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COMMISSION OF SMALL-SCALE, ARTISANAL FISHERIES AND AQUACULTURE OF LATIN AMERICA AND THE CARIBBEAN

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OVERVIEW OF INLAND FISHERIES IN LATIN AMERICA AND THE CARIBBEAN

Introduction

This document provides a synthesis of the current status of inland fisheries in Latin America and the Caribbean (LAC), as part of the background information for the sectoral analysis in the framework of the XVIII Session of COPPESAALC. The main source of information used in the preparation of this document was The State of World Fisheries and Aquaculture 2022[1] (SOFIA), The status and trends of artisanal inland fisheries in Latin America and the Caribbean[2] and FishstatJ database[3].

Inland fisheries

In 2020, the world inland fisheries production was estimated at 11.5 million tonnes. In LAC this volume reached 0.49 million tonnes, a 3.68 percent reduction compared to 2019, reaching the 2014 levels. In 2020, inland fisheries contributed 3.87 percent to the region's fisheries (Table 1).

[1] FAO.2022 The State of World Fisheries and Aquaculture 2022. Towards blue transformation. Rome, FAO https://doi.org/10.4060/cc0461es

[2] Baigún, C. R. M. y Valbo-Jørgensen, J. (dirs.) 2023Status and trends of artisanal inland fisheries in Latin America and the Caribbean. FAO Fisheries and Aquaculture Technical Paper No 677. Rome, FAO. https://doi.org/10.4060/cc3839es

[3] FAO. 2023. Fishery and Aquaculture Statistics. Global production by production source 1950-2020 (FishstatJ). In: FAO Fisheries Division [online]. Rome. Updated 2023. www.fao.org/fishery/statistics/software/fishstatj/en

Table 1 Inland fisheries production in LAC (million tonnes) over the period 1974-2020 [1]

Inland Fisheries	1974	1980	1990	2000	2010	2015	2019	2020
World	4.3	4.4	6.4	8.6	10.8	11.1	12.1	11.5
LAC	0.25	0.31	0.44	0.49	0.51	0.53	0.51	0.49
LAC contribution (%)	5.9	7.1	6.9	5.7	4.7	5.7	4.16	3.87

Source: FAO-Fishstat, 2023.

From 1974 to 2015, LAC inland fisheries showed an upward trend that reached a plateau in recent years at around 500 000 tonnes (Figure 2). It is important to note that there is a high probability that the higher volume relates to better landing records, as it could be assumed that the volume was underestimated due to difficulties in data collection, particularly in remote populations, so that the quality of data has historically been poor and with time lags. Many indigenous communities in remote areas fish for family consumption, which is not recorded although it may be significant given the number of people engaged in this subsistence activity. It is important to note that between 2019 and 2020, inland fisheries will be reduced by 5.107 percent due to the effects of the COVID-19 pandemic, which imposed restrictions on access to landing areas and limitations in supply chains.

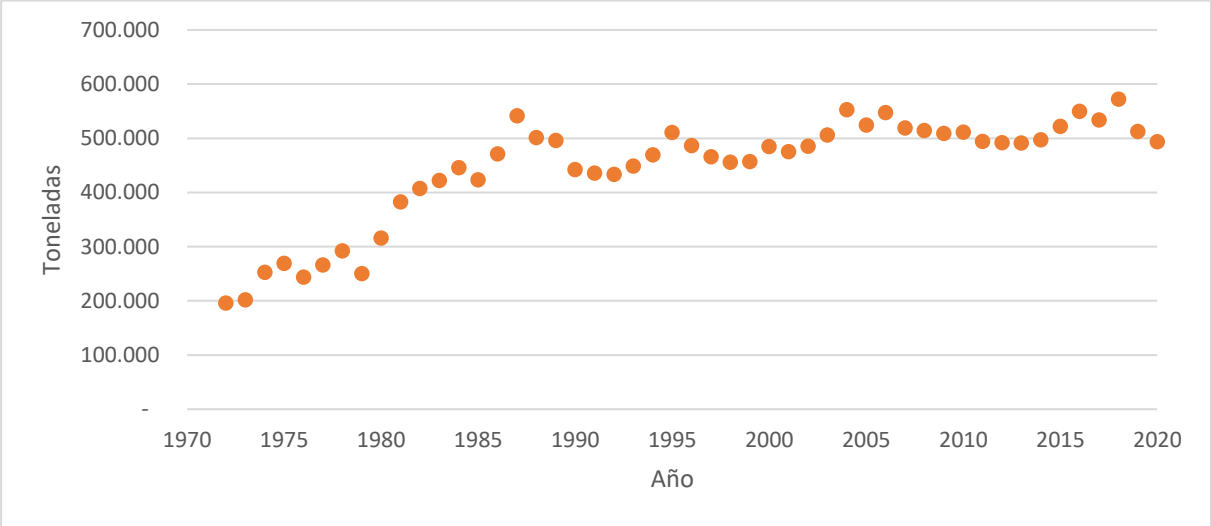

Figure 2. Inland fisheries volume in LAC between 1974 and 2020[1]

Table 2 shows the estimated inland water fisheries volumes by country for the years 2019 and 2020. The relative contribution of inland fisheries to the region's total catches in 2020 decreased by 7 percent compared to the previous year.

[1] FAO. 2023. Fishery and Aquaculture Statistics. Global production by production source 1950-2020 (FishstatJ). In: FAO Fisheries Division [online]. Rome. Updated 2023. www.fao.org/fishery/statistics/software/fishstatj/en

Table 2. Contribution of inland fisheries to total national and LAC catches and Annual Growth Rate (AGR) 2015-2020[1]

País	2015	2019	2020	Contribution of inland fisheries to total catches by country (%) in 2020	Country contribution to total LAC inland fisheries in 2020	Growth rate period 2015-2020	Growth rate period 2019-2020
Brazil	217220	224910	224910	31.7%	45.5%	3.5%	0.0%
Mexico	97842	155714	148551	9.8%	30.1%	51.8%	-4.6%
Argentina	18885	25484	19432	2.3%	3.9%	2.9%	-23.7%
Colombia	20474	22495	20757	26.8%	4.2%	1.4%	-7.7%
Boliv Rep of Venezuela	6602	22000	16292	6.3%	3.3%	146.8%	-25.9%
Peru	37526	18781	16293	0.3%	3.3%	-56.6%	-13.2%
Paraguay	1323	16940	16975	100.0%	3.4%	1183.1%	0.2%
Bolivia Plurinational State of	11730	7900	7500	100.0%	1.5%	-36.1%	-5.1%
Uruguay	21695	7354	7955	12.7%	1.6%	-63.3%	8.2%
Guatemala	6889	2360	2360	20.9%	0.5%	-65.7%	0.0%
Cuba	679	1799	1722	8.5%	0.3%	153.6%	-4.3%
Dominican Republic	213	1370	867	8.8%	0.2%	307.0%	-36.7%
Jamaica	40595	1146	912	7.1%	0.2%	-97.8%	-20.4%
Suriname	0	850	850	2.9%	0.2%	100.0%	0.0%
El Salvador	2408	750	675	1.3%	0.1%	-72.0%	-10.0%
Honduras	5959	600	600	3.8%	0.1%	-89.9%	0.0%
Nicaragua	6000	435	435	0.9%	0.1%	-92.8%	0.0%
Ecuador	459	142	150	0.0%	0.0%	-67.3%	5.6%
Panama	7700	125	277	0.1%	0.1%	-96.4%	121.6%
Costa Rica	0	50	50	0.3%	0.0%	100.0%	0.0%
Chile	0	0	0	0.0%	0.0%	0.0%	0.0%
Rest of LAC countries	0	1629	6389	1.7%	1.3%	0.0%	292.2%
Total LAC	**634629**	**512834**	**493952**	**3.87%**	**100**	**-22.2%**	-3.7%

Inland fisheries account for the total fish catches for the States of Bolivia (7 500 tonnes) and Paraguay (16 975 tonnes). Its relative contribution to total catches in some other countries is highly significant; for example, in 2020, it contributed 31.7 percent of Brazil's total fish catches, 26.8 percent of Colombia's fish catches and 20.9 percent of Guatemala's fish catches.

[1] FAO. 2023. Fishery and Aquaculture Statistics. Global production by production source 1950-2020 (FishstatJ). In: FAO Fisheries Division [online]. Rome. Updated 2023. www.fao.org/fishery/statistics/software/fishstatj/en

The two main inland fishery producers in the region in 2020 were Brazil (45.5 percent) and Mexico (30.1 percent of the regional total). Together, the two countries accounted for 75.6 percent of the region's total inland fishery production (Table 2).

In the last decade, the production of Brazil, the main producer in the region, reached a plateau at around 225 000 tonnes. It is likely that the volume is still underestimated, as a significant portion is for self-consumption, which is not recorded, especially in villages with difficult access. A -22.2 percent decrease in inland fisheries in LAC was recorded between 2015 and 2020, and between 2019 and 2020, with a regional production decrease of -3.7 percent. This decline may reflect weak statistical systems or a reduction in the abundance of target species, which is difficult to ascertain given the lack of scientific information and the outbreak of the COVID 19 pandemic, which affected the supply chain and access to landing sites.

In relation to the main species caught in the 2019-2020 biennium, Table 3 highlights the -5 percent reduction in catches of tilapia (nei). South American shad shows a -13 percent decrease in catches, as well as surubies with a -23 percent drop in 2020, compared to 2019.

Table 3. Main species caught in LAC inland waters[1]

Species	Caught volume 2019	Caught volume 2020
Tilapias nep	100549	95827
South American shads nei	56943	49541
Fresh water fish nei	36577	36863
Aischgrunder carp	34931	34228
Fresh water siluroids nep	26805	24603
Characins nei	25571	22356
Laulao catfish	23635	23597
Curbinata	18346	18348
[Semaprochilodus insignis]	14992	14983
Yellow catfish	13720	13863
Cichlids nei	13414	14808
Sorubims nei	10758	8246
[Hoplias aimara]	8880	8880
Fresh water shrimps nei	8667	8508
[Hypophthalmus spp]	8660	8660
Coporo	7066	7312
Fresh water charales nei	5800	5533
Netted prochilod	5545	4693
Cyprinids nei	5091	4875
[Schizodon fasciatus]	4742	4738
[Curimata cyprinoides]	4730	4730
Catfish nei	4664	4441
Streaked prochilod	5950	6470
Cachama	4104	4198

[1] FAO. 2023. Fishery and Aquaculture Statistics. Global production by production source 1950-2020 (FishstatJ). In: FAO Fisheries Division [online]. Rome. Updated 2023. www.fao.org/fishery/statistics/software/fishstatj/en

Other species	62693	63651
Total	**512834**	**493952**

Although inland fisheries production is significantly lower than marine fisheries, its social significance is highly relevant because it represents the pillar of food security for many coastal communities, many of them indigenous people, located along the vast watersheds in the region. They also provide self-employment for thousands of inhabitants of these communities, who barter fish for other foodstuffs and supplies and earn money from the sale of surpluses.

Among the problems affecting the sustainability of inland fisheries, in addition to the effects of climate change on aquatic ecosystems and biodiversity, are water pollution by agrochemicals, sewage from human settlements, industrial waste and metals from mining, over-exploitation of aquifers, indiscriminate capture of juveniles for aquarium hobby, and the purposeful introduction of ecologically aggressive species. In South American countries where river fishing is culturally important, the destruction of habitats and the obstruction of waterways by dams have become serious threats, particularly for migratory species.

Conclusions

- Inland fisheries in the region are usually open access fisheries and highly labour intensive. They offer permanent or occasional employment opportunities in periods when there are no alternative sources of work for fishers. In general, fishers are a marginalised, low-income social sector, often with no land of their own, with little access to basic services and little access to finance and credit mechanisms to maintain their fishing gear. Inland fisheries play a crucial nutritional role among indigenous peoples for their contribution to food security, while in other regions they provide complementary food and a source of employment for impoverished urban sectors. These constraints reinforce the high social value of fisheries in meeting the food needs and improving the welfare of a highly vulnerable sector as a means of ensuring their survival.

- It is estimated that inland fisheries production in LAC has plateaued at around 500 000 tonnes per year, although it dropped to 493 000 tonnes in 2020 assuming that this has been caused by the COVID 19 pandemic. Despite the efforts of the countries to estimate the volume of regional inland fisheries, there is a need for efficient participatory recording and monitoring mechanisms, which would facilitate the sustainable inland fishery resources management.

- One of the main limitations for the registration and inclusion of fluvial-lagoon fishers in official programmes is the wide geographical distribution; in addition, fishery products are generally sold in local markets or for family consumption, which in many cases precludes the registration of their activity, due to the lack of human resources or mechanisms for regular data collection.

- Over the last decade, countries have made progress in identifying fishery species reported to FAO. At present, 87 percent of landings are related to one of the 33 families identified for the region and 39 percent have been recognised to species level.

- According to the country information gathered, crustaceans, bivalves and snails, diadromous fish, anadromous shrimps and other euryhaline invertebrates from estuaries and coastal lagoons are important fishery resources in the Caribbean islands and also in some Mesoamerican countries. However, this is not clearly reflected in the FAO-FishStatJ data, given the paucity of information on inland fisheries for most of the countries and territories, and given that in some cases fisheries in these environments are reported as marine fisheries.

- Among the main challenges for inland fisheries are the effects of water bodies contamination from different anthropogenic activities; climate change that alters rainfall patterns and migratory processes for the reproduction of many species and the modification of watercourses that produces the same effect.

- Despite the efforts to improve the records of inland fisheries statistics, it is important to note that there are still some countries that have not reported information for over a decade, and in view of this, FAO makes an estimate, based on historical data.

- The weakness of the gathering and analysis systems and the use of biological-fisheries information for decision-making in sectoral management is perhaps the main intrinsic and persistent weakness of the fisheries governing bodies in the region, in particular when the economic dimension of marine fisheries monopolises the limited resources available to them.