flag state)	No. of vessels	Percentage
Asia	6 298	51
Europe	3 620	29
Africa	960	8
Americas	826	7
Oceania	234	2
Near East	24	0
Unknown	338	3
Total	**12 300**	**100**

In November 2024, 135 flag states had fishing vessels listed in the IMO GISIS database. Of the 12 300 fishing vessels added to the database between 2000 and 2024, about 17 percent were Chinese, 13 percent were Sri Lankan and 10 percent were Indonesian. As for Italy, Japan, Spain, Taiwan Province of China and Türkiye, they each accounted for about 5 percent of the fishing vessels added to the database during this period. Some other flag states ranged from 3 percent to 1 percent. In addition, 90 countries were listed as flag states for smaller numbers of fishing vessels, ranging from 1 to 125 vessels (Figure 5).

FIGURE 5
Number and percentage of fishing vessels constructed and launched by flag state, 2000–2024



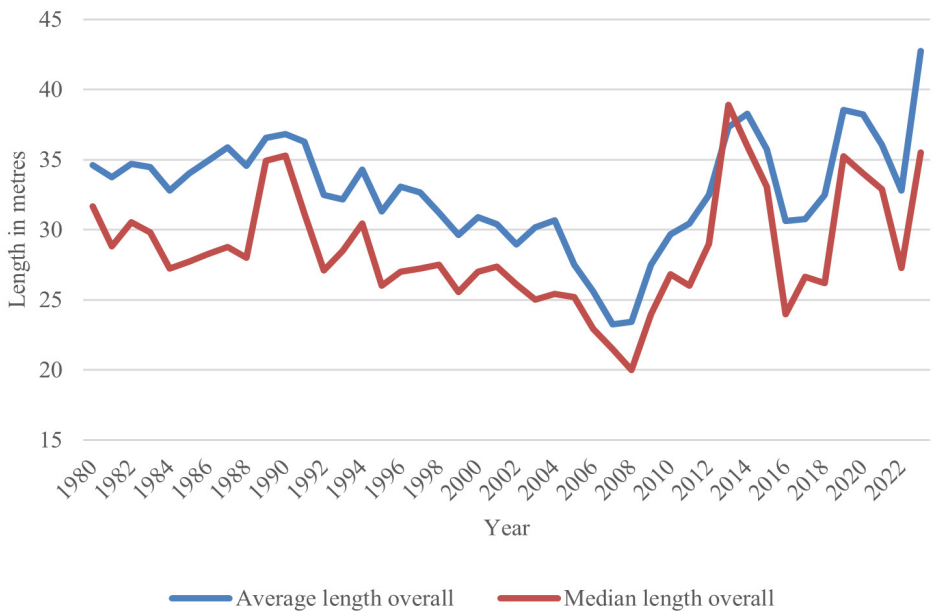
Source: International Maritime Organization. 2024 *GISIS database.* [Accessed November 2024]. https://gisis.imo.org/public/default.aspx

2.2.3 Trends in fishing vessel length

Vessel length is used in several international instruments as the basis for measuring fishing vessels, such as in the FAO Compliance Agreement of 1993 (FAO, 2024); the United Nations Fish Stocks Agreement of 1995 (United Nations, 2025); and the IMO International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel Convention of 1995 (IMO, 2025a).

An analysis of the IMO database with 32 784 fishing vessels shows that the length overall of newly constructed fishing vessels with an IMO number remained stable at around 35 m in the 1980s. From the early 1990s until 2008, the average length of new fishing vessels gradually decreased, and was estimated to be 23 m in 2008. Since then, the average length of newly constructed vessels has fluctuated, showing an overall increasing trend. The average vessel length increased to 39 m in 2014, decreased to 31 m in 2016/2017, and then rose back to 39 m again in both 2019 and 2020. After a dip in 2022, the average length of newly constructed vessels increased again in 2023 (Figure 6).

FIGURE 6
Average length overall of fishing vessels constructed, 1980–2023



2.2.4 Trends in fishing vessel tonnage

The gross tonnage (GT) of a vessel is used to measure its total internal volume, which includes all enclosed spaces. GT is a key indicator of a ship's size and is used in various maritime regulations and operations, such as the IMO Cape Town Agreement (IMO, 2025b) and the International Labour Organization Work in Fishing Convention (No. 188) (ILO, 2016).

The average gross tonnage of fishing vessels in operation in 2024 with an IMO number and constructed in the period 1985–1991 was above 300 GT. The average gross tonnage decreased during the period 2005–2009 to less than 250 GT per fishing vessel. In this period, hundreds of Sri Lankan vessels, measuring just over 12 m in length and with a GT of 16–18, received an IMO number. Many small vessels from Japan and Tunisia were also added to the IMO database. The average GT of fishing vessels constructed since 2012 is higher than that of the last century and shows an upward trend. This means that industrial fishing vessels constructed in recent years are larger than those built previously (Figure 7).

2.2.5 Trends in engine power

The engine power (in kW or HP) of a fishing vessel indicates its propulsion capability. The propulsion capability provides information on the vessel's ability to use certain fishing gear and the fishing areas where it can operate, such as in coastal waters or the high seas. In the period 1980–1995, the average engine power of newly constructed fishing vessels was around 730 kW (= 993 HP). From 1995 to 2010, the average engine power of new fishing vessels in the IMO database was 830 kW, which was 100 kW higher than before. A sharp increase in the average power of vessel engines has been observed since 2012. Over the period 2012–2022, the average engine power of vessels was 1 116 kW. The 250 fishing vessels constructed or launched in 2023 reported an average engine power of 1 626 kW. Over the past decades, the engine power of industrial fishing vessels has significantly increased (Figure 8).

FIGURE 7
Average gross tonnage of fishing vessels constructed, 1980–2023

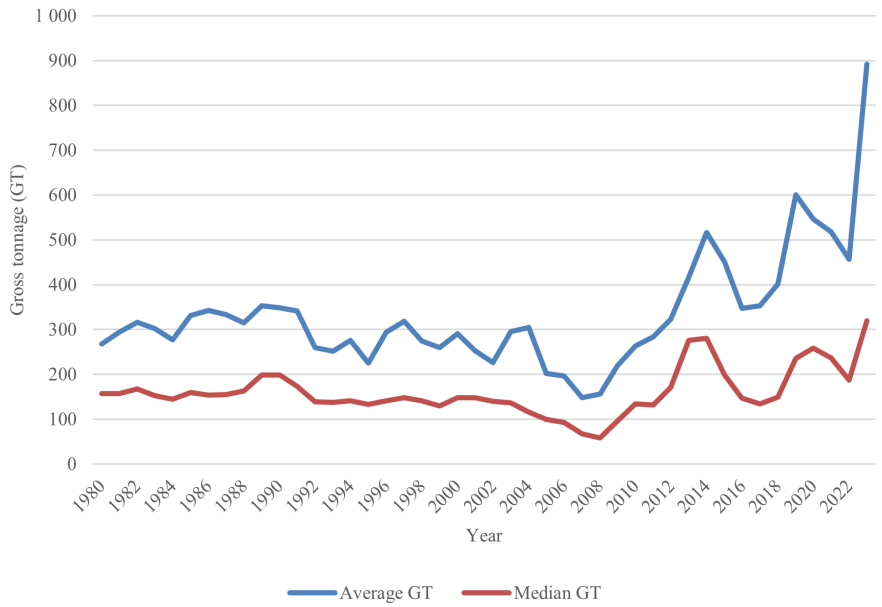
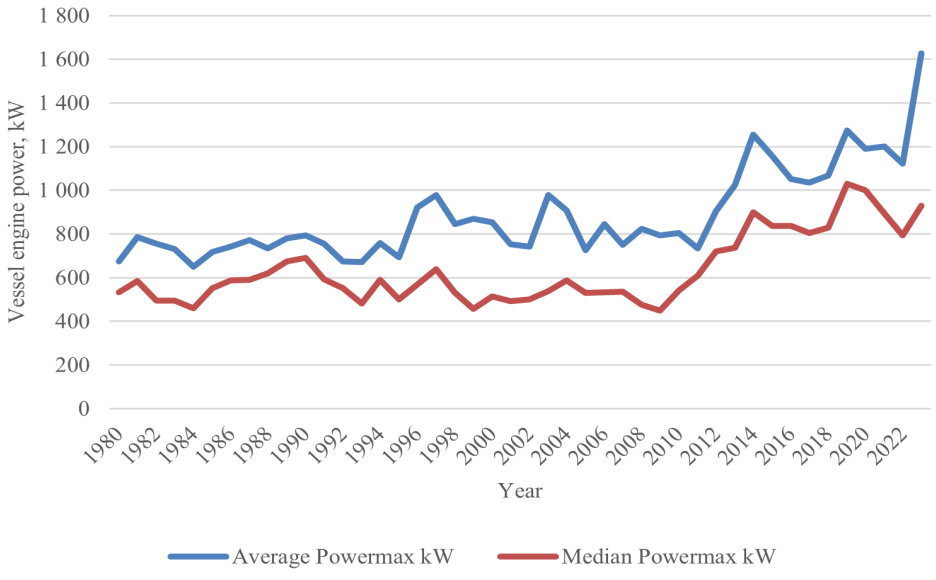


FIGURE 8
Average engine power (kW) of fishing vessels constructed, 1980–2023



2.2.6 Trends in fishing vessel overall size

To compare newly constructed fishing vessels listed in the IMO database, Table 8 presents a summary of the four largest vessels constructed in 2000, 2010, 2020 and 2023. Annex 3 provides additional details on these four vessels, as well as other fishing vessels that are smaller.

TABLE 8
Summary of the four largest fishing vessels constructed in 2000, 2010, 2020 and 2023

Year	Largest gross tonnage (GT) vessel	GT range	Length overall range (m)	Engine power range (kW)	Flag states
2000	Willem van der Zwan: 9 494 GT	3 870–9 494	106.5–142.3	5 850–8 636	Netherlands (Kingdom of the), Germany and Seychelles
2010	Anne Risley: 4 478 GT	2 666–4 478	73.4–89.4	4 980–8 000	Canada, Norway, France (Reunion) and Panama
2020	Barentsevo More: 5 098 GT	4 025–5 098	77–86	4 800–7 200	Norway, Russian Federation and Francee
2023	Fu Xing Hai: 15 071 GT	9 055–15 071	99.3–136.6	7 200–9 000	China, the Russian Federation and the United States

2.3 FAO'S GLOBAL RECORD DATABASE

As noted in Section 1.3.3, the foundation for FAO's Global Record database were laid in the 2005 Rome Declaration on IUU Fishing, which recommended the development of a comprehensive global record of fishing vessels within FAO (FAO, 2025).

By the end of 2024, the Global Record Information System included 13 034 vessels reported by 68 Member States and the European Union. FAO Members can directly input information about their fishing vessels into the Global Record. The minimum information that should be entered into the system is: (i) the unique vessel identifier or IMO number; (ii) name of the fishing vessel; (iii) current flag state; (iv) length overall; and (v) gross register tonnage or gross tonnage. The system provides the option to add data fields with vessel details (such as engine power, vessel dimensions and fishing vessel type), historical details, authorizations, ports, port entry denials, inspection and surveillance, and IUU fishing vessel lists.

However, so far, most contributors to the Global Record have only entered the minimum required vessel information. This means that the Global Record in its present form and use is not suitable for measuring fleet capacity.

The Global Record contains fishing fleet information from all regions of the world. Of the total number of vessels included in the Global Record, 36 percent have been added by European countries, 24 percent by Northern America and 24 percent by Asian countries. The Global Record also provides useful information on vessel length overall, as nearly all recorded vessels include this information (Table 9 and Table 10).

TABLE 9
Number of fishing vessels and average vessel length in FAO's Global Record by region

Region	No. of vessels	Percentage of vessels	Average length (m)
Africa	553	5	43.16
Asia	2 962	24	44.22
Europe	4 357	36	30.35
Latin America and the Caribbean	1 170	10	52.11
Near East	1	0	29.00
Northern America	2 943	24	26.55
Pacific	272	2	42.43
Global	**12 258**	**100**	**35.71**

Note: Vessels that were recently decommissioned or for which the flag state was unknown are not included in this table.

TABLE 10
Average fishing vessel length of the top 15 reporting countries to FAO's Global Record

Country	No. of fishing vessels	Average length (m)
United States	2 788	26.71
China	1 529	51.83
Spain	1 042	29.67
Japan	705	33.42
France	624	24.35
Norway	441	45.05
Argentina	405	43.28
United Kingdom	388	27.92
Netherlands (Kingdom of the)	357	32.82
Greece	334	24.05
Panama	287	89.64
Republic of Korea	273	62.08
Italy	246	27.47
Ireland	244	26.95
Sri Lanka	222	14.76

2.4 SCIENTIFIC STUDIES ON FISHING FLEET CAPACITY

Various scientific studies have concluded that global marine fishing capacity has continued to increase since 1950, even after the adoption of the IPOA-Capacity in 1999. Most of these studies are based on FAO's fishing fleet statistics, combined with data from publicly available national, regional (e.g. European Union), and RFMO vessel registries and records.

Many national and fleet specific studies that discuss status and trends in fishing fleet capacity of COFI Members have been published. Studies include, for example, Brazil (Martins *et al.*, 2022), Chile (Peña, Aguirre and Cerda, 2004), China (Liu, 2021; Yang *et al.*, 2022; Zheng, 2024), Denmark (Vestergaard, Squires and Kirkley, 2003; Lindebo, Hoff and Vestergaard, 2007), Egypt (Samy-Kamal and Mehanna, 2023), European Union (Villasante, S., 2010; Villasante and Sumaila, 2010; Maynou, 2020; Gómez Mestres and Maynou, 2020), France (Leonardi *et al.*, 2009), Georgia (Castilla-Espino *et al.,* 2014), Greece (Tsitsika, Maravelias and Haralabous, 2008), Iceland (Asche, Bjørndal and Bjørndal, 2014; Gudmundsson, Bergsson and Sigurdsson, 2004), Italy (Di Cintio, Labanchi and Spagnolo, 2022), Japan (Yagi and Managi, 2011), Mexico (Pérez-Ríos *et al.*, 2021), the Kingdom of the Netherlands (van Hoof and de Wilde, 2005), Norway (Nøstbakken, 2006; Bertheussen, Xie and Vassdal, 2020), Portugal (Oliveira *et al.*, 2009); United Kingdom of Great Britain and Northern Ireland (Tingley, Pascoe and Mardle, 2005), and the United States (Terry *et al.*, 2008). Most of these scientific studies conclude that there is excess capacity and/or overcapacity in the fishing fleet segments investigated, and the scientists often recommend taking mitigating actions.

2.4.1 Major findings of global scientific studies

The number of fishing vessels approximately doubled between 1950 and 2015 (Rousseau *et al.*, 2019). Motorization and technological progress have been the main drivers of the increase in global fishing capacity. Over the same period, engine power increased from about 25 to 145 gigawatts (combined powered artisanal and industrial fleets). By 2015, about two-thirds of all fishing vessels were motorized (Rousseau *et al.*, 2019).

Global fishing effort, expressed as total engine power and the number of fishing days in a year (kilowatt days), remained relatively constant from 1950 to 1970, but has

since then steadily increased. However, there are substantial data gaps (Anticamara *et al.*, 2011). Subsequent work with an expanded FAO fishing fleet database confirmed the rapid growth in capacity and fishing effort during the 1990s and 2000s. Some signs of global fleet capacity stabilization appeared around 2010, but regional trends varied. Fishing fleet capacity increased significantly in Asia, while it declined in some parts of Europe and Northern America. Other regions showed slower changes (Bell, Watson and Ye, 2017).

Industrial fleets expanded their operating distances and geographic range in the late twentieth century. Subsidies and international access agreements supported this expansion. However, catch per nautical mile travelled and catch per unit area decreased, reflecting diminishing returns as fleets approached physical and ecological limits (Tickler *et al.*, 2018).

Several studies have reported a decline in catch per unit effort over time. This trend is observed despite technological progress. Rousseau *et al.* (2019) found that there was a decrease in catch per unit effort for most countries as vessel power increased. In some countries, partial stabilization occurred where capacity reductions and stronger management were implemented. Bell, Watson and Ye (2017) also found a decline in efficiency, measured as watt-days per tonne of seafood landed, compared with 1950. The studies above also revealed the risks of overcapacity and highlighted the need for effective capacity management.

2.4.2 Small-scale and artisanal fleets

Small-scale fisheries represent most of the world's fishing vessels. They are essential for food security and employment in many coastal states. The report *Illuminating Hidden Harvests* (FAO, Duke University and WorldFish, 2023) documents the scale and importance of these fisheries. It also notes that the fleet capacity of small-scale fisheries is often under-reported in official statistics. Aranda, Murua and de Bruyn (2012) point out that artisanal and recreational fleets are typically not considered in capacity management even though artisanal fleets might exert strong pressure on resources. The main reason for excluding artisanal fleets from capacity limitations seems to be the lack of data.

Motorized small fishing vessels have driven much of the growth of the global fishing fleet. Most motorized small vessels have engines under 50 kW. Together, the small fishing vessels accounted for approximately 27 percent of the total engine power of the global fishing fleet in 2015. Motorization has increased the fishing capacity of small-scale fisheries fleets substantially (Rousseau *et al.*, 2019).

Artisanal fleet capacity and efficiency respond to environmental and economic drivers. Using 1950–2014 data, Tidd *et al.* (2023) found that temperature anomalies, fish prices and fuel costs influence technical efficiency. Rising fish prices can attract labour and increase investments in artisanal fleets, which may lead to excess capacity in these fleets, even if the target stocks are overfished.

Recognizing the gaps in data and information on small-scale and artisanal fleets, Rousseau *et al.* (2024) developed a database that can facilitate better integration of small-scale fisheries in spatial analyses of fishing effort and fishing capacity measurements. It can partially address the issue of under coverage in satellite monitoring of fishing fleets. Most small fishing vessels are not equipped with automatic identification system (AIS) technology. Additionally, AIS data availability is limited to recent years and industrial fleets, and not all countries use it.

2.4.3 Assessing or measuring fishing capacity

At the Twenty-fourth Session of COFI in 2001, some Members reported on the methodological challenges they faced when carrying out an assessment of their fishing capacity. FAO responded by producing two high-quality technical papers on measuring

and assessing capacity in fisheries: (i) Basic Concepts and Management Options; and (ii) Issues and Methods (Ward *et al*., 2004; Pascoe *et al*., 2003). The latter builds on the discussions held at the FAO Technical Consultation on the Measurement of Fishing Capacity, held in Mexico City, Mexico, from 29 November to 3 December 1999.

Despite the availability of these technical papers, the Technical Consultation to Review Progress and Promote the Full Implementation of the International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing and the International Plan of Action for the Management of Fishing Capacity, in Rome, on 24–29 June 2004 (FAO, 2004) was not satisfied. The consultation recommended, as endorsed by the Twenty-sixth Session of COFI in March 2005, that FAO provide "simplified concepts and terminology relating to capacity management in relation to resource sustainability and socioeconomic concerns; and establish common parameters for fleet monitoring."

Subsequently, FAO developed the Technical Guidelines for Responsible Fisheries, No. 4, Suppl. 3 Fisheries Management: Managing Fishing Capacity (FAO, 2008) (see Section 1.2.3.4). These technical guidelines provide a valuable overview of the effects of different management programmes on capacity and outline the key concepts and techniques involved in monitoring, measuring and assessing capacity. The guidelines also offer guidance on developing an NPOA-Capacity and an outline structure for a national plan.

These technical guidelines also provide a definition of fishing capacity based on suggestions from the technical consultation in 1999 (FAO, 2000a) that capacity may be defined with reference to either fishing inputs (vessels, potential effort) or fishing output (potential catch): "Fishing capacity is, for a given resource condition, the amount of fish (or fishing effort) that can be produced over a period of time (e.g. a year) by a vessel or a fleet if fully utilized. That is, if effort and catch were not constrained by restrictive management measures."

The technical guidelines further provide a scientifically accurate approach for monitoring and assessing fishing capacity (Box 2), which appears complicated and overly cumbersome for most fisheries managers. The level of data and information required to accurately estimate fishing capacity, as well as the scientific methods proposed such as data envelopment analysis (DEA) and stochastic production functions, pose challenges. Consequently, fisheries managers started using simpler methods and a range of various indicators to measure fishing capacity in the fleets they manage.

At present, there has been no universally accepted definition of fishing capacity. The indicators used to measure or assess fishing capacity are also diverse.

In fishery policy contexts, fishing vessel capacity is typically measured using a combination of physical, technical and economic indicators. Four commonly used indicators for determining fishing capacity and fishing effort are physical indicators, technical capacity indicators, economic or fishing effort-based indicators, and biological or catch indicators. They are summarized here.

1. Physical indicators describe the number, size and power of fishing vessels in a fleet segment:
   - number of fishing vessels;
   - gross tonnage;
   - length overall in metres; and
   - engine power (in kW or HP).

2. Technical capacity indicators relate to the fishing power or fishing effort potential of the vessels in a fleet segment:
   - types of fishing gear and their configuration (the type and scale of gear, such as trawls, longlines, traps and purse seines) heavily influence capacity;

- fish storage capacity, such as the fish hold (well) volume of a fishing vessel (in m^3), or refrigeration space, determine the maximum catch that can be landed by a vessel; and
- other characteristics that determine the maximum duration of a fishing trip (time that a vessel can remain at sea), such as the fuel and freshwater tank capacity, number of crew and accommodation for crew.

3. Economic or fishing effort-based indicators are also used:
   - return on investment and/or return on fixed tangible assets of a fishing vessel;
   - trends in maximum economic yield;
   - market values of vessels and/or investments in new fishing vessels;
   - latent capacity in the fleet, such as vessels that are not or are not fully used;
   - average age of vessels in a fleet segment;
   - fishing effort (days at sea or fishing days × engine power in kW, or in kilowatt-hours);
   - catch per unit effort;
   - vessel capacity units (VCUs), defined by the formula: VCU=length × breadth × 0.45 kW; and
   - capacity utilization (CU) measures, such as:

$$CU = \frac{Current\ catch}{Potential\ catch}\ or\ \frac{Current\ effort}{Potential\ effort}\ or\ \frac{Number\ of\ days\ fished}{Potential\ fishing\ days}$$

4. Biological or catch indicators, such as:
   - stock status of target species (overfished, fished at maximum sustainable yield, underfished) or trends in the estimated biomass of a fish stock;
   - stock age/size structure estimates;
   - trends in catch landed (by species and fleet segments);
   - bycatch and discards levels in the target fisheries;
   - fishing mortality rates;
   - sustainable harvest indicator (measuring reliance on overfished stocks); and
   - stocks at risk indicator (number of biologically vulnerable stocks targeted).

For a more accurate assessment of fishing capacity, many countries assess their fishing capacity by categorizing their vessels into segments based on size, gear, region and fishing activity. The assessment may show excess capacity or overcapacity in certain fleet segments, operating at near full capacity in some fleet segments or an undercapacity in other fleet segments.

BOX 2

Application of data envelopment analysis in measuring fishing capacity

Data envelopment analysis (DEA) is a non-parametric, linear programming method used to estimate the "best practice" production frontier for a set of fishing units. It compares the performance of vessels or fleets by relating multiple inputs (e.g. vessel number, gross tonnage, engine power and crew size) to outputs (e.g. catch volume). DEA also measures capacity utilization and potential overcapacity.

DEA has been applied in a range of national contexts. In the Kingdom of the Netherlands, a DEA study of the beam trawler fleet found that the same level of flatfish landings could be obtained with a 12 percent smaller fleet, indicating notable overcapacity despite generally high technical efficiency (van Hoof and de Wilde, 2005). In Greece, DEA applied to purse seiners estimated capacity utilization and revealed seasonal and operational differences, highlighting that efficiency varied with target species and fishing periods (Tsitsika, Maravelias and Haralabous, 2008). In China, DEA has been used extensively for both offshore and marine fishing fleets. Analyses revealed substantial excess capacity, particularly in engine power, and suggested that vessel numbers, gross tonnage and total power would need to be reduced by around 30–37 percent to align capacity with sustainable catch levels (Zheng, 2024). A DEA assessment of China's offshore fleet from 2004 to 2020 found average capacity utilization of 93.5 percent, with temporal fluctuations linked to management measures and market conditions (Liu *et al.*, 2021). In the northwest Atlantic, DEA and its quantile extension (QDEA) have been used to mitigate the influence of outliers, producing lower and potentially more robust capacity estimates compared to standard DEA (Walden and Atwood, 2023).

The benefits of DEA, as identified in FAO technical guidance (FAO, 2000a; Pascoe *et al.*, 2003) and scientific studies, include:

- ability to handle multiple inputs and outputs without requiring price data;
- flexibility to incorporate environmental and biological parameters;
- provision of vessel-level and fleet-level estimates of capacity and utilization; and
- applicability across fleets where vessels operate under similar conditions.

However, the FAO technical consultation in 1999 (FAO, 2000a) and experience from national applications point to significant limitations for practical fisheries management:

- Data demands: DEA requires detailed vessel-level inputs and catch data; many countries operate at "Level 0–1" data availability, where DEA is not feasible.
- Sensitivity to outliers: Results can be distorted by a few extreme observations unless adjusted (e.g. QDEA, bootstrap methods).
- No account of stochasticity: DEA assumes deterministic frontiers and does not model random noise or variability in stock conditions, which can be critical in fluctuating fisheries.
- Limited guidance for multispecies, multigear fisheries: Aggregation across species or gear types reduces accuracy and can produce misleading results.
- Interpretation complexity: The concept of "capacity utilization" is technical and may not translate easily into operational management decisions.
- Static nature: DEA does not include technological change, latent capacity, or shifts in fisher behaviour unless specifically incorporated.
- Bias from unrecorded catch or discards: These omissions can overestimate or underestimate true capacity.
- Managerial relevance: FAO consultations noted that DEA outputs often remain in the research domain, with limited uptake by decision-makers due to complexity, specialized software needs and lack of clear operational benchmarks.

The FAO technical consultation therefore recommended that DEA be applied alongside simpler methods such as peak-to-peak analysis and that results be interpreted cautiously, with assumptions and caveats clearly stated. For many management contexts, particularly with low data availability, other approaches may provide more directly actionable information.

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3. National implementation of the IPOA-Capacity

Fishing capacity assessment and management are central to the successful implementation of the IPOA-Capacity. This chapter provides an overview of the implementation status of the IPOA-Capacity and offers information on various strategies and approaches that countries have adopted to manage fishing capacity.

3.1 METHODOLOGY

3.1.1 Information sources

The three information sources used to compile this chapter are summarized here:

Code of Conduct for Responsible Fisheries (CCRF) questionnaire: FAO collects global information on fisheries through the biennial Questionnaire for Monitoring the Implementation of the Code of Conduct for Responsible Fisheries and related instruments. This information feeds into FAO's reporting to COFI on the implementation of the CCRF. The questionnaire includes two questions that focus on fishing capacity and the implementation of the IPOA-Capacity.

The first question inquires whether FAO Members have conducted a preliminary assessment of fishing capacity and initiated management measures to adjust fishing capacity, and, if so, the basis on which these measures were developed. Additionally, it asks whether an NPOA-Capacity has been formulated and to what extent it is being implemented.

The second question examines whether fishing overcapacity has been identified as a problem affecting the country's fisheries. If so, it seeks information on the steps taken to prevent further build-up of overcapacity, reduce existing overcapacity, and identify which measures are considered the most effective and practical for addressing overcapacity.

Responses to these questions in the 2020 and 2024 questionnaires were analysed for this chapter.

IPOA-Capacity survey: To gain a better understanding of the implementation status of the IPOA-Capacity, an online survey (available in English, French and Spanish) was conducted in 2024 as part of the review. The survey aimed to gather information from COFI members on trends in fishing capacity development and measures taken by Member States to manage (or support the management of) fishing fleet capacity. It also included an assessment of the success of these measures (see Annex 5 for the survey in English).

Online research and document review: To complement the questionnaire and survey, available documentation, national websites, FAOLEX and scientific articles were reviewed to gather additional information from policies, regulations, studies, etc., about strategies to manage fishing capacity.

3.1.2 Information availability

CCRF questionnaire: A total of 92 Members responded in 2020 and 109 in 2024. In both years, a combined response on behalf of all European Union Member States was provided by the European Union. Over the two reporting years, 130 FAO Members responded at least once, representing 66 percent of FAO's 197 Members. If Members responded in both years, the 2024 response was used unless a more complete answer had been provided in 2020. Although 130 questionnaire responses were included in the analysis, not all FAO Members answered every question.

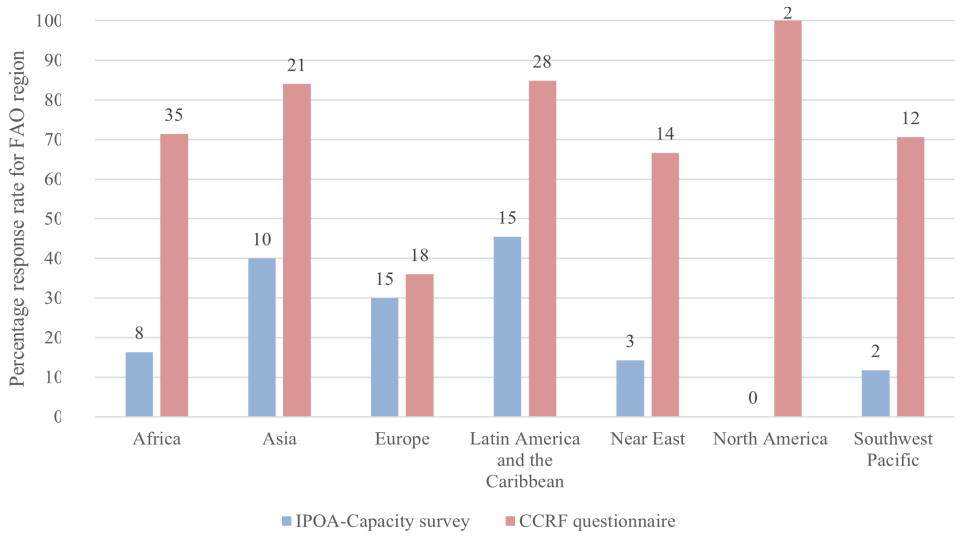
IPOA-Capacity survey: The survey received 53 responses, representing 27 percent of FAO's Members. The European Union answered the survey as well as ten European Union Member States (Belgium, Bulgaria, Greece, Latvia, Lithuania, the Kingdom of the Netherlands, Poland, Portugal, Spain, Sweden). Overall, four regions provided sufficient responses to enable further interpretation of regional trends: Africa (8 responses), Asia (10 responses), Europe (15 responses) and Latin America and the Caribbean (15 responses). However, the number of responses received from the Near East (3 responses), Northern America (0 responses) and the Southwest Pacific (2 responses) did not allow a regional trends analysis (Figure 9). While 53 survey responses were received, not all respondents answered all questions.

Online research: Out of the 142 FAO Members responding to the CCRF questionnaire and/or the IPOA-Capacity survey, additional information was found for 60 countries through online research.

Annex 6 provides a list of the FAO Members that responded to the CCRF questionnaire and the IPOA-Capacity survey, along with the information found online. The list includes 142 Members, representing 72 percent of FAO Members from all global regions of FAO (see Figure 9 for responses as a percentage and number of FAO Members by global region). Forty-one Members completed both the CCRF questionnaire and the IPOA-Capacity survey.

The combination of methods used in this global review has resulted in a broadly inclusive representation of FAO regions and countries, capturing a wide range of experiences and examples in addressing fisheries overcapacity and implementing the IPOA-Capacity. While the absence of responses from some countries with larger fishing fleets limits the representativeness of the review by fleet size, this does not undermine its value. Effective management of fishing capacity is a concern not only for countries with large fleets. The geographic diversity of responses, as well as the variety in fishery types and fleet sizes, provides a comprehensive and balanced overview of the approaches taken to address this issue.

FIGURE 9
FAO Members responding by global region (questionnaire N=130 and survey N=53)



3.2 TRENDS IN FISHING CAPACITY

3.2.1 Trends in national fishing fleet capacity between 2000 and 2023

The IPOA-Capacity survey asked FAO Members to estimate the trends in fishing capacity for their national fleets since 2000, using the following categories: decreased, stable, increased or unknown. This assessment covered five indicators: overall capacity, number of fishing vessels, total GT, total engine power and average length overall (LOA).

Globally, nearly 40 percent of respondents reported a general decrease in fishing capacity since 2000, while nearly 30 percent reported an increase. LOA was the only exception, as it was reported most frequently as stable (Figure 10). However, significant regional differences in these trends were observed.

- **Africa:** African countries most commonly reported stable fishing capacity across all indicators, except for the number of fishing vessels. This indicator showed mixed results, with a decrease in three countries, stability in three, and an increase in two (Figure 11).
- **Asia:** Respondents most commonly indicated that the number of vessels had either decreased or remained stable. In contrast, most countries reported that engine power had either remained stable or increased, while trends in GT and LOA varied without a consistent pattern (Figure 12).
- **Europe:** The majority of countries reported a decrease in the number of vessels, total GT and engine power. Responses regarding LOA were more mixed, with no clear regional trend (Figure 13).
- **Latin America and the Caribbean:** Trends in fishing capacity varied considerably. The most common response regarding vessel numbers was an increase, though some countries reported decreases or stability (Figure 14).

In summary, African countries mainly reported stable fishing capacity, while Asian countries reported mixed trends but leaned towards stable capacity. European countries largely reported a decrease in fishing capacity. The responses from Latin America and the Caribbean countries varied but tended towards an increase in fishing capacity.

FIGURE 10
National fishing capacity trends by indicator, 2000–2023 (N=52)

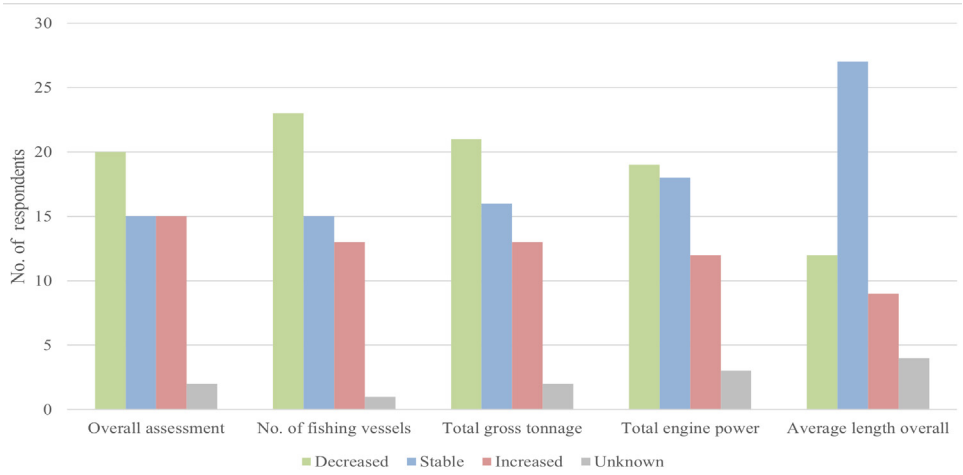


FIGURE 11
Fishing capacity trends in Africa by indicator, 2000–2023 (N=8)

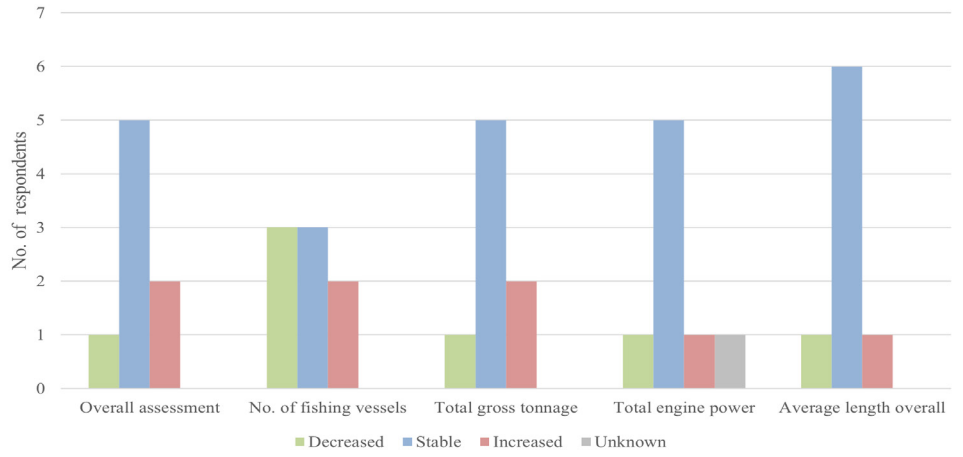


FIGURE 12
Fishing capacity trends in Asia by indicator, 2000–2023 (N=10)

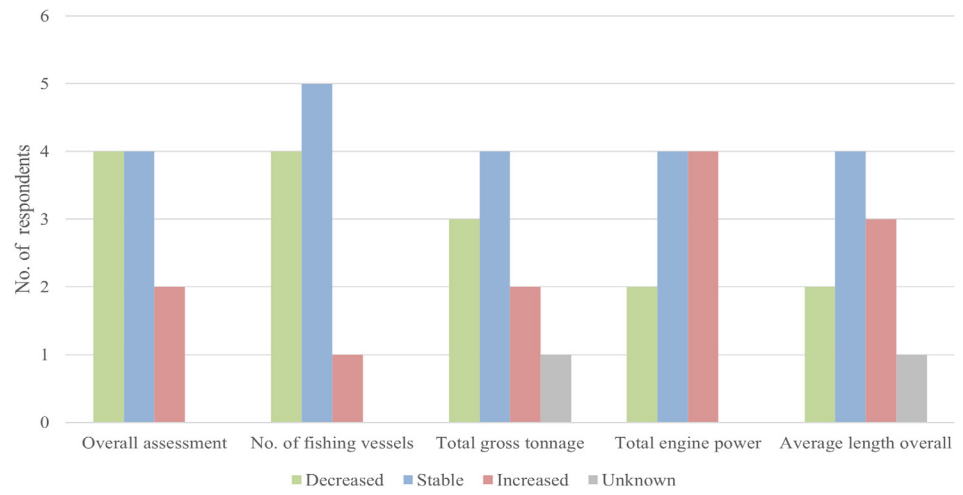


FIGURE 13
Fishing capacity trends in Europe by indicator, 2000–2023 (N=15)

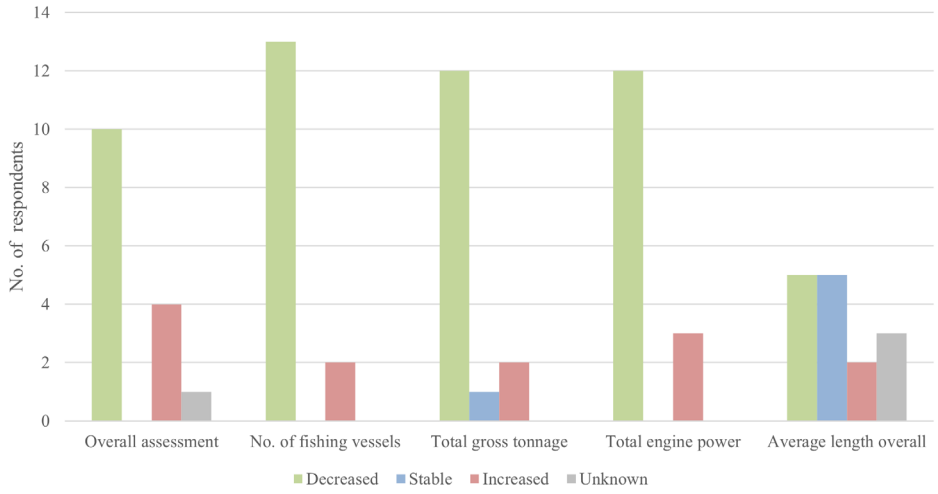
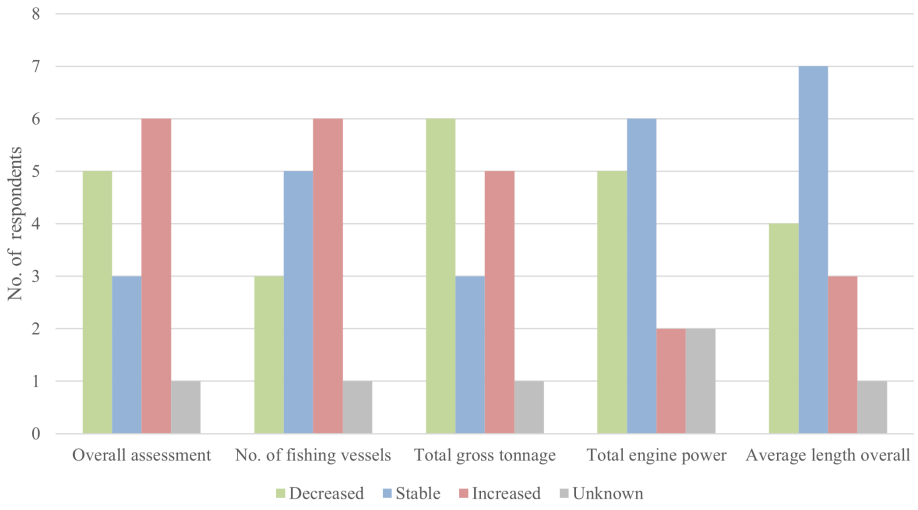


FIGURE 14
Fishing capacity trends in Latin America and the Caribbean by indicator, 2000–2023 (N=15)



3.2.2 Trends in factors affecting national fishing fleet capacity

Survey respondents (N=53) were asked to indicate how various factors have affected the fishing capacity of their national fishing fleets, using the categories: decreased, increased, no effect, not applicable or unknown. By aggregating the results across all regions, the following key trends emerged (see also Figure 15):

Greatest impact: Four factors were identified as having the greatest impact – either increasing or decreasing fishing capacity – in at least 50 percent of respondent countries:

- national fisheries and environmental legislation (69 percent);
- fisheries management policies, strategies and plans (69 percent);
- knowledge of fisheries resources status (60 percent); and
- Status of the national socioeconomic environment (50 percent).

Least impact: Conversely, the factors with the least reported impact on fishing capacity were:

- financial incentives (25 percent); and
- subsidies, such as fuel subsidies and duty-free imports (19 percent).

Decreasing capacity: The factors most commonly associated with a decrease in fishing capacity were:

- national fisheries legislation and environmental legislation (42 percent);
- fisheries management policies, strategies and plans (40 percent); and
- profitability of the average fishing vessel (40 percent).

Increasing capacity: While, in contrast, the four key factors that were reported as contributing to an increase in fishing capacity were:

- fisheries management policies, strategies and plans (29 percent);
- knowledge of fisheries resources status (29 percent);
- institutional capacity for monitoring, control and surveillance (29 percent); and
- technological developments in vessels, gear and operations (29 percent).

No effect: The factors most frequently reported as having no effect on fishing capacity were:

- institutional capacity for monitoring, control and surveillance (37 percent);
- fisheries infrastructure developments (35 percent); and
- decisions of RFMOs (29 percent).

Least applicable: Finally, the two factors considered the least applicable in relation to fishing capacity were:

- subsidies (40 percent); and
- financial incentives (37 percent).

The regionally disaggregated responses are provided in Annex 7 for each of the factors in the four FAO regions used in the analysis for survey respondents (Africa, Asia, Europe, and Latin America and the Caribbean). These responses offer valuable, nuanced information on the factors, demonstrating that there were limited trends within regions but significant differences in the perceived impact of factors. Improved sensitization on the potential of these different factors to impact fishing capacity may be beneficial, and examples of such potential are provided within the case studies highlighted in Chapter 5.

FIGURE 15
How factors have affected national fishing capacity (N=52)

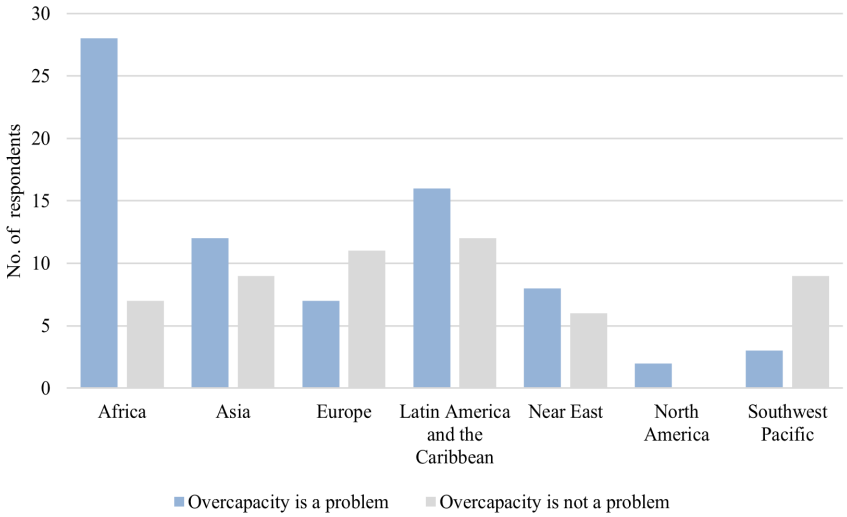
3.2.3 Identification of fishing overcapacity as a problem

Of the 130 FAO Members responding to the CCRF questionnaire, 58 percent identified fishing overcapacity as a problem affecting fisheries in their country, while 42 percent did not identify it as a problem.

A majority of Members from Africa (80 percent), Asia (57 percent), Latin America and the Caribbean (57 percent), Near East (57 percent) and Northern America (100 percent) identified overcapacity as a problem. In contrast, most Members from Europe (61 percent) and the Southwest Pacific (75 percent) did not identify fishing overcapacity as a problem (Figure 16).

This result indicates that even though the concern about fishing overcapacity has attracted less attention in global fisheries discussions in recent years (see Table 1, Section 1.5), a wide range of FAO Members consider it a significant problem affecting their fisheries, with particularly high concern from the African region.

FIGURE 16
Members' views on fishing overcapacity by region (N=130)



3.3 ASSESSMENT AND MONITORING OF FISHING CAPACITY

3.3.1 National assessments of fishing capacity

Part III of the IPOA-Capacity outlines the urgent actions that should be taken by Member States. Section I pertains to the assessment and monitoring of fishing capacity, which includes the diagnosis and identification of fisheries and fleets requiring urgent measures. Article 13 requires that "States should proceed, by the end of 2000, with a preliminary assessment of the fishing capacity deployed at the national level in relation to all the fleets of principal fisheries and update this assessment periodically." Article 14 requires that "States should proceed, by the end of 2001, with the systematic identification of national fisheries and fleets requiring urgent measures and update this analysis periodically."

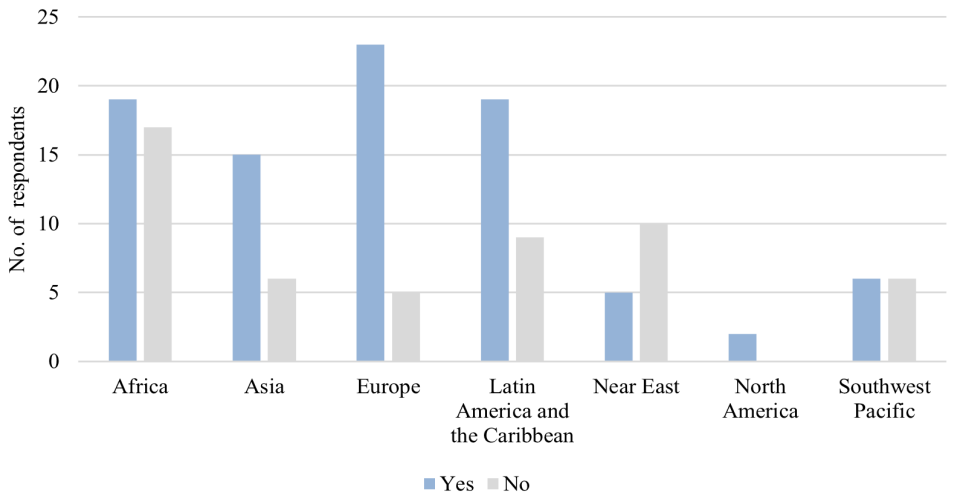
Based on the requirement to assess national fishing capacity and update the assessments, both the CCRF questionnaire and the IPOA-Capacity survey asked FAO Members if they had assessed their national fishing capacity. The results were combined (N=142), with 63 percent of countries having at least partially assessed their fishing capacity (N=89), and 37 percent (N=53) reported not having assessed their fishing capacity.

In terms of regional trends, both Northern American countries (N=2) reported having made assessments. Additionally, 82 percent of European countries (N=28), 71 percent of Asian countries (N=21), 68 percent of Latin America and the Caribbean countries (N=28), 53 percent of African countries (N=36), 50 percent of Southwest Pacific countries (N=12), and 33 percent of Near East countries (N=15) that responded to the questionnaire or survey reported assessing their fishing capacity (Figure 17).

Further insight with respect to assessing fishing capacity included:

- Most countries (90 percent from survey results) that conducted an assessment reported updating it periodically.
- Twenty-one percent of the countries in the CCRF questionnaire reported that they had completed the assessment, suggesting that many countries have only assessed part of their fishing fleet and have yet to conduct a full survey of all fishing vessels.

FIGURE 17
Members' responses to whether they have assessed fishing capacity, by region (N=142)



- Of the countries that had not yet started assessing their fishing capacity, 27 percent reported in the CCRF questionnaire that plans were underway to conduct a preliminary assessment.
- Sixty-five percent of the countries that had not assessed their fishing capacity stated that the issue was either fully or partially addressed in ongoing fisheries management, suggesting that for over 80 percent of the surveyed countries fishing capacity has been addressed either through an assessment or fisheries management.
- In Africa, Latin America and the Caribbean, and the Near East, a lack of awareness was cited as a reason for not conducting an assessment. Additionally, some countries in Africa and Latin America and the Caribbean reported that managing fishing capacity is not a national priority.

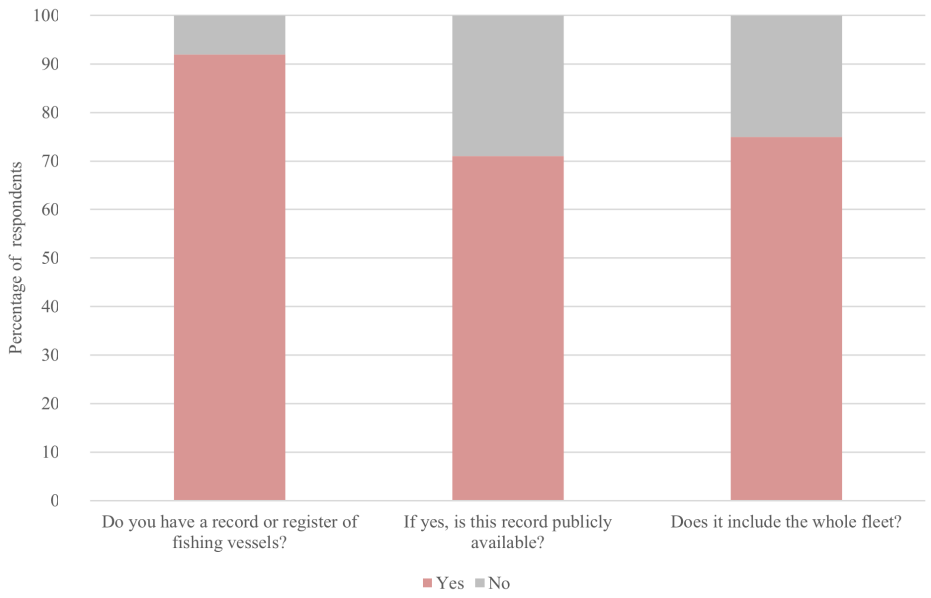
3.3.2 National fishing vessel records or registers

The final article in Part III of the IPOA-Capacity on urgent actions pertains to establishing national records of fishing vessels. Article 17 states that "States should develop and maintain appropriate and compatible national records of fishing vessels, further specifying conditions for access to information."

Most survey respondents (92 percent) reported having developed a register or record of fishing vessels in their countries. All countries in Asia and Europe that responded reported having such a register (Figure 18). Of the countries that have a register or record, 71 percent makes this information publicly available: 87 percent in Europe, 78 percent in Asia, 71 percent in Africa, and 50 percent in Latin America and the Caribbean.

Most of the respondents indicated that their national fishing vessel register includes the entire fishing fleet (Figure 18), including artisanal fisheries boats. This was particularly high in Europe (93 percent) and Latin America and the Caribbean (86 percent), but lower in Asia (56 percent). In Africa, 43 percent of respondents indicated that their national fishing vessel registers include the entire fleet.

FIGURE 18
IPOA-Capacity survey details on fishing records or registers (N=52)



3.4 ESTABLISHING AND IMPLEMENTING CAPACITY PLANS AND POLICIES

National plans of action for managing fishing capacity (NPOAs-Capacity) are a key tool for countries to fulfil the IPOA-Capacity requirements. In Section II – Preparation and Implementation of National Plans – of the IPOA-Capacity, Articles 19 through 24 focus on the development of national plans and policies. Article 19 sets the stage by stating that "States should develop, implement and monitor national plans of action for managing fishing capacity, taking into account, inter alia, the effect of different resource management systems on fishing capacity."

3.4.1 Establishing national plans and policies

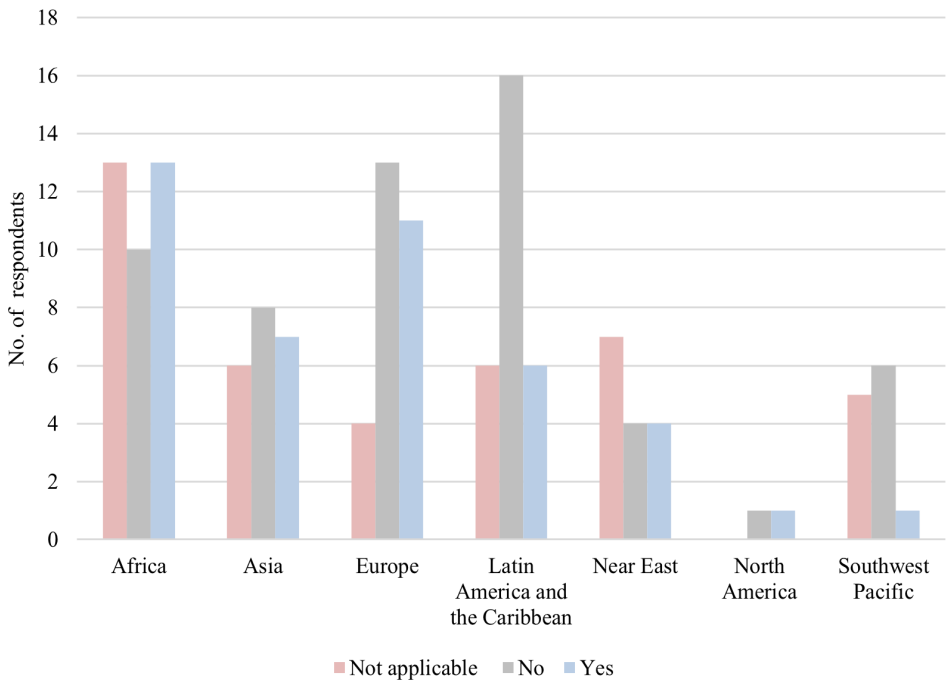
Combining the results from the IPOA-Capacity survey and the CCRF questionnaire yielded 142 responses from different FAO Members to the question of whether they had an NPOA-Capacity. Of the Members that responded that they had not developed an NPOA-Capacity in the CCRF questionnaire, 55 percent reported that they intended to develop one in the future.

Analysis of the development of NPOAs by region reveals that all regions showed some development in NPOA-Capacity (Figure 19).

In the survey, respondents were asked to provide details of their NPOAs, including the title, year and website link, to assess if they had fulfilled Article 21 of the IPOA-Capacity, which says "States should develop, adopt and make public, by the end of 2002, national plans for the management of fishing capacity… ." Two countries, Malaysia and Namibia, provided verifiable details that they had adopted an NPOA-Capacity as their means to manage fishing capacity.

Based on the information provided in the survey and online research, it appears more common for countries to use other means to plan or strategize for the management of fishing capacity, such as within fisheries legislation or fisheries management plans. This use of alternatives to an NPOA-Capacity is in accordance with Article 23 of the IPOA-Capacity, which states that "When it has been found that a national plan to manage capacity is not necessary, States should ensure that the matter of fishing capacity is addressed in an ongoing manner in fishery management."

FIGURE 19
Members' responses on the development of an NPOA-Capacity by region (N=142)



Countries reported in the survey that the main priorities for developing their NPOA-Capacity or any other strategy or policy for fishing capacity management were environmental and economic, with less attention given to food security and social priorities. None of the respondents considered export earnings as a key priority for NPOA development.

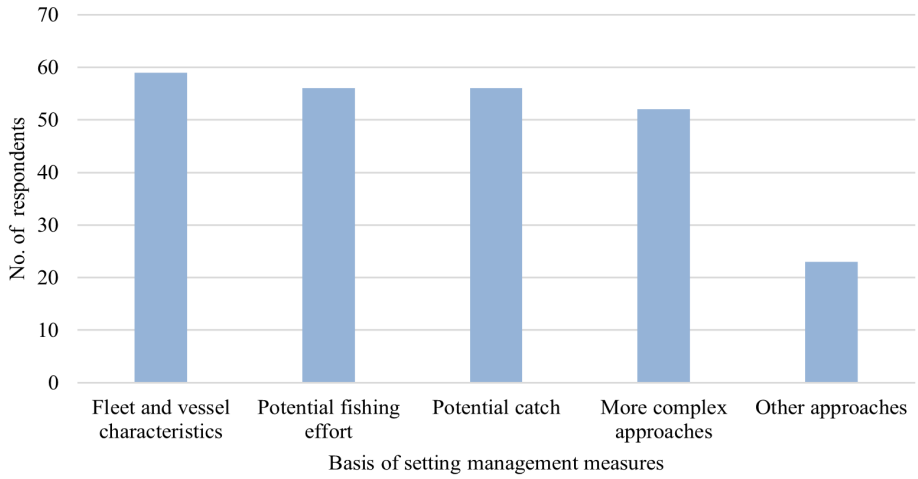
Key points regarding NPOA-Capacity development are: (i) while NPOAs-Capacity have been developed in all global regions, they have not become an important tool for countries to manage their fishing capacity; and (ii) online research supports this finding, with very few NPOAs-Capacity being publicly available.

3.4.2 Setting management measures aimed at adjusting capacity

Of the 130 respondents to the CCRF questionnaires in 2020 or 2024, 53 percent reported that their country had started implementing management measures aimed at adjusting fishing capacity. These Members also provided information on the basis used to determine such measures. Five options were provided, and Members were permitted to select multiple responses. The options were the following: (i) key fleet and vessel characteristics, such as the number of vessels, GT, engine power (HP) and LOA; (ii) potential fishing effort that can be generated by the fleet; (iii) potential catch that can be harvested by the fleet; (iv) more complex approaches, such as DEA and bioeconomic analysis; and (v) other approaches.

Notably, no Member selected only one option for setting fishing capacity management measures. In fact, 67 percent (46 out of the 69 responding Members) selected four or five of the available options. This demonstrates that most countries adopt a holistic approach to managing fishing capacity, generally incorporating multiple considerations – such as vessel characteristics, fishing effort, potential catch and more sophisticated analytical methods – when formulating capacity management strategies (Figure 20).

FIGURE 20
Basis of setting management measures to adjust fishing capacity (N=69)



3.4.3 Implementing national plans and policies

Among the 52 Members responding to the IPOA-Capacity survey, 20 reported having adopted national plans, strategies or measures to manage fishing capacity. Of these, 55 percent considered implementation to have been moderately successful, 25 percent reported it as very successful, and 20 percent noted that challenges had been encountered. Countries in Latin America and the Caribbean particularly highlighted challenges in implementation, whereas other regions generally reported moderate or strong success.

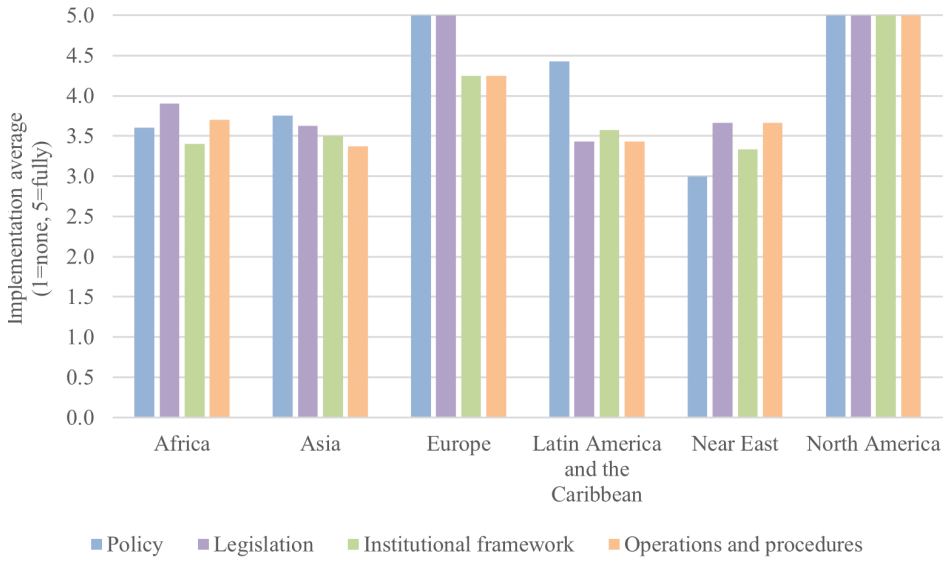
Many Member States that had not developed a national plan or strategy for management of fishing capacity requested greater awareness-raising about the need for managing fishing capacity and its associated costs and benefits. This aligns with Part IV of the IPOA-Capacity, specifically Article 41, which recommends as a first mechanism to promote implementation that "States should develop information programmes at national, regional and global levels to increase awareness about the need for the management of fishing capacity, and the cost and benefits resulting from adjustments in fishing capacity."

Reflecting on the earlier responses regarding implementation challenges, most countries in Latin America and the Caribbean identified a need for increased awareness-raising. Other regions also supported greater awareness, although in smaller numbers. European countries, on the other hand, generally did not perceive a need for additional awareness efforts regarding fishing capacity management.

Among the 33 Members that reported having developed an NPOA-Capacity or having fishing capacity fully integrated into their fisheries management, each was asked to indicate the extent of implementation across four domains: policy, legislation, institutional framework, and operations and procedures. A scoring scale from 1 (not at all implemented) to 5 (fully implemented) was used (Figure 21).

Members from Europe and Northern America reported having fully implemented their NPOA-Capacity in both policy and legislation, with the Northern American Member indicating full implementation across all four areas. In other regions, implementation was less complete, but progress was reported in all four areas. No consistent regional pattern emerged regarding which area was more or less implemented, suggesting that all four domains are regarded as important. The average scores across all reporting Members were: (i) Policy: 4.0; (ii) Legislation: 3.9; (iii) Institutional framework: 3.6; and (iv) Operations and procedures: 3.7.

FIGURE 21
Average level of implementation of fishing capacity management by region (N=33)



These results highlight that, although full implementation remains uneven across regions, countries are actively engaging in fishing capacity management efforts across multiple fronts.

3.5 MEASURES AND STEPS IMPLEMENTED TO MANAGE FISHING CAPACITY

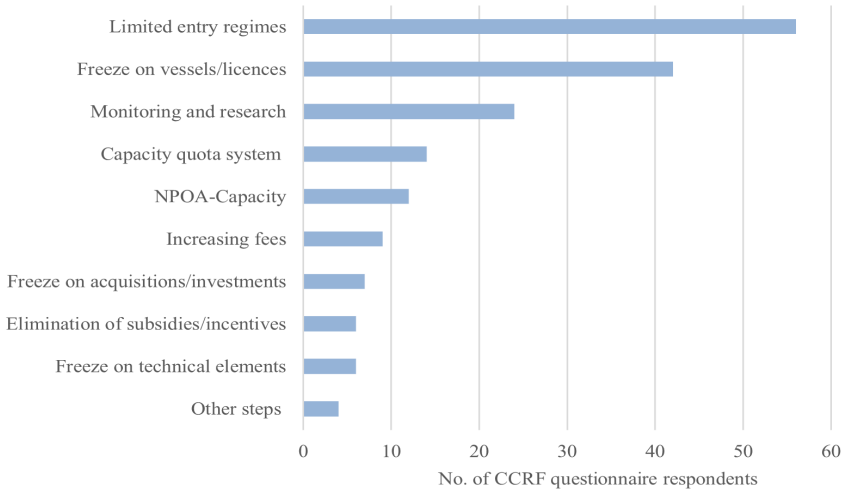
3.5.1 Preventing the further build-up of overcapacity

In the CCRF questionnaires, 67 FAO Members identified fishing overcapacity as a problem. These Members identified up to three key steps they had taken to prevent the further build-up of overcapacity. The most common measures taken were: (i) implementing limited entry regimes, such as registration and licensing limitations (per fishery, stock, waterbody, etc.) (84 percent); and (ii) freezing vessel numbers or licences (63 percent) (Figure 22).

The results for preventing the further build-up of overcapacity were analysed by region (see Annex 8, Table A8.1 for details). The main findings were the following:

- **Africa (23 Members):** Most African Members (96 percent) have implemented limited entry regimes, such as registration and licensing restrictions to manage fishing capacity. However, fewer have applied other measures – only 43 percent reported freezing vessel numbers or licences, and just 17 percent have developed and implemented an NPOA-Capacity or similar national fishing capacity strategies or plans. Monitoring and research on overcapacity dynamics was undertaken by 39 percent of Members, while economic and technical tools, such as removing subsidies (4 percent) or freezing capacity-related technical elements (9 percent), were rarely used.
- **Asia (10 Members):** Asian Members mostly focused on freezing vessel numbers and licences, with 90 percent reporting to apply this measure. Limited entry regimes were also common (70 percent), along with moderate uptake of monitoring and research (60 percent). However, only 30 percent of Members developed an NPOA-Capacity or similar national fishing capacity strategies or plans. Additionally, there has been very limited use of market-based tools, technical freezes or fee increases, suggesting a preference for administrative controls.

FIGURE 22
Steps taken to prevent further build-up of overcapacity (N=67)



- **Europe (7 Members):** European Members showed a strong preference for limited entry (86 percent) and vessel number freezes (71 percent), but indicated a relatively low uptake of other measures. Only 14 percent reported NPOA-Capacity or similar national strategies or plans for the development of fishing capacity, monitoring and research, or quota-based systems. This indicates a narrower focus on administrative restrictions, with limited engagement in broader or more technical interventions.
- **Latin America and the Caribbean (15 Members):** Latin America and the Caribbean Members were the most active in formalizing their capacity management approach, with 89 percent having developed and implemented an NPOA-Capacity or similar national fishing capacity strategies or plans. Most also adopted limited entry (73 percent) and froze vessel numbers or licences (80 percent). Other measures, such as technical or economic controls, had lower uptake, but the region showed broad engagement across multiple strategic areas.
- **Near East (7 Members):** Near East Members applied a relatively balanced range of measures. The majority implemented limited entry regimes (86 percent) and freezes on vessel numbers or licences (57 percent). Additionally, 57 percent of Members also developed an NPOA-Capacity or similar national fishing capacity strategies or plans. However, the use of technical capacity controls, economic disincentives and quota systems remained low, indicating that the region's focus remains on traditional administrative approaches.
- **Northern America (2 Members):** Both Members reported using limited entry regimes and capacity self-adjusting systems, such as individual transferable quotas. One Member also reported freezing vessel numbers. These responses indicate a strong reliance on both access control and market-based mechanisms. Subsidy removal, research or fee increases were not reported.
- **Southwest Pacific (3 Members):** Two Members reported on the use of implemented limited entry regimes, conducted monitoring and research, and removal of subsidies or tax incentives, suggesting a mix of technical and economic strategies. However, only one Member froze vessel numbers or introduced quota-based systems. None of the three responding countries developed an NPOA-Capacity or similar national fishing capacity strategies or plans.

3.5.2 Reducing fishing overcapacity

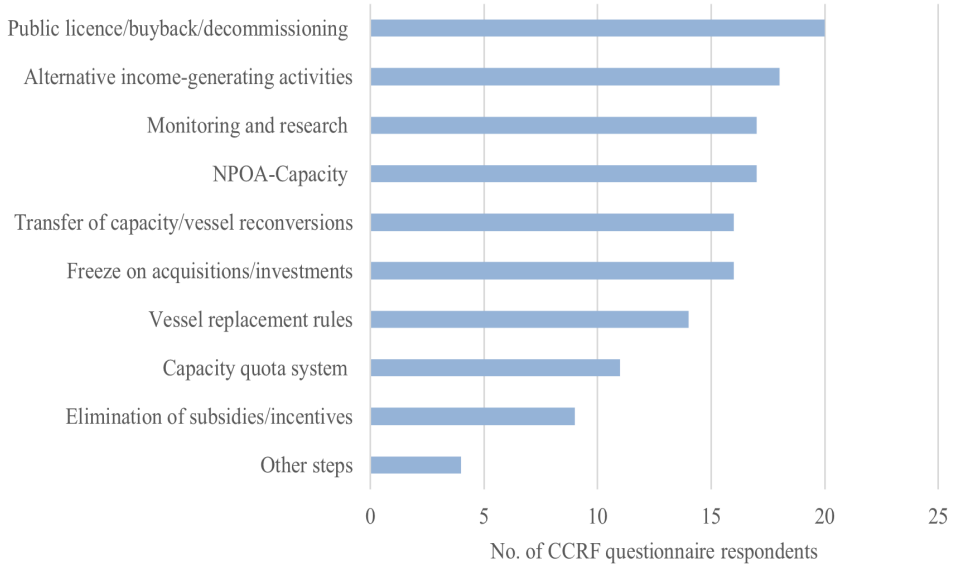
Fifty-eight FAO Members identified fishing overcapacity as a problem in their fisheries in the CCRF questionnaires. They mentioned three key steps they had taken to reduce fishing overcapacity. The most common ones were: (i) public licence or vessel buyback, decommissioning schemes (35 percent); (ii) developing or promoting alternative income-generating activities (31 percent); and (iii) NPOA-Capacity development and implementation and monitoring and research into fishing overcapacity dynamics (both at 29 percent).

These results show that the most widely applied strategies were a combination of financial incentives, capacity planning, research and socioeconomic alternatives. Buyback schemes were found to be the most common step taken globally to reduce fishing overcapacity (Figure 23).

The results for reducing fishing overcapacity were analysed by region (see Annex 8, Table A8.2 for details). The main findings were the following:

- **Africa (21 Members):** In Africa, the most widely adopted approach to reducing fishing overcapacity was the promotion of alternative income-generating activities, as reported by nearly half of the Members (48 percent). Monitoring and research into capacity dynamics also featured prominently (43 percent). Fewer Members implemented their NPOA-Capacity (29 percent), froze new investments (24 percent), or used vessel replacement rules and capacity transfers (each 24 percent). Measures such as buyback schemes (19 percent), quota systems (19 percent) and the elimination of subsidies (14 percent) were the least frequently used, indicating a preference for social and technical approaches over economic tools.
- **Asia (9 Members):** Asian Members most commonly froze new investments in fleet expansion (67 percent) and implemented vessel reconversion or capacity transfer schemes (56 percent), suggesting a strong focus on structural reforms. Monitoring and NPOA-Capacity development were reported moderately (44 percent each), while one-third of countries used buyback schemes. Economic instruments such as subsidy elimination (11 percent) and the promotion of alternative livelihoods (22 percent) were less frequently used, reflecting a policy orientation geared more towards administrative and structural control mechanisms.
- **Europe (6 Members):** European Members overwhelmingly relied on public buyback or decommissioning schemes, as reported by 83 percent of respondents – the highest uptake of this measure globally. However, most other measures were only adopted by one Member each (17 percent), including an NPOA-Capacity, quota systems, investment freezes and subsidy removal. This indicates a dominant reliance on financial incentives for capacity reduction, but limited engagement with broader policy or institutional tools.
- **Latin America and the Caribbean (12 Members):** In this region, Members showed no dominant approach but rather a broad spread of moderate interventions. A third of Members adopted buyback schemes, vessel reconversion, and vessel replacement rules. Several measures, including quotas, monitoring, subsidies removal and livelihood alternatives, were reported by 25 percent of the respondents. However, only one Member (8 percent) had developed or implemented an NPOA-Capacity. This pattern suggests fragmented efforts, with no single measure widely embraced across the region.
- **Near East (6 Members):** The Near East had the highest uptake of NPOA-Capacity implementation (67 percent), indicating a strong commitment to national planning. Two Members used vessel replacement rules, buybacks, and promoted alternative livelihoods. Some also used other tools, such as capacity transfer schemes and monitoring, while economic measures such as subsidies removal and quota systems were not reported at all. Overall, the approach in the Near East appears to favour structured planning and social measures over market mechanisms.

FIGURE 23
Steps taken to reduce fishing overcapacity (N=58)



- **Northern America (2 Members):** Both Members from Northern America implemented buyback schemes, while other measures were only implemented by one country, including NPOA-Capacity, quota systems, capacity transfers and vessel replacement rules.
- **Southwest Pacific (2 Members):** These two Members responded by implementing various measures, such as subsidy removal, vessel replacement, freezing new investments, introducing quota systems and promoting alternative livelihoods.

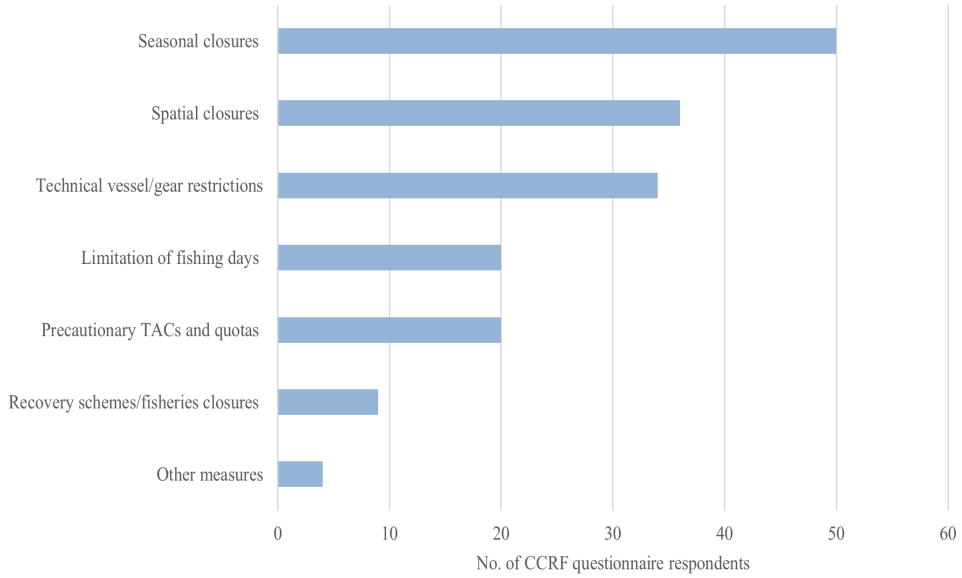
3.5.3 Most effective and practical measures to prevent fishing overcapacity

Responses from 66 FAO Members that identified fishing overcapacity as a problem in their fisheries in the CCRF questionnaires revealed the three most effective and practical measures to prevent fishing overcapacity. The measures were: (i) seasonal closures of a particular fishery (76 percent); (ii) spatial closures, temporary or permanent (55 percent); and (iii) technical restrictions on vessels and gear (51 percent). These three approaches were considered the most effective and practical by FAO Members globally to prevent further fishing overcapacity (Figure 24).

The results regarding the most effective and practical measures taken to prevent fishing overcapacity were analysed by region (see Annex 8, Table A8.3 for details). The main findings were the following:

- **Africa (24 Members):** Africa showed a strong preference for seasonal closures, with all Members (100 percent) identifying them as effective and practical. Spatial closures were also widely used (63 percent), and technical restrictions on vessels and gear were favoured by 58 percent. Other measures, such as conservation quotas (25 percent) and limitations on fishing days (21 percent), had lower uptake. Recovery schemes and "other" measures were rarely mentioned, indicating that area- and gear-based controls dominate African strategies.

FIGURE 24
Most effective and practical measures taken to prevent fishing overcapacity (N=66)



Note: TAC: total allowable catch, CCRF: Code of Conduct for Responsible Fisheries.

- **Asia (10 Members):** Asian Members reported the highest uptake for seasonal closures (70 percent) and technical restrictions (60 percent), with spatial closures also high (60 percent). Conservation and precautionary quotas (40 percent) and fishing day limits (20 percent) were moderately cited, while recovery schemes (10 percent) saw limited recognition. This suggests a strong focus on temporal and gear controls, aligned with precautionary management.
- **Europe (6 Members):** European countries favoured limits on fishing days (67 percent), followed by technical restrictions (50 percent) and seasonal closures (50 percent). Conservation quotas and spatial closures were noted by 33 percent of Members. Europe was the only region to report a relatively high occurrence (33 percent) of "other" effective measures, indicating a more varied toolkit for managing capacity.
- **Latin America and the Caribbean (15 Members):** Members prioritized seasonal closures (60 percent), followed by spatial closures (53 percent). A third of Members applied technical restrictions and conservation quotas, while around a quarter used fishing day limits and recovery schemes. The region therefore favoured the application of spatial, temporal and regulatory tools as practical and effective.
- **Near East (7 Members):** The top-rated measure was seasonal closures (71 percent), followed by spatial closures and technical restrictions (both 57 percent). Fishing day limits (43 percent) and recovery schemes (29 percent) were moderately used. Only 14 percent applied conservation quotas. The Near East therefore demonstrates a strong emphasis on closures and technical controls, with some application of effort limits.
- **Northern America (2 Members):** The two Members separately selected seasonal closures, fishing day limits, conservation quotas and "other" measures, suggesting different experiences between the two countries.
- **Southwest Pacific (2 Members):** Both Members reported technical restrictions and seasonal closures (50 percent) as practical and effective. One country selected spatial closures, fishing day limits and conservation quotas.

4. Regional implementation of the IPOA-Capacity

Regional fisheries organizations are explicitly included alongside Member States as implementing actors of the IPOA-Capacity. The plan sets a joint objective for both Member States and regional fisheries organizations to share responsibility in achieving its aims: "The immediate objective of the International Plan of Action is for States and regional fisheries organizations, to achieve world-wide preferably by 2003, but not later than 2005, an efficient, equitable and transparent management of fishing capacity." Furthermore, one of the four strategic pillars of the IPOA-Capacity is "the strengthening of regional fisheries organizations and related mechanisms for improved management of fishing capacity at regional and global levels." This clearly reinforces the role of regional organizations as essential governance institutions in capacity management.

Specific tasks assigned to regional fisheries organizations include leading or supporting regional assessments of fishing capacity, facilitating the development of Regional Plans of Action for the Management of Fishing Capacity (RPOAs-Capacity) and enabling collective action on overcapacity in shared or transboundary fisheries. In addition, the IPOA-Capacity highlights their role as key conduits for improving data collection, harmonization and compliance, particularly in relation to high seas fisheries.

This chapter provides an overview of the implementation status of the IPOA-Capacity in regional fisheries organizations. It also offers information on the various strategies and approaches adopted by them to manage fishing capacity, as well as an assessment of how successful these approaches are in being implemented.

4.1 METHODOLOGY

4.1.1 Information sources

Code of Conduct for Responsible Fisheries (CCRF) questionnaires

The FAO biennial Questionnaire for Monitoring the Implementation of the Code of Conduct for Responsible Fisheries and related instruments includes questions relevant to fishing capacity and the implementation of the IPOA-Capacity with respect to regional fishery bodies (RFBs) and RFMOs. Responses to these questions in the 2020 and 2022 questionnaires were analysed for this chapter.

IPOA-Capacity survey

To gain a better understanding of the implementation status of the IPOA-Capacity, as part of the review an online survey was conducted in 2024 to gather information from RFBs and RFMOs on trends in fishing capacity development and the measures taken to manage or support the management of fishing fleet capacity (see Annex 10 for the survey).

Online research and document review were conducted to complement the questionnaire and survey. Documents, RFB and RFMO websites, and scientific articles were reviewed to compile additional information about strategies for managing fishing capacity.

4.1.2 Information availability

CCRF questionnaires

Thirty-eight RFBs or RFMOs, including those with mandates covering marine, inland and mixed fisheries, responded to the 2020 and 2022 questionnaires, and the results were used in the analysis (see Annex 9). If an organization responded in both years, the response from 2022 was used unless a more complete answer had been provided in 2020.

IPOA-Capacity survey

Fourteen regional organizations completed the IPOA-Capacity online survey. Of the organizations that responded, seven (50 percent) were RFMOs and seven (50 percent) were RFBs. Eleven of these (79 percent) are generic RFBs or RFMOs and three (21 percent) target tuna. The geographical scope of the regional fisheries organizations that participated in the survey was diverse (see Box 3 and Annex 11 for details).

4.2 TRENDS IN FISHING CAPACITY

Through the online survey, the secretariats of RFBs and RFMOs reported trends in fishing capacity since 2000 for the fleets within their mandate area, using the following categories: decreased, stable, increased or unknown. This assessment covered five indicators: overall capacity, number of fishing vessels, total GT, total engine power and average LOA.

Among the RFMOs, the reported trends show a mixed and often incomplete picture (Figure 25). Three generic RFMOs (the North Pacific Fisheries Commission, the Northwest Atlantic Fisheries Organization and the Regional Commission for Fisheries)

BOX 3

Regional fisheries organizations responding to the survey

Regional fisheries management organizations (RFMOs) have a binding legal mandate to manage and conserve specific fish stocks within a defined area or for particular species and are recognized by FAO as an RFMO. The following seven RFMOs responded to the survey:

- Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
- Indian Ocean Tuna Commission (IOTC)
- North Pacific Fisheries Commission (NPFC)
- Northwest Atlantic Fisheries Organization (NAFO)
- Regional Commission for Fisheries (RECOFI)
- Southern Indian Ocean Fisheries Agreement (SIOFA)
- Western and Central Pacific Fisheries Commission (WCPFC)

Regional fishery bodies (RFBs) have an advisory or technical role and do not have any binding management powers. The following seven RFBs responded to the survey:

- Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO)
- Commission on Small-Scale, Artisanal Fisheries and Aquaculture for Latin America and the Caribbean (COPPESAALC)
- European Inland Fisheries and Aquaculture Advisory Commission (EIFAAC)
- Fishery Committee for the Eastern Central Atlantic (CECAF)
- Joint Technical Commission of the Maritime Front (CTMFM)
- Organization for the Fishing and Aquaculture Sector of the Central American Isthmus (OSPESCA)
- South West Indian Ocean Fisheries Commission (SWIOFC)

FIGURE 25
Fishing capacity trends of regional fisheries management organizations by indicator, 2000–2023 (N=7)

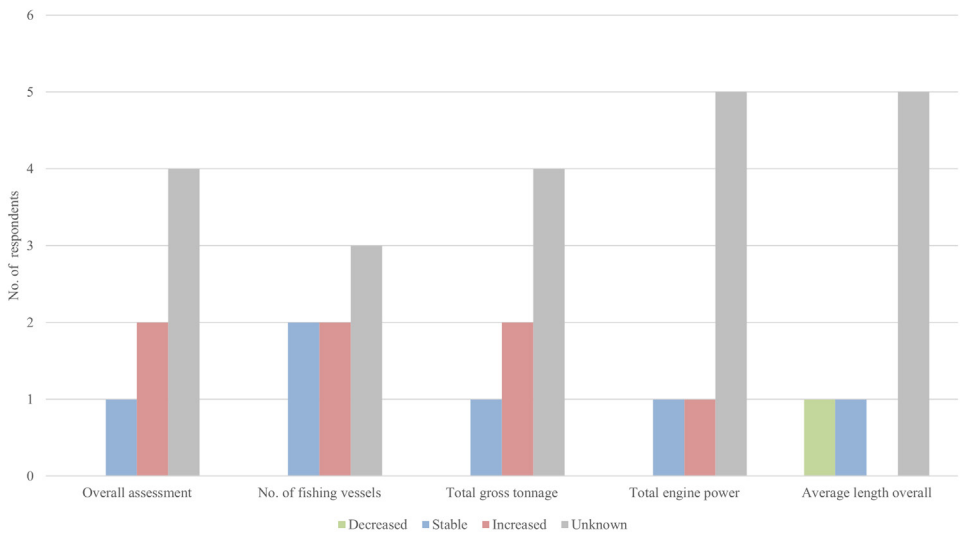
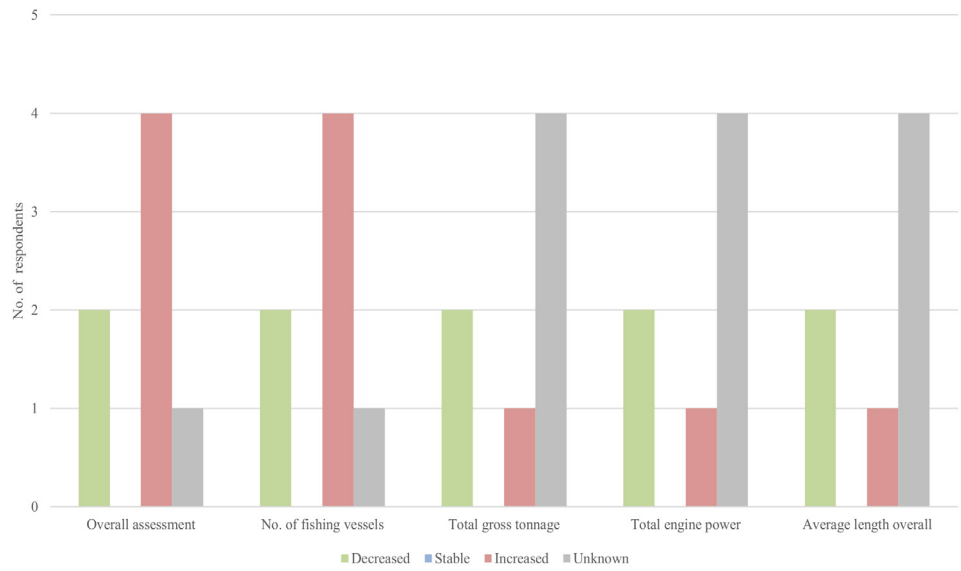


FIGURE 26
Fishing capacity trends of regional fishery bodies by indicator, 2000–2023 (N=7)



recorded "unknown" for all indicators. Where data were available, patterns varied: the Indian Ocean Tuna Commission (IOTC) reported increases in overall capacity, vessel numbers and gross tonnage, although average vessel length had decreased; the Southern Indian Ocean Fisheries Agreement (SIOFA) showed consistent increases across most indicators, including vessel numbers, GT and engine power; and the Western and Central Pacific Fisheries Commission (WCPFC) secretariat reported stability across all measures.

In contrast, the RFBs present clearer and more polarized trends (Figure 26). The Bay of Bengal Programme Inter-Governmental Organisation (BOBP-IGO) reported increases across all capacity indicators. The secretariats of the Commission on Small-

Scale, Artisanal Fisheries and Aquaculture for Latin America and the Caribbean (COPPESAALC), the Fishery Committee for the Eastern Central Atlantic (CECAF), and the South West Indian Ocean Fisheries Commission (SWIOFC) reported an increase in the overall assessment and vessel numbers, but they did not have data for other measures. Conversely, the secretariats of the Joint Technical Commission of the Maritime Front (CTMFM, Comisión Técnica Mixta del Frente Marítimo) and the Organization for the Fishing and Aquaculture Sector of the Central American Isthmus (OSPESCA) reported consistent decreases across every indicator, indicating a significant fleet contraction.

The reported "fleet expansion" was predominant for two reasons:

- First, there was a change in the recording methods by regional organizations. For example, in the IOTC, a decrease in the LOA reporting threshold led to a significant increase in recorded vessels and gross tonnage, as well as a decrease in their average LOA. Within SIOFA, a new RFMO member, Taiwan Province of China, added vessels to the registry. Meanwhile, the COPPESAALC secretariat reported the physical shortening and reclassification of some industrial vessels as artisanal to enable them to remain active, which counteracted efforts to reduce capacity.
- Second, the increase in vessel numbers in the BOBP-IGO, CECAF and COPPESAALC mandate areas is mainly due to the expansion of artisanal fleets. The CECAF secretariat reported that overinvestment and unchecked growth in small-scale fisheries have fuelled expansion. The COPPESAALC secretariat highlighted rapid increases in artisanal fleets, including in IUU operations. In the Bay of Bengal area, growth has resulted from government-led motorization programmes, the adoption of industrial fishing methods, modernization of traditional vessels, and public–private partnerships that are supported by technological advances.

Fleet reductions were only reported by two RFBs. The first one, OSPESCA, reported consistent decreases in fleet capacity linked to declining catches, largely driven by climate change impacts, high fishing pressure in open access fisheries and generational shifts away from fishing. In the case of the CTMFM, the decline has been caused by overfishing of certain stocks, ageing and deteriorating vessels, reduced economic viability of some fisheries, and the relocation of vessels to more profitable grounds. These trends were reinforced by management measures aimed at reducing fishing capacity.

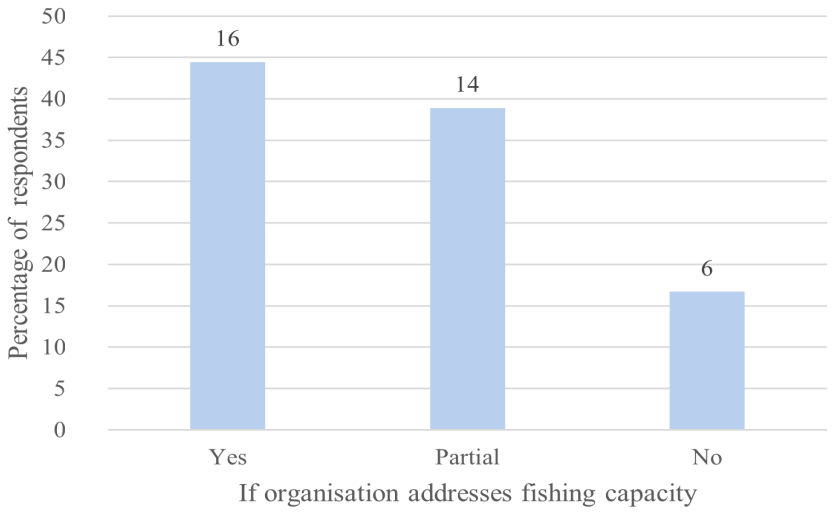
It can be concluded that since 2000, trends in fishing capacity reported by RFBs and RFMOs show a mixed picture, with significant data gaps attributed to some organizations not compiling fishing capacity information.

4.3 IMPLEMENTATION OF THE IPOA-CAPACITY

4.3.1 Addressing fishing capacity in management frameworks

Through information gathered in the CCRF questionnaires, 36 respondents from RFBs and RFMOs answered the question of whether their organizations address fishing capacity in their management frameworks, including the economic conditions under which the fishing industry operates. Of these respondents, 44 percent (N=16) indicated that they addressed fishing capacity, 39 percent (N=14) partially addressed it, and 17 percent (N=6) did not address it (Figure 27). The responses suggest that most regional fisheries organizations recognize their role in managing fishing capacity.

FIGURE 27
Fishing capacity addressed by RFBs and RFMOs (N=36)

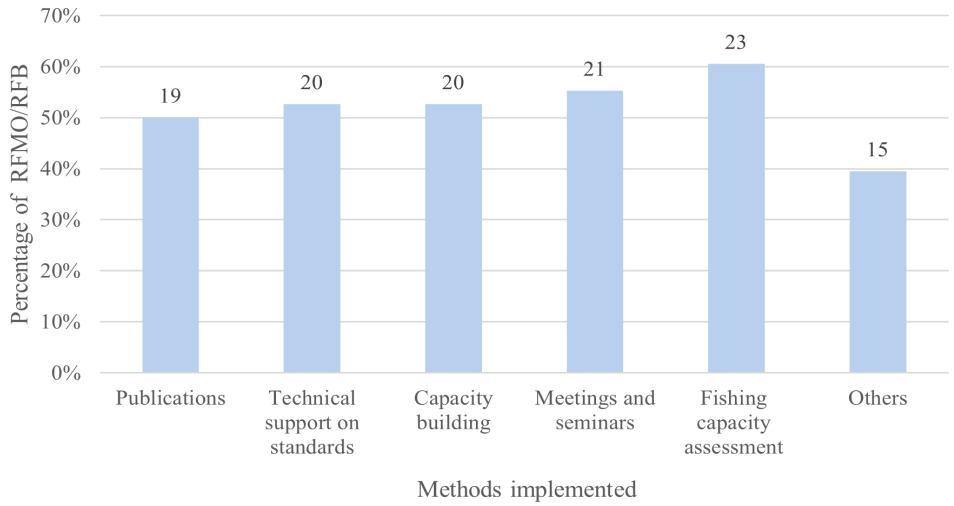


4.3.2 Methods applied for fishing capacity management

To promote the uptake of the IPOA-Capacity, a range of complementary delivery methods have been employed by regional organizations, as reported in the CCRF questionnaires (Figure 28). These include conducting assessments of fishing capacity by the organization to inform decision-making (23 organizations) and organizing or hosting meetings and seminars to facilitate dialogue and knowledge-sharing among stakeholders (21 organizations). Technical assistance has been provided to Member States to support the development and adoption of relevant standards (20 organizations), alongside capacity-building initiatives aimed at strengthening skills and institutional capabilities (20 organizations). The dissemination of information through publications such as documents, booklets, posters and leaflets has also been widely used (19 organizations).

In addition, 15 of the 38 organizations indicated they were implementing other approaches to encourage management of fishing capacity. The most suggested approach to limit capacity was restricting vessel entry. Several organizations, such as the Southeast Asian Fisheries Development Center and the Inter-American Tropical Tuna Commission, noted that they had or were elaborating an RPOA-Capacity to address and manage the capacity of fishing fleets, while others noted providing policy support to their members. The secretariat of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) emphasized the importance of total allowable catch (TAC) allocations.

FIGURE 28
Methods implemented by RFBs and RFMOs to promote the IPOA-Capacity (N=38)

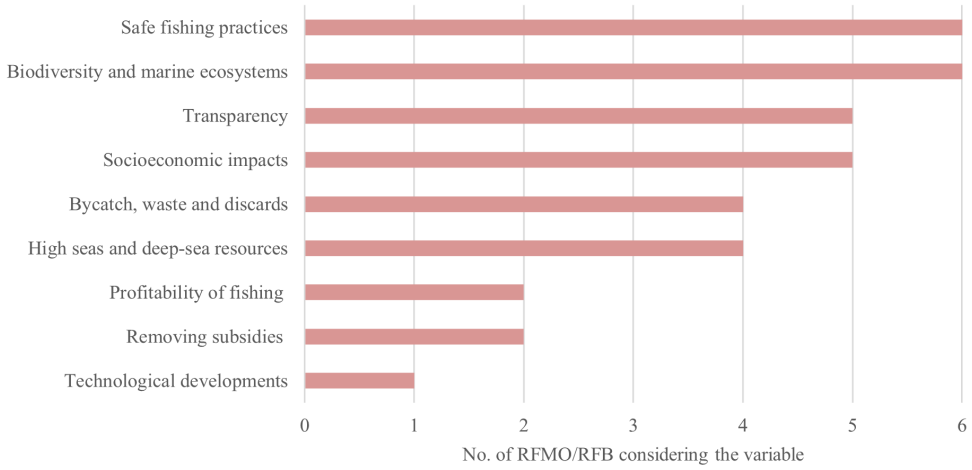


4.3.3 Variables considered in fishing capacity management

In the IPOA-Capacity survey, regional fisheries organizations were asked to identify the environmental, socioeconomic and technological variables that they consider in their capacity management efforts (Figure 29). The most frequently considered variables in managing fishing capacity were protection of biodiversity and marine ecosystems, selective and environmentally safe fishing practices, transparency, and socioeconomic impacts including those related to artisanal fishers. Each of these variables was reported as important by around half of the organizations that provided information. Fishing impacts on the high seas and deep-sea resources, as well as the minimization of bycatch, waste and discards, were also commonly considered.

Technological developments, such as energy-efficient vessels, removing subsidies that contribute to overcapacity and maintaining profitability in fishing operations, were not considered as frequently as the variables mentioned above. Some organizations, such as BOBP-IGO, considered nearly all the variables in their fishing capacity management efforts. COPPESAALC reported none and further added that the member states have not discussed implementing fishing capacity management actions within its regional framework in recent years. Several RFMOs – WCPFC, the Northwest Atlantic Fisheries Organization (NAFO) and the Regional Commission for Fisheries (RECOFI) – did not provide any information. Overall, the responses suggested a mixed awareness among regional fisheries organizations about the role that different variables may have in influencing fishing capacity management, while also indicating that variables linked to environmental protection and biodiversity of ecosystems are the most commonly considered by those organizations involved in capacity management.

FIGURE 29
Variables considered by RFBs and RFMOs with respect to capacity management (N=11)



4.3.4 Members' success in managing fishing capacity

In the IPOA-Capacity survey, the secretariats of regional fisheries organizations were asked to assess how well their members are implementing the IPOA-Capacity in five specific areas: conducting fish stock assessments, enacting relevant laws, adopting national fisheries management policies, strategies and plans, implementing RFMO/RFB capacity-related decisions, and taking measures to address excessive fishing capacity.

Out of the 14 respondents, four RFMOs (the Northwest Atlantic Fisheries Organization, the Regional Commission for Fisheries, the Commission for the Conservation of Southern Bluefin Tuna and WCPFC) and one RFB (the European Inland Fisheries and Aquaculture Advisory Commission) either did not answer this question or reported "no information available" across all categories. The secretariat of the North Pacific Fisheries Commission responded that they lacked information for most categories but reported full implementation of RFMO capacity-related decisions.

Of the remaining eight organizations, the RFB/RFMO secretariats responded that the IPOA-Capacity was either being fully implemented or partially implemented by their members:

- Fish stock assessments – implementation was generally underway, with three organizations reporting ongoing implementation and three reporting partial implementation. CTMFM reported full implementation.
- Adoption of relevant legislation had a relatively strong uptake, with SIOFA and CTMFM reporting full implementation. The IOTC reported ongoing implementation, while four others reported partial implementation. Only BOBP-IGO reported that this area lacked implementation.
- Adoption of national fisheries policies, strategies or plans was ongoing or partially implemented by six organizations. CTMFM reported full implementation, and SIOFA reported that this area lacked implementation at the national level by its member states.
- Adoption of RFMO/RFB decisions on fleet capacity – while SIOFA and CTMFM reported full implementation, three organizations reported partial or ongoing implementation. The secretariat of SWIOFC reported that decisions related to fleet capacity were not implemented (yet) by its members.

- Measures to remove factors contributing to excessive capacity – this was the weakest area overall. Four organizations reported partial implementation, and two (COPPESAALC and SWIOFC) reported that members were not implementing such measures. None of the regional fisheries organizations reported full or ongoing implementation.

Overall, 64 percent of the regional organizations reported monitoring the success of their members in implementing the IPOA-Capacity. Fish stock assessments, adoption of legal and policy frameworks, and the adoption of RFB/RFMO decisions were the more fully implemented approaches, while the implementation of concrete measures to reduce excessive fishing capacity remains limited. However, a lack of information, particularly from some RFMOs, highlighted significant gaps in monitoring and reporting, which constrains a full understanding of regional processes and progress made towards fishing fleet capacity management.

5. Case studies of the implementation of the IPOA-Capacity

Six case studies have been selected to provide more detail on how two countries, an economic union, a bilateral RFB, a tuna RFMO and an inland RFMO have developed measures to manage fishing capacity within their mandates, policy priorities and operational capacities.

5.1 CASE STUDY: JAPAN

At the Twenty-fifth Session of COFI in 2003, Japan proposed that FAO should convene a technical consultation to review progress and promote the full implementation of the IPOA-Capacity. The proposal led to the 2004 Technical Consultations on the IPOA-Capacity and IPOA-IUU (FAO, 2004). The measures Japan has taken to address overcapacity have reduced overall fleet capacity between 2000 and 2023, both in terms of the number and tonnage of fishing vessels. The total engine power of the fishing fleet increased over this period. Several major factors influenced the reduction in fishing capacity. The main factors included improved knowledge on the status of fisheries resources, the national legal and policy framework, decisions taken at the regional level through RFMOs, and consideration of the profitability of fishing vessel activities. Japan has not implemented an NPOA-Capacity; however, fishing capacity management has been successfully incorporated into ongoing fishery management through various measures based on environmental and economic priorities. The measures Japan has taken include the following.

Policy, legislation and integrated management. The 2020 revision of the fisheries law (MAFF, 2020) was the first major overhaul since 1949, and it serves as the legal basis for capacity management measures. It has strengthened resource management efforts, together with other plans and instruments, to reach the objectives of balanced fishing capacity. The 2020 fisheries law makes it the responsibility of the national and prefectural governments to "properly conserve and manage fishery resources." It has introduced an expanded TAC system to cover a wider range of species, ensuring that catch limits are set based on scientific assessments to prevent overfishing. Implementation of individual quota allocations, with fishers assigned specific catch quotas, promotes responsible fishing practices and reduces competition for resources. This strategy is incorporated along with the enhancement of management measures, including strengthening regulations on fishing gear and methods. The goal is to minimize environmental impact and protect marine ecosystems.

Monitoring, research and stock assessment. The 2020 fisheries law stipulates that a resource assessment must be conducted for all major fisheries to inform fisheries management decisions. The results of stock assessments are used to provide advice on stock levels to achieve maximum sustainable yield and are used to determine TACs for the fisheries. The aim is to have 80 percent of the total catch under TAC management by 2025 (MAFF, 2021).

Catch limitations. Japan introduced the TAC system in 1996 for seven species, including mackerel and sardines. Individual quota systems were first introduced in certain fisheries in the 1990s and expanded in the 2000s, with TACs being allocated to

individual fishers or vessels (MAFF, 2022). Individual quotas were initially introduced for the large and medium-sized purse seine fishery for bluefin tuna, as well as for the driftnet fishery for bluefin tuna and sailfish. These quotas will be expanded to include other fisheries in the future. This aligns with agreements made by the Western and Central Pacific Fisheries Commission to reduce the catch of bluefin tuna by half and to introduce measures to prevent any increase in the catch (IATTC, n.d.).

Vessel limiting schemes. Japan implemented buyback programmes in the 1980s to reduce fleet size and address overcapacity in its fisheries sector. These programmes expanded after the adoption of the IPOA-Capacity in 1999 by offering financial incentives for vessel owners to retire older vessels. Additionally, fleet rationalization measures, including stricter licensing systems and quota reallocation, were introduced in 2001 to optimize fleet efficiency and align fishing efforts with sustainable resource management. These initiatives have significantly contributed to balancing fishing capacity with resource availability (RIETI, 2009).

MCS implementation. Japan has made significant strides in enhancing MCS systems to ensure compliance with regulations. The revised 2020 fisheries law introduced stricter penalties for violations, such as under-reporting catches, to deter illegal activities and promote sustainable practices (MAFF, 2020). Additionally, the establishment of fishery catch supervisors strengthened the national inspection framework, enabling better oversight of landings and accurate catch reporting (MAFF, 2020). Public sensitization campaigns, including a dedicated website on anti-poaching and awareness programmes about prohibited species, have further reinforced compliance through education. Technological advancements, such as the introduction of a vessel monitoring system in 1999 for larger vessels, help ensure adherence to spatial and temporal fishing restrictions (RIETI, 2009). The implementation of catch documentation schemes in the 2010s has improved traceability of fish products and combating IUU fishing (MAFF, 2021).

Alternative income-generating activities. Japan has actively promoted alternative income-generating activities for fishers, particularly through diversification into aquaculture and ecotourism. Since the 2000s, government support and incentives have encouraged fishers to adopt sustainable aquaculture practices, focusing on species such as seaweed, oysters and yellowtail. Additionally, fishing villages have become ecotourism hubs, providing visitors with hands-on experiences in traditional fishing, culinary tours and marine biodiversity exploration. These initiatives offer fishers a stable income while also preserving cultural heritage and contributing to conservation efforts (Planet Tracker, 2022).

Participation, transparency and sensitization. To facilitate the implementation of measures set to manage fishing capacity, the 2020 fisheries law introduced an inclusive mechanism that allows fishers and other concerned parties to participate in decisions regarding catch limitations and establishing TACs. Since 2019, a Bluefin Tuna Subcommittee has been established within the Resource Management Subcommittee of the Fisheries Policy Council to ensure transparency in the allocation of quotas while also taking into consideration the views of fishers. In order to improve sensitization among fishers and other interested parties on the results of stock assessments, Japan established an advisory body under the Ministry of Agriculture, Forestry and Fisheries to promote a better understanding of the scientific content of stock assessments and facilitate a platform for dialogue between the government and stakeholders.

5.2 CASE STUDY: NORWAY

In the late 1960s, Norway started to experience the collapse of Norwegian spring-spawning herring stocks, which was followed by the collapse of other stocks, culminating in the late 1980s with the collapse of cod stocks (ICSID, n.d.). Following this, Norway identified structural overcapacity in its fishing fleet and implemented several measures to address the issue (Box 4). As a result, the fishing fleet was more than halved in terms of number from 1990 to 2010 and has since remained stable at around 6 000 vessels. The fleet engine power increased until 2000 and then stabilized. Since 2010, the Norwegian fishing fleet has therefore consisted of fewer but generally larger and more efficient fishing vessels than in 1990.

BOX 4

Timeline of Norway's key fisheries regulations and policy frameworks

1977: The Norwegian exclusive economic zone (EEZ) was established, giving Norway the right and duty to manage fish stocks within its EEZ. An agreement was established with the then Soviet Union to regulate quotas for joint stocks of cod.

1983: The entry into force of a new law regulating saltwater fisheries, providing the legal basis for setting fishing quotas in the Norwegian EEZ and internationally.

1989: The end of the coastal fleet's right to fish for cod north of 62° north, closing the last major open access fisheries.

1990: The instigation of a closed group in cod fisheries north of 62° north, based on historical catches and rights allocated to fishers who relied on cod fishing as their primary source of income.

1999: Five existing laws, which included the regulation of registration of fishing vessels and participation in fisheries, were merged into a new law regulating fishing access rights and known in English as "The Participation Act."

2002: A model was adopted for cod fisheries north of 62° north, which separated vessels under 28 m into four regulatory groups to improve competition for smaller vessels.

2004: The formal end of various subsidy arrangements, although most subsidy transfers had been phased out in the 1990s.

2006: The introduction of fishing quotas linked to districts with an obligation to land **part of the catch in specified districts.**

2007: The structural part of vessel quotas, already in place for large vessels, was expanded to include all vessels larger than 11 m.

After 2007, some smaller changes and adaptations have been implemented.

Source: Adapted from the Norwegian Directorate of Fisheries. 2024. *Meld. St. 7 (2023–2024). Folk, fisk og fellesskap – en kvotemelding for forutsigbarhet og rettferdig fordeling "People, fish, and community – a quota report for predictability and fair distribution"* [White Paper to the Parliament No. 7 (2023–2024).]

The following are some of the main measures taken by Norway to manage fishing capacity.

Subsidies. From the 1960s to the mid-1990s, Norway provided subsidies to the fishing industry to help it remain profitable. In 1981, these subsidies corresponded to a third of the first-hand value of fish. While subsidies were initially planned as a temporary measure, they became a factor contributing to overcapacity. Their elimination was one of the main measures taken to address overcapacity, and by the mid-1990s subsidies were gradually phased out, formally ending in 2004 (Norwegian Directorate of Fisheries, n.d.).

Catch limitations. Norway sets annual quotas for key fish stocks based on scientific advice from the Norwegian Institute of Marine Research and in collaboration with international bodies, such as the International Council for the Exploration of the Sea. Based on this advice, quotas are distributed among different vessel groups (small-scale and industrial), regions and vessels through an individual vessel quota regime to manage access to the fishery. This system was introduced in 1990, with the objective of implementing safeguards to prevent a high number of transactions and a concentration of quota ownership on fewer vessels. However, the concentration of quotas is still a debated issue in Norway (see Riksrevisjonens undersøkelse av kvotesystemet i kyst- og havfisket, 2019–2020). Quotas include a base quota that permanently belongs to a vessel based on its type and historical catches, as well as a structural quota bought from vessels that are then decommissioned. Structural quotas are time-limited quotas that may (and usually are) extended annually by the Department of Fisheries for up to 25 years. The first and oldest structural quotas will expire in 2028.

MCS implementation. Several measures are aimed at combating IUU fishing, a challenge that Norway closely associates with its strategy to address overcapacity in the commercial fishing fleet. Measures include stringent controls at sea and at landing sites, mandated use of a vessel monitoring system, electronic reporting systems on all large fishing vessels, and observers placed on vessels to monitor compliance and ensure accurate data collection. Interagency cooperation among the Norwegian Coast Guard at sea, the Directorate of Fisheries and the sales organizations on land supports strong MCS. Norway also has partnerships in place with various countries to support regional and international cooperation in implementing the measures (Norwegian Ministry of Fisheries and Coastal Affairs, 2007).

5.3 CASE STUDY: EUROPEAN UNION

The issue of fishing capacity has been a concern for the European Union since the first reform of the Common Fisheries Policy in 1992, introduced through Council Regulation (EEC) No 3760/92 (European Union, 1992). This reform was prompted by growing awareness of stock deterioration and structural changes within the fisheries sector, which created an imbalance between fleet capacity and catch opportunities. The regulation introduced the concept of fishing effort and assigned responsibility to the European Council to implement measures aimed at maintaining fishing capacity at levels that were environmentally, socially and economically sustainable (Article 4).

Despite these measures, many fish stocks continued to decline, prompting further reforms in 2002 under Council Regulation (EC) No 2371/2002 of 20 December 2002 on the conservation and sustainable exploitation of fisheries resources under the Common Fisheries Policy (European Union, 2002a). This regulation prioritized the reduction of fishing effort for stocks outside safe biological limits (Article 4). It introduced provisions to set ceilings on fishing capacity, implement vessel scrapping, and establish national entry/exit schemes to ensure a balance between the capacity of

the European fleet and available resources (Article 12). Additionally, Member States were required to maintain national registers to enable effective monitoring of the European fleet (Article 13).

Recognizing that achieving balance would require capacity withdrawal, the European Union passed Council Regulation (EC) No 2369/2002 in 2002 (European Union, 2002b). This regulation discontinued community financial support for fleet renewal through the Financial Instrument for Fisheries Guidance (FIFG). Instead, it redirected FIFG aid towards the scrapping of fishing vessels (Article 5). Measures eligible for FIFG funding were limited to those that would not increase fishing effort but focused instead on improving safety, navigation, hygiene, product quality, product safety and working conditions, or enhancing the selectivity of fishing gear to reduce bycatch and habitat impacts (Article 5).

A decade after these reforms, the European Union adopted a revision of the Common Fisheries Policy in 2013 through Regulation (EU) No 1380/2013 (European Union, 2013). This regulation required Member States to align their fishing capacity with their fishing opportunities, based on national assessments following the guidelines set by the European Commission (Article 22). It also introduced an obligation for Member States to publicly report on these assessments and the measures taken to address and reduce excessive fishing capacity.

These measures have had a positive impact on fishing capacity. The 2024 Annual Economic Report on the European Union Fishing Fleet (STECF, 2024) indicates that, excluding Greece,[6] the capacity of the European Union fleet has gradually decreased on average over the period 2013–2022, and the number of vessels has been steadily declining since 2018 (-5 percent decline between 2018 and 2022). The fleet decreased by 3 percent in kW and GT compared with 2013.

To prevent overcapacity, the European Union has been implementing several fleet management tools. Some examples are the following.

Policy, legislation and integrated management. The adoption of a Common Fisheries Policy (European Union, 2013) that is binding on Member States set a strong framework for the implementation of measures aimed at adjusting the fishing capacity of the European Union's fleets. Article 22 of Regulation 1380/2013 declares that "Member States shall put in place measures to adjust the fishing capacity of their fleet to their fishing opportunities over time, taking into account trends and based on best scientific advice, with the objective of achieving a stable and enduring balance between them."

The guidelines for analysing the balance between fishing capacity and fishing opportunities, according to Article 22 of Regulation (EU) No 1380/2013 of the European Parliament and the Council on the Common Fisheries Policy (COM [2014] 545), aim to provide a common methodology for assessing the balance over time between fleet capacity and fishing opportunities at the fleet segment level (European Commission, 2014, 2024a).

[6] Because of incomplete data submissions from several European Union Member States, it is not possible for the European Union and the Scientific, Technical and Economic Committee for Fisheries (STECF) to conduct a trend analysis on the economic performance of the European Union fleet over the period analysed. As Greece only provided partial landings, effort and economic data for the years 2014 to 2017, it is excluded from the European Union overview in those years but included for 2018 and beyond. According to STECF (2024), the overall capacity of the Greek fleet has been on a declining trend between the previous decade and 2022. The size of the Greek fishing fleet decreased, with the number of vessels falling by 19 percent, while total tonnage and power also decreased by 12 percent and 15 percent, respectively. The decrease in the number of vessels stemmed from a reduction in both large-scale vessels (-37 percent) and small-scale vessels (-25 percent). Additionally, in 2020, the Greek fishing fleet significantly decreased due to funding from the European Maritime, Fisheries and Aquaculture Fund for permanent cessation, with 751 vessels removed from the registry.

Vessel limiting schemes and technical restrictions. These play a key role in managing fishing capacity within the European Union. Capacity ceilings limit the total size and power of each Member State's fleet, as specified under Article 22 of the Common Fisheries Policy. To manage fleet segments, Member States must assess whether each fleet segment, defined by vessel length and gear characteristics, is balanced in terms of fishing capacity and available fishing opportunities. In cases of imbalance, corrective actions, such as vessel decommissioning, must be implemented. Studies analysing the evolution of fishing effort in Europe indicate that the European Union has adapted its fisheries management strategies to account for increases in technological efficiency (Rousseau *et al*., 2019). Additionally, Article 23 of the Common Fisheries Policy stipulates that Member States must manage capacity movements within their fleets. Any increase in a vessel's capacity must be offset by the prior withdrawal of at least equivalent capacity elsewhere in the fleet without public aid, such as through decommissioning older vessels.

Catch limitations. TACs and quotas are determined based on scientific advice from the International Council for the Exploration of the Sea and the Scientific, Technical and Economic Committee for Fisheries (STECF). These measures are negotiated among European Union ministers, considering the best scientific advice while also trying to balance socioeconomic concerns for fishing operators and communities.

Assess fishing capacity. Member States are required to submit annual fleet capacity reports to the European Commission, which are then made publicly available on the Commission's website (European Commission, 2025a). These reports, due by 31 May each year, provide an assessment of the balance between the fishing capacity of national fleets and their respective fishing opportunities. The reports include annual capacity evaluations for the entire national fleet at the fleet segment level. The purpose of these reports is to identify any structural overcapacity within fleet segments. If the assessment demonstrates that the fishing capacity is not effectively balanced with fishing opportunities, the Member State should prepare and include in its report an action plan for the fleet segments with identified structural overcapacity. The action plan should set out the adjustment targets, the tools to achieve balance, and a time frame for its implementation.

The STECF has an Expert Working Group on the assessment of the balance between capacity and fishing opportunities. This group assesses the annual fleet reports prepared by the Member States in accordance with the European Commission guidelines COM (2014) 545. STECF publishes its results annually (see, for instance, European Commission, 2025b). In 2024, recognizing the specific operating conditions in the European Union's outermost regions, the Commission adopted guidelines for fleet segments of less than 12 m in length (COM [2024] 223).

The assessment of balance, according to the European Commission guidelines – COM (2014) 545 and COM (2024) 223 (European Commission, 2024b) – is carried out based on a set of biological, economic and technical indicators. The six indicators used to assess the balance between fishing capacity and available fishing opportunities include the following.

Biological indicators:

- The sustainable harvest indicator measures how much a fishing fleet segment relies on stocks that are overfished. Here, "overfished" is assessed with reference to fishing mortality (F) at maximum sustainable yield (MSY) (FMSY) values over time (F / FMSY >1), and reliance is calculated in economic terms (landed value).
- The stocks at risk indicator counts the number of stocks that are exploited by a fishing fleet segment and that are currently assessed as being at high biological risk regarding either the total catch of the stock or the total catch of the fleet segment.

Economic indicators:

- Return on investment and/or return on fixed tangible assets compares the long-term profitability of the fishing fleet segment to other available investments.
- The ratio between current revenue and break-even revenue measures the economic capability of the fishing fleet segment to continue fishing on a day-to-day basis – does the income cover the crew's pay, as well as the fuel and running costs for the vessel?

Technical indicators:

- The inactive vessel indicator describes the proportion of vessels in a fishing fleet segment that are not at all active (i.e. that did not fish at any time during the year).
- The vessel use indicator describes how intensively vessels in a fishing fleet segment are being utilized (i.e. average days at sea / maximum days at sea).

The individual indicators are intended to be used together to draw conclusions on imbalances for each segment of the fishing fleet separately.

Participation, transparency and sensitization. The STECF also publishes the Annual Economic Report on the European Union Fishing Fleet, which is publicly available on the European Commission's website. The Annual Economic Report is the most comprehensive and up-to-date source of information and statistics on the economic performance of European Union fishing fleets. It provides reference data, trends and analyses that are widely utilized for policymaking purposes by the European Commission, Member States, stakeholders, including Advisory Councils, and non-governmental organizations. A key policy use of the Annual Economic Report is to support the preparation of impact assessments for fisheries policies and socioeconomic evaluations. Additionally, the report plays a critical role in providing scientific advice within the framework of the Common Fisheries Policy. Its detailed insights are essential for ensuring sustainable fisheries management throughout the European Union.

Safeguarding and positive incentives. Because of their role in overcapacity and overfishing, subsidies for constructing or acquiring new fishing vessels in the European Union ended in 2004. The European Maritime and Fisheries Fund and the European Maritime, Fisheries and Aquaculture Fund now provide targeted subsidies to support the sustainability of the Common Fisheries Policy and contribute to Sustainable Development Goal 14: conserving and sustainably using oceans and marine resources by ensuring they are healthy, safe and sustainably managed. This initiative aligns with the European Green Deal, which serves as the roadmap for the European Union's environmental and climate policies. Eligible projects under the European Maritime, Fisheries and Aquaculture Fund include innovations designed to reduce the environmental impact of fishing activities, with safeguards in place to ensure that such projects do not contribute to overcapacity (Oceana, 2024). In 2022, European Union ministers introduced a compensation mechanism to promote the use of more selective fishing gear by trawlers. Through this mechanism, fishing vessels that use selective gear are allocated additional fishing days, providing a tangible incentive to adopt practices that contribute to resource conservation.

5.4 CASE STUDY: JOINT TECHNICAL COMMISSION OF THE MARITIME FRONT

The Joint Technical Commission of the Maritime Front (CTMFM, Comisión Técnica Mixta del Frente Marítimo) is an international organization established by the Treaty of the Río de la Plata and its Maritime Front in 1973 (Governments of Argentina and Uruguay, 1973). The organization is a regional fishery body with two member states, Argentina and Uruguay. Its main focus is on the sustainable management of shared

fisheries resources and the protection of the marine environment within the Common Fisheries Area defined by the CTMFM Treaty. Recognized by FAO, the CTMFM is also responsible for making decisions that are binding for both member states.

The CTMFM develops conservation and management measures based on scientific findings and recommendations provided by bi-national technical groups convened by the organization. Between 2000 and 2023, the CTMFM reported an overall decrease in fishing capacity, which included reductions in the number of fishing vessels, gross tonnage, engine power and average vessel length. The decline in capacity is attributed to various factors, including overfishing of certain stocks, fleet deterioration, economic drivers (such as reduced profitability of certain resources and fleet displacement to more lucrative fishing grounds), and specific measures implemented by the CTMFM (Box 5).

BOX 5

Lessons learned for the Latin America and the Caribbean region

The achievements of the Joint Technical Commission of the Maritime Front (Comisión Técnica Mixta del Frente Marítimo) provide valuable lessons for the Latin America and the Caribbean region. In 2007, FAO conducted a study on fishing capacity and fisheries management in the region, identifying several factors influencing fishing capacity trends and proposing possible solutions. The study concluded that fisheries managers and technicians in the region did not fully understand the concepts of fishing capacity and overcapacity (Agüero, 2007). Key challenges to efficient fishing capacity management included:

- a predominantly biological approach to fisheries management;
- insufficient data and information systems;
- weaknesses in monitoring, control and surveillance systems; and
- a lack of effective fisheries management tools.

The study also identified specific national factors contributing to these challenges. Recommendations to improve fishing capacity management included:

- Strengthening co-management systems to facilitate better capacity management.
- Managing artisanal fisheries through:
  - policy development and regulation;
  - formalization of access rights via licensing for fishers;
  - closures of certain fisheries and seasonal closures; and
  - output management measures, such as establishing quotas.
- Replicating the implementation of area-based access rights, known as territorial use rights for fisheries, which have been particularly successful in Chile, Cuba and Mexico.

The 2024 survey of the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity) highlighted the requests from countries in the region for technical support from FAO. This support is sought to help adopt and implement fishing capacity plans, including the National Plan of Action for the Management of Fishing Capacity. When strategies to manage fishing capacity have been initiated, challenges in implementation have been widely reported. The survey further highlighted several issues, including a lack of risk assessments, limited public access to fishing vessel registers – only 60 percent of respondents reported making this information publicly available – and a general lack of awareness or prioritization of fishing capacity management in many countries.

Enhanced technical support from FAO could improve understanding of these issues and aid in identifying solutions, drawing on lessons from successful organizations such as the Joint Technical Commission of the Maritime Front.

The CTMFM was the only regional fishery body to report a general decreasing trend in fishing capacity related to measures adopted by the organization in response to the 2024 IPOA-Capacity survey. While neither the CTMFM nor its members adopted an RPOA/NPOA-Capacity, the organization integrated several measures that contributed to capacity reduction into its management framework. These measures take into account variables, such as biodiversity and marine ecosystem protection, minimization of bycatch, waste and discards, promotion of selective and environmentally sustainable fishing practices, and transparency. Some examples are the following.

Monitoring, research and stock assessments. Fish stock assessments and the establishment of specific target reference points are integral to the work of the CTMFM. In 2022, the CTMFM reported undertaking nine stock assessments. The organization also supports scientific workshops, symposia, training courses, and fishery and oceanography surveys to monitor trends in the abundance of commercial and non-commercial species. Additionally, it conducts complementary studies on marine ecosystems to inform management decisions (CTMFM, n.d.a.). In 2024, the CTMFM reported to the FAO that the specific target reference points set by the organization were either exceeded or closely approached. In response, several input management measures were implemented to address the situation.

Technical vessel, gear or bycatch restrictions. In 1997, with an objective to reduce fishing effort on coastal resources, the CTMFM adopted Resolution 7/97, which prohibited fishing trawlers over 28 m from operating in the Common Fishing Zone. Additionally, Argentine freezer trawlers , which consist of larger vessels ranging from 30 m to over 110 m length overall, were also prohibited from operating in the Common Fishing Zone (Government of Argentina, 1999). To remedy the increase of catches of the shark narrownose smooth-hound (*Mustelus schmitti*), in 2023 the organization adopted Resolution 16/23, which reduces the level of permitted bycatch of the species (CTMFM, n.d.b.).

Catch limitations. Through resolutions and based on scientific assessments, the CTMFM sets total allowable catches for certain key species, which are binding on member states.

Seasonal or spatial fisheries closures. Based on scientific surveys, the CTMFM has adopted several resolutions to close fishing for a set period to enable biological rest of specific species (CTMFM, n.d.c.).

Fishing vessel registers. The CTMFM maintains a list of Argentine and Uruguayan vessels authorized to fish in the Common Fishing Zone, which is publicly available on the organization's website. This list includes the name, registration number and size of the vessel. In addition, to facilitate the identification of authorized fishing vessels, the CTMFM adopted Resolution 5/03 by which member states should exchange up-to-date information on their flagged vessels, including name, registration number, size, licence type and fishing gear.

5.5 CASE STUDY: INDIAN OCEAN TUNA COMMISSION

Fishing capacity control in the Indian Ocean Tuna Commission (IOTC) region is a critical component of fisheries management aimed at ensuring the sustainability of tuna and tuna-like species. The IOTC, a tuna RFMO, has recognized fishing capacity as a priority since the late 1990s. In 2013, the IOTC requested its Scientific Committee to update estimates with a view to assist in evaluating the level of input fishing capacity,

as per the provisions in IOTC Resolution 09/01 (IOTC, 2013). In 2014, the document Update on Progress Regarding Resolution 09/01, which tracked the implementation of Resolution 09/01, recommended to "establish a stronger policy on fishing capacity to prevent or eliminate excess fishing capacity" and that "loopholes in the current systems of fishing capacity limitation, such as the establishment of fleet development plans and exemptions for vessels less than 24 meters, should be closed" (IOTC, 2014).

Key measures implemented include restrictions on the number and size of fishing vessels authorized to operate in the region. Member states are required to maintain and report vessel registers, ensuring transparency and traceability. The IOTC also uses capacity limits, particularly for industrial fleets, to prevent overfishing. These limits are often based on historical catch and effort data, aligning with stock assessments and scientific recommendations. Measures such as fishing quotas and restrictions on fishing effort further complement capacity control. The IOTC encourages member states to adopt more selective fishing practices to minimize bycatch and improve the sustainability of operations. Capacity management measures have included a specific case of a vessel decommissioning programme (Resolution 99/02) and policies to limit the transfer of capacity from other regions into the Indian Ocean.

Despite these efforts, challenges persist. MCS systems in the region often face limitations, and compliance with IOTC measures varies among member states. Furthermore, addressing the increasing efficiency of fishing technology remains an ongoing concern. IOTC measures to manage fishing capacity have included the following.

Policy, legislation and integrated management. Since the IPOA-Capacity, the IOTC has adopted a series of resolutions and recommendations related to capacity control. Many of these have had various iterations, some have been repealed, and some are no longer in force. Examples of resolutions and recommendations include:

- Resolution 98/04: Registration and exchange of information on vessels, including flag of convenience vessels and fishing for tropical tunas in the IOTC area of competence; it was superseded by multiple resolutions culminating in Resolution 05/04. This measure was not intended to limit capacity, but rather to track capacity year by year.
- Resolution 03/01: Limitation of fishing capacity for contracting parties and cooperating non-contracting parties.
- Resolution 05/01: Conservation and management measures for bigeye tuna; it was superseded by Resolution 23/04 in 2023.
- Resolution 05/04: The registration and exchange of information on vessels fishing for tropical tunas and swordfish in the IOTC area of competence; it was superseded by Resolution 14/05 in 2014.
- Resolution 06/05: Limitation of fishing capacity, in terms of the number of vessels, by IOTC contracting parties and cooperating non-contracting parties; it was superseded by Resolution 15/11, which is no longer in force.
- Resolution 09/02: Implementation of a limitation of fishing capacity by contracting parties and cooperating non-contracting parties; it was superseded by Resolution 15/11, which is no longer in force.
- Resolution 13/02: The IOTC record of vessels authorized to operate in the IOTC area of competence; this resolution has been superseded multiple times, with the most recent being Resolution 19/04.
- Resolution 15/11: Implementation of a limitation of fishing capacity by contracting parties and cooperating non-contracting parties; it was adopted at the 2015 meeting, but it is no longer in force.

- Resolution 19/04: The IOTC record of vessels authorized to operate in the IOTC area of competence. (This began with Resolution 13/02 and has been superseded several times until the current resolution.)
- Recommendation 25/14: The limitation of fishing capacity.

Active fishing vessel lists. Under Resolution 19/04, contracting parties and cooperating non-contracting parties (CPCs) are obligated to notify the IOTC secretariat of vessel lists categorized by gear type. This includes vessels over 24 m in length overall and those under 24 m that have operated beyond their exclusive economic zone. They are also required to report the total capacity in gross tonnage for vessels actively fishing in compliance with IOTC Resolutions 10/08 and 14/05.

Additionally, CPCs must ensure that any proposed transfer of capacity to their fleets involves vessels listed on the IOTC record of authorized vessels or the records of other tuna RFMOs. Transfers cannot involve vessels appearing on the list of IUU vessels maintained by any RFMO. Between 2000 and 2023, fleet capacity in the IOTC region was reported to have increased. However, this growth is not directly linked to an expansion of the fleet itself but rather to stricter reporting requirements imposed on IOTC member states. In 2005/06, the length overall threshold for vessel reporting was lowered, leading to an increase in the number of active vessels eligible for the IOTC register. Consequently, this has resulted in a decrease in the average length overall and gross tonnage of vessels in the fleet.

Monitoring, research and stock assessments. CPCs are required to report information on catch, discards, catch-and-effort by month, fleet, gear, species, and the number of support vessels and their effort. To support data collection, in 2023 a proposal to adopt minimum electronic monitoring standards through an electronic monitoring system or remote electronic monitoring was agreed upon and detailed in Resolution 25/06. One challenge experienced in assessing fishing capacity is the collection and reporting of data from artisanal and small-scale fisheries, which is a recognized global challenge that undermines efficient capacity management.

Catch limitations. Tackling excess or overcapacity requires agreements among all RFMO parties on how to distribute capacity reductions. In the case of the IOTC, capacity negotiations must also account for the interests of coastal states seeking to develop their own fisheries. The IOTC has adopted measures introducing catch limits for yellowfin tuna (Resolution 21/01), skipjack tuna (Resolution 25/03) and bigeye tuna (Resolution 25/04). These management measures include potential restrictions on fleet size and fishing effort, taking into consideration the aspirations of coastal states to develop their fisheries by placing the focus of catch reductions on distant waters fleets.

5.6 CASE STUDY: LAKE VICTORIA FISHERIES ORGANIZATION

Established in 1994, the Lake Victoria Fisheries Organization (LVFO) is a specialized institution of the East African Community. Its mandate is to coordinate the management and development of fisheries and aquaculture resources in its member states of Burundi, Kenya, Uganda and the United Republic of Tanzania. Lake Victoria is the largest lake in Africa and the second-largest freshwater lake in the world. The lake is an essential source of employment, livelihood and food security for the communities living around it. In 2022, LVFO estimated that around 3 million people were employed in fishing-related activities (LVFO, 2022), and that activities from the lake generated around USD 1.1 billion in 2021 for the East African Community region (LVFO, 2017).

Fishing capacity became a priority for the riparian countries of Lake Victoria after the drastic decline of the Nile perch fishery in the early 2000s, but the continuing

increase in fishing effort and capacity on the lake has raised concerns that it may lead to overcapacity and overfishing. The increase in fishing effort was attributed to a large number of new entrants into the fishery, with an associated increase in the number of vessels and fishing gear. Increasing fishing effort was intensified by IUU fishing, which involved the use of illegal gear and methods, as well as the catch of juvenile fish. The states recognized the need to control fishing effort to protect their resources and the livelihoods of the Lake Victoria fisher communities. In 2007, the LVFO secretariat and states developed the RPOA-Capacity for Lake Victoria (LVFO, n.d.) with support from FAO to address the challenges (Box 6).

To prevent overcapacity, LVFO has been implementing several measures in line with the objectives of the RPOA-Capacity. The following is a compilation of responses provided by LVFO as part of the 2022 CCRF questionnaire and research, based notably on LVFO-developed instruments. It showcases successful measures implemented by LVFO, as well as shortcomings identified by the organization.

Monitoring, research and stock assessments. Since June 2005, the member states have been conducting regular, regionally harmonized catch assessment surveys (LVFO, 2021a) that provide important information to support management decisions. For example, in 2022, specific target reference points for three stocks were developed, and this resulted in the need to redefine the maximum sustainable yield. The catch assessment surveys are conducted following regionally harmonized standard operating procedures for data collection related to fisheries, aquaculture, environment, socioeconomics, post-harvest activities and management actions, and are supported by an electronic data collection system (eCAS). However, LVFO noted that data collection using the standard operating procedures has been less regular than needed. Improving data collection systems is an objective of the Fisheries Management Plan IV, which includes determining the sustainable number of allowable vessels and gear per vessel by all member states (LVFO, 2021b; LVFO, 2007).

Policy, legislation and integrated management. LVFO has developed regional instruments to provide detailed guidelines for the implementation of the RPOA-Capacity, including the 2021 Strategic Plan. The organization has also noted the need to develop more of these instruments and to review existing ones in order to enhance their effectiveness.

MCS implementation. The adoption of the RPOA-IUU in 2004 links LVFO member states' efforts to control fishing capacity with tackling IUU fishing. However, challenges still exist in implementing MCS measures. Addressing these challenges is a key objective of the Fisheries Management Plan IV (2021–2026), which includes measures such as enhancing law enforcement facilities, training personnel and raising awareness. The implementation of species-specific gear regulations also poses ongoing difficulties.

Participation, transparency and sensitization. The RPOA-Capacity emphasizes the importance of raising awareness at all levels, from grassroots communities to decision-makers. LVFO has outlined several measures to achieve this goal, including conducting sensitization, education and training programmes, engaging political leaders such as members of parliament and local government councillors, and ensuring stakeholder inclusivity in the development and implementation of national and regional fisheries plans.

BOX 6

The Lake Victoria Fisheries Organization Regional Plan of Action for the Management of Fishing Capacity

The Lake Victoria Fisheries Organization (LVFO) is a regional fisheries management organization with member states of Burundi, Kenya, Uganda and the United Republic of Tanzania. Lake Victoria is a large and important lake, providing employment, livelihood and food security for the riparian communities. Acknowledging the need to control fishing effort, in 2007, with the assistance of FAO, LVFO developed a Regional Plan of Action for the Management of Fishing Capacity (RPOA-Capacity) for the lake (LVFO, 2007).

Initially, the RPOA-Capacity gave priority to managing fishing capacity of commercial species, especially Nile perch (*Lates niloticus*), Nile tilapia (*Oreochromis niloticus*), dagaa/omena/mukene (Rastrineobola argentea), and emerging fisheries such as haplochromines.

The specific objectives of the Lake Victoria Fisheries Organization RPOA-Capacity are:

- establishing a clear policy and legal framework for the management of fishing capacity;
- ensuring there are institutions and institutional mechanisms at the national and regional levels for the management of fishing capacity;
- collaborating and linking with relevant international and regional bodies;
- ensuring political commitment to the implementation of the RPOA-Capacity;
- promoting stakeholder participation in capacity management in a co-management arrangement;
- ensuring sustainable financing of the implementation of the RPOA-Capacity;
- having information on the status of fisheries resources and fishing capacity;
- making information available to stakeholders;
- managing and maintaining optimum capacity at a level that does not compromise sustainability of the fisheries resource base;
- developing and implementing species-specific strategies for management of capacity;
- improving the socioeconomic welfare of the fisheries-dependent communities through management of fishing capacity;
- exploring economic incentives and developing alternative livelihoods options to reduce overcapacity;
- enhancing human resource capacity for effective capacity management;
- improving infrastructure facilities for fishing capacity management; and
- encouraging mechanisms that address environmental issues impacting fisheries.

Through the RPOA-Capacity, LVFO has set the base for a management framework that contains measures to ensure the level of fishing is commensurate with the state of fisheries resources; contains measures to allow depleted stocks to recover; addresses selectivity of fishing gear; prohibits destructive fishing methods and practices; addresses the biodiversity of aquatic habitats and ecosystems, including the identification of essential fish habitats; provides for stakeholder participation in determining management decisions; addresses the protection of endangered species; and promotes the interests and rights of small-scale fishers.

Despite these measures, since 2000, fishing effort has continued to increase, in terms of the number of fishers and vessels, as well as with their associated catches. Increased fishing effort has been further intensified by rising levels of illegal, unreported and unregulated fishing, with growing use of illegal fishing gear (LVFO, n.d.). LVFO has been implementing several projects and providing guidance to its members to support implementation of the RPOA-Capacity.

Safeguarding, alternative income and positive incentives. Supporting communities around Lake Victoria in adopting alternative income-generating activities is vital for reducing dependence on traditional fishing, reducing fishing capacity and promoting sustainable livelihoods. Various initiatives are addressing this need, such as the Lake Victoria Fisheries Organization-International Fund for Agricultural Development partnership, which aims to enhance incomes, reduce post-harvest losses in small fish systems and improve livelihoods and nutrition (LVSFP, 2024). The Darwin Initiative, in collaboration with local communities, fosters responsible aquaculture, safeguards native species, and empowers women through cage aquaculture and alternative livelihoods (Pathfinder International, n.d.). The Lake Victoria Rights Project, implemented by Ufadhili Trust, strengthens economic well-being by developing environmentally sustainable income-generating activities and enhancing savings and business skills across Kenya, Uganda and the United Republic of Tanzania (Ufadhili Trust, n.d.). Additionally, the WWF Kenya-led Yala Swamp project is restoring the ecosystem while introducing sustainable farming, ecotourism and craft production to provide new economic opportunities and reduce reliance on natural resources (WWF Kenya, 2024).

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6. Lessons learned in managing fishing capacity

Managing fishing capacity is fundamental to achieving sustainable fisheries. It involves finding a long-term balance between fishing capacity and the productive potential of fish stocks. Experience has shown that capacity management cannot be achieved through isolated actions; instead, it requires a coherent approach that integrates ecological, economic and social considerations (FAO, 2008). Equally, while preventing overcapacity before it develops is far easier and less costly than attempting to reduce it once fleets and investments are already established, this opportunity rarely exists. Therefore, effective management must address both prevention and reduction alongside each other.

The 1999 IPOA-Capacity called on Member States to develop NPOAs or similar instruments to monitor and manage capacity. Now, more than two decades later, a review of the implementation shows that uptake and effectiveness have varied considerably across the Member States, regions and fleet segments (see Section 3.4). This uneven progress provides valuable insights into what has worked, where challenges remain, and how future approaches to capacity management can be strengthened to better support sustainable fisheries.

This section examines lessons learned under four interrelated themes:

- the framework for managing fishing capacity;
- assessing and monitoring fishing capacity;
- measures to control fishing capacity; and
- systems to adjust fishing capacity.

6.1 THE FRAMEWORK FOR MANAGING FISHING CAPACITY

Survey results from several regions indicate that the initial response to overcapacity has typically been to limit access to the fishery or to restrict catches, either through input controls, such as licence or gear restrictions, or output controls, such as catch limits. These measures rely on direct state management of capacity levels, most commonly through limited-entry schemes, buyback programmes, vessel or gear restrictions, total allowable catches, and non-transferable catch or effort quotas (see Section 6.3). While such approaches remain widely applied, experience has shown that entry and catch restrictions alone have been insufficient for the long-term management of fishing capacity. To be effective, they must be integrated with policies that address the broader socioeconomic incentives driving fleet expansion. This recognition has led to a second generation of approaches that create conditions for fishers themselves to regulate capacity, for example, through rights-based management systems that align individual incentives with sustainability, or through complementary social and livelihood initiatives that reduce dependence on fisheries.

National fisheries and environmental legislation provide a critical legal foundation for managing fishing capacity. Survey results show that across all global regions, 69 percent of respondents (N=53) indicated that legislation had affected their national fishing fleet capacity, and 42 percent reported that legislation was the most common reason for a decrease in capacity (see Section 3.2.2). The European Union's Common Fisheries Policy (European Union, 2013), for example, obligates Member States to align fleet capacity with fishing opportunities over time, guided by the best available scientific advice to ensure balance. In Japan, the 2020 revision of the Fisheries

Law (MAFF, 2020) expanded TAC systems to cover more species and introduced individual quota allocations, strengthening the legal basis for balanced capacity and reduced competition. Similarly, Guatemala's Fisheries and Aquaculture Regulations (2005) prohibit new fishing authorizations when scientific evidence indicates potential overcapacity, while Türkiye's amended Fisheries Law (2020) regulates authorizations every four years through publication in the Official Gazette. These examples illustrate the important role of national legal frameworks in shaping capacity outcomes and ensuring that management objectives are supported by enforceable statutory measures.

While the IPOA-Capacity envisaged managing fishing capacity through an NPOA-Capacity (see Annex 12 for a summary of key actions required to develop an NPOA-Capacity), the results of this review show that most FAO Member States are implementing measures aimed at addressing fishing capacity outside of a formalized NPOA framework. Only a few Member States, such as Cambodia, Malaysia, Namibia and the United States, have developed a formalized and published NPOA-Capacity (see Section 3.4.1). However, Canada, for example, as with many other countries without an NPOA-Capacity, has integrated fishing capacity measures into fisheries management plans, with some aspects also included in the NPOA-IUU (Fisheries and Oceans Canada, 2005). Guinea-Bissau also reported that controlling fishing effort is part of the objectives of its 2020 fisheries management plan.

Experience has shown that capacity management is more effective when policies are participatory, transparent and inclusive, as these approaches help build trust, strengthen compliance and ensure that decisions are inclusive and evidence based. For instance, South Africa's hake trawl policy demonstrates how structured participation between government and industry can align fishing capacity with allocations, with annual joint reviews ensuring accountability and buy-in (DFFE, 2021). The RPOAs-Capacity of LVFO and ASEAN highlight the importance of sensitization and awareness, promoting capacity building at all levels – from communities to political leaders – to foster shared responsibility and inclusivity in fisheries planning. Similarly, the European Union's Annual Economic Report and the reports from the Scientific, Technical and Economic Committee for Fisheries (STECF) on the assessment of balance indicators for key fleet segments, as well as the review of national reports on Member States' efforts to achieve a balance between fleet capacity and fishing opportunities (e.g. STECF-24-13) (European Commission, 2024, 2025), exemplify transparency by making detailed economic analyses of fishing fleets and fleet capacity assessments publicly available. This enables policymakers, stakeholders and the wider public to engage with decisions based on accessible evidence.

In contrast, an FAO study on fishing capacity and fisheries management in the Latin America and the Caribbean region concluded that fisheries managers and technicians did not fully understand the concepts of fishing capacity and overcapacity. This demonstrates that more inclusive and participatory approaches, even within fisheries administrations, would be beneficial and could be supported by training programmes and awareness on concepts related to fishing capacity (Agüero, 2007). This finding is still valid for some countries according to the responses to the 2024 IPOA-Capacity survey (see Section 3.2.2).

Safeguarding is an approach that is increasingly being incorporated into fisheries management, offering beneficial outcomes for managing fishing capacity. Safeguarding approaches are holistic and integrated, and they are particularly relevant in developing country contexts and small-scale fisheries. These approaches strengthen capacity management by ensuring that measures are designed to protect people, communities and ecosystems while also promoting sustainable and responsible practices. This can include providing alternative income opportunities and positive incentives, aligning with Article 22 of the IPOA-Capacity that states should "give due consideration, in the development of national plans, to socioeconomic requirements, including

the consideration of alternative sources of employment and livelihood to fishing communities which must bear the burden of reductions in fishing capacity." Examples of integrating safeguarding into capacity management include initiatives in Africa, such as those around Lake Victoria, as well as in South Africa and the United Republic of Tanzania, Zanzibar, which promote aquaculture, ecotourism and women-led enterprises as alternative income streams, thereby reducing reliance on capture fisheries. In Japan, fishers are encouraged to diversify into aquaculture and ecotourism, which support cultural heritage and reduce dependence on wild stocks. Norway links environmental safeguards with social equity by offering support for energy-efficient gear innovations and quota leasing schemes for small-scale fishers. Similarly, the European Union integrates safeguarding into its Green Deal by incentivizing vessels that adopt selective gear.

Regional organizations play an important role in supporting state-level implementation of fishing capacity management through binding legislation or practical support. Eighty-three percent of regional fisheries organizations responding to the CCRF questionnaire or the IPOA-Capacity survey reported that they are addressing fishing capacity either fully or partially (N=36; see Section 4.3.1). In Lake Victoria, LVFO developed regional instruments to provide detailed guidelines for the implementation of the RPOA-Capacity, including in the 2021 Strategic Plan (see Section 5.6). However, in reporting, LVFO noted the need to review these instruments and develop them further to enhance their effectiveness and applicability to states. The Technical Performance Review of the Regional Commission for Fisheries (RECOFI, 2011) highlights that excess fishing capacity is a challenge across the region. The review notes that while most countries have introduced some input controls to directly reduce capacity, in general, capacity management is underdeveloped compared with other management measures.

This review has demonstrated that an effective framework for managing fishing capacity combines policy foundations with legal and regulatory tools, as well as mechanisms that address the incentives driving overcapacity. Incentives that drive overcapacity include subsidies, open or poorly managed access, technological progress, market pressures and high demand for fishery products. Traditional approaches, such as input and output controls, remain important but are insufficient on their own; they are increasingly complemented by rights-based management systems, market-based instruments, and social or livelihood measures that reduce dependence on fisheries. Strong frameworks are often built on participation, transparency and safeguarding to increase trust and compliance. Policies are contributing to a balance between ecological, social and economic objectives. Finally, regional cooperation provides an essential layer of support, enabling states to harmonize capacity management measures, share knowledge and address transboundary capacity issues.

6.2 ASSESSING AND MONITORING FISHING CAPACITY

Article 13 and Article 14 of the IPOA-Capacity emphasize the importance of Member States conducting and regularly updating assessments of national fishing capacity to identify fisheries and fleets requiring urgent measures. These assessments should consider the capacity of each fishery and fleet segment, recognizing that overcapacity challenges differ and therefore require disaggregated data. Capacity can be determined using quantitative methods, such as vessel numbers, technical characteristics, stock assessments and modelling, alongside qualitative approaches, including expert and stakeholder input, catch per unit effort trends, fishery conflicts, season length and unused licences, particularly where data are limited (see Section 2.4.3).

International practice provides a range of approaches to monitoring capacity: for example, in Australia, the Southern Bluefin Tuna Management Plan of 1995 established a quota-based, self-regulating system in which the fleet size adjusted to

quota availability. Between 1998 and 2013, capacity monitoring relied on industry self-assessment of purse seine and longline/pole fleets (CCSBT, 2014). In the United States, a nationwide economic assessment of 28 federally managed commercial fisheries applied data envelopment analysis (DEA) modelling to provide technical and policy analysis to guide controls on fleet size and effort (see Box 2). Within the European Union, Member States are required to submit annual reports on fleet capacity, disaggregated by segment, assessing the balance between fishing opportunities and fleet capacity. Where overcapacity is identified, Member States will be requested to implement action plans with adjustment targets, measures and time frames (see Section 5.3). In Japan, the 2020 fisheries law requires resource assessments for all major fisheries to inform management decisions, with quantitative stock assessments underpinning TACs and a policy objective of bringing 80 percent of total catch under TAC management by 2025 (see Section 5.1).

A recurring global challenge in assessing fishing capacity has been the availability and quality of data on small-scale fisheries, making capacity management in small-scale or mixed fisheries a significant challenge for fisheries managers, especially in developing countries. This issue was highlighted in *The State of World Fisheries and Aquaculture 2022* (FAO, 2022), which noted the need for FAO to accelerate its efforts to improve data quality and reporting in fisheries, with a major focus on small-scale fisheries, including inland water fleets, which also generally have inadequate reporting and data availability in local and national registries. FAO collects fishing fleet data annually, categorizing vessels by type, decked/undecked, motorized and nonmotorized and length class (using the International Standard Statistical Classification of Fishery Vessels); however, many FAO Members do not consistently report or provide sufficiently disaggregated data (see Section 2.1). Improving data on small-scale fleets is critical to highlight the socioeconomic contribution of this segment to the economy of countries and to give proper consideration to the needs of artisanal fisheries in capacity management plans and programmes, as stated in Article 26 of the IPOA-Capacity. In an effort to support countries to improve assessment of small-scale fishing vessels, FAO has developed an artificial intelligence fishing vessel identification tool, which detects vessels from satellite imaginary (e.g. Google Earth, Pleiades, Sentinel-2 and Planet) and drone videos. The artificial intelligence tool is available to Members, open source, and can be trained to identify and count local fishing vessels.

Inland fisheries are often neglected in capacity management. The responses to FAO's 2020 and 2022 CCRF questionnaires suggest that many landlocked countries view an NPOA-Capacity as irrelevant. Yet, FAO's SOFIA reports highlight the lack of data on small-scale inland fleets, which limits both national planning and global understanding of inland fishing capacity. Improving the inland fishing fleet (commercial and recreational) data collection and reporting, particularly through capacity building, is therefore critical to sustainable management.

Regional organizations reported facing challenges in collecting suitable fisheries data on a regular basis, largely due to low reporting rates and difficulties in standardizing measurement units. The Northwest Atlantic Fisheries Organization was the only organization that reported systematic collection of such data (FAO IPOA-Survey, 2024). Other organizations have nonetheless advanced stock assessment and monitoring initiatives. For example, in 2022, CTMFM reported that it had undertaken nine stock assessments in addition to scientific workshops and surveys, and by 2024 it informed FAO that new input management measures were adopted because several target reference points had been exceeded (CCRF Questionnaire 2022; FAO IPOA-Survey, 2024). In East Africa, LVFO has been carrying out regionally harmonized catch assessment surveys supported by an electronic data collection system (eCAS) (see Section 5.6). Although LVFO acknowledges that data collection has been less regular than required, this gap is being addressed as a priority under the Fisheries Management

Plan IV, which aims to improve data collection and determine a sustainable number of vessels and gear per vessel across member states (LVFO, 2021; LVFO, n.d.).

An example of the challenges of collecting and reporting fishing capacity data from artisanal and small-scale fisheries is seen at IOTC, as contracting parties and cooperating non-contracting parties are required to report information on catch, discards and catch-and-effort by month, along with details on fleet, gear and species. However, with over two-thirds of all catches reported to the IOTC secretariat coming from artisanal fisheries, there are significant gaps in data availability and quality (IOTC, 2018). In a move to improve data collection more generally, in 2023 a proposal was agreed upon to adopt minimum electronic monitoring standards through an electronic monitoring system or remote electronic monitoring, which would help provide more complete fisheries data that could be used in fishing capacity management. In their analysis, Aranda, Murua and de Bruyn (2012) discuss managing capacity in four tuna RFMOs and note that one of the limitations of vessel registers is that only vessels of a certain length and type are included, limiting the value of vessel registers as a capacity management tool.

Overall, the lack of quality information and incomplete statistics on national fishing fleets are obstacles for FAO to describe and monitor global fishing capacity and for Member States and regional fisheries organizations to take measures to better manage the fleets under their purview.

6.3 MEASURES TO CONTROL FISHING CAPACITY

Incentive blocking measures, commonly used in fisheries management around the world and impacting fishing capacity in the short term, include limited entry, buyback programmes, gear and vessel restrictions, quotas, nontransferable catch limits and individual effort quotas. Incentive adjusting measures have a longer-term capacity impact and are often rights-based approaches, such as community-based rights management, territorial use rights for fisheries, individual transferable quotas, taxes and resource rental charges (FAO, 2008).

Measures that restrict fishers' activities – incentive blocking measures – are often the first steps taken to address fishing capacity, particularly when transitioning from open access regimes. Capacity controls, such as limits on vessels, licences and gear, require adequate MCS systems to ensure compliance, which can be challenging in resource-poor fisheries, even with advances in technology such as vessel monitoring systems, remote sensing and electronic monitoring.

In the Faroe Islands, capacity is controlled through a licensing system that allocates fishing rights to vessel owners and restricts the number of licences to prevent overcapacity. These rights are transferable, promoting allocation to the most efficient operators, and are valid for 12 years to support investment and long-term planning; annual catch limits and spatial regulations provide additional controls (Ministry of Fisheries of the Faroe Islands, n.d.). Angola has set a target to reduce fishing fleet capacity by 15 percent by 2025 and has committed to restrict access through licensing by December 2025. These measures are embedded in Presidential Decree 56/25, which strengthens MCS capacity to monitor the fleet and sets targets to reduce overcapacity by 20 percent by 2026. At the regional level, ASEAN member states have adopted a RPOA-Capacity, under which a range of national measures are being implemented, with limited entry systems being the most common measure. Furthermore, Indonesia has introduced a moratorium on imported vessels; Malaysia implemented the Exit Plan Programme (2007–2010) to buy back trawlers (Department of Fisheries of Malaysia, 2008); Myanmar prohibits the building or import of new vessels; and the Philippines has applied a moratorium on new licences, bans on new construction and imports, and initiated a comprehensive vessel inventory. Thailand has implemented licensing restrictions and a vessel buyback scheme, while Singapore has ceased issuing

new inshore vessel licences. Collectively, these examples demonstrate a regionally consistent shift away from open access, with Member States tailoring measures to their fleet structures and fisheries contexts (SEAFDEC, 2017).

Evidence, however, shows that limiting capacity in terms of vessel numbers or licences on its own is not sufficient to control fishing effort, as capacity can still increase through greater vessel power, size or tonnage, changes in gear, expansion of fishing periods or areas, and the adoption of new technologies – processes often referred to as "capital stuffing". For this reason, licence limitation schemes are frequently modified by introducing licence transferability or unitization systems. Transferable licences allow new entrants to enter the fishery when existing operators exit and are linked to "capacity units" based on characteristics such as vessel length, engine power or gear, with an overall cap on the total units permitted in the fishery. These entry/exit schemes mean that new or larger vessels can only be added by purchasing existing units, and penalties for vessel upgrades may be applied to offset efficiency gains, although these can raise safety concerns. While unitization can reduce the number of capacity units, the actual fishing power of the fleet may remain constant, or even increase, if efficiency gains outpace forfeitures (FAO, 2008; OECD, 2012). For example, Norway applies a unit quota (structural quota) system in its cod and pelagic fisheries, where each vessel is allocated a number of quota units and new or larger vessels can only be introduced by acquiring units from others. Over time, this has significantly reduced the number of vessels, such as halving the coastal cod fleet between the mid-1990s and 2010. The remaining vessels became larger and more efficient, so that overall effective capacity declined less than vessel numbers (see Section 5.2 and Box 4). Similarly, Iceland's small-vessel fisheries initially operated under a capacity unit system based on vessel size and engine power, capped at a fixed number of units and combined with transferable catch rights. This led to fleet consolidation, but efficiency gains meant that overall catching power remained high (FAO, 2003).

Buyback programmes are a common policy tool used to reduce fishing capacity by permanently removing vessels, licences or capacity units, while at the same time providing financial support to allow unviable operators to exit and strengthening those that remain. Though the programmes have differing designs and outcomes, they have been widely applied in both developed and developing countries, including Australia, Bulgaria, Canada, China, Japan, Mexico, Norway, Taiwan Province of China, Türkiye, the United States, and European Union Member States (Holland *et al*., 1999; European Union, 2013; Republic of Bulgaria, 2021; Donnellon-May and Zhang, 2023; Eurofish, 2025; Government of Mexico, 2020; RIETI, 2009).

Within the European Union, permanent cessation schemes have been central to efforts at fleet adjustment. Bulgaria, for example, used European Union-financed buybacks focused on medium-sized vessels, which led to reductions in vessel numbers, gross tonnage and engine power across almost all segments between 2007 and 2020, with new entries offset by equivalent withdrawals (Republic of Bulgaria, 2021). In Asia, China has pursued large-scale reductions since 2016, removing an estimated 40 000 vessels from its coastal fisheries and capping marine catches at 10 million tonnes. Under the 14th Five-Year Plan (2022), further vessel reductions are planned, alongside pilots for TAC systems, the phasing-out of fuel subsidies, and stewardship subsidies to reduce incentives for overcapacity (Donnellon-May and Zhang, 2023). At the same time, the government has capped the size of its distant-waters fleet – the world's largest – and tightened monitoring and compliance with RFMO obligations (People's Republic of China, 2023).

Several other countries have also used buybacks as transitional tools. Türkiye's scheme, launched in 2012, targeted vessels 10–50 m in length and removed 1 264 vessels by 2018, which led to a measurable reduction in fishing effort and helped ease pressure on fish stocks (Eurofish, 2025). Mexico's Voluntary Withdrawal of Shrimp Vessels

Programme (2005–2018) scrapped large numbers of trawlers but did not deliver the expected recovery of red shrimp stocks, illustrating how fleet reductions may not translate into ecological benefits without complementary measures. Mexico's more recent National Fisheries and Aquaculture Strategy (2020–2024) instead emphasizes fleet modernization, safety and the adoption of sustainable gear (Government of Mexico, 2020). In Southeast Asia, Malaysia's Exit Plan Programme (2007–2010) and Thailand's vessel buyback scheme were designed to reduce trawler fleets, while Singapore chose to stop issuing new inshore fishing vessel licences (SEAFDEC, 2017).

Despite widespread use, the long-term effectiveness of buybacks has been questioned. Capacity often re-enters when stocks recover, or through "capital stuffing" – efficiency gains from larger, more powerful vessels, gear changes or new technologies – which can offset the reductions achieved (FAO, 2008; OECD, 2012). Squires (2010) emphasizes that many schemes have failed because they removed less efficient vessels while retaining the most capable, or because compensation prices were inflated because of poor valuation methods. Squires argues that buybacks are most effective when integrated into comprehensive management frameworks, ideally rights-based, that cap overall capacity, prevent re-entry, and backed by strong monitoring and enforcement. Economic studies also highlight important lessons. Holland, Steiner and Warlick (2017), for example, examined the Pacific groundfish trawl fishery buyback in the United States, which removed 91 vessels and 239 permits. Funded partly by the industry through a 30-year loan repaid by a 5 percent landing fee, the programme became more effective after catch shares were introduced in 2011, as quotas from retired vessels were redistributed. Although incremental net revenues exceeded repayment costs on average, imbalances arose over who bore the costs and who benefited. This suggests that buybacks tied to broader reforms, such as catch shares or rights-based systems, can improve profitability and consolidation, whereas stand-alone schemes risk subsidizing inefficiency.

Gear and vessel-related restrictions are considered fishing effort measures rather than true capacity controls. They include minimum mesh sizes, limits on pots or traps, longline length restrictions, bans on certain gear, or vessel rules capping hull size, hold capacity or engine power. While these measures can temporarily reduce fishing mortality, they are often circumvented through substitution or new technologies – for example, offsetting length limits by increasing vessel beam or engine power – which undermines their effectiveness and reduces profitability. Globally, such measures are widely applied: in Australia, rock lobster fisheries are managed by limiting pots per vessel; Tonga's Tuna Plan (2015–2017) uses licence limits, gear and area restrictions, and bycatch controls; Colombia focuses on gear restrictions; Eritrea caps vessel size at 35 m and 400 gross register tonnage, with limits on otter boards and bans on double towing; and Norway introduced gear and vessel size rules targeting purse seine and trawl fisheries in the 1999 Participation Act (Box 4).

State-enforced controls to reduce effort include aggregate catch quotas or TACs, which cap total removals to rebuild or maintain stocks. However, when fished competitively rather than allocated individually, TACs often stimulate capacity growth by triggering derby-style races for fish. This shortens seasons, raises harvesting costs, complicates monitoring, and can result in TAC overruns, while large short-term landings create peaks in processing demand and seasonal employment instability. Individual vessel catch limits, applied as non-transferable quotas, slow capacity growth by capping landings per vessel and sometimes allocating larger shares to full-time operators; however, they do not provide mechanisms for capacity adjustment and may be circumvented through under-reporting. Similarly, individual effort quotas, such as limits on days at sea, trawl time or gear use, mainly reduce utilization rather than capacity itself, and are often offset by technological upgrades, which require continual readjustments.

6.4 SYSTEMS TO ADJUST FISHING CAPACITY

Incentive adjusting measures, which are often rights-based, are an important tool for managing fishing capacity by aligning economic incentives with sustainability objectives. Group fishing rights, such as Alaska's community development quota system, demonstrate how allocating collective rights can both reduce capacity and empower local communities, provided institutions are strong and membership is well-defined. Territorial use rights for fisheries and similar area-based systems create stewardship by granting specific groups or individuals exclusive access to defined fishing grounds, encouraging sustainable use. Individual transferable quotas (ITQs), meanwhile, directly limit catches by allocating tradable shares of the TAC, giving fishers incentives to optimize efficiency and profitability while reducing overcapacity, although concerns remain about discarding and impacts on small-scale fisheries. Alternative mechanisms, such as taxes, royalties and management cost recovery, can also influence capacity by internalizing costs and discouraging overinvestment; however, their effectiveness depends on careful design and acceptance, as demonstrated by mixed experiences in Asia and the United States. Collectively, these approaches illustrate how economic and rights-based instruments can reduce capacity while fostering stewardship, efficiency and accountability in fisheries management.

In Peru, the catch share programme for anchoveta has broadly succeeded in meeting its central objectives. The introduction of individual vessel quotas in 2009 eliminated derby-style fishing and improved economic performance, fleet size decreased, the fishing season length more than doubled and profitability improved (Paredes and Gutiérrez, 2008; Paredes, 2010). Product quality also improved as a result of better handling and scheduling of landings, leading to a 37 percent increase in mean anchoveta prices, while safety at sea improved with longer seasons, reflected in a 28 percent drop in accidents in the first year of the programme. Moreover, compliance with catch limits has been strong (Young and Lankester, 2013; FAO, 2003). Yet, vessel numbers began to increase again after 2010, demonstrating the need for adjustment measures to be supported by strong institutions and enforcement (Paredes, 2010).

Argentina implements an ITQ system under Law 24.922 (Ministry of Justice of Argentina, 1998), which has been largely successful in aligning fleet capacity with sustainable catch levels, reducing fleet size and preventing increased fishing pressure (OECD, 2012).

Canada uses various strategies for capacity management. Limiting entry to the fisheries is the most widely used strategy, along with input control measures such as gear and area restrictions. There are also a number of policies implemented by the Government of Canada that affect the harvesting capacity of the fishery. Vessel replacement rules specific to each fishery in Canada control capacity growth in the industry. Individual quota and enterprise allocation fisheries are highly effective in controlling the volume of landings, but they also influence the harvesting capacity of a fleet. As a result, Canada has seen a reduction in the capacity of every fleet where individual quotas and enterprise allocations were introduced. Overall, between 1992 and 2002, the number of Canadian commercial fishing vessels decreased by 31 percent.

Iceland indirectly addressed fishing capacity by implementing the ITQ system. Sweden has also introduced an ITQ system. Since 2009, Swedish pelagic quotas have been allocated through an ITQ system as ten-year transferable pelagic fishing rights, resulting in a significant reduction in the number of vessels in that segment. In Swedish demersal fisheries, a national quota allocation system based on annual individual fishing opportunities has been in place since 2017; the system allows for the transfer of quotas between fishers with some restrictions. This has shown some encouraging reductions in capacity, for example, in the shrimp fishery (Stage, Christiernsson and Söderholm, 2016; Nielsen *et al*., 2018).

Overfishing and overcapacity in the United States have been addressed through limited access privilege programmes, including individual fishing quotas, community quotas, harvesting cooperatives and broader catch share programmes. These rights-based systems align economic incentives with sustainable practices by granting secure and transferable harvest rights, reducing the incentive for derby-style fishing and encouraging fleets to adjust voluntarily to quota reductions and stock rebuilding measures. As a result, limited access privilege programmes and catch shares have demonstrated strong capacity-control outcomes: they enable efficient operators to consolidate quota, eliminate redundant vessels, reduce overcapitalization and rationalize fleets. Evidence from 39 fisheries shows that these structural adjustments can occur alongside behavioural changes such as season lengthening and improved market timing, which enhance both economic efficiency and ecological sustainability (Terry *et al.,* 2008; Birkenbach *et al*., 2023).

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7. Opportunities for strengthening fishing capacity management

This review of the implementation of the IPOA-Capacity shows that many FAO Members still consider fishing overcapacity a problem. They desire more attention to capacity management for achieving long-term conservation of fisheries resources, fisheries management and sustainable development of fisheries.

The IPOA-Capacity aims to achieve efficient, equitable and transparent management of fishing capacity, but this goal has not yet been realized. Since the adoption of the IPOA-Capacity in 1999, the global fishing fleet capacity has expanded. The total number of motorized fishing vessels has increased by one-third, and the average fishing vessel has grown in size (i.e. in length and gross tonnage) and in engine power. At the same time the global marine capture fisheries production stabilized, the percentage of overfished stocks grew, fishing technologies improved, seafood prices rose and fishing fleets continued to be profitable.

As global fishing capacity continues to expand, it creates mounting pressures on fisheries resources and governance frameworks (see Section 2.1). Most existing fishing capacity management frameworks focus on managing marine industrial and semi-industrial vessels. However, some of the most pressing challenges are associated with distant-water fishing fleets operating on the high seas, where oversight by flag states is limited, as well as in small-scale fisheries, including inland fisheries. Small-scale and recreational fisheries often fall outside the scope of formal monitoring, registration and national capacity management planning. As a result, any global overview of fishing capacity remains incomplete and fragmented.

The principles outlined in the 1999 IPOA-Capacity continue to provide a valid foundation for addressing these challenges, along with the recommendations of the 2004 FAO technical consultation, as endorsed by the Twenty-sixth Session of COFI in 2005. However, the two decades of fishing capacity management experience since the adoption of IPOA-Capacity provide critical lessons and guidance on ways forward to further improve national, regional and global fishing capacity management.

7.1 UNDERSTANDING AND ASSESSING FISHING CAPACITY

Accurately understanding and assessing fishing capacity remain one of the most significant challenges in global fisheries management. While most Member States maintain fishing vessel registers, data quality and availability continue to limit effective monitoring. Many registers are incomplete, outdated or lack information on small-scale, inland and recreational fisheries and vessels operating in areas beyond national jurisdiction. Member States often struggle with incomplete statistics and poor-quality data, making it difficult to assess capacity levels reliably or to provide timely updates to regional processes, RFBs and RFMOs, FAO's annual calls for fishing fleet data and to the FAO Global Record. In particular, greater attention is needed to include small-scale fisheries and artisanal fleets in capacity monitoring and management programmes, especially in Africa and Asia where national reporting systems are weakest.

The methodologies developed in the early 2000s for assessing fishing capacity have proven to be too complex and cumbersome for most fisheries administrations. These methods often focus narrowly on effort indicators, such as engine power or days at

sea, which only provide a partial picture. Such simplified indicators fail to capture whether long-term strategies are aligned with sustainability goals, nor do they reflect the dynamic nature of fisheries. There is no globally agreed definition of fishing capacity, and the indicators used to measure capacity remain diverse and inconsistent, which limits comparability between fleet segments and regions. Addressing these gaps requires renewed attention to flag state responsibility, covering not only national waters but also high seas operations. It also involves developing indicators that integrate industrial, semi-industrial and small-scale fleets.

Moving forward, Member States are encouraged to continue strengthening their national fleet capacity monitoring programmes while also collaborating at regional and international levels to harmonize approaches. Establishing and maintaining accurate, inclusive and up-to-date fishing vessel registers are essential, while also removing inactive or decommissioned vessels from the records.

Emphasis should be placed on capacity building in fisheries statistics, particularly for small-scale and inland fisheries, as highlighted in FAO's 2022 edition of SOFIA. The use of the International Standard Statistical Classification of Fishery Vessels by vessel types and length, together with data collection on gross tonnage and engine power of fishing vessels, is important for national level analysis by fishing fleet segment as well as for global fishing capacity assessments. Socioeconomic data on the number of fishers, operational performance of fishing vessels, capacity utilization and fleet profitability should be collected and analysed more frequently. The availability of such data, along with catch data and the stock status of the target fisheries resources, will contribute to improved assessments of fishing capacity.

Organizing an expert meeting to develop common definitions, methodologies, and indicators for fishing capacity assessments could provide an opportunity to enable fishing capacity comparisons between fishing fleet segments worldwide in the future. FAO's Committee on Fisheries may decide whether its framework can be used to reach an agreement on harmonizing approaches for measuring fishing capacity.

7.2 MANAGING SHARED FISHERIES AND THE HIGH SEAS

RFMOs and RFBs can play a central role in assessing and managing the fishing capacity of fleets operating within their mandate areas. However, implementation of the IPOA-Capacity and its approaches remain uneven, and effective capacity management is often constrained by the need to align RFMO approaches with those of flag states. Without stronger oversight from flag states, RFMO assessments alone cannot ensure meaningful control of fishing capacity, especially on the high seas.

Few RFMOs and RFBs have developed an RPOA-Capacity. However, the majority of these regional organizations have introduced conservation and management measures on fishing capacity management for specific fleet segments or fisheries on target species.

There are large differences in RFMO and RFB engagement on fishing fleet capacity issues. Some of the RFMOs and RFBs have not taken action on the collection of data needed for the assessment of fishing capacity in their mandate areas, awareness-raising and capacity building for fishing capacity management. Nevertheless, the majority of the RFMOs are maintaining vessel registers for the fishing fleets they manage.

The 2004 FAO technical consultation recommended that RFMOs assess the capacity of fleets under their purview, and develop, implement and update their capacity management plans. However, this has not yet occurred in some RFMOs. Reasons include the absence of a commonly agreed definition of fishing capacity, the aspirations of their members to develop their fishing industry, and the complex analysis of fishing capacity of small-scale and artisanal fleets.

Members of RFMOs and RFBs should make better use of the RFMO/RFB frameworks to address overcapacity in the fisheries of transboundary and pelagic resources. For example, through regional collaboration, awareness-raising and technical assistance for fishing capacity assessments and management, Member States with limited national institutional capacity can increase their knowledge and resources to effectively manage capacity. Specifically, information can be shared to enhance understanding of the measures that can be taken to address excess or overcapacity.

Measures taken by RFMOs to counteract IUU fishing (e.g. authorized vessel records and IUU vessel lists) can also contribute to better management of fishing capacity. These IUU fishing-related measures may also help stop the expansion of fleets in the high seas by non-members of RFMOs.

There is a need to broaden the scope of capacity assessment and management measures by RFMOs. Current approaches focus narrowly on fleet size, catch volume, fishing gear or effort indicators. However more holistic frameworks are needed to strengthen regional and high seas fishing capacity management. These frameworks should incorporate socioeconomic factors, biological reference points and conservation objectives

7.3 GLOBAL GUIDANCE AND LEADERSHIP

The IPOA-Capacity is a voluntary international fisheries instrument, which has been adopted by FAO's COFI and which supports the implementation of the 1995 Code of Conduct for Responsible Fisheries. FAO has a central role to play in strengthening global fishing capacity management, particularly through collecting relevant information and data for analysing fishing capacity, technically assisting the development and implementation of NPOAs-Capacity, and monitoring progress in the implementation of the IPOA-Capacity. FAO's duties are outlined in the IPOA-Capacity, and this review of the implementation showed that FAO has been delivering on these duties, in accordance with the priorities given by COFI sessions on the subject of overcapacity in fisheries.

FAO Members can request support from FAO and its resource partners for guidance and technical assistance in monitoring fishing capacity and its impacts on stocks. They can also receive help in preparing and implementing their NPOA-Capacity or equivalent strategies, ensuring that these are integrated within the ecosystem approach to fisheries and the broader Blue Transformation agenda.

The bureau of the recently established COFI Sub-Committee on Fisheries Management decided to include the agenda item "Managing fishing fleet capacity: status and way forward" in the agenda for the Second Session of the Sub-Committee, which is scheduled to take place in Iceland on 23–27 February 2026.

The reappearance of fishing capacity in the COFI agenda after two decades signals that global guidance on fishing capacity management is still needed and that fishing overcapacity requires attention.

The discussions on fishing capacity by the COFI Sub-Committee on Fisheries Management could lead to a renewed effort to define fishing capacity and develop a practical fishing capacity assessment methodology for agreement by COFI. This has been requested in the past by some COFI members.

The 2004 FAO technical consultation recommended that FAO conduct a global review of fleet capacity by region, supported by the design of a long-term programme to monitor fishing capacity and fishing effort management. This review and monitoring programme should be implemented in cooperation with regional fishery organizations. This would involve linking capacity monitoring to regional vessel registers, implementing the Port State Measures Agreement and the Compliance Agreement. Additionally, the review and monitoring programme should build on and strengthen FAO's fishing fleet data collection and the Global Record.

7.4 INTEGRATING CAPACITY MANAGEMENT INTO THE BLUE TRANSFORMATION

Integrating fishing capacity management into the Blue Transformation is essential to ensure that aquatic food systems are sustainable, resilient and equitable. Reinforced by the 2030 Agenda for Sustainable Development and SDG 14 and reiterated in the 2021 COFI Declaration and FAO's Blue Transformation Roadmap, it is clear that managing capacity requires more than traditional input controls on vessels, gear or licences or output controls on catches. These fisheries management measures, while common, have rarely succeeded in aligning fishing capacity with stock availability, as they tend to ignore or at best deal with the socioeconomic processes that drive fishing capacity in a static manner. A more dynamic, integrated and participatory approach is needed, one that balances investment, subsidies and social and economic incentives with ecological and conservation objectives and that also encompasses small-scale, artisanal, recreational, inland fisheries and distant-water fleets.

Such integration also links capacity management to wider global challenges: decarbonization strategies targeting fishing fleets as part of broader, climate-integrated capacity controls; enhanced data systems with inclusive participation, essential for managing diverse fleet segments; implementation of the recent WTO Agreement on Fisheries Subsidies to remove this systemic barrier to capacity management; and adaptive and resilient frameworks, in keeping with the broader objectives of the Blue Transformation. Embedding capacity management within the Blue Transformation therefore provides an adaptive, holistic framework that connects conservation with food security, economic resilience and a just transition. This ensures that capacity management is no longer a stand-alone exercise but rather a driver of sustainable and inclusive fisheries governance.

7.5 STRENGTHENING THE IMPLEMENTATION OF THE 1999 IPOA-CAPACITY

A review and update of the 1999 IPOA-Capacity could be considered by COFI to better reflect the evolution of global fisheries governance over the past decades and to incorporate linkages with more recently developed international instruments, including those on flag state performance, the Port State Measures Agreement, the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries, and the FAO Global Record. Such a process would also allow the integration of new fleet monitoring technologies and could provide the basis for considering a stronger, potentially globally binding approach to capacity management, recognizing that monitoring and managing fishing capacity are fundamental for the implementation of all these agreements.

Importantly, a review process of the IPOA-Capacity could increase global awareness of the urgent need to reduce overcapacity in some fleet segments, linking this directly to the objectives of Blue Transformation. This review study has demonstrated that national strategies for capacity management are most commonly embedded in fisheries policies, legislation and fisheries management plans, reflecting that capacity management is not a stand-alone exercise but rather an integral component of fisheries management and development. This suggests that discussions on fishing capacity should be elevated to a higher policy level, explicitly linked to the Blue Transformation and the delivery of SDG Target 14, which aims to "conserve and sustainably use the oceans, seas and marine resources for sustainable development."

The findings from the surveys conducted for this study have highlighted the continuing need to raise awareness on the importance of monitoring fishing capacity and the measures that need to be taken to address fishing overcapacity. In the light of the global developments and fishing capacity management challenges since the last technical consultation in 2004, a renewed and updated IPOA-Capacity could ensure that these additional priorities are addressed alongside the original ones, providing a more holistic and forward-looking framework for fishing capacity management.

Annex 1. International Plan of Action for the Management of Fishing Capacity

Introduction

1. In the context of the Code of Conduct for Responsible Fisheries and its overall objective of sustainable fisheries, the issues of excess fishing capacity in world fisheries is an increasing concern. Excessive fishing capacity is a problem that, among others, contributes substantially to overfishing, the degradation of marine fisheries resources, the decline of food production potential, and significant economic waste.

2. The Code of Conduct provides that States should take measures to prevent or eliminate excess fishing capacity and should ensure that levels of fishing effort are commensurate with sustainable use of fishery resources.

3. At its last Session in 1997, the Committee on Fisheries (COFI), requested FAO to address the issue of fishing capacity. FAO organized a Technical Working Group on the Management of Fishing Capacity in La Jolla, United States, from 15 to 18 April 1998. A subsequent FAO consultation was held in Rome from 26 to 30 October 1998, preceded by a preparatory meeting from 22 to 24 July 1998.

PART I – NATURE AND SCOPE OF THE INTERNATIONAL PLAN OF ACTION

4. The International Plan of Action is voluntary. It has been elaborated within the framework of the Code of Conduct for Responsible Fisheries as envisaged by Article 2 (d). The provisions of Article 3 of the Code apply to the interpretation and application of this International Plan of Action and its relationship with other international instruments.

5. This document is in furtherance of the commitment of all States[1] to implement the Code of Conduct. States and regional[2] fisheries organizations should apply this document consistently with international law and within the framework of the respective competencies of the organizations concerned.

6. The International Plan of Action constitutes an element of fishery conservation and sustainable management.

PART II – OBJECTIVE AND PRINCIPLES

7. The immediate objective of the International Plan of Action is for States and regional fisheries organizations, to achieve world-wide preferably by 2003, but not later than 2005, an efficient, equitable and transparent management of fishing capacity. Inter alia, States and regional fisheries organizations confronted with an overcapacity problem, where capacity is undermining achievement of long-term sustainability outcomes, should endeavour initially to limit at present level and progressively reduce the fishing capacity applied to affected fisheries. Where long-term sustainability outcomes are being achieved, States and regional fisheries

[1] In this document, the term "State" includes Members and non-members of FAO and applies mutatis mutandis also to "fishing entities" other than States.

[2] In this document, the term "regional" includes sub-regional, as appropriate.

organizations nevertheless need to exercise caution to avoid growth in capacity undermining long-term sustainability objectives.

8. The above objective may be achieved through a series of actions related to four major strategies:

   i. the conduct of national, regional and global assessments of capacity and improvement of the capability for monitoring fishing capacity;

   ii. the preparation and implementation of national plans to effectively manage fishing capacity and of immediate actions for coastal fisheries requiring urgent measures;

   iii. the strengthening of regional fisheries organizations and related mechanisms for improved management of fishing capacity at regional and global levels; and

   iv. immediate actions for major transboundary, straddling, highly migratory and high seas fisheries requiring urgent measures.

These strategies may be implemented through complementary mechanisms to promote implementation of this international Plan of Action: awareness building and education, technical co-operation at the international level, and co-ordination.

9. The management of fishing capacity should be based on the Code of Conduct for Responsible Fisheries and take into consideration the following major principles and approaches:

   i. *Participation:* The International Plan of Action should be implemented by States either directly, in co-operation with other States, or through FAO in co-operation with other appropriate intergovernmental organizations, including regional fisheries organizations. States and regional fisheries organizations, as appropriate, are encouraged to give effect to it and to inform FAO of actions taken to implement it. FAO will regularly provide information about its implementation.

   ii. *Phased implementation:* The management of fishing capacity on the basis of national and regional plans should be achieved through the following three phases: assessment and diagnosis (preliminary analysis to be completed by the end of 2000), adoption of management measures (preliminary steps to be adopted by the end of 2002) and periodic adjustment of such assessment and diagnosed measures, as appropriate. States and regional fisheries organizations should complete these steps and progressively implement by 2005 the complementary measures specified in the International Plan of Action.

   iii. *Holistic approach:* The management of fishing capacity should consider all factors affecting capacity in both national and international waters.

   iv. *Conservation.* The management of fishing capacity should be designed to achieve the conservation and sustainable use of fish stocks and the protection of the marine environment consistent with the precautionary approach, the need to minimize by-catch, waste and discard and ensure selective and environmentally safe fishing practices, the protection of biodiversity in the marine environment, and the protection of habitat, in particular habitats of special concern.

v. *Priority:* Priority should be given to managing the fishing capacity in those fisheries in which there already unequivocally exists overfishing.

vi. *New technologies:* The management of fishing capacity should be designed so that it takes into account the incorporation of environmentally sound and evolving technology in all areas of capture fisheries.

vii. *Mobility:* The management of fishing capacity should encourage efficient use of fishing capacity and discourage mobility when it negatively affects sustainability and take due account of socio-economic performances in other fisheries;

viii. *Transparency:* The International Plan of Action should be implemented in a transparent manner in accordance with Article 6.13 of the Code of Conduct.

10. The implementation of the International Plan of Action should be based on the Code of Conduct, particularly Article 5, in relation to enhancing the ability of developing countries, to develop their own fisheries as well as to participate in high seas fisheries, including access to such fisheries, in accordance with their legitimate rights and their obligations under international law.

PART III – URGENT ACTIONS

Section I: Assessment and monitoring of fishing capacity

Measurement of fishing capacity

11. States should support coordinated efforts and research at national, regional and global levels to better understand the fundamental aspects of issues related to the measurement and monitoring of fishing capacity.

12. States should support the organization by FAO of a technical consultation to be held as early as possible in 1999 on the definition and measurement of fishing capacity and the subsequent preparation of technical guidelines for data collection and analysis, noting that the result of this consultation should provide specific guidance for preliminary assessments of fishing capacity and excess fishing capacity at national, regional and global levels.

Diagnosis and identification of fisheries and fleets requiring urgent measures

13. States should proceed, by the end of 2000, with a preliminary assessment of the fishing capacity deployed at the national level in relation to all the fleets of principal fisheries and update this assessment periodically.

14. States should proceed, by the end of 2001, with the systematic identification of national fisheries and fleets requiring urgent measures and update this analysis periodically.

15. States should cooperate, within the same time frame, in the organization of similar preliminary assessments of fishing capacity at the regional level (within the relevant regional fisheries organizations or in collaboration with them, as appropriate) and at the global level (in collaboration with FAO) for transboundary, straddling, highly migratory and high seas fisheries, as well as in the identification of regional or global fisheries and fleets requiring urgent measures.

Establishment of records of fishing vessels

16. States should support FAO in the development of appropriate and compatible standards for records of fishing vessels.

17. States should develop and maintain appropriate and compatible national records of fishing vessels, further specifying conditions for access to information.

18. While awaiting the entry into force of the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement), States should support the establishment by FAO by the end of 2000 of an international record of fishing vessels operating in the high seas, following the model indicated in the Compliance Agreement.

Section II: Preparation and implementation of national plans

Development of national plans and policies

19. States should develop, implement and monitor national plans of action for managing fishing capacity, taking into account, *inter alia,* the effect of different resource management systems on fishing capacity.

20. States should develop the means to monitor fishing capacity systematically and accurately, and to regularly assess any imbalance with available fishery resources and management objectives.

21. States should develop, adopt and make public, by the end of 2002, national plans for the management of fishing capacity and, if required, reduce fishing capacity in order to balance fishing capacity with available resources on a sustainable basis. These should be based on an assessment of fish stocks and giving particular attention to cases requiring urgent measures and taking immediate steps to address the management of fishing capacity for stocks recognized as significantly overfished.

22. States should give due consideration, in the development of national plans, to socio-economic requirements, including the consideration of alternative sources of employment and livelihood to fishing communities which must bear the burden of reductions in fishing capacity.

23. When it has been found that a national plan to manage capacity is not necessary, States should ensure that the matter of fishing capacity is addressed in an ongoing manner in fishery management.

24. At least every four years, States should review the implementation of their national plans to manage capacity for the purpose of identifying cost effective strategies for increasing effectiveness.

Subsidies and economic incentives

25. When developing their national plans for the management of fishing capacity, States should assess the possible impact of all factors, including subsidies, contributing to overcapacity on the sustainable management of their fisheries, distinguishing between factors, including subsidies, which contribute to overcapacity and unsustainability and those which produce a positive effect or are neutral.

26. States should reduce and progressively eliminate all factors, including subsidies and economic incentives and other factors which contribute, directly or indirectly, to the build-up of excessive fishing capacity thereby undermining the sustainability of marine living resources, giving due regard to the needs of artisanal fisheries.

Regional considerations

27. States should cooperate, where appropriate, through regional fisheries organizations or arrangements and other forms of co-operation, with a view to ensuring the effective management of fishing capacity.

28. States should strive to collaborate through FAO and through international arrangements in research, training and the production of information and educational material aiming to promote effective management of fishing capacity.

Section III: International considerations

29. States should consider participating in international agreements which relate to the management of fishing capacity, and in particular, the Compliance Agreement and the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

30. States should support co-operation and the exchange of information among all regional fisheries organizations in accordance with their procedures.

31. States should take steps to manage the fishing capacity of their vessels involved in high seas fisheries and cooperate, as appropriate with other States, in reducing the fishing capacity applied to overfished high seas stocks.

32. States should improve, through regional fisheries organizations where appropriate, and in collaboration with FAO, the collection of data on catches on the high seas as well as in the coastal area by their fleet.

33. States should recognize the need to deal with the problem of those States which do not fulfil their responsibilities under international law as flag States with respect to their fishing vessels, and in particular those which do not exercise effectively their jurisdiction and control over their vessels which may operate in a manner that contravenes or undermines the relevant rules of international law and international conservation and management measures. States should also support multilateral co-operation to ensure that such flag States contribute to regional efforts to manage fishing capacity.

34. States should be encouraged to become members of regional fisheries organizations or arrangements, or agree to apply the conservation and management measures established by such organizations or arrangements to their vessels.

35. States should promote, with the assistance of FAO, the exchange of information about the fishing activity of vessels which do not comply with conservation and management measures adopted by regional fisheries organizations and arrangements, consistent with Article VI of the Compliance Agreement.

36. Anticipating the entry into force of the Compliance Agreement, States should strive to apply the provisions of Article III of that Agreement.

37. States should ensure that no transfer of capacity to the jurisdiction of another State should be carried out without the express consent and formal authorization of that State.

38. States should, in compliance with their duties as flag States, avoid approving the transfer of vessels flying their flag to high seas areas where such transfers are inconsistent with responsible fishing under the Code of Conduct.

Section IV: Immediate actions for major international fisheries requiring urgent measures

39. States should take immediate steps to address the management of fishing capacity for international fisheries requiring urgent attention, with priority being given to those harvesting transboundary, straddling, highly migratory and high seas stocks which are significantly overfished.

40. Within the framework of their respective competencies, States should act individually, bilaterally and multilaterally, as appropriate, to reduce substantially [3]the fleet capacity applied to these resources as part of management strategies to restore overfished stocks to sustainable levels considering, in addition to the other relevant provisions of the International Plan of Action:

    i. the economic importance of the fleets catching overfished stocks and the need to limit these fleets to a level commensurate with stock sustainability and economic viability; and

    ii. the use of appropriate measures to control the transfer of overcapacity to fully exploited or overexploited fisheries, taking into consideration the condition of the fish stocks.

PART IV - MECHANISMS TO PROMOTE IMPLEMENTATION

41. States should develop information programmes at national, regional and global levels to increase awareness about the need for the management of fishing capacity, and the cost and benefits resulting from adjustments in fishing capacity.

Scientific and technical cooperation

42. States should support the exchange of scientific and technical information on issues related to the management of fishing capacity and promote its world-wide availability using existing regional and global fora.

43. States should support training and institutional strengthening and consider providing financial, technical and other assistance to developing countries on issues related to the management of fishing capacity.

Reporting

44. States should report to FAO on progress on assessment, development and implementation of their plans for the management of fishing capacity as part of their biennial reporting to FAO on the Code of Conduct.

Role of FAO

45. FAO will, as and to the extent directed by its Conference, collect all relevant information and data which might serve as a basis for further analysis aimed at identifying factors contributing to overcapacity such as, *inter alia*, lack of input and output control, unsustainable fishery management methods and subsidies which contribute to overcapacity.

46. FAO will, as and to the extent directed by its Conference, and as part of its Regular Programme activities, support States in the implementation of their national plans for the management of fishing capacity.

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[3] The required reduction would vary from fishery to fishery; e.g. a 20 to 30% reduction was mentioned for large-scale tuna long line fleet (Report of the FAO Technical Working Group on the Management of Fishing Capacity. La Jolla, United States of America, 15- 18 April 1998. FAO Fisheries Report No. 586).

47. FAO will, as directed by its Conference, support development and implementation of national plans for the management of fishing capacity through specific, in-country technical assistance projects with Regular Programme funds and by use of extra-budgetary funds made available to the Organization for this purpose.

48. FAO will, through COFI, report biennially on the state of progress in the implementation of the International Plan of Action.

Annex 2. The importance of the issue of fishing capacity at COFI sessions 1997–2024

Year	Session	Paraphrased extracts from COFI records	Prioritization of issue and implementation of IPOA
1997	22	11. The COFI requested FAO to address the issue of fishing capacity. The Committee urged that the issues of excessive fishing capacity and fishing effort leading to overfishing should be given special consideration by FAO and Member Countries. With this, the Committee referred particularly to the use of direct or indirect subsidies when those aggravate excess capacity. 49. High priority was also given to work related to scientific research and data collection, related to identifying and reducing excess capacity, reducing discards and wastes, increasing the use of the precautionary approach, and strengthening MCS.	Fishing capacity was recognized as a high priority issue. **HIGH PRIORITY**
1999	23	34. The Committee adopted the International Plan of Action for the Management of Fishing Capacity. 36. The Committee stressed the importance of holding a Technical Consultation on the measurement of fishing capacity as soon as possible in 1999. The need to develop simple methods that could be widely applicable in both developed and developing countries was strongly emphasized. 38. The Committee agreed that the three Plans of Action should be submitted to the FAO Council for endorsement. 75. Expressed its satisfaction at the information provided that the fishing capacity of some long-line and other techniques of some major fishing nations was being reduced and encouraged other States to make similar reductions in capacity as appropriate. 77. Agreed that the three International Plans of Action regarding fishing capacity, sharks and incidental catch of seabirds should be pursued as high priorities.	COFI stressed the importance of fishing capacity management and adopted the IPOA-Capacity. **HIGH PRIORITY**
2001	24	25. With regard to the implementation of the IPOA-Capacity, general appreciation was expressed of the actions of those Members who effectively implemented the IPOA-Capacity. 26. Other Members reported on the methodological challenges and lessons learned in carrying out an assessment of their fishing capacity. 36. Several Members considered that the use of access rights in fisheries management was useful for improved management efficiency and the control of fishing capacity. 37. The Committee agreed that in future reporting on the application of the Code and the related IPOAs, more in-depth analysis of problems associated with its efficient implementation should be carried out on the basis of appropriate case studies and ensuring adequate regional coverage.	Recommendations were made for implementation of the IPOA-Capacity, and challenges and lessons learned were discussed. **HIGH PRIORITY**
2003	25	18. The Committee recognized the crucial importance of the Code of Conduct and its related International Plans of Action (IPOAs) in promoting long-term sustainable development of fisheries and encouraged Members to establish and implement National Plans of Action to put into effect the IPOAs on Capacity, IUU Fishing, Sharks and Seabirds. 20. The Committee agreed that strenuous efforts should be made to control fleet capacity, particularly that of large-scale fishing vessels, and, as appropriate, implement measures to reduce overcapacity and prevent it from migrating to other fully exploited or overexploited fisheries. The Committee also noted the need to monitor fleet capacity of large-scale vessels on a global basis. 23. The Committee agreed that there is a linkage between fleet overcapacity and IUU fishing. Some Members also stated that this relationship was exacerbated by the payment of government subsidies to industry. A proposal by Japan that FAO should convene a Technical Consultation at FAO Headquarters in Rome in early 2004 to review progress and promote the full implementation of the IPOA–IUU and the IPOA–Capacity was endorsed by the Committee.	Recommendations were made to reduce transfer of fishing effort. Links of IUU and subsidies to overcapacity were stated. It was agreed to hold a Technical Consultation on the IPOAs-IUU and Capacity. **HIGH PRIORITY**

Year	Session	Paraphrased extracts from COFI records	Prioritization of issue and implementation of IPOA
2005	**26**	12. [The Committee].. also encouraged FAO to elaborate additional guidelines in support of the Code, including one for the implementation of the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity). 13. Aware that many international fisheries instruments had been concluded since the 1992 United Nations Conference on Environment and Development (UNCED), the Committee agreed that from now on there should be a stronger focus on implementing the instruments concluded since UNCED rather than seeking to conclude new instruments. In this respect, some Members called for a "decade of implementation" for these instruments. Existing instruments included […] IPOA-Capacity. 19. Some Members pointed out that there were linkages between IUU fishing and fishing overcapacity and that the management of overcapacity should be addressed on a global basis. 23. The Committee expressed satisfaction with the outcome of the 2004 FAO Technical Consultation to Review Progress and Promote the Full Implementation of the IPOAs-IUU and Capacity. The Committee endorsed the report of the Session as well as its main recommendations and suggestions. 24. Many Members referred to FAO's work on fisheries subsidies and requested that it be strengthened while ensuring that it respect the relevant mandates of FAO and the WTO and that it complement, and did not duplicate, the work of WTO. Some Members observed that there was a need to make a clear distinction between two types of subsidies. Firstly, there were those subsidies that supported the expansion of fleets which, when conducted in an unsustainable manner, contributed to stock degradation, fleet overcapacity and IUU fishing. The Committee agreed that these types of subsidies should be phased out […]. Members requested that FAO give consideration to undertaking studies and assessments to determine the impact of subsidies on fishing capacity, IUU fishing and on fisheries management generally. 28. The Committee expressed strong support for a proposal by Japan that, with FAO technical cooperation, Japan and possibly other sponsors convene a joint meeting of the Secretariats of the tuna RFMOs and their members. […] The objectives for the meeting could be, inter alia, to: a) Review current management measures, addressing fishing capacity and limitation of fishing effort, inspection and control scheme, transshipment measures, non-discriminatory internationally agreed trade sanction processes and procedures, marketing and incidental-catch-related measures. […] 101. Agreed that MPAs were one of a number of management tools and that they would be effective in combination with other appropriate measures such as capacity control. Many Members advised that they had taken steps to implement the IPOAs on the management of fishing capacity.	Recommendation for guidelines to support the implementation were made. COFI endorsed the report of Technical Consultation (2004). Links to subsidies and IUU were stated and a request for studies on the impact of subsidies was made. MPAs were seen as management tool. **HIGH PRIORITY**

Year	Session	Paraphrased extracts from COFI records	Prioritization of issue and implementation of IPOA
2007	**27**	16. The issue of capacity was addressed, with a number of Members stating that overcapacity was as important an issue as IUU fishing. The Committee reaffirmed linkages between overcapacity, allocations, overfishing and IUU fishing. The need for both national and regional action was highlighted. The Committee agreed that States should match their fishing capacity to sustainable harvesting levels. The Committee agreed upon the need to ensure that the urgent actions required in the IPOA-Capacity were undertaken expeditiously and that its implementation was facilitated without delay. Some Members recalled that in addressing the problem of overcapacity, the right of developing States to develop their own fisheries, as well as to participate in high seas fisheries, should be taken into account. 18. […], the Committee encouraged FAO to continue its studies on the impact of subsidies on fishing capacity, IUU fishing, fisheries management and […] 26. The Committee expressed concern about the level of fishing capacity which was higher than prior to the 2004 tsunami [in the Indian Ocean] in some of the areas affected by the disaster and recognized that it called for (with FAO assistance as required) the design and implementation of sustainable and effective fisheries management arrangements that included a gradually phasing out fishing overcapacity, monitoring, access and livelihood considerations. 89. Many Members requested that FAO continue supporting RFMOs and RFBs and continue its work on issues of concern to them such as overcapacity, improvement of fleet statistics and the issues of countries that undermine the effectiveness of RFMOs and vessels under "flags of non compliance".	COFI agreed to ensure that urgent actions were implemented expeditiously. Links to subsidies were stressed. Stressed the need for RFMOs and RFBs to address overcapacity and fleet statistics. **HIGH PRIORITY**
2009	**28**	13. Agreed that more intensive work by Members and regional RFMO/As was required to address and implement the IPOA-Capacity. 100. The Committee reiterated the vital importance of prioritization among the different activities […] and overcapacity was a high priority area.	COFI identified the implementation of the IPOA-Capacity as a priority. **MEDIUM PRIORITY**
2011	**29**	8. (h) underlined the need for FAO to continue to promote the implementation of the IPOAs. In particular, the Committee recognized the threats posed to sustainable fisheries by IUU fishing and fleet overcapacity. 9. The Committee acknowledged that not all countries had equivalent capacity to implement the Code. The Committee stressed the need for well-targeted capacity development activities to be continued and strengthened. This should include, inter alia, technical assistance to support the implementation of the IPOAs and the ecosystem approach to fisheries and EAA. 34. Considering that compliance by flag States with their duties under international law is an essential factor in achieving sustainable fisheries and combating IUU fishing, the Committee welcomed the arrangements made to convene the FAO Technical Consultation on Flag State Performance in May 2011.	Some discussion on the implementation of IPOAs took place. **LOW PRIORITY**
2012	**30**	18. The Committee expressed concern that where there was some shifting of fishing capacity from areas where there was effective management to areas with less effective management, IUU fishing was prone to occur. The Committee noted the need to curtail shifting of fishing capacity that could contribute to IUU fishing. 19. The Committee stressed the need to continue to improve the management of fisheries. This should be achieved through enhancing international, regional and subregional collaboration, in particular between coastal and flag States, aiming at policy coherence, evaluating RFMOs performance and reforming them, as appropriate, while duly examining their complementarities, strengthening policy and legal frameworks in relation to IUU fishing, calling upon Members to consider acceptance of the 2009 FAO Port State Measures Agreement (the 2009 Agreement), instituting schemes for reduction of overcapacity, and strengthening data collection, in particular for small-scale operations.	No discussion on implementation or reference to the IPOA-Capacity. **LOW PRIORITY**
2014	**31**	37. The Committee endorsed the Voluntary Guidelines for Flag State Performance and encouraged all States to apply them. [Those Guidelines support the IPOA-Capacity, notably Article 33 on flag States' accountability in managing fishing capacity].	No reference to IPOA-Capacity. **NO PRIORITY**

Year	Session	Paraphrased extracts from COFI records	Prioritization of issue and implementation of IPOA
2016	**32**	8. The Committee expressed concern about the state of fish stocks globally, noting that the proportion of overfished stocks had increased. The threat of IUU fishing to the sustainability of marine resources was highlighted. Several Members called for better management of fishing capacity in order for it to be commensurate with the availability of fisheries resources.	No discussion on implementation of capacity management measures. No reference to IPOA-Capacity. **LOW PRIORITY**
2018	**33**	57. Considering that certain subsidies may contribute to overcapacity, overfishing and IUU fishing, the Committee called upon FAO to continue providing technical advice to the ongoing negotiations on fisheries subsidies at the WTO.	Capacity partially addressed through a contributing factor (subsidies). No reference to the IPOA-Capacity. **LOW PRIORITY**
2021	**34**	9. The Committee i) highlighted the importance of reaching an outcome in WTO negotiations to prohibit certain forms of fisheries subsidies that contribute to overcapacity and overfishing, and eliminate subsidies that contribute to IUU fishing, and the need to refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiations.	Fleet capacity partially addressed through a contributing factor (subsidies). No reference to the IPOA-Capacity. **LOW PRIORITY**
2022	**35**	14. The Committee i) welcomed the launch of the second version of the FAO Global Record and reiterated a call to strengthen engagement for broader participation in the Global Record, reiterating the importance for Members to upload and update information on their fleets.	Fleet capacity management partially addressed through a contributing instrument (Global Record). No reference to fleet capacity or the IPOA-Capacity. **NO PRIORITY**
2024	**36**	10. The Committee f) while noting variability between and within regions, expressed concern for the continuously degrading accumulated trends at the global level in the status of marine fish stocks, due to unsustainable practices, challenges from IUU fishing, overcapacity and overfishing, climate change, loss of biodiversity and aquatic ecosystems degradation, and welcomed the progress made in some regions, emphasizing the need to improve fisheries management measures acknowledging the management challenges concerning fisheries undertaken by small-scale fishers, particularly multistock fisheries, including through strengthened collaboration with and within RFMO/As and other relevant RFBs, as appropriate. 13. g) encouraged the Sub-Committee to further discuss the issue of distant water fishing vessels that are not subject to sufficient management and control, potentially having negative impacts on SSF especially in developing countries. 14. l) recognized the importance and challenges of identifying beneficial ownership of fishing vessels and encouraged COFI and its Sub-Committees to further consider this issue.	Overcapacity mentioned as one of the causes of degrading marine fish stocks. Fleet capacity partially addressed in relation to distant water fishing vessels and vessel ownership. No reference to the IPOA-Capacity. **LOW PRIORITY**

Annex 3. Largest constructed fishing vessels 2023, 2020, 2010, 2000

The five largest fishing vessels constructed in 2023:

Fu Xing Hai
IMO: 9959620
Year of construction: 2023
GT: 15 071
LOA: 136.6
Engine power: 9 000
Flag: China
Photographer: Rick Vince
Source: Shipspotting.com

HUA XIANG 9
IMO: 9975313
Year of construction: 2023
GT: 9 378
LOA: 120
Engine power: 8 000
Flag: China
Photographer: Flyingpig1975
Source: Shipspotting.com

ARCTIC FJORD
IMO: 9859961
Year of construction: 2023
GT: 9 138
LOA: 99.3
Engine power: 7 200
Flag: United States of America
Photographer: AndyL
Source: Shipspotting.com

MEKHANIK MASLAK
IMO: 9878333
Year of construction: 2023
GT: 9 055
LOA: 108.2
Engine power: 7 840
Flag: Russian Federation
Photographer: Денис Найденко
Source: Shipspotting.com

MEKHANIK SIZOV
IMO: 9896153
Year of construction: 2023
GT: 9 055
LOA: 108.2
Engine power: 7 840
Flag: Russian Federation
Photographer: © Russian Fishery
Source: https://russianfishery.ru/en/about/fleet/bmrt-mekhanik-sizov/

The five largest fishing vessels constructed in 2020:

BARENTSEVO MORE
IMO: 9836153
Year of construction: 2020
GT: 5 098
LOA: 86
Engine power: 5 600
Flag: Russian Federation
Photographer: Anatoly Rudkov
Source: Shipspotting.com

SUNDEROY
IMO: 9859507
Year of construction: 2020
GT: 4 216
LOA: 77
Engine power: 7 200
Flag: Norway
Photographer: Frode Adolfsen
Source: Shipspotting.com

SENJA
IMO: 9858436
Year of construction: 2020
GT: 4 172
LOA: 80.4
Engine power: 4 800
Flag: Norway
Photographer: Frode Adolfsen
Source: Shipspotting.com

KONGSFJORD
IMO: 9856000
Year of construction: 2020
GT: 4 172
LOA: 80.4
Engine power: 4 800
Flag: Norway
Photographer: Frode Adolfsen
Source: Shipspotting.com

SCOMBRUS
IMO: 9828936
Year of construction: 2020
GT: 4 025
LOA: 81.7
Engine power: 5 940
Flag: France
Photographer: John van Zijderveld
Source: Shipspotting.com

The five largest fishing vessels constructed in 2010:

ANNE RISLEY
IMO: 9546605
Year of construction: 2010
GT: 4 478
LOA: 73.4
Engine power: 4 980
Flag: Canada
Photographer: Prieto
Source: Shipspotting.com

GARDAR
IMO: 9463255
Year of construction: 2010
GT: 3 527
LOA: 81.6
Engine power: 6 000
Flag: Norway
Photographer: Frode Adolfsen
Source: Shipspotting.com

FISKESKJER
IMO: 9505273
Year of construction: 2010
GT: 3 145
LOA: 75.4
Engine power: 8 000
Flag: Norway
Photographer: Frode Adolfsen
Source: Shipspotting.com

BERNICA
IMO: 9600853
Year of construction: 2010
GT: 2 666
LOA: 89.4
Engine power: 6 400
Flag: France (Reunion)
Photographer: Kamil Korneluk S79KW
Source: MarineTraffic.com

RIA DE ALDAN
IMO: 9476238
Year of construction: 2010
GT: 2 666
LOA: 89.4
Engine power: 5 760
Flag: Panama
Photographer: Victor Radio74
Source: Shipspotting.com

The five largest fishing vessels constructed in 2000:

WILLEM VAN DER ZWAN
IMO: 9187306
Year of construction: 2000
GT: 9 494
LOA: 142.3
Engine power: 7 500
Flag: Netherlands (Kingdom of the)
Photographer: Willem Oldenburg
Source: Shipspotting.com

MAARTJE THEADORA
IMO: 9182801
Year of construction: 2000
GT: 9 082
LOA: 140.8
Engine power: 8 636
Flag: Germany
Photographer: Wim Vrolijk
Source: Shipspotting.com

INTERTUNA TRES
IMO: 9202704
Year of construction: 2000
GT: 4 428
LOA: 116
Engine power: 5 850
Flag: Seychelles
Photographer: Ibon Barandika Ugartetxe
Source: Shipspotting.com

TXORI TOKI
IMO: 9196682
Year of construction: 2000
GT: 4 134
LOA: 106.5
Engine power: 5 852
Flag: Seychelles
Photographer: Ibon Barandika Ugartetxe
Source: Shipspotting.com

ARTZA
IMO: 9202144
Year of construction: 2000
GT: 3 870
LOA: 112.6
Engine power: 5 850
Flag: Seychelles
Photographer: Ibon Barandika Ugartetxe
Source: Shipspotting.com

Annex 4. Compilation of fishing capacity information reported in SOFIA reports 2000–2024

Date	Status and trends related to fishing capacity from SOFIA reports (sorted and bolded by authors)	Main issues/factors that may contribute to fishing capacity (selected by authors)
2000	**Decrease in building** since the early 1990s is significant, not only in terms of numbers, but also in terms of average and aggregate tonnage. **Growing recognition of the need to control capacity**, including fleet sizes, in order to protect stocks and improve economic performance. Increase of flagging in **flags of convenience States** – transfer of capacity and new vessels. A significant number of new vessels built under the Belize flag – 15 percent of the total new buildings are recorded in open registers. Despite the number of vessels built during the two-year period, the United States of America, Japan and Spain achieved reductions in their national fleets by **scrapping and flagging out**. A substantial increase in the number of vessels **changing their flags to "unknown"**; from six in 1994, to 694 in 1997 and 931 in 1999. **Different focus between developed and developing nations**. Developed countries: stop rebuilding and capacity reduction. Developing countries: enhance and diversify fisheries rather than limit fishing efforts.	Increase use of flagging in **open registries/flags of convenience States** – transfer of capacity and new vessels as a contributor to overcapacity. **Management objectives vary** between developed/developing States: environmental conservation versus socioeconomic development.
2002	Governments and industries need reliable statistics in order to understand the **economic relationships within the fisheries** sector and its linkages to other sectors, e.g. finance, energy supply or vessel construction. Training and investment must be planned for if potential yields are greater than current yields, or for retraining and stable industry reduction if the existing capacity is greater than appropriate.	**Fisheries sector economic relationships** must be taken into account in fishing capacity management plans. **Lack of reliable statistics** – including capacity to gather statistics – is a contributing factor to overcapacity.
2004	Some governments have **strengthened use rights in fisheries**. However, for political, social and economic reasons and it is likely that for some fisheries, exclusive use rights will not be considered feasible. Concerns about **food security and the economic and financial impacts of adjustment** on fisheries and fishing communities are also important considerations for fisheries managers. **Fishery subsidies** were recognized as a stimulus to overcapacity and overfishing in marine fisheries.	**Open access fisheries** and absence of well-defined property or user rights. **Subsidies** as a stimulus to overcapacity.
2006	The world fishing fleet was estimated at about **4 million vessels in 2004**, of which 1.3 million were decked vessels and 2.7 million undecked boats. Virtually all decked vessels were mechanized, and about one-third of the undecked fishing boats were powered, mainly with outboard engines. Indications that the number of decked fishing vessels in developed nations have **continued to decrease**, however, the rate of **reduction of fishing power is generally less significant**. The numbers of people engaged in fishing and aquaculture in most industrialized economies have been declining or remain stationary. Fleet-size reduction programmes in China to tackle overcapacity are **reducing the number of people engaged in capture fisheries**; numbers declined 13 percent in the period 2001–2004. Many countries have adopted policies to limit growth of national fishing capacity or reduce it to protect the fishery resources and to make fishing economically viable for the harvesting enterprises.	**Different factors to motivate policies to control fishing capacity**: protection of fishery resources, protection of economic viability of fishing companies. **Fishing vessel numbers are decreasing** in developed countries but **not fishing power**, reflecting that technological advances in terms of vessel and gear efficiency (here engine power) have potential to offset gains from vessel reduction schemes.

Date	Status and trends related to fishing capacity from SOFIA reports (sorted and bolded by authors)	Main issues/factors that may contribute to fishing capacity (selected by authors)
2010	It is estimated that about 1.3 million people were employed in fisheries and aquaculture in developed countries in 2008, **a decrease of 11 percent compared with 1990**. Employment in fishing is decreasing in capital-intensive economies, in particular in most European countries, North America and Japan, resulting from, e.g. decreased catches, programmes to reduce fishing capacity, and increased productivity through technical progress. The global fishing fleet was estimated at 4.3 million vessels; 35 percent of countries decreased or maintained their fleet size while it increased in 29 percent. **In Europe, 53 percent of the countries decreased their fleet** and only 19 percent of countries increased it. There was no increase in North America, in the Pacific and Oceania region fleet size was static or decreased in most countries. In the Near East, 6 out of 13 countries increased their fleet size and in **Latin America and the Caribbean, Asia and Africa, most countries increased their fleet size**. Global tuna stocks are up to 60 percent fully exploited, 35 percent are overexploited or depleted and only a few appear to be underexploited (mainly skipjack). In the long term, because of the **substantial demand for tuna and the significant overcapacity of tuna fishing fleets**, the status of tuna stocks may deteriorate further if there is no improvement in their management. **High fuel prices** are a powerful force to reduce fishing activities – up to one-third of the small boats in Viet Nam have been confined to port since 2008. Rising prices of fuel in 2007 and 2008 have also been thought to have a major impact and have prevented fishing operations in countries as diverse as Guatemala, Japan, Namibia, Philippines, and Sao Tome and Principe and the United States of America.	**Increased productivity through technical progress** as a factor to decrease inputs (fishing vessels) and employment in fishing activities. Decreasing catches (as a consequence of overcapacity and fishing below sustainable levels).**Fleet reduction schemes as a measures to reduce pressure on the resource** and ensure level of fishing that is commensurate with sustainable fishing limits. Social and political diversity between **developed/developing countries** affect fishing capacity management decisions. **High demand of fish** on market (in particular tuna). **High fuel prices** are a factor for reducing number of operating vessels. **Subsidies** are used by certain States to support fishing operators to relocate fishing activities due to overfished stocks (e.g. Viet Nam).
2012	Many important fishing countries have policies to reduce overcapacity in their fishing fleets: **China's** marine fishing vessel reduction plan for 2003–2010 achieved a reduction by 2008 close to the target, but since then both the number of vessels and total combined power have started to increase again. **Japan** implemented various schemes resulting in a 9 percent reduction in number of vessels, but an increase of 5 percent in combined power between 2005 and 2009. **The European Union's** combined number, tonnage, and power of fishing vessels indicates a downward tendency in the last decade. The combined EU-15 motorized fishing fleet reduced 8 percent in the number of vessels and 11 percent in power between 2005 and 2010. **Iceland, Norway and Republic of Korea** achieved a reduction in fleet size in the period 2005–2010. **The overcapacity in the tuna fleet** remained a concern **driven by demand and significant overcapacity**. There was concern about the poor status of some bluefin stocks and the inability of some tuna management organizations to manage these stocks effectively. This led to a proposal in 2010 to ban the international trade in Atlantic bluefin tuna. While the proposal was rejected, the concern remains.	Evidence of **successful policies** to reduce overcapacity in fishing fleets include **China, Japan, European Union, Iceland, Norway and Republic of Korea.** To manage stocks efficiently (e.g. bluefin tuna) it is useful **to implement input-control measures on fishing capacity**.
2014	Several countries have **established targets** to tackle national level overcapacity of fishing fleets and have implemented restrictions on larger vessels or gear types. Although China may have reduced its vessel numbers, its fleet's total combined power has increased, and its mean engine power rose from 64 to 68 kW between 2010 and 2012.	**Natural disasters** (e.g. tsunami) can lead to short- to mid-term reduction of the fishing capacity. There is a risk that rebuilding of the fleet with more advanced technology could lead to overcapacity. **Policies to reduce capacity** with targets and restrictions are useful. **Technological advances** requiring less manpower reduce operating costs for fishing vessel owners.
2016	Market demand for tuna is still high, and the **significant overcapacity of tuna fishing fleets** remains. There is a need for effective management to restore the overfished stocks.	Market demand (tuna).

Date	Status and trends related to fishing capacity from SOFIA reports (sorted and bolded by authors)	Main issues/factors that may contribute to fishing capacity (selected by authors)
2018	The total global number of fishing vessels in **2016 was about 4.6 million**, unchanged from 2014. The fleet in Asia was the largest, consisting of 3.5 million vessels (75 percent). In Africa and North America, the estimated number of **vessels declined from 2014** by just over 30 000 and by nearly 5 000, respectively. For Asia, Latin America and the Caribbean and Oceania the numbers all increased, largely as a result of improvements in estimation procedures. Globally, the number of engine-powered vessels was estimated to be 2.8 million in 2016, remaining steady from 2014. Motorized vessels represented 61 percent of all fishing vessels in 2016, down from 64 percent in 2014, as the number of nonmotorized vessels increased, probably because of improved estimations. Generally, motorized vessels make up a much higher proportion in marine operating vessels than in the inland water fleet. However, data reporting was not of sufficient quality to disaggregate marine and inland water fleets. **Worsening overcapacity** and stock status **in developing countries** and improved fisheries management and stock status in developed countries. **Market demand for tuna** is still high, and tuna fishing fleets continue to have significant overcapacity. Effective management, including the implementation of harvest control rules, is needed to restore the overfished stocks. FAO has supported a number of countries and regions in mobilising resources for project development and capacity building on the **impacts of climate change in fisheries**. Fuller understanding of climate change implications is needed at the national and local levels, strengthening knowledge and awareness – on climate change in riparian and coastal communities and on the need to adapt the management and exploitation practices of fisheries and aquaculture. **Estimates of food loss and waste for the fisheries sector was 35 percent of global catches**, with fish discards at sea the largest contributor, mostly in trawl fisheries. However, losses and waste occur in the whole seafood value chain. FAO workshops associated losses with the use of gillnets and trammel nets, used mainly in artisanal, small-scale and household-based fisheries in tropical and subtropical regions. A significant part of household and consumption waste could be linked to food traditions and habits.	National level fleet estimation procedures impact global estimates. **Insufficient data** on inland fishing fleets. **Climate change** is a major factor in addressing fishing capacity development. Climate change potentially affects the distribution of fish stocks and impacts socioeconomic aspects that may affect vessel activity and distribution. These must be taken into account in fishing capacity management plans. **There is a need to strengthen knowledge and awareness on the impacts of climate change on the fish stocks, fisheries sector and communities, and to strengthen cooperation amongst States.** **Post-harvest losses and waste** are a factor linked to fishing capacity, both in industrial and artisanal fisheries, and the related value chains. **Measures to address those losses** (e.g. through more selective gear and post-harvest reduction measures in artisanal fisheries) **can be part of a holistic strategy for fishing capacity control** considering social and economic needs in the fishing communities.
2020	**Reduction of the global fishing fleet size continues**, but more needs to be done to minimize overcapacity and ensure sustainability in fishing operations. The total number of fishing vessels in 2020 was estimated at 4.1 million, a reduction of 10 percent since 2015, reflecting efforts by countries, in particular China and European countries, to reduce the fleet sizes. Asia still had the largest fishing fleet, at about two-thirds of the global total. However, **reductions in fleet size alone do not necessarily guarantee more sustainable outcomes**, since changes in fishing efficiency can offset the sustainability gains of fleet reductions.	Vessel reduction schemes are implemented. There is a need for **holistic fishing management measures**, taking into account changes in efficiency (e.g. increase in vessel power).
2022	Fishing technologies used continue to develop, with positive and negative externalities: **Negative:** Trend towards larger, more powerful vessels and more efficient fishing gear has the potential to jeopardize the sustainability of fishing, notwithstanding a decreasing number of vessels. Reducing fuel costs and saving energy have been key drivers for technological developments in semi-industrial fishing operations, vessels and gear. **Positive:** There have also been major developments in terms of increasing fishing efficiency, reducing the environmental impact of fishing, improving handling and enhancing product quality, in addition to improving safety at sea and the working conditions of fishers on board vessels. There is improved fleet capacity management in Europe and North America. The estimation and management of artisanal fishing vessels remain a challenge, due to **lack of registries or/and statistics**. **The estimation and management of inland water fleets also remains a challenge**, for which reporting and data availability in local and national registries is rarely adequate.	**Technological advances** in terms of size and power of vessels, and efficiency of fishing gear overtake the benefits of reduction of fishing vessels. **Technological advances** are to be seen hand in hand with economic efficiency, to reduce operational costs (reducing fuel and energy) and reducing environmental impact. The evolution of fishing technology keeps fishing profitable – so a reduction of subsidies alone cannot be an effective driver. There is a lack of input controls for the artisanal fleets. **Registries of artisanal vessels and the capacity to collect statistics are limited**. FAO highlighted a need for capacity-building activities in fisheries statistics.

Date	Status and trends related to fishing capacity from SOFIA reports (sorted and bolded by authors)	Main issues/factors that may contribute to fishing capacity (selected by authors)
2024	Market demand for tuna remains high, and tuna fishing fleets continue to have significant overcapacity. Effective management – including better **reporting of and access to data** and the implementation of harvest control rules **or other effective measures to control fishing pressure** across all tuna stocks – is needed to maintain stocks at a sustainable level and in particular to rebuild overfished stocks. Moreover, substantial additional efforts to manage fisheries targeting tuna and tuna-like species other than the main commercial species are required. Reference is made to Classification and definition of fishing vessel types. Second edition. FAO Fisheries and Aquaculture Technical Paper, No. 267. Rome, FAO. https://doi.org/10.4060/cc7468en and its **importance for the implementation of the IPOA-Capacity**. There are approximately 3.3 million motorized vessels, comprising two-thirds of the global fishing fleet. Their number increased from 2.4 million units in 1995 to a peak of 3.5 million in 2020, after which it slightly decreased to 3.3 million vessels in 2022. Meanwhile, the number of nonmotorized vessels decreased from 2 million in 1995 to 1.6 million in 2022. However, it should be highlighted that merely reducing the number of vessels in a fleet is not sufficient to guarantee improved sustainability outcomes. Information on the **size of vessels is available for only 37 percent of the total vessels reported**. This information is not available for the three countries with the world's largest fleets that accounted for nearly half of the global fishing fleet in 2022 – China, Indonesia and the Philippines. Among those vessels for which information on length overall (LOA) was available in 2022, **89 percent were in the LOA class of under 12 m**, 10 percent in the LOA class of 12 to 24 m, and 2 percent in the LOA class of over 24 m.	**Better reporting and access to data** and other measures to control fishing pressure are mentioned. **Reporting on fishing vessel by types and sizes** is important for fleet capacity monitoring. The annual reporting by FAO Members, through the FAO Fishery Fleet Questionnaire on the number of fishing vessels by type, decked/undecked, motorized or not, size (LOA), and gross tonnage, has not been done in sufficient detail to allow FAO to carry out a reliable analysis.

Annex 5. IPOA-Capacity survey for FAO Members

Review of the status of implementation of the FAO IPOA-Capacity – Questionnaire for COFI Member Countries

The Fisheries and Aquaculture Division of the Food and Agriculture Organization of the United Nations (FAO) is grateful for your kind participation in this survey of Member Countries of the FAO Committee on Fisheries (COFI) in respect to the FAO International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity).

This review will allow the FAO to undertake a global assessment of the status of implementation of the FAO IPOA-Capacity and will provide information for potential discussion by COFI Members at the Second Session of the COFI Sub-Committee on Fisheries Management.

The survey has three short sections to gather information on 1) trends in fishing capacity development, 2) measures taken by states to manage fishing fleet capacity and to assess the success of those measures, and 3) relevant documentation.

Please complete the survey and upload any information by 21 June 2024.

* Please indicate your country

1. General trends in fishing vessel capacity since 1999 (adoption of IPOA-Capacity)

1.1 * Please indicate the trend of national fishing capacity between 2000 and 2023, in terms of:

	decreased	stable	increased	unknown
1.1.1 overall assessment of national fishing capacity	○	○	○	○
1.1.2 total number of fishing vessels	○	○	○	○
1.1.3 total gross tonnage (GT) of all fishing vessels	○	○	○	○
1.1.4 total engine power (kW and HP) of all fishing vessels	○	○	○	○

1.2 *Please indicate how the following factors have affected your national fishing fleet capacity

	decreased	no effect	increased	unknown	not applicable
1.2.1 Knowledge on the status of the fisheries resources (stocks)	○	○	○	○	○
1.2.2 National fisheries and environmental legislation	○	○	○	○	○
1.2.3 National fisheries management policies, strategies or plans	○	○	○	○	○
1.2.4 Institutional capacity for monitoring, control and surveillance (MCS)	○	○	○	○	○
1.2.5 Regional fisheries management decisions (by RFMOs)	○	○	○	○	○
1.2.6 Financial incentives (e.g. buy-back schemes)	○	○	○	○	○
1.2.7 Subsidies (e.g. fuel subsidies and duty-free imports)	○	○	○	○	○
1.2.8 Profitability of an average fishing vessels (e.g. labour and fuel costs)	○	○	○	○	○
1.2.9 National socio-economic environment	○	○	○	○	○
1.2.10 Access to finance by fishing vessel owners (e.g., credit and investment)	○	○	○	○	○
1.2.11 International/export market access for fisheries products	○	○	○	○	○
1.2.12 Technological developments in fishing vessels, gears, and operations	○	○	○	○	○

2. Measures taken by States to manage fishing fleet capacity and assessment of success of the measures

* 2.1 Have you conducted an assessment to identify national fisheries and fleets requiring urgent measures?

○ Yes
○ No

* 2.1.1 If yes, is this assessment updated periodically?

○ Yes
○ No

* 2.1.2 If no, please select the most appropriate answer to explain why not

○ fully addressed in ongoing fishery management
○ partially addressed in ongoing fishery management managing capacity is not a national priority
○ lack of awareness

* 2.2 Have you developed a record or register of fishing vessels?

- ○ Yes
- ○ No

2.2.1 If yes, is this record publicly available?

- ○ Yes
- ○ No

2.2.2 Does your register or record include the whole fleet (incl. artisanal fishing boats)

- ○ Yes
- ○ No

2.3 Has your country developed a NPOA-Capacity or a national plan or strategy for managing capacity?

- ○ Yes
- ○ No

2.3.1 If yes, please provide the title, year and weblink to this plan (or upload it at the end of this section).

or please upload here

Choose file | Choose file | No file chosen

* 2.3.2 If yes, what are the two main priorities of the plan or strategy? (please select two)

- ○ environmental economic
- ○ social
- ○ export-earnings food security

* 2.3.3 If yes, how have the capacity management measures been implemented?

- ○ very successfully
- ○ moderately successfully
- ○ challenges in implementation not successfully
- ○ not yet implemented

* 2.3.4 If no, is awareness raising about the need for the fishing capacity management, and the related costs and benefits needed in your country?

○ Yes
○ No

2.4 Please provide information on measures that have been put in place and steps taken to prevent the build-up of overcapacity and steps to reduce fishing overcapacity. Please provide links to relevant texts/decisions/plans/policies or upload these under 2.5 below

2.4.1 Please upload any relevant document (e.g. NPOA, legal texts/decisions/plans/strategies/policies) or measures taken to manage fishing capacity

Additional document

Choose file | Choose file | No file chosen

Additional document

Choose file | Choose file | No file chosen

Additional comments and information (optional)

Choose file | Choose file | No file chosen

Please provide your name and email if you agree to be contacted for potential follow-up questions

Name Surname	
Email	

3.2 Please include any additional comments or information that may be useful for this review, including:

- a general assessment of the evolution of fishing capacity in your country, taking into consideration artisanal fisheries and including the high seas fleet;
- successes or challenges in implementing fishing capacity measures; and national needs for implementing a NPOA-Capacity

Thank you for your participation in this survey!

Annex 6. FAO Members included in this fishing capacity analysis

Country	Region	CCRF questionnaire	IPOA-Capacity survey	Online research
Afghanistan	Near East	1		
Albania	Europe	1		1
Algeria	Africa	1		1
Angola	Africa	1		1
Antigua and Barbuda	Latin America and the Caribbean	1		1
Argentina	Latin America and the Caribbean	1	1	1
Armenia	Europe	1		
Australia	Southwest Pacific	1		1
Azerbaijan	Europe	1		
Bahamas	Latin America and the Caribbean	1		1
Bangladesh	Asia	1		1
Belarus	Europe	1		1
Belgium	Europe		1	1
Belize	Latin America and the Caribbean	1		1
Benin	Africa	1	1	1
Bhutan	Asia	1		
Bolivia (Plurinational State of)	Latin America and the Caribbean	1		1
Bosnia and Herzegovina	Europe	1		
Brazil	Latin America and the Caribbean	1	1	1
Bulgaria	Europe		1	1
Burkina Faso	Africa	1		
Burundi	Africa	1		
Cabo Verde	Africa	1		
Cambodia	Asia	1	1	1
Cameroon	Africa	1		
Canada	Northern America	1		1
Chile	Latin America and the Caribbean	1	1	1
China	Asia	1	1	1
Colombia	Latin America and the Caribbean	1	1	1
Comoros	Africa	1		
Congo	Africa	1		
Cook Islands	Southwest Pacific	1		
Costa Rica	Latin America and the Caribbean	1		1
Côte d'Ivoire	Africa	1		
Cuba	Latin America and the Caribbean	1		1
Democratic People's Republic of Korea	Asia	1		
Djibouti	Near East		1	
Dominican Republic	Latin America and the Caribbean	1	1	
Ecuador	Latin America and the Caribbean	1	1	1
Egypt	Near East	1		
El Salvador	Latin America and the Caribbean	1	1	
Equatorial Guinea	Africa	1		
Eritrea	Africa	1	1	
Eswatini	Africa	1		
Ethiopia	Africa	1	1	
European Union	Europe	1	1	1

Country	Region	CCRF questionnaire	IPOA-Capacity survey	Online research
Faroe Islands	Europe	1		1
Fiji	Southwest Pacific	1		1
Gabon	Africa	1		
Gambia	Africa	1		
Georgia	Europe	1	1	
Ghana	Africa	1	1	1
Greece	Europe		1	1
Grenada	Latin America and the Caribbean	1		
Guatemala	Latin America and the Caribbean	1		1
Guinea	Africa	1		
Guinea-Bissau	Africa	1		1
Guyana	Latin America and the Caribbean	1		
Honduras	Latin America and the Caribbean	1		
Iceland	Europe	1	1	
India	Asia	1		1
Indonesia	Asia	1	1	
Iraq	Near East	1		
Jamaica	Latin America and the Caribbean	1		
Japan	Asia	1	1	1
Kazakhstan	Asia	1		1
Kenya	Africa	1		1
Kuwait	Near East	1		
Kyrgyzstan	Near East	1		
Latvia	Europe		1	
Lebanon	Near East	1		
Libya	Near East	1		
Lithuania	Europe		1	
Madagascar	Africa	1	1	
Malawi	Africa	1		
Malaysia	Asia	1	1	1
Maldives	Asia	1	1	1
Mali	Africa	1		
Marshall Islands	Southwest Pacific	1		
Mauritania	Africa	1		
Mauritius	Africa	1		1
Mexico	Latin America and the Caribbean	1	1	1
Mongolia	Asia	1		
Montenegro	Europe	1		1
Morocco	Africa	1		1
Myanmar	Asia	1	1	1
Namibia	Africa	1	1	1
Nauru	Southwest Pacific	1		
Nepal	Asia	1		
Netherlands (Kingdom of the)	Europe		1	
New Zealand	Southwest Pacific	1	1	
Nicaragua	Latin America and the Caribbean	1	1	
Nigeria	Africa		1	
North Macedonia	Europe	1		
Norway	Europe	1	1	1
Oman	Near East	1	1	
Pakistan	Asia	1	1	1
Palau	Southwest Pacific	1		
Panama	Latin America and the Caribbean	1	1	

Country	Region	CCRF questionnaire	IPOA-Capacity survey	Online research
Peru	Latin America and the Caribbean	1	1	1
Philippines	Asia	1		1
Poland	Europe		1	1
Portugal	Europe		1	1
Qatar	Near East	1	1	
Russian Federation	Europe	1	1	
Saint Kitts and Nevis	Latin America and the Caribbean	1	1	
Saint Vincent and the Grenadines	Latin America and the Caribbean	1	1	
Samoa	Southwest Pacific	1		
Saudi Arabia	Near East	1		1
Senegal	Africa	1		
Serbia	Europe	1		
Seychelles	Africa	1		
Sierra Leone	Africa	1		1
Singapore	Asia	1		1
Solomon Islands	Southwest Pacific	1		
South Africa	Africa	1		1
South Sudan	Africa	1		
Spain	Europe		1	
Sudan	Near East	1		
Suriname	Latin America and the Caribbean	1	1	
Sweden	Europe		1	
Switzerland	Europe	1		
Tajikistan	Near East	1		
Thailand	Asia	1	1	1
Timor-Leste	Asia	1		
Tokelau	Southwest Pacific	1		
Tonga	Southwest Pacific	1		1
Trinidad and Tobago	Latin America and the Caribbean	1		
Tunisia	Africa	1	1	
Türkiye	Europe	1		1
Tuvalu	Southwest Pacific	1	1	
Uganda	Africa	1		1
Ukraine	Europe	1		
United Arab Emirates	Near East	1		
United Kingdom of Great Britain and Northern Ireland	Europe	1		1
United Republic of Tanzania	Africa	1		
United States of America	Northern America	1		1
Uruguay	Latin America and the Caribbean	1	1	1
Uzbekistan	Asia	1		
Venezuela (Bolivarian Republic of)	Latin America and the Caribbean	1		
Viet Nam	Asia	1	1	1
Yemen	Near East	1		
TOTALS		130	53	60

Annex 7. Regional trends in factors affecting national fishing fleet capacity

Based on survey responses indicating how various factors have affected the fishing capacity of national fishing fleets, the following Figures (Figure A7.1 to A7.13) provide the responses for each factor for the four FAO regions used in the analysis for survey respondents (Africa, Asia, Europe and Latin America and the Caribbean). See Chapter 3 for more details.

FIGURE A7.1
How fisheries and environmental legislation have affected fishing capacity (N=47)

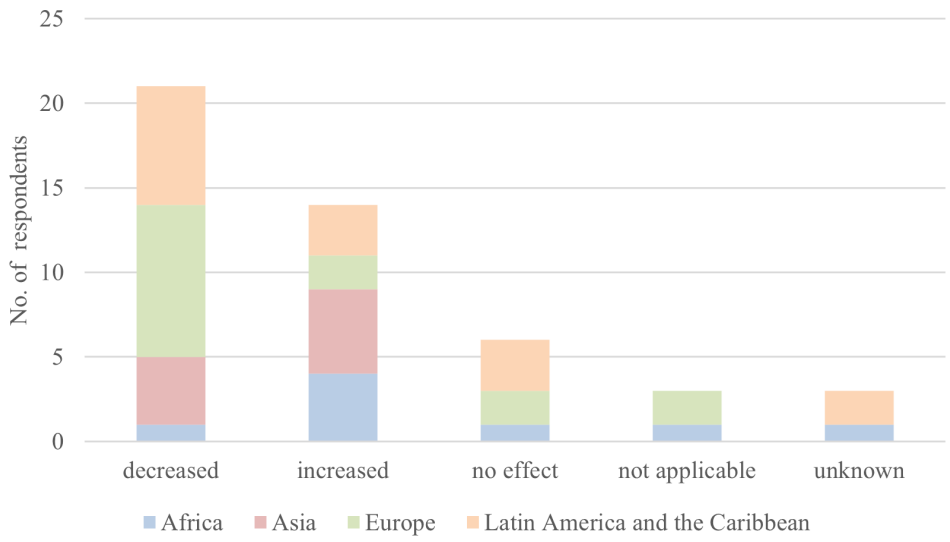


FIGURE A7.2
How fisheries management policies, strategies and plans have affected fishing capacity (N=47)

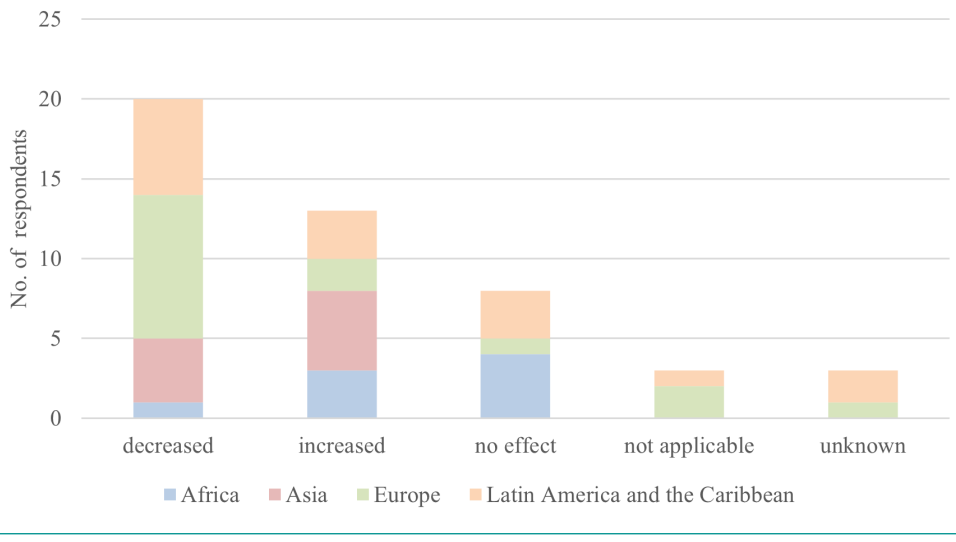


FIGURE A7.3
How institutional capacity for MCS has affected fishing capacity (N=47)

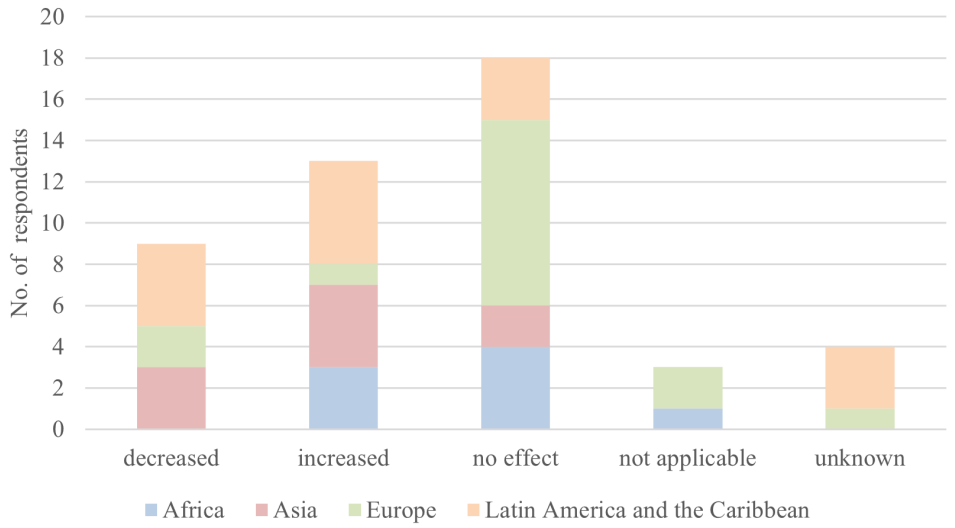


FIGURE A7.4
How access to finance by fishing vessel owners has affected fishing capacity (N=47)

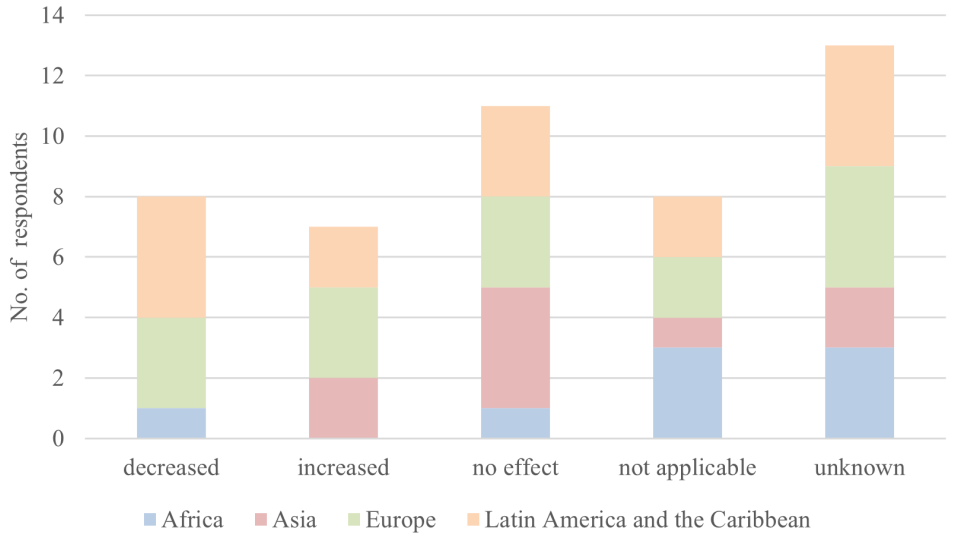


FIGURE A7.5
How subsidies (e.g. fuel subsidies, duty-free imports) have affected fishing capacity (N=47)

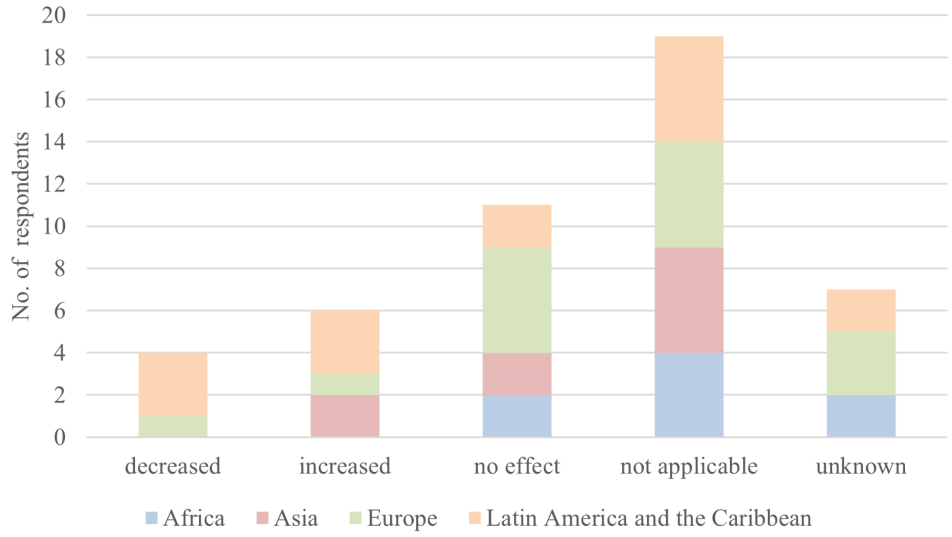


FIGURE A7.6
How the profitability of average fishing vessels has affected fishing capacity (N=47)

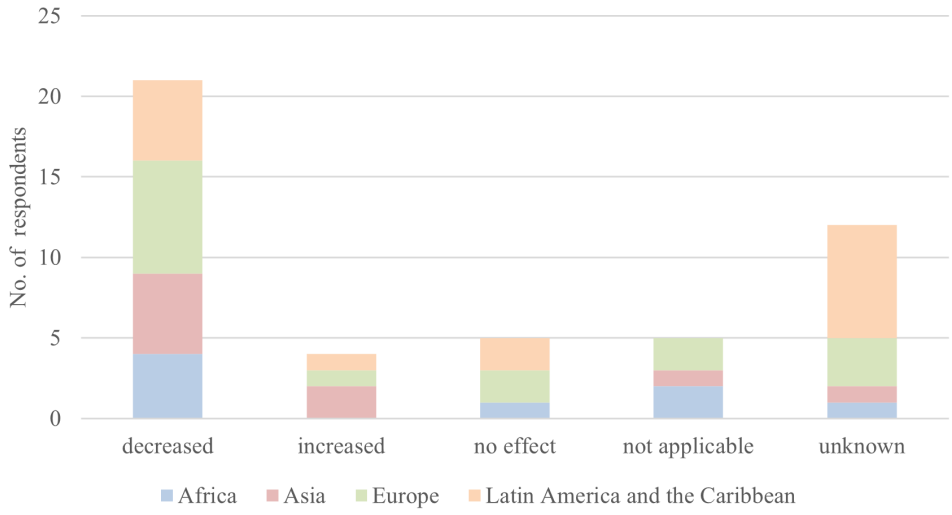


FIGURE A7.7
How RFMO decisions have affected fishing capacity (N=47)

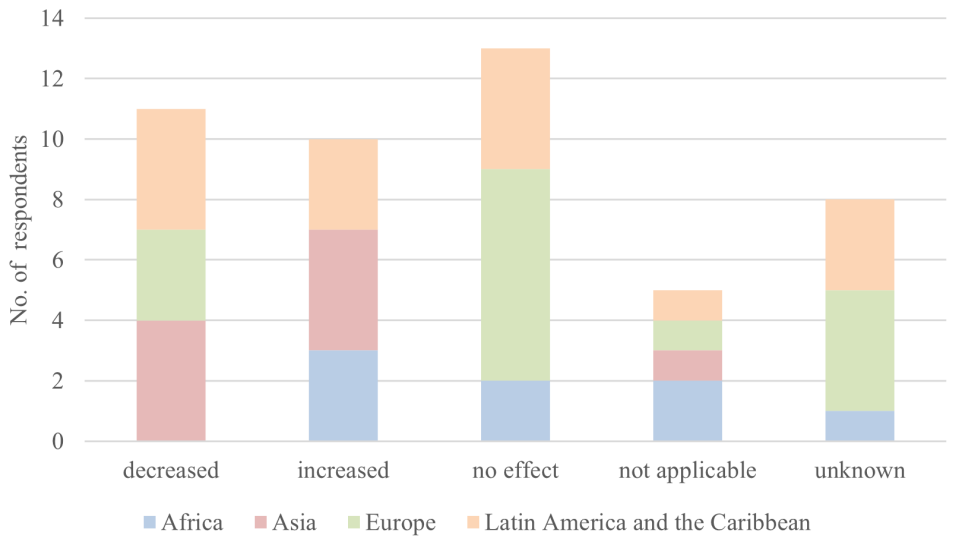


FIGURE A7.8
How fisheries infrastructure developments have affected fishing capacity (N=47)

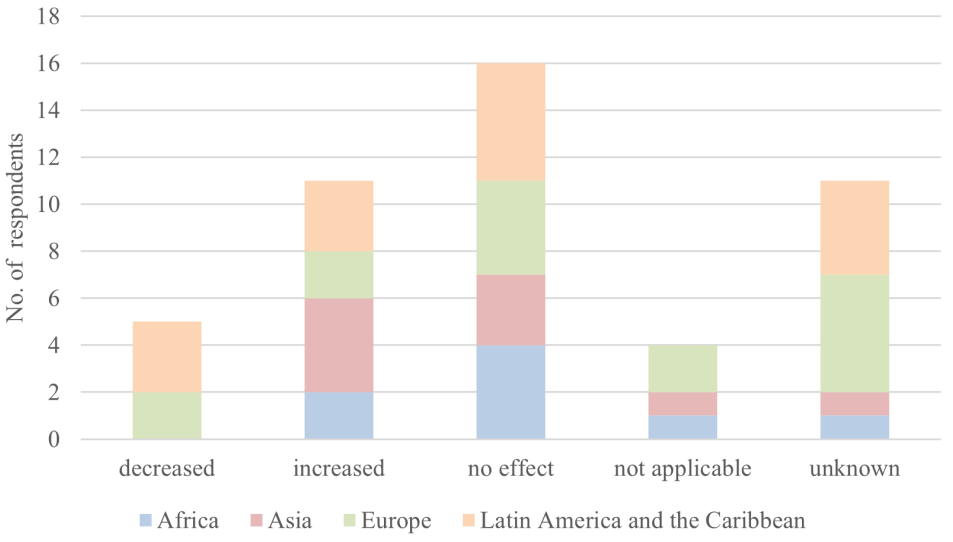


FIGURE A7.9
How knowledge on the status of the fisheries resources has affected fishing capacity (N=47)

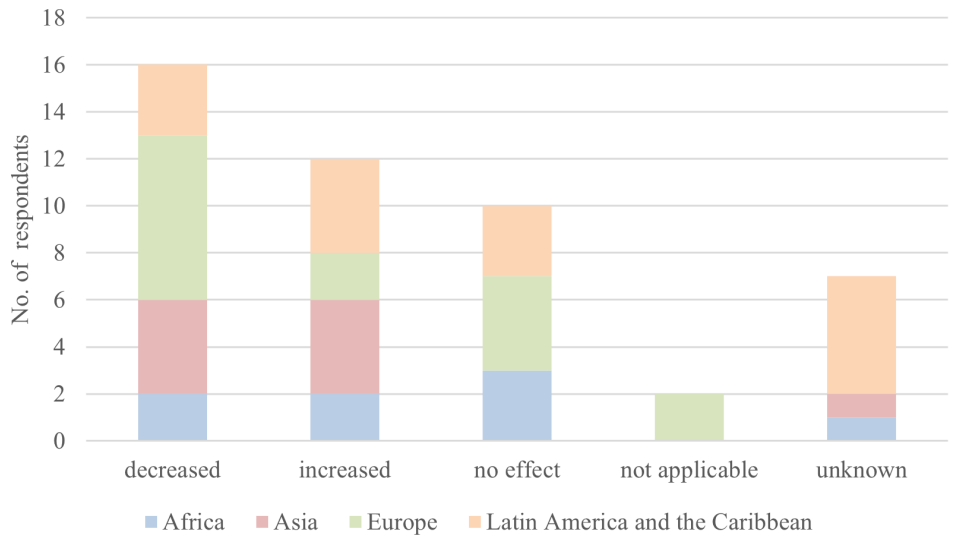


FIGURE A7.10
How the national socioeconomic environment has affected fishing capacity (N=47)

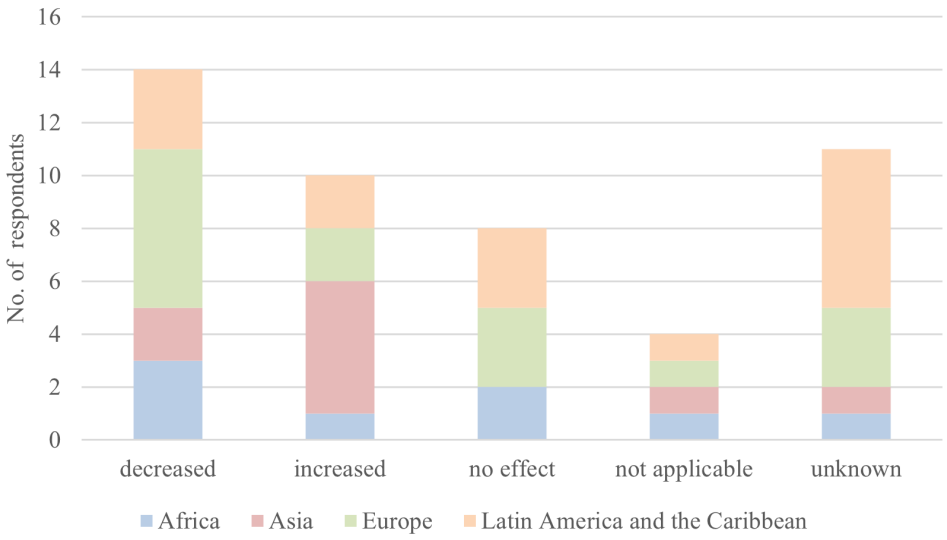


FIGURE A7.11
How technological developments have affected fishing capacity (N=47)

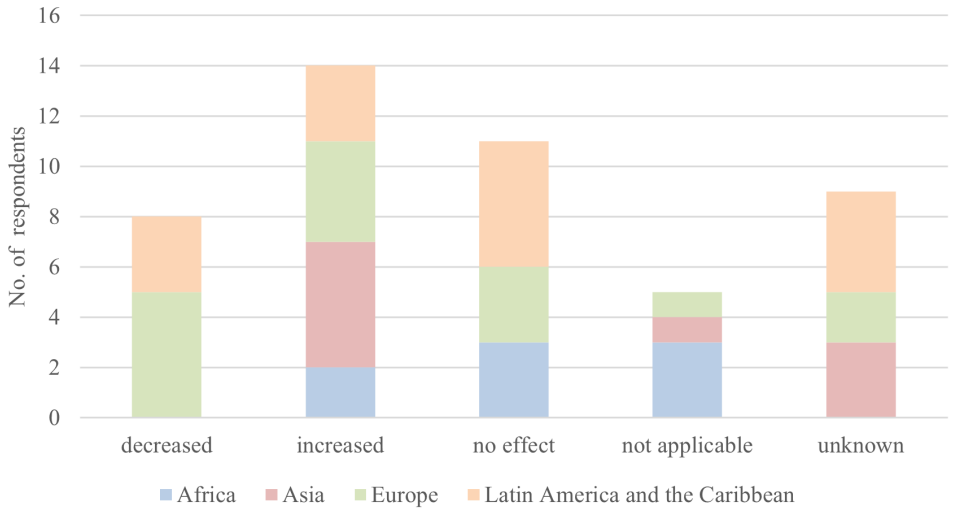


FIGURE A7.12
How financial incentives (e.g. buyback schemes) have affected fishing capacity (N=47)

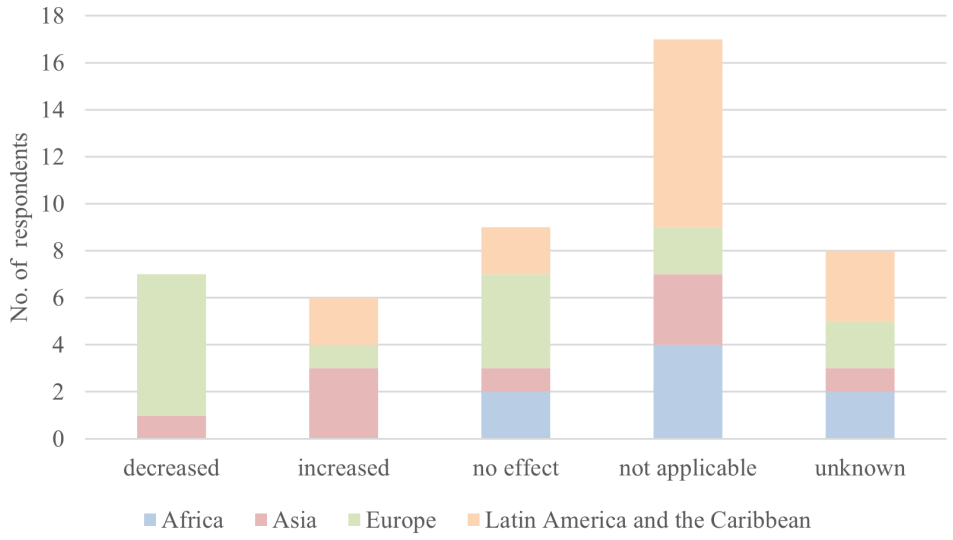
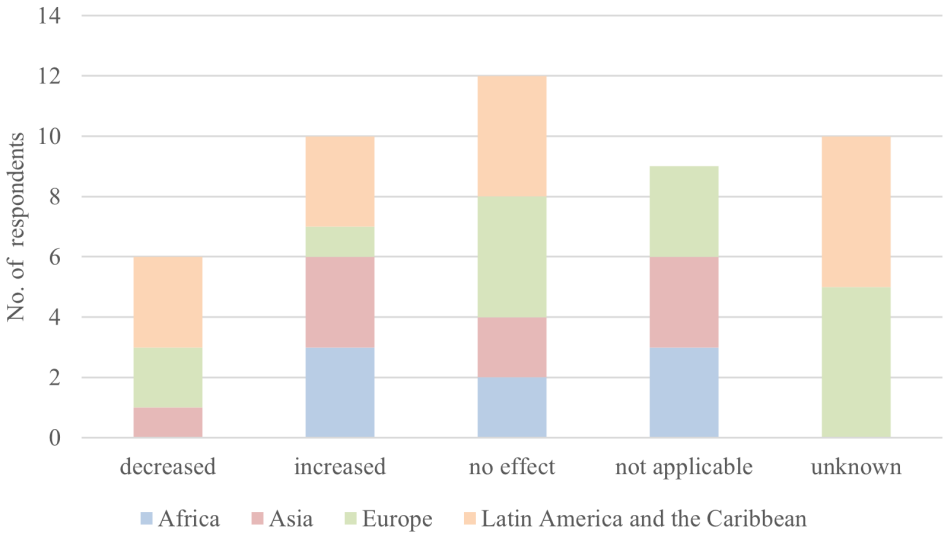


FIGURE A7.13
How export market access for fisheries products has affected fishing capacity (N=47)



Annex 8. Steps taken to manage overcapacity by region

Table A8.1 provides details in numbers and percentages by global region for 67 FAO Members that identified fishing overcapacity as a problem that had affected their fisheries and the key steps (up to three per Member) that had been taken to prevent further build-up of overcapacity. Compiled from responses by FAO Members to the CCRF questionnaires 2020 and 2024.

TABLE A8.1
Number and percentage of FAO Members reporting steps taken to prevent further build-up of overcapacity by region (N=67)

Step taken	FAO global region / Number (Percentage)						
	Africa	Asia	Europe	Latin America and the Caribbean	Near East	Northern America	Southwest Pacific
NPOA-Capacity development and implementation	4 (17%)	3 (30%)	1 (14%)	13 (89%)	4 (57%)	-	-
Monitoring and research into fishing overcapacity dynamics	9 (39%)	6 (60%)	1 (14%)	4 (27%)	2 (29%)	-	2 (67%)
Implementing limited entry regimes: registration and licensing limitations	22 (96%)	7 (70%)	6 (86%)	11 (73%)	6 (86%)	2 (100%)	2 (67%)
Freeze on current vessel numbers and/or total number of licences	10 (43%)	9 (90%)	5 (71%)	12 (80%)	4 (57%)	1 (50%)	1 (33%)
Freeze on vessel hp and/or other capacity-related technical elements	2 (9%)	-	1 (14%)	3 (20%)	-	-	-
Elimination of subsidies and/or tax incentives	1 (4%)	1 (10%)	-	2 (13%)	-	-	2 (67%)
Freeze on new acquisitions/ investments	2 (9%)	1 (10%)	-	3 (20%)	1 (14%)	-	-
Introduction of capacity "self-adjusting" quota system (including ITQ)	6 (26%)	-	1 (14%)	3 (20%)	1 (14%)	2 (100%)	1 (33%)
Increasing licence, registration and/or transshipment fees	6 (26%)	1 (10%)	-	1 (7%)	1 (14%)	-	-
Other	2 (9%)	-	11 (14%)	-	-	-	1 (33%)
Number of FAO Members responding per global region	23	10	7	15	7	2	3

Key: Percentage of Members that identified this as a key step taken to prevent further build-up of overcapacity by region.	50% and above	1% to 50%	Not implemented

Table A8.2 provides details in numbers and percentages by global region for 58 FAO Members that identified fishing overcapacity as a problem that had affected their fisheries and the key steps (up to three per Member) that had been taken to reduce fishing overcapacity. Compiled from responses by FAO Members to the CCRF questionnaires 2020 and 2024.

TABLE A8.2
Number and percentage of FAO Members reporting steps taken to reduce fishing overcapacity by region

Step taken	FAO global region / Number (Percentage)						
	Africa	Asia	Europe	Latin America and the Caribbean	Near East	Northern America	Southwest Pacific
NPOA Capacity development and implementation	6 (29%)	4 (44%)	1 (17%)	1 (8%)	4 (67%)	1 (50%)	-
Public licence or vessel buyback / de-commissioning schemes	4 (19%)	3 (33%)	5 (83%)	4 (33%)	2 (33%)	2 (100%)	-
Elimination of subsidies and/or tax incentives	3 (14%)	1 (11%)	1 (17%)	3 (25%)	-	-	1 (50%)
Freeze on new acquisitions/ investments	5 (24%)	6 (67%)	1 (17%)	2 (17%)	1 (17%)	-	1 (50%)
Transfer of capacity to other fisheries and/or vessel reconversion schemes	5 (24%)	5 (56%)	-	4 (33%)	1 (17%)	1 (50%)	-
Putting in place capacity-oriented vessel replacement rules	5 (24%)	-	1 (17%)	4 (33%)	2 (33%)	1 (50%)	1 (50%)
Introduction of capacity "self-adjusting" quota system	4 (19%)	-	2 (33%)	3 (25%)	-	1 (50%)	1 (50%)
Monitoring and research into fishing overcapacity dynamics	9 (43%)	4 (44%)	-	3 (25%)	1 (17%)	-	-
Developing/ promoting alternative income-generating activities	10 (48%)	2 (22%)	-	3 (25%)	2 (33%)	-	1 (50%)
Other	2 (10%)	-	1 (17%)	-	1 (17%)	-	-
Number of FAO Members responding per global region	21	9	6	12	6	2	2

Key: Percentage of Members that identified this as a key step taken to reduce fishing overcapacity by region	50% and above	1% to 50%	Not implemented

Table A8.3 provides details in numbers and percentages by global region for 66 FAO Members that identified fishing overcapacity as a problem that had affected their fisheries and the most effective and practical measures (up to three per Member) that had been taken to prevent fishing overcapacity. Compiled from responses by FAO Members to the CCRF questionnaires 2020 and 2024.

TABLE A8.3
Number and percentage of FAO Members reporting measures taken to prevent fishing overcapacity as being effective and practical by region

Measure implemented	FAO global region / Number (Percentage)						
	Africa	Asia	Europe	Latin America and the Caribbean	Near East	Northern America	Southwest Pacific
Seasonal closures of particular fisheries	24 (100%)	7 (70%)	3 (50%)	9 (60%)	5 (71%)	1 (50%)	1 (50%)
Spatial closures (temporary or permanent; including MPAs)	15 (63%)	6 (60%)	2 (33%)	8 (53%)	4 (57%)	-	1 (50%)
Limitation on number of fishing days (per fishery; per vessel; etc.)	5 (21%)	2 (20%)	4 (67%)	4 (27%)	3 (43%)	1 (50%)	1 (50%)
Enacting technical restrictions on vessels and gear	14 (58%)	6 (60%)	3 (50%)	5 (33%)	4 (57%)	-	2 (100%)
Recovery schemes/ total or partial closures of given fisheries	2 (8%)	1 (10%)	-	4 (27%)	2 (29%)	-	-
Conservation/ precautionary TACs and quotas (i.e. MSY)	6 (25%)	4 (40%)	2 (33%)	5 (33%)	1 (14%)	1 (50%)	1 (50%)
Other	1 (4%)	-	2 (33%)	-	-	1 (50%)	-
Number of FAO Members responding per global region	24	10	6	15	7	2	2

Key: Percentage of Members that identified this measure as one of the three most effective and practical to prevent fishing overcapacity by region	50% and above	1% to 50%	Not implemented

Annex 9: RFBs and RFMOs included in the CCRF questionnaire analysis

Acronym	RFB or RFMO names
APFIC	Asia-Pacific Fishery Commission
BCC	Benguela Current Convention
BOBP-IGO	Bay of Bengal Programme Inter-Governmental Organization
CACFISH	Central Asian and Caucasus Regional Fisheries and Aquaculture Commission
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CTMFM	Joint Technical Commission of the Maritime Front
COMHAFAT	Ministerial Conference on Fisheries Cooperation Among African States Bordering the Atlantic Ocean
EIFAAC	European Inland Fisheries and Aquaculture Advisory Commission
FCWC	Fisheries Committee for the West Central Gulf of Guinea
GFCM	General Fisheries Commission for the Mediterranean
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOTC	Indian Ocean Tuna Commission
IWC	International Whaling Commission
JOINTFISH	Joint Norwegian-Russian Fisheries Commission
LCBC	Lake Chad Basin Commission
LVFO	Lake Victoria Fisheries Organization
MRC	Mekong River Commission
NACA	Network of Aquaculture Centers in Asia-Pacific
NAFO	Northwest Atlantic Fisheries Organization
NAMMCO	North Atlantic Marine Mammal Commission
NASCO	North Atlantic Salmon Conservation Organization
NEAFC	North-East Atlantic Fisheries Commission
NPAFC	North Pacific Anadromous Fish Commission
NPFC	North Pacific Fisheries Commission
OSPESCA	Organization for the Fishing and Aquaculture Sector of the Central American Isthmus
PICES	North Pacific Marine Science Organization
PSC	Pacific Salmon Commission
SEAFDEC	Southeast Asian Fisheries Development Centre
SEAFO	South East Atlantic Fisheries Organisation
SIOFA	Southern Indian Ocean Fisheries Agreement
SPC	The Pacific Community
SPRFMO	South Pacific Regional Fisheries Management Organisation
SRFC	Sub-regional Fisheries Commission
SWIOFC	South West Indian Ocean Fisheries Commission
WCPFC	Western and Central Pacific Fisheries Commission
WECAFC	Western Central Atlantic Fishery Commission

Annex 10. IPOA-Capacity survey for RFBs and RFMOs

Review of the status of implementation of the FAO IPOA-Capacity – Questionnaire for RFBs /RFMOs

The Fisheries and Aquaculture Division of the Food and Agriculture Organization of the United Nations (FAO) is grateful for your kind participation in this survey among members of the Regional Fishery Body Secretariats Network (RSN) in respect to the FAO International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity).

This review will allow the FAO to undertake a global assessment of the status of implementation of the FAO IPOA-Capacity and will provide information for potential discussion by COFI Members and Observers (including RFBs and RFMOs) at the Second Session of the COFI Sub-Committee on Fisheries Management.

The survey has three short sections to gather information on 1) trends in fishing capacity development, 2) actions and management measures taken to manage fishing fleet capacity and 3) additional information.

Information provided will be analyzed and presented in aggregated form. Specific fleet capacity management measures taken by your organization (and shared with us via weblinks or uploaded documents) will be included in an annex to the report.

Please complete the survey and upload any information by 15 June 2024.

* Please indicate your RFB or RMFO

Please provide your name and email if you agree to be contacted in case of follow-up questions

Name Surname	
Email	

1 1 General trends in fishing vessel capacity since 1 9 9 9 adoption of IPOA Capacity)

* 1.1 Please indicate the trend in fishing fleet capacity development in your mandate area between 2 000 and 2 02 3 in terms of:

	decreased	stable	increased	unknown
1.1.1 overall assessment of fishing capacity	○	○	○	○
1.1.2 total number of fishing vessels	○	○	○	○
1.1.3 total gross tonnage (GT) of all fishing vessels	○	○	○	○
1.1.4 total engine power (kW and HP) of all fishing vessels	○	○	○	○
1.1.5 average overall length (LOA) of all fishing vessels				

1.2 Please provide a general assessment of the evolution of fishing capacity in your area of jurisdiction taking into consideration artisanal fisheries, if relevant), including factors that may have affected it, e 1 g1, knowledge on the status of the fisheries resources, institutional, governance or economic factors)

2. Actions and management measures taken to manage fishing fleet capacity

* 2. 1 How do you assess the general implementation of the IPOA- Capacity by the Parties of your Organization in terms of the following actions?

	Fully implemented	Ongoing implementation	Partially implemented	Not implemented	No Information available
2. 1. 1 Fis h s tock as assessments	○	○	○	○	○
2. 1. 2 Adoption of relevant legislation	○	○	○	○	○
2. 1. 3 Adoption of national fisheries management policies, strategies / management plans	○	○	○	○	○
2. 1. 4 Adoption of RFMO decisions /RFB recommendations related to fishing fleet capacity management	○	○	○	○	○
2. 1. 5 Measures to remove factors that contribute to excessive capacity, incl. subsidies and economic incentives and other factors	○	○	○	○	○

2. 2 What measures to manage fishing capacity have been adopted by your organization? Please provide information on efforts and measures taken by your organization to assist in the implementation of the IPOA-Capacity, with links to relevant texts / decisions /plans /resolutions /etc. Documents that are not available online can be uploaded in Section 3.

2. 2. 1 Measure 1: Title and year of adoption of the measure and weblink to the measure

If adopted, is this measure being implemented by the Parties:

- ○ yes
- ○ partially
- ○ no

2. 2. 2 Measure 2: Title and year of adoption of the measure and weblink to the measure

If adopted, is this measure being implemented by the Parties:

- ○ yes
- ○ partially
- ○ no

2. 2. 3 Measure 3: Title and year of adoption of the measure and weblink to the measure

If adopted, is this measure being implemented by the Parties:

- ○ yes
- ○ partially
- ○ no

2. 2. 4 Measure 4: Title and year of adoption of the measure and weblink to the measure

If adopted, is this measure being implemented by the Parties:

- ○ yes
- ○ partially
- ○ no

2. 2. 5 Measure 5: Title and year of adoption of the measure and weblink to the measure

If adopted, is this measure being implemented by the Parties:

- ○ yes
- ○ partially
- ○ no

* 2. 3 What variables are taken into account in your capacity management efforts? (Please provide more information in section 3 of the survey)

	yes	no
2. 3. 1 fishing impacts on the high seas & deep-sea resources	○	○
2. 3. 2 protection of biodiversity and marine ecosystems	○	○
2. 3. 3 minimizations of by-catch, waste and dis cards	○	○
2. 3. 4 selective and environmentally safe fishing practices	○	○
2. 3. 5 technological developments, incl. energy-efficient vessels	○	○
2. 3. 6 socio-economic impacts (incl. impacts on artisanal fisheries)	○	○
2. 3. 7 transparency	○	○
2. 3. 8 removing subsidies that contribute to overcapacity	○	○
2. 3. 9 maintaining the profitability of fishing operations	○	○

2. 3. 10 Others (please specify)

3. Additional comments and information

3. 1 Please include any additional comments, including assessment of the implementation of measures, challenges, recommendations and needs for support implementation of the IPOA Capacity

Please provide weblinks to relevant texts and decisions, or upload relevant files below

3. 2 Please upload any relevant document (e .g. RPOA-Capacity, legal texts/decisions/ plans/policies) or measures taken to manage fishing capacity

Additional document

Choose file Choose file No file chosen

Additional document

Choose file Choose file No file chosen

Additional comments and information (optional)

Choose file Choose file No file chosen

Thank you for your participation in this survey!

Annex 11. RFBs and RFMOs that responded to the online survey

Full name	Please indicate your RFB or RMFO	RFB or RFMO	Type of RFMO/RFB	Also responded to the CCRF Questionnaire
Bay of Bengal Programme Inter-Governmental Organisation	BOBP-IGO	RFB	Generic	Yes
Commission for the Conservation of Southern Bluefin Tuna	CCSBT	RFMO	Tuna	Yes
Commission on Small-Scale, Artisanal Fisheries and Aquaculture for Latin America and the Caribbean	COPPESAALC	RFB	Generic	No
European Inland Fisheries and Aquaculture Advisory Commission	EIFAAC	RFB	Generic	Yes
Fishery Committee for the Eastern Central Atlantic	CECAF	RFB	Generic	No
Indian Ocean Tuna Commission	IOTC	RFMO	Tuna	Yes
Joint Technical Commission of the Maritime Front (Comisión Técnica Mixta del Frente Marítimo)	COFREMAR	RFB	Generic	No
North Pacific Fisheries Commission	NPFC	RFMO	Generic	Yes
Northwest Atlantic Fisheries Organization	NAFO	RFMO	Generic	Yes
Organization for the Fishing and Aquaculture Sector of the Central American Isthmus	OSPESCA	RFB	Generic	Yes
Regional Commission for Fisheries	RECOFI	RFMO	Generic	No
Southern Indian Ocean Fisheries Agreement	SIOFA	RFMO	Generic	Yes
South West Indian Ocean Fisheries Commission	SWIOFC	RFB	Generic	Yes
Western and Central Pacific Fisheries Commission	WCPFC	RFMO	Tuna	Yes

Annex 12. Summary of key actions to develop an NPOA-Capacity

A summary of key actions for States to consider when developing and implementing an NPOA-Capacity, adapted from FAO 2008a.

Action Area	Key Considerations for States
National definition of fishing capacity	Adopt a national definition of fishing capacity, expressed in input and/or output terms. Coordinate with adjacent States to ensure consistent definitions where fisheries overlap.
Stakeholder engagement	Involve stakeholders at all stages of NPOA-Capacity and management plan development. Treat management as a partnership with strong industry involvement. Engage both fishery and non-fishery interest groups. Seek consensus through broad consultation.
Capacity assessment, measuring and monitoring	Assess current and target capacity in each fishery and fleet segment. Use both qualitative and quantitative methods. Apply precautionary principles, avoiding high-risk capacity targets. Develop and maintain vessel records to FAO standards. Establish monitoring, control and surveillance systems. Monitor fishing capacity independently of chosen management measures.
Choice of management instruments or measures	Identify how each fishery will achieve its target capacity. Select management approaches that are effective and economically efficient. Where possible, adopt measures that incentivize self-adjustment by the fishery.
Transitional and institutional issues	Address social, economic and institutional concerns with communities and industry. Ensure supportive legislative frameworks for fisheries management. Consider financing needs and sources for management and transitional phases.
Capacity building	Provide training in capacity measurement, assessment, monitoring and implementation for all stakeholders. Ensure understanding of available management instruments. Support research on fisheries capacity and the economics of fishing enterprises.
Subsidies	Reduce and progressively eliminate subsidies and incentives contributing to overcapacity. Review national subsidies and assess their impacts on capacity, investment decisions, and sustainability.
International fisheries	Collaborate with RFMOs on harmonized data collection and capacity limits. Prevent harmful capacity transfers to other States' exclusive economic zones without consent. Comply with relevant international agreements.

This technical paper reviews progress in implementing the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity), adopted in 1999 within the framework of the FAO Code of Conduct for Responsible Fisheries. Global trends indicate that, despite some progress, fishing capacity continues to increase in many regions. Since its adoption, the global fishing fleet capacity has expanded. Between 1999 and 2022, the total number of fishing vessels increased by about 10 percent, driven by a 34 percent rise in motorized vessels, while nonmotorized vessels declined by 20 percent. The average fishing vessel grew in size (i.e. in length and gross tonnage) and in engine power. Numerically, small-scale fleets still dominate the global fishing fleet, though data on artisanal and inland fleets remain incomplete. Regional disparities persist with fleet capacities expanding in Africa and Asia but declining in Europe and Northern America. At the national level, implementation of the IPOA-Capacity has been uneven. Many Member States have integrated capacity controls into fisheries legislation and management plans, applying measures such as licensing, gear restrictions, total allowable catches, buyback programmes and rights-based management systems. However, socioeconomic incentives, weak monitoring systems and limited data have constrained effective implementation of fleet capacity management. Regional fisheries bodies and regional fisheries management organizations have progressively incorporated capacity management into their mandates and conservation and management measures. Opportunities to strengthen implementation of the IPOA-Capacity include improving data and vessel registries, enhancing capacity assessment methodologies, expanding technical assistance to developing countries, and reinforcing coordination among Member States, regional fisheries bodies and FAO. Renewed global attention to the IPOA-Capacity is essential to ensure that fishing fleet capacity is balanced with the productive potential of fisheries resources for long-term sustainability.

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