

Fisheries and Aquaculture in Korea

January 2021

Globally, fisheries and aquaculture production is an important source of accessible nutritious food, and a basis of livelihoods. It is also a key driver of coastal and rural economic well-being. However, overfishing, illegal fishing and the combined effects of ocean-based activities and climate change on resources and ecosystems put the sector at risk and undermine the resilience of those relying on it in many places. Improving fisheries and aquaculture management is crucial to ensure future generations continue to benefit from Ocean resources and ecosystem services.

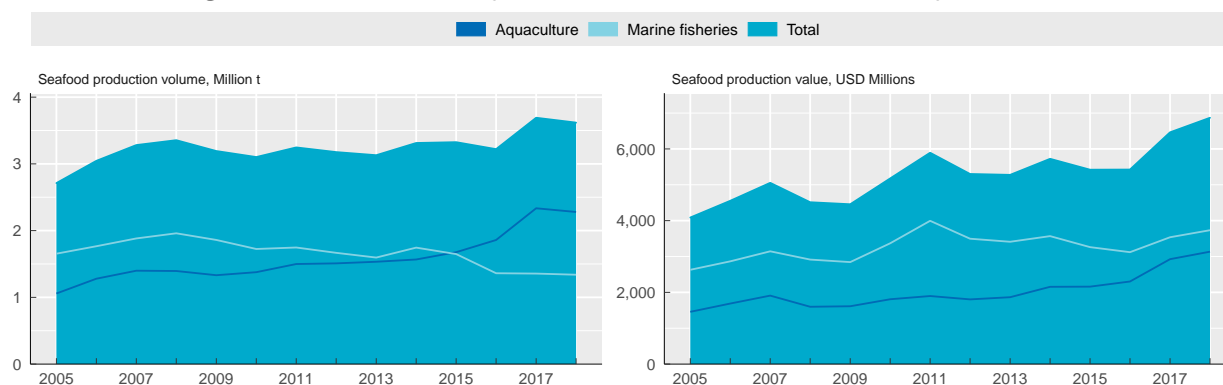
The country notes of the OECD Review of Fisheries 2020 present each country's situation in brief and identify best policy practices and reform pathways. These notes can also inform dialogue on progress towards internationally-adopted goals and targets with respect to sustainable fisheries and aquaculture management and support policies.

Overview of the sector

Fisheries and aquaculture production

In 2018, Korea produced **3.6 million tonnes of fish** (including molluscs and crustaceans), **with a value of USD 6868.9 million**. 46% of this value came from aquaculture and 54% from fisheries (that is, the capture of wild resources). Between 2008 and 2018, the quantity produced increased by 8%, while its value increased by 52%.

Figure 1: Fisheries and aquaculture's contribution to seafood production



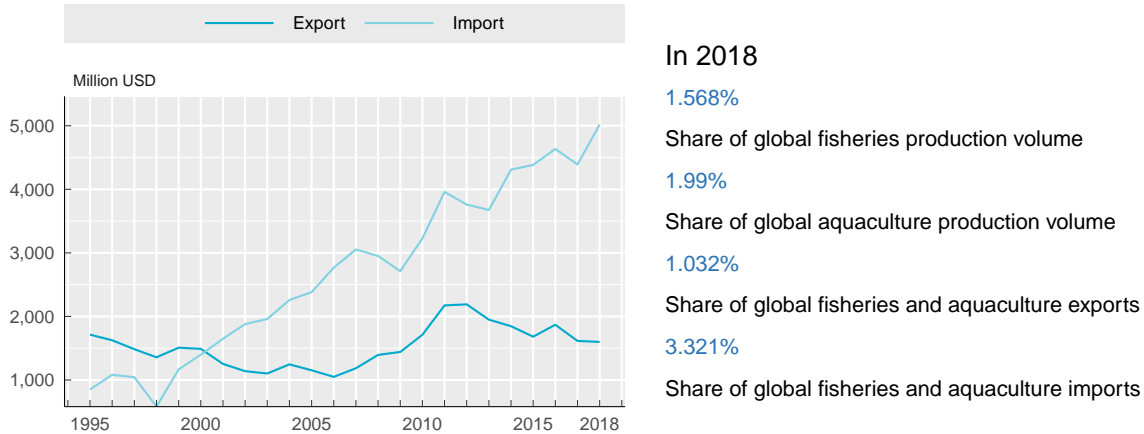
Source: FAO dataset 'Global Fishery and Aquaculture Production Statistics' (FishStat.J); OECD dataset 'Marine landings' (OECD.Stat).

Note: Seafood production volume is expressed in live weight tonnes. The value of aquaculture production is estimated based on unit value by live weight tonne, while the value of marine fisheries refers to the value of landings.

Production and trade in the global context

Korea is a **net importer of fish and fish products**. Between 2008 and 2018, **exports** increased by a total of 15%, while **imports** increased by 70%.

Figure 2: Trade in fish and fish products



Source: Trade data (UN Comtrade; WITS - World Integrated Trade Solution - the list of commodities included is specified in the OECD dataset 'International trade of fisheries products', OECD.stat) and FAO dataset 'Fishery and Aquaculture Production Statistics' (FishStatJ).

Employment and fleet

In 2018 **Employment in the seafood sector**, including processing, accounted for **166787 jobs**. This represented 12% less jobs than in 2008. Over the same period, **the average value of production per employee** increased by 110% in marine fisheries and increased by 121% in aquaculture.

In 2018, the **fleet consisted of 65906 powered vessels**, down by 18% since 2008. Small-scale vessels, those below 12 meters in length, accounted for 84.2% of the total number of vessel. The total gross tonnage of the Korean fleet in 2018 was 539017 tonnes, down by 13% since 2008. Small-scale vessels accounted for 22.2% of the total gross tonnage.

Figure 3: Employment by sub-sector

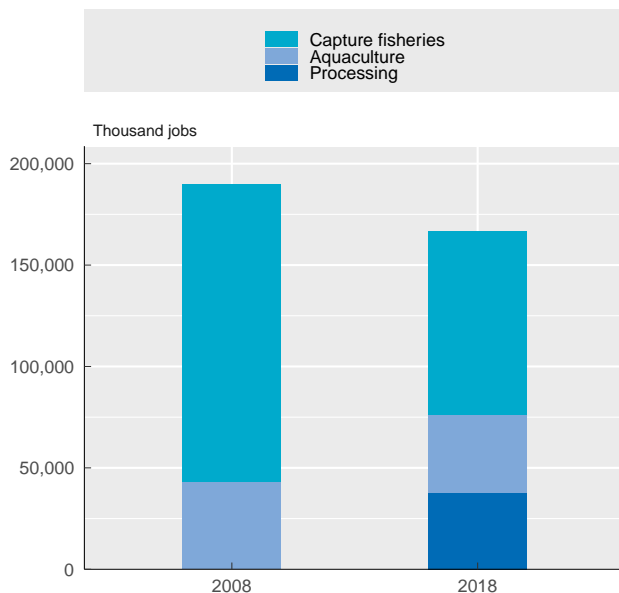
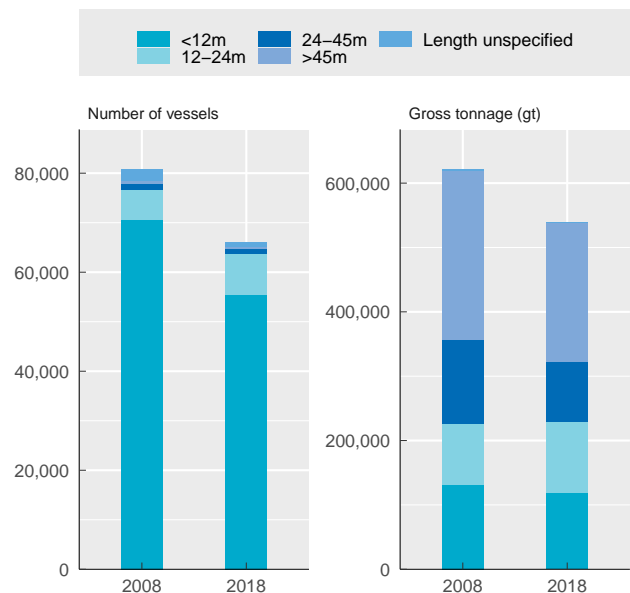


Figure 4: Fleet size by fleet segment



Source: OECD datasets 'Employment' and 'Fishing fleet' (OECD.Stat).

Government support to fisheries

Governments provide support to their fisheries sectors through a wide range of policies. The objectives vary but tend to centre on goals such as maintaining employment, improving fishers' welfare, or ensuring the sustainability of the sector and the resources it relies on. Usually, government finance services to the fisheries sector, which benefit the sector as a whole or some of its segments, and also provide direct support to individuals and companies.

Financing of services to the fisheries sector

In 2018, Korea spent KRW 135742 million (USD 123.4 million) **financing services to the fisheries sector** while KRW 0 million (USD 0 million) was recouped via **cost-recovery charges**, that is, fees paid by service users, such as for port access or management, and taxes or fees on resource use and associated profits. Having the sector bear some of the cost of services, reduces the extent to which taxpayers finance it. Net of cost-recovery charges, the **public cost of services to the fisheries sector** amounted to 3.3% of the value of production, while the OECD average was 8.5% in 2018.

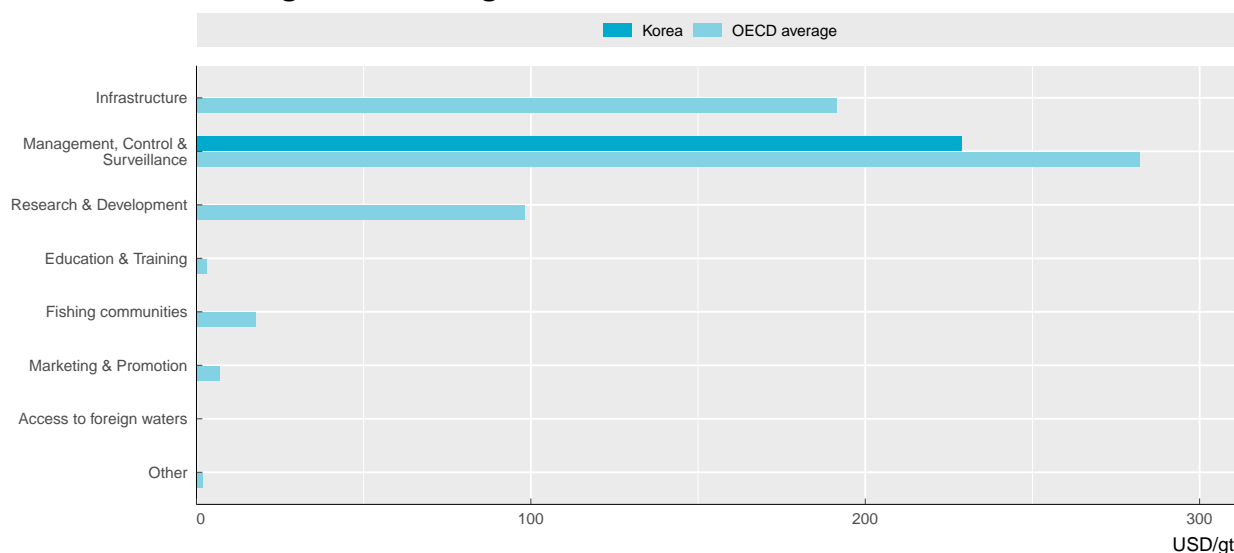
The intensity of fisheries services financing relative to fleet size was **USD 228.9 per gross tonne (gt) of total fleet capacity** in 2018. This compares with an OECD average of USD 601.8 per gt in 2018.

Some services to the sector aim to ensure its sustainability or improve **fishing communities' well-being**, while only indirectly supporting the intensity of fishing activities. In the OECD, such services, including **management, control and surveillance**, accounted for an average of 59.2% of spending on services to the sector in 2018.

Other services target fishers' ability to operate their businesses more efficiently or more sustainably, such as investment in **education and training, marketing and promotion or research and development**. These services accounted for an average of 16% of spending on services to the sector in the OECD in 2018.

Finally, some forms of support **can have a more direct relationship with production capacity**, such as investment in or subsidised access to **infrastructure** like ports. In the OECD, these services have accounted for an average of 24.5% of financing of services to the sector in 2018.

Figure 5: Financing of services to the fisheries sector, 2018



Source: OECD datasets 'Fisheries Support Estimate (FSE)' and 'Fishing fleet' (OECD.Stat).

Note: Figure uses the latest data reported by Korea (2018) and OECD average for 2018.

Direct support to individuals and companies in the fisheries sector

In 2018, Korea provided support totalling KRW 75405 million (USD 68.5 million) through **policies directly benefiting individuals and companies** in the fisheries sector, down by a total of 83% since 2008. This amounted to 1.8% of the value of production.

A common objective of direct support policies is to maintain or increase the incomes of fishers. Relative to employment, direct support to individuals and companies decreased by 73% since 2008, reaching USD 755.4 per fisher in 2018.

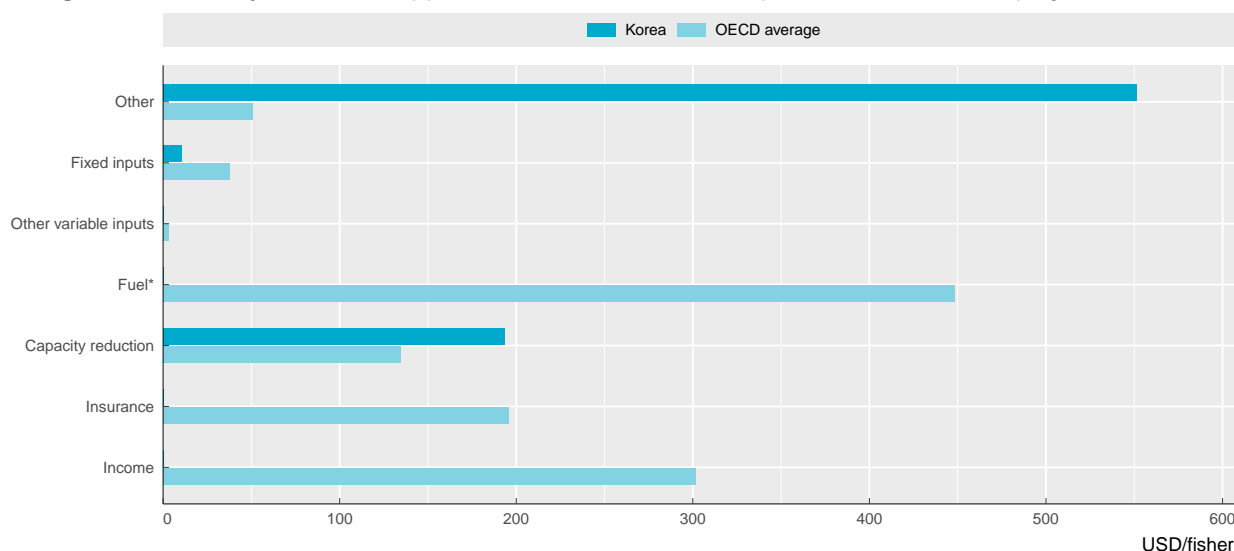
Direct support to individuals or companies originates in a variety of policies. Some **payments can be partially de-coupled from fishing activities**, such as **income** support, special **insurance** systems. Korea spent USD 0 per fisher on these types of policies in 2018. In the OECD, the average spending per fisher was USD 496.8 in 2018.

Benefits can also be given in exchange for **capacity reduction**, such as through decommissioning schemes or payments for early retirement.

Other **policies are directed at lowering the cost of inputs.** These include **support for fuel**, for **other variable inputs** (like payments to reduce the cost of ice or bait) and for fixed inputs (such as support to vessel construction and modernization or to the purchase of gear). In 2018, Korea spent **USD 10.5 per fisher** on **policies lowering the cost of inputs.**

The impact of support policies varies depending both on the type of policy and the effectiveness of fisheries management. For example, OECD work has shown that support to fuel is one of the least effective means of transferring income to fishers; while policies lowering the cost of inputs more generally are the most likely to provoke overcapacity, overfishing and illegal, unreported and unregulated (IUU) fishing. OECD analysis has also demonstrated that support policies generally benefit fishers more and are less likely to encourage unsustainable fishing when an effective management system is in place (e.g. when total allowable catch limits are used).

Figure 6: Intensity of direct support to individuals and companies relative to employment, 2018



Source: OECD datasets 'Fisheries Support Estimate (FSE)' and 'Employment' (OECD.Stat)

Notes: Figure uses the latest data reported by Korea (2018) and OECD average for 2018.

*In the OECD dataset 'Fisheries Support Estimate (FSE)' (OECD.Stat), there are two different types of support to fuel, tax concessions and direct transfers to reduce the cost of fuel. Since impacts are similar, they are jointly considered as support to fuel. Tax concession to fuel are often not specific to fisheries, as the same policies sometimes also apply to other sectors such as agriculture, a number of countries and economies reporting to the FSE database do not include it in their reporting, which affects the relative total support to inputs.

Sustainable fisheries management

With the adoption of Sustainable Development Goal 14 (SDG 14) of the 2030 Agenda for Sustainable Development, member countries of the United Nations (UN) agreed to **end overfishing by 2020** and effectively **regulate fishing activities on the basis of science**.

Ending overfishing relies on controlling the quantity of fish being caught, and enforcing scientifically established **total allowable catches (TACs)** for at least the main species of commercial interest is recognised as an effective and transparent way of achieving this. The value of production of the top-5 Korean species was USD 1513.3 million, accounting for 40.5% of total fisheries production value in 2018. **3 of these species were then entirely under TAC limits**, while **0 were partly under TAC limits** (i.e. TAC limits were set for some fisheries targeting these species but not all).

Regularly assessing the status of individual fish stocks is an essential component of sustainable fisheries management. Determining where stocks sit with respect to key limit or target reference points allows management performance to be evaluated. In Korea, **the status of 18 stocks has recently been quantitatively assessed**. Of these, **18 are assessed to have a biologically favourable status** and 18 to also be meeting additional management objectives. For the *Review of Fisheries 2020*, a total of 1119 stocks across 16 countries and economies (including the European Union), were reported as having recently been assessed, of which, 734 (66%) were assessed to have a biologically favourable status.

Determining stock status and enforcing TACs on the basis of quantitative assessments can require extensive information and expertise. In some cases, such as when fishers harvest a wide variety of species, the value of a stock is low, or data is unavailable, the cost and practicality of quantitatively assessing and managing individual stocks with TACs can be prohibitive. In these instances, data on catch rates and other relevant sources of information might be utilised to infer stock status. In addition, **alternative tools to control the impact of fishing** include limits to fishing effort such as on days at sea or fishing licenses and restrictions on fishing practices such as on fishing areas, gear and seasons. **Such tools were used to manage 5 of the top-5 species**.

Figure 7: Use of total allowable catch (TAC) limits in managing the key species

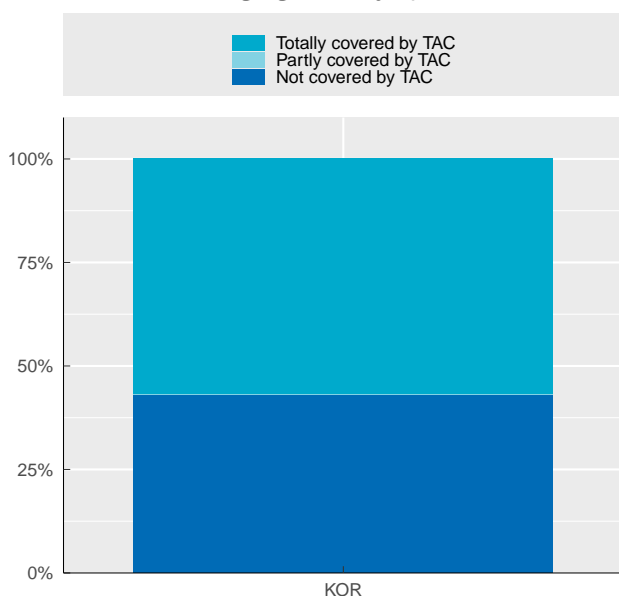
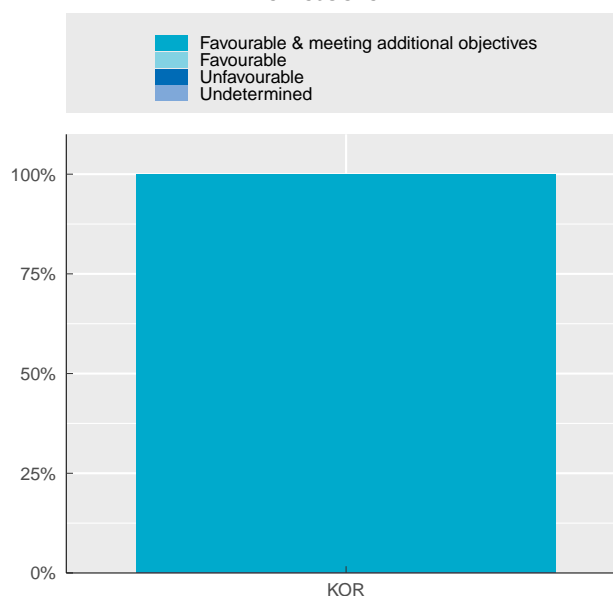


Figure 8: Reported biological status of all assessed fish stocks



Note: Figures use the latest data reported (2018 for Figure 7 and 2019 for Figure 8).

Fighting illegal, unreported and unregulated (IUU) fishing

IUU fishing harms law-abiding fishers by creating unfair competition and cutting profitability and employment opportunities, while weakening food security in countries that depend on local seafood. IUU fishing also undermines governments' capacity to manage fish stocks sustainably by adding pressure that is difficult to quantify when setting catch limits. It further threatens ecosystems when it makes use of damaging harvest methods and targets species that are already endangered.

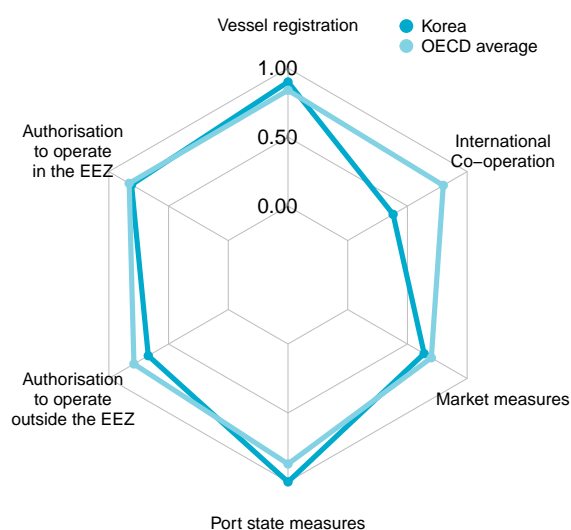
Adopting and implementing internationally recognised best policies and practices against IUU fishing is thus key to accelerate the elimination of this serious threat as agreed under SDG 14, which sets the objectives to **end IUU fishing and eliminate subsidies contributing to it by 2020**.

The OECD **IUU policy indicators** investigate the extent to which countries meet their responsibilities in the most important dimensions of government intervention in relation to IUU fishing:

- **Vessel registration**, by which countries collect and publicize information on vessels operating in their exclusive economic zone (EEZ) or flying their flag;
- **Authorisation to operate in the EEZ**, by which countries regulate fishing and fishing-related operations in their EEZ;
- **Authorisation to operate outside the EEZ**, by which countries regulate the operations of vessels flying their flag in areas beyond national jurisdictions and in foreign EEZs;
- **Port measures**, by which countries monitor and control access to and activities at port;
- **Market measures**, by which countries regulate how products enter the market and flow through the supply chain and economically discourage IUU fishing;
- **International co-operation**, by which countries engage in regional and global information sharing and joint activities against IUU fishing.

Korea performs most strongly in Port state measures; greatest scope for progress is in the area of International Co-operation.

Figure 9: Country's progress in implementing best policies and practices



Note: Figure uses the latest data reported by Korea (2018) and OECD average for 2018

News from Korea

- In February 2019, the Ministry of Oceans and Fisheries (MOF) announced a mid and long-term plan to innovate national fisheries sector at all levels from resource management to the consumption of fish and fishery products. The plan aims to switch the focus of policy from production to resources management, boost livelihoods in the fishing communities and create 40,000 new jobs in the fisheries sector. With this plan, the government hopes to raise the industry's total revenue from 67.2 trillion won (USD 59.6 billion, based on the currency rate at the time) in 2016 to 80 trillion (USD 70.9 billion) won by 2030.
- In 2018, Korea produced 1.01 million metric tons of fish from its coastal waters, showing an increase of 9.2% compared to the previous year. With this, the fish production has recovered the level of 1 million metric tons for the first time in three years after hovering the level of 900,000 metric tons since 2016.
- In March 2019, the first tuna investment fund was launched. A financial group and a tuna farm operator will work together to create the 5-billion-won (USD 4.43 million,) investment fund to develop the tuna farm operation in southern part of Korea. The fund is expected to contribute to innovative growth of and to stimulate investment to the fisheries sector.
- Since October 2019, MOF has been undertaking a campaign to protect fishery resources including juvenile fish and mother fish during a spawning season and to prevent ghost fishing in cooperation with World Wildlife Fund (WWF), Consumers Union of Korea and other private institutions. The so-called Cheer-Up Love campaign (the combination of Cheer (pronounces like juvenile fish in Korean), Up and Love (bring up and love)) initially focused on raising seafood consumers' awareness on the need to protect juveniles by distributing cheer-up love wristbands. From October 2020, MOF started to produce and hand out various promotional materials such as cheer-up love wristbands, brochures explaining no-take seasons and size limits, face-mask straps with a 'protect our fishery resources' message written on them and mobile emoticons so that the public could recognize the need to protect our fishery resources in their daily lives.
- In December 2019, MOF announced a Measure to Prevent and Reduce Accidents involving Fishing Vessels. Accordingly, fire detection and alarm devices have been distributed free of charge to fishing vessels operating in near and coastal waters since April 2020. From 2021, those fishing vessels will be required to install such fire detection and alarm systems, which is expected to ensure the safety of fishing vessels and help to reduce the loss of human lives.

For further reading

The OECD Review of Fisheries 2020 aims to support policy makers and sector stakeholders in their efforts to deliver sustainable and resilient fisheries that can provide jobs, food and livelihoods for future generations. The Review updates and analyses the OECD fisheries support estimate (FSE) database, the most comprehensive, detailed, and consistent collection of country level data on governments support to fisheries. It also presents and analyses newly-assembled data on the health of fish stocks; on the management of key stocks of commercial interest; and on the governance of fisheries across OECD countries and emerging economies with large fishing sectors. The report sheds light on how governments are managing fisheries to minimise detrimental impacts on resources and ecosystems, eliminate illegal, unregulated and unreported (IUU) fishing, while increasing the socio-economic benefits from fishing. It suggests priorities for action both at the national level and for the international community.

- **Key OECD reports**

- [Fisheries, aquaculture and COVID-19: Issues and policy responses](#)
- [Relative effects of fisheries support policies](#)
- [Informing fisheries trade negotiations](#)
- [Encouraging policy change for sustainable and resilient fisheries](#)
- [Closing gaps in national regulations against IUU fishing](#)
- [Intensifying the fight against IUU at regional level](#)

- **To access and download all our data and policy indicators**, please visit the [OECD statistical portal](#).

- **All OECD Review of Fisheries Country Notes** can be found on the [OECD Fisheries and aquaculture](#) website.

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