

COVID-19

## Disaster looms for indigenous Amazon tribes as COVID-19 cases multiply

With the coronavirus spreading into remote territories across the Brazilian Amazon, indigenous leaders and rights officials are pleading with the government to adopt urgent measures to head off a catastrophe.

According to figures compiled by the Articulation of Indigenous Peoples of Brazil (APIB), the country's principal indigenous federation, deaths from COVID-19 in indigenous communities have risen from 46 on May 1 to 262 on June 9. Together with numbers tallied by state health departments around the country, APIB's statistics show that 9.1 percent of indigenous people who contract the disease are dying, nearly double the 5.2 percent rate among the general Brazilian population. The growing number of cases and the government's sluggish response have prompted allegations of incompetence and disarray in official efforts to protect vulnerable tribal populations from contagion.

The 33,000-square-mile Javari Valley Indigenous Territory hosts the world's largest number of indigenous communities living in extreme isolation, sometimes referred to as "uncontacted tribes." FUNAI has confirmed the presence of nine such groups in the reserve totaling perhaps 1,000 to 1,500 people; there may be as many as nine more groups, according to FUNAI field agents.

Tracking death and infection rates from the coronavirus among indigenous people in Brazil can be a challenge—and a source of contention. SESAI tracks only cases inside demarcated indigenous territories. Its numbers don't reflect coronavirus infections in indigenous people living in cities or villages not specifically designated as indigenous lands.

Source: <https://www.nationalgeographic.com/history/2020/06/disaster-looms-indigenous-amazon-tribes-covid-19-cases-multiply/>

FOOD SECURITY

## When the Indian Ocean's ancient climate patterns return

About 19,000-21,000 years ago, ice-sheets covered North America and Eurasia, and sea-levels were much lower, with Adam's Bridge exposed so that the Indian subcontinent and Sri Lanka were contiguous. This period, the peak of ice age conditions, is called the Last Glacial Maximum. Researchers analysed simulations of this past climate and predicted that the ongoing climate change could reawaken an ancient climate pattern of the Indian Ocean.

They find that this could be similar to the El Niño phenomenon of the Pacific Ocean bringing more frequent and devastating floods and drought to several densely-populated countries around the Indian Ocean region. If current warming trends continue, this new Indian Ocean El Niño could emerge as early as 2050. The results were published in Science Advances.

By studying microscopic zooplankton called foraminifera, the team had published a paper in 2019 which first found evidence from the past of an Indian Ocean El Niño. Foraminifera build a calcium carbonate shell, and studying these can tell us about the properties of the water in which they lived. The team measured multiple individual shells of foraminifera from ocean sediment cores and was able to reconstruct the sea surface temperature conditions of the past.

"In the previous paper, we argued for the existence of an 'Indian Ocean El Niño' during the Last Glacial Maximum. We suggest that the Indian Ocean has the capacity to harbour much larger climate variability than observed during the last few decades or a century," writes co-author Kaustubh Thirumalai, from the Department of Geosciences at the University of Arizona in an email to The Hindu

Source: <https://www.thehindu.com/sci-tech/science/when-the-indian-oceans-ancient-climate-patterns-return/article31934556.ece#~:text=They%20find%20that%20this%20could,emerge%20as%20early%20as%202050>

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ORGANIZATIONAL PROFILE

## Association for the Promotion and Empowerment of Actors in Artisanal Maritime Fishing, Mbour Sénégal

The Association for the Promotion and Empowerment of Actors in Artisanal Maritime Fishing (APRAPAM) was created in 2010 by a group of artisanal fishing professionals (fishermen, fish wholesalers, women processors) and citizens and technicians specializing in various fields related to fishing, independent of any commitment with the administration.

The association was created following the observation that, despite its economic, social and cultural importance in Senegal, artisanal fishing remains a poor relative in public policies and development. In this respect, the support programmes or projects for the sector which are initiated by the State or by NGOs from the North or the South do not put the professional actors, men and women, in the artisanal

fisheries sector at the centre of their action. To help remedy this situation, the association was constituted to help the men and women of artisanal fisheries improve their living conditions in line with the Millennium Development Goals (MDGs), and to make them aware of the imperative of sustainable management of fisheries and aquaculture resources, and the promotion of good governance and gender equity in professional organizations.



The mission that APRAPAM has set itself, in relationship with all the actors in the sector, is to work with decision makers and national and international institutions to define and implement fisheries policies

that promote a sustainable development dynamic for artisanal fisheries, centred on the well-being of artisanal fishing communities. APRAPAM promotes capacity building of professional organizations through the empowerment of their leaders, for example through the promotion of dialogue and synergies between professionals to resolve conflicts.

Every year since 2010, APRAPAM has organized a forum to inform, raise awareness and build the capacity of artisanal fisheries professional actors to promote sustainable artisanal fisheries. The chosen themes focus on current events in the sector, and have examined issues such as co-management, financing of artisanal fisheries, participatory monitoring in fisheries, the role of research,

the challenges of exploiting small pelagic resources for food security (including the challenges of fishmeal production), transparency in fisheries management in Senegal, etc.

APRAPAM draws up three-year action plans to define the strategic axes and priority actions to be implemented. The 2021-2023 Plan, anchored as always in the promotion of the sustainable development of small-scale fisheries by involving all stakeholders, places particular emphasis on taking account of the gender aspect in fisheries policies and decision-making processes.

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## Fish Utilization and Processing

**Fisheries and aquaculture production is highly diversified in terms of species, processing and product forms destined for food or non-food uses. As fish is a highly perishable food, particular care is required at harvesting and all along the supply chain in order to preserve fish quality and nutritional attributes, and to avoid contamination, loss and waste.**

In this context, many countries employ preservation and packaging to optimize the utilization of fish, increase shelf life and diversify products. Moreover, improved utilization of fisheries and aquaculture production reduces loss and waste, and can help reduce the pressure on the fisheries resources and foster the sustainability of the sector. In recent decades, the fish sector has become more complex and dynamic, with developments driven by high demand from the retail industry, species diversification, outsourcing of processing, and stronger supply linkages between producers, processors and retailers. Expansion of supermarket chains and large retailers worldwide has increased their role as key players in influencing market access requirements and standards.

Moreover, expansion in the global marketing, trade and consumption of fish products in recent decades (see the sections Fish consumption, p. 65, and Fish trade and products, p. 73) has been accompanied by a significant development in food quality and safety standards, improved nutritional attributes and loss reduction. To meet these food safety and quality standards and ensure consumer protection, stringent hygiene measures have been adopted at the national, regional and international levels, based on the Codex Code of Practice for Fish and Fishery Products (Codex Alimentarius Commission, 2016) and its guidance to countries on practical aspects of implementing good hygiene practices and the Hazard Analysis Critical Control Point (HACCP) food safety management system.

Products, utilization and trends In 2018, about 88

percent (or over 156 million tonnes) 9 of the 179 million tonnes of total fish production was utilized for direct human consumption (Figure 23), while the remaining 12 percent (or about 22 million tonnes) was used for non-food purposes. Of the latter, 80 percent (about 18 million tonnes) was reduced to fishmeal and fish oil, while the rest (4 million tonnes) was largely utilized as ornamental fish, for culture (e.g. fry, fingerlings or small adults for ongrowing), as bait, in pharmaceutical uses, for pet food, or as raw material for direct feeding in aquaculture and for the raising of livestock and fur animals.

The proportion of fish used for direct human consumption has increased significantly from 67 percent in the 1960s. In 2018, live, fresh or chilled fish still represented the largest share of fish utilized for direct human consumption (44 percent), and was often the most preferred and highly priced form of fish. It was followed by frozen (35 percent), prepared and preserved fish (11 percent) and cured (10 percent). Freezing represents the main method of preserving fish for food, accounting for 62 percent of all processed fish for human consumption (i.e. excluding live, fresh or chilled fish).

These general data mask major differences. Fish utilization and processing methods differ significantly across continents, regions, countries and even within countries. The share of fish utilized for reduction into fishmeal and fish oil is highest in Latin America, followed by Asia and Europe. In Africa, the proportion of cured fish is higher than the world average. About two-thirds of the fish production used for human consumption is used in frozen

and prepared and preserved forms in Europe and North America. In Asia, a large amount of production is sold live or fresh to consumers.

Major improvements in processing as well as in refrigeration, ice-making and transportation have enabled distribution of fish over long distances, across borders and in a greater variety of product forms. In more developed economies, fish processing has diversified particularly into high-value-added products, such as ready-to-eat meals. In developed countries, the share of frozen fish for human consumption rose from 27 percent in the 1960s, to 43 percent in the 1980s, to a record high of 58 percent in 2018, while the share of cured forms declined from 25 percent in the 1960s to 12 percent in 2018. In many developing countries, fish processing has been evolving from traditional methods to more advanced value-adding processes, depending on the commodity and market value. Overall, in developing countries, growth has been seen in the share of production destined for human consumption in frozen form (from 3 percent in the 1960s to 8 percent in the 1980s and 31 percent in 2018) and in prepared or preserved form (from 4 percent in the 1960s to 9 percent in 2018). Fish preserved by salting, fermentation, drying and smoking – particularly customary in Africa and Asia – declined from 29 percent in the 1960s to 10 percent of all fish destined for human consumption in developing countries in 2018.

However, in developing countries, fish continues to be mostly utilized in live or fresh form, soon after landing or harvesting from aquaculture,

even as that share declined from 62 percent in the 1960s to 51 percent in 2018. Fish commercialized in live form is principally appreciated in East and Southeast Asia and in niche markets in other countries, mainly among immigrant Asian communities.

In China and some Southeast Asian countries, live fish have been traded and handled for more than 3 000 years, and in many cases practices for their commercialization continue to be based on tradition and are not formally regulated. Yet, marketing and transportation of live fish can be challenging, as they are often subject to stringent health regulations, quality standards and animal welfare requirements (notably in Europe and North America). However, commercialization of live fish has continued to grow in recent years thanks to improved logistics and technological developments.

Nutritional attributes of fish can vary according to the way in which fish are processed and prepared. Heating (by sterilization, pasteurization, hot smoking or cooking) reduces the amount of thermolabile nutrients, although their concentration can increase by cooking, which reduces the relative moisture content of foods, thereby increasing concentration of some nutrients. Several chemicals, either natural (e.g. some smoke constituents) or artificially added (e.g. anti-oxidants), can reduce the impact of heating or other processes on the nutritional quality of fish. Refrigeration and freezing have the least impact on the nutritional attributes of fish.

Source: *SOFIA 2020*  
<http://www.fao.org/3/ca9229en/ca9229en.pdf>

## INFOLOG: NEW RESOURCES AT ICSF

### Publications

#### 2020 Blue Economy Report: Blue sectors contribute to the recovery and pave way for EU Green Deal

[https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/2020\\_06\\_blueeconomy-2020-ld\\_final.pdf](https://ec.europa.eu/maritimeaffairs/sites/maritimeaffairs/files/2020_06_blueeconomy-2020-ld_final.pdf)

The EU Blue Economy Report 2020”, providing an overview of the performance of the EU economic sectors related to oceans and the coastal environment.

#### Food security and nutrition: building a global narrative towards 2030. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security

[http://www.fao.org/fileadmin/user\\_upload/hlpe/2020\\_Global\\_Narrative/HLPE\\_2020\\_FSN\\_building\\_a\\_Global\\_Narrative\\_towards\\_2030.pdf](http://www.fao.org/fileadmin/user_upload/hlpe/2020_Global_Narrative/HLPE_2020_FSN_building_a_Global_Narrative_towards_2030.pdf)

This report articulates a global narrative that builds on what we know about the current situation with respect to FSN concepts, **Small Nets in a Sea of Change**

<https://vimeo.com/371511703>

Directed by Charles Menzies, Rachel Donkersloot and working in collaboration with local small-scale salmon and lobster fishermen in the north west of Ireland.

#### The call for supporting Covid-19 impacted fisherwomen in Indonesia

<https://www.youtube.com/watch?v=SszmRJ44hGU>

This short video tells the impacts of Covid-19 to fishers and fisher women, the initiatives of Indonesian fisher women sisterhood (Persaudaraan Perempuan Nelayan Indonesia) to cope with problems and a call for additional supports.

#### Safety at sea for small-scale fishers in the Caribbean

<http://www.fao.org/documents/card/en/c/ca8626en>

This manual on safety at sea for small-scale fishers in the Caribbean aims to contribute to a culture of safety awareness among fisherfolk.

#### Infographics video on SSF Guidelines: Value chains, post-harvest and trade

<https://www.youtube.com/watch?v=gYZJAVTJC7o&feature=youtu.be>

This short, animated video gives insights into value chains, post-harvest and trade in small-scale fisheries in small-scale fisheries.

#### Infographics video on SSF Guidelines: Disaster risk and climate change

<https://www.youtube.com/watch?v=mkMqnbodhV8&feature=youtu.be>

This short, animated video addresses the impacts of disasters and climate change on small-scale fisheries.

#### Infographics video on SSF Guidelines: Governance of tenure and resource management

<https://www.youtube.com/watch?v=uOQ8F4LVyho&feature=youtu.be>

This short, animated video gives insights into governance of tenure and resource management in small-scale fisheries.

#### Infographics video on SSF Guidelines: Social development, employment and decent work

<https://www.youtube.com/watch?v=R2kditb6-y4&feature=youtu.be>

This video gives insights into issues of social development, employment and decent work in small-scale fisheries.

## FLASHBACK

### Food First?

Fish is at one and the same time both a source of food and income. This is a quintessential characteristic which should be borne in mind while discussing the issue of food security. In fishing communities, on the one hand, there are large numbers who depend primarily on fishing for a livelihood. For them, it is the income from the sale of fish that lets them pay for the bare necessities of life. On the other hand, there are those who rely on farming, fishing or mere gathering from the bush, in order to exist. For the people of such communities, fish is less a source of income than a source of subsistence—often a vital means of partially meeting their daily nutritional requirements of protein.



From the point of view of consumers, in several developing countries there exist underprivileged classes like agricultural labourers, plantation and mine workers, who bank on fish as a source of cheap protein. This demand for fish is met mostly by domestic or regional trade. In contrast, there are fairly prosperous consumers in developed countries whose culture, habits and dietary preferences, more than anything else, determine the demand for fish. The requirements for this large market are satisfied mostly from imports.

Augmenting supply per se means little to poorer consumers at the household level, unless the increase in supply should translate into better incomes for poorer fishworkers. Furthermore, concentrating only on the supply side, without in any way restraining demand, could be ultimately counterproductive. This is because the market is the worst enemy of good resource management. The market mechanism invariably proves efficient enough to absorb large quantities of fish and can thus subvert any management measure, however worthwhile.

For certain species of fish, it may be difficult to dissuade the fishworker from responding to market signals. This is particularly true in the case of shrimp, tuna and cephalopods—species that enjoy strong demand in international markets. This fact underscores how important—and difficult—it is to delineate a lucid policy on fisheries and food security. In countries of the South, different policy matrices can be constructed, depending on whose food security is on the agenda. Thus it is important to develop a judicious programme for fishing communities that spells out regional priorities, based on social and economic considerations. Simultaneously, such a programme should also address the consumption requirements of local consumers. The over-riding objective—necessarily double-headed and thus somewhat contradictory—should be the welfare of both fishworkers and underprivileged consumers. Clearly, this is a difficult goal. But it will never be reached if two vital aspects are forgotten: better management and allocation of fishery stocks, and greater protection of fish habitats.

—from SAMUDRA Report No. 14, March 1996

## ANNOUNCEMENTS

### MEETINGS

Twenty-fourth meeting of the Subsidiary Body on Scientific, Technical and Technological Advice, 2 - 7 November 2020, Canada <https://www.cbd.int/meetings/SBSTTA-24>

Technical meeting on the future of work in aquaculture in the context of the rural economy, 23 - 27 November 2020, Geneva, Switzerland [https://www.ilo.org/sector/activities/sectoral-meetings/WCMS\\_726160/lang-en/index.htm#banner](https://www.ilo.org/sector/activities/sectoral-meetings/WCMS_726160/lang-en/index.htm#banner)

The meeting will discuss issues relating to the future of work in the aquaculture sector as well as to the promotion of decent work in the rural economy, with the aim of adopting conclusions, including recommendations for future action.

### WEBSITES

Covid-19 : Sustainable Fisheries Partnership <https://www.sustainablefish.org/COVID-19>

During this pandemic, SFP is committed to supporting the seafood industry in protecting fishers and workers throughout the seafood supply chain. With an immediate goal of protecting worker safety, we have compiled the following set of international resources.

Fish-COV: ICSF's website addressing the impact of the COVID-19 pandemic on fisheries and fishing communities <https://covid.icsf.net/>

ICSF has been tracking the impacts of the COVID-19 outbreak on fisheries

through our daily news alerts. In addition, ICSF will gather information on specific sectoral issues at national, regional and international levels, on three parameters – impact, relief and recovery.

WorldFish Response to Coronavirus <https://www.worldfishcenter.org/pages/covid-19/>

As the COVID-19 pandemic continues to spread globally, many countries are putting in place unprecedented lockdown measures.