

Social Development and Sustainable Fisheries: Brazil



Prepared by:

KATIA REGINA AROUCHA BARROS



International Collective in Support of Fishworkers (ICSF)
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COLÔNIA DE PESCADORES Z-12^ª
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PRÓPRIOS

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Katia Regina Aroucha Barros

“Our greatest instrument of struggle is to know our own history”

- Oscar Akróa-Gamella.



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Front Cover

Fishers preparing their craft and gear on the beach

Front Inside

The fishworker association building, Penedo city, Brazil

Back Inside

Fishers meeting from Acau Goiana Resex in Pernambuco, Brazil

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Small-scale fishers at work in the Brazilian Coast

1. Introduction

There is an urgent need to rethink and address social development and sustainable fishing in Brazil. The situation has been exacerbated due to the pandemic and the current political situation in the country. A lack of fishing statistics from the last 12 years means there is a lack of scrutiny on policy management and accountability. In sharp contrast to this, social capital generated from fishing communities due to strong community organizations have strengthened coastal communities and artisanal fishing in Brazil.

In addition, the observation lens needs to be broadened considering the global context today. Sustainable development, and in particular the focus on blue growth and the Blue Economy¹, has led to significant fishing community challenges. The paper attempts to understand whether social policy implementation, keeping in mind development agendas, has led to better rights, socio-environment justice and reduced social inequality and poverty in Brazil.

Our research was primarily focused on the approach for public policy, its concerns on social development and the communities' access to support systems during the pandemic. This paper also provides information on the impact on production during the pandemic.

1.1. Scope of the report

over 1 million people are directly involved in artisanal fishing activities in Brazil. This, according to the latest data gathered by the General Fishing Activity Register (RGP) (MPA, 2013), is in addition to the many more parts of the value chain at different level—seafood processing, transport, marketing and equipment and gear production. Despite being vulnerable, marginalized and suffering social injustice, fisher communities are responsible for over 60 per cent of the country's fish production.

For the sake of development, it is important to understand fishers' lives not just economically but also culturally and sociologically. Any study focused on social development of the community must question the current models of development for *maretarians*— the term was birthed by women in the National Commission for the Strengthening of Extractive Reserves, Communities & Traditional Coastal and Marine Communities (CONFREM) in Parra in 2008 and subsequently adopted across the country two years later.

Defined by the Executive Secretariat of CONFREM Brazil, “maritime territories, or *maretório* are coastal marine areas, composed of people who traditionally live there and use its natural resources for food sovereignty, production of consumer goods, decent and sustainable work, with a zeal for socio-biodiversity, recognition and appreciation of discoveries and an effective relationship with nature.”

Sen (1999) in his book ‘Development as Freedom’ says development is “the expansion of freedoms that allow people to lead lives that they have reason to live”. Sen listed five interrelated freedoms—political, economic, social, security and knowledge—that the State should support. Education, health, social safety nets, good macroeconomic policies, productivity and environmental protection are all framed in this context.

The ideas of interdependent economic development, social development and environmental protection have been around since the World Summit for Social Development 1995. For small-scale fishers though, an instrument to defend these principles only arrived two decades later, in the form of the FAO Voluntary Guidelines for the Security of Sustainable Small-Scale Fisheries in

¹ The oceans have been seen as a new development frontier. According to the World Bank, they comprise an opportunity territory (World Bank 2017). Oil and gas exploration, which have reached significant relevance in Brazil with the pre-salt program, are translated as the new economy, termed blue economy, reframing the oceans as “development spaces”. Many are concerned to ensure that blue economy is green (Golden et al. 2017), but fewer are concerned about social justice. To date, considerations regarding food security and human rights are not the center of high-level dialogues (Cohen et al. 2019), in spite of claims that the SSF employs more people than all other ocean economic sectors combined.

the Context of Food Security and Eradication of Poverty (FAO 2020), 2014.

In Brazil, this international instrument lacks effective adoption and implementation into strategies that align with the Sustainable Development Goals (SDGs) 2030.

1.2. Sources of data

Statistical data on artisanal fishing in Brazil dates back to 2009, published by the former Ministry of Fisheries and Aquaculture. No newer data exists. We made the choice to rely on data from Coastal and Marine Extractive Reserves in the federal sphere and surveys conducted by the Chico Mendes Institute for Biodiversity Conservation. The institute was started in 2014 to help analyse and review socio-economic data contained in the System of Families of Federal Extractive Reserves -SISFAMILIAS². The National Commission for the Strengthening of Extractive Reserves and Traditional Coastal and Marine Extractive Peoples and Communities (CONFREM) also provided us access to communities for the survey, and helped conduct an analysis on their socio-economic development.

In addition to the above, the paper also uses existing literature from the Unified Registry of Social Programs, the Atlas of Human Development in Brazil (IPEA³), etc. The research also defines chief stakeholders, the existing resources and their importance to coastal and marine extractivism, conservation, and sustainable use.

1.3. Methodology

field research was carried out through multiple telephonic and in-person interviews based on a questionnaire with 15 open and closed questions. 102 people, of both sexes, over 16 years participated in the study. Respondents were selected based on their degree of involvement in the fisheries sector. All respondents are residents and are beneficiaries of 36 Resex.

These interviews were aimed to help with information not available on official platforms. It includes social policies, how social development policies contribute to sustainable resource use, effectiveness of the policies during the pandemic, and government and civil society support for the production, protection, dissemination of information. Effects on production, marketing, training and their understanding of social development comprises was also considered.

In order to form recommendations, the research also conducted direct phone interviews with three leaders from each of the 32 chosen areas. The areas were spread across the four coastal regions of the country:

- The Amazonian Mangrove Area: covers the states of Amapá, Pará, Maranhão and a small portion of Piauí
- The Northeastern coast
- Areas of the Southeast located in the states of Rio de Janeiro and São Paulo
- The state of Santa Catarina, on the South coast.

1.4. Country profile

Brazil is a federal republic made up of the union of 26 federal states, that are further divided into 5,570 municipalities. These municipalities are the smallest autonomous tiers of governance in the country. Each municipality has administrative autonomy and its own laws, defined by the party that runs it. These administrative units are spread over 8,510,820.623 square km, and cover 10,959 km of the country's coastline (IBGE, 2020).

² System organized by the Chico Mendes Institute for Biodiversity Conservation with information on the beneficiary families of the Extractive Reserves, National Forests and Sustainable Development Reserves.

³ Brazilian Government's Institute for Applied Economic Research.

Recent estimates put Brazil's population at 211,755,692 million (IBGE, 2020). The country ranks 84th of 189 countries (data from UNDP, December 15, 2020) on the Human Development Index, with a score of 0.765. On the Gini index, Brazil has a score of 0.543 (IBGE).

Given the complexity of a country of continental size like Brazil, this study focuses on coastal territories and marine Extractive Reserves in different Brazilian regions. This territorial sectioning was chosen due to the importance of these areas for artisanal fishing, considering protected marine areas as an instrument for the shared management of coastal and marine natural resources by their beneficiaries. In addition, these areas also comprise the materialization of a community-based conservation model unit, through the application of a co-management regime where natural resources are managed aiming at their sustainable use. Furthermore, they present better systematized data, despite all the existing difficulties, and are also present in 12 of the 17 states on the Brazilian coast. Approximately 110 thousand families live in these territories, especially in the Northeast and North regions, highlighting the importance of Amazonian mangroves.

There has been a sea change in legal frameworks that guide socio-environmental development policies in Brazil. New laws and rules have also emerged on the environment and how they serve the populace of the country. These include emerging policies on the governance of territories of indigenous peoples and communities, water, threat to mangroves, disaster management. The following chapters discuss these in greater detail.

One of the keys to achieving better social development conditions for fisher communities is sustainable use of Marine Protected Areas, especially Coastal and Marine Extractive Reserves (Resex). These areas are used traditionally by communities whose livelihood is based on resource extraction, subsistence agriculture and small-scale animal husbandry. Basic Resex objectives include protecting the livelihoods and culture of these people while guaranteeing sustainable use of natural resources, as regulated by law.

2. Extractive reserves

Extractive Reserves are defined as “areas used by traditional extractive populations, whose subsistence is based on extractivism and, in addition, on subsistence agriculture and the rearing of small animals, whose basic objectives are to protect livelihoods and culture of the indigenous population, and ensure the sustainable use of the units’ natural resources” (Brazil, 2000).

The National System of Conservation Units (SNUC) classifies Brazil’s protected areas into 12 management categories. These are further divided into two groups, fully protected and sustainable use. Extractive Reserves (RESEXs)¹ are included in the latter. REXES was born out of a 1980s social movement in the Amazon. The movement itself was sparked by rubber tappers whose lifestyles and lands were threatened because of the development policies of successive military regimes. Through the movement, the tappers proposed that development models follow an indigenous style and adapt to the social, cultural and ecological context of the Amazon. They hoped inclusive policies would aid social justice, improve quality of life and help build technologies based on local knowledge and conservation of livelihoods, the forest and its resources (ALEGRETTI, 2002; CUNHA, 2001).

The creation of the Pirajubaé Resex in Santa Catarina, in 1997, saw the policies of extractive reserves finally include coastal and marine territories too. The country now has 28 reserves at

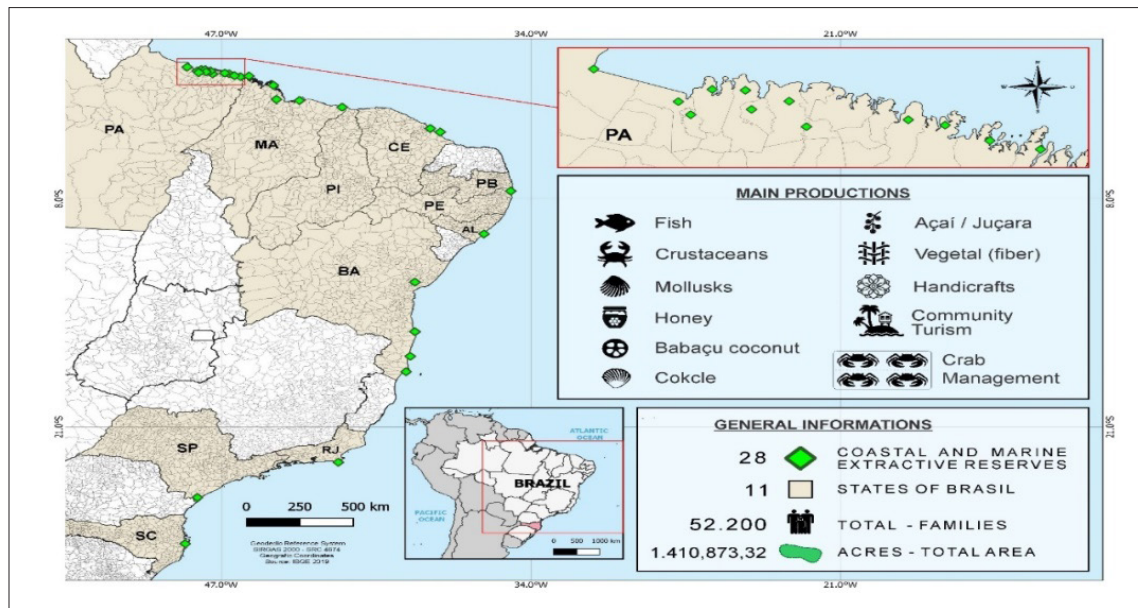


Figure 1: Brazilian Extractives Reserves (Resex) and their main extractive products
Source of the data: ICMBio/MMA. | Map elaborated by the authors.

the federal level, one state reserve in the state of Rio de Janeiro and one municipal reserve in Rio Grande do Sul. Three municipal reserves were created in the state of Pará (Figure1) in 2020. Strengthening extraction reserves and increasing its reach aids and recognizes the role local populations play in environmental conservation. With growing scrutiny on socio-environmental conflicts in the country, there has been an increase in calls for RESEX establishment in all regions of the country—especially in coastal and marine territories.

In this case study, we chose to analyse the 28 Extractive Reserves at the federal level, in collaboration with the Chico Mendes Institute for Biodiversity Conservation, who developed strategies for data gathering. Communities benefiting from these reserves are listed under the National Commission for the Strengthening of Extractive Reserves and Traditional Coastal

¹ The discussion about the presence of traditional communities in the International Union for the Conservation of Nature (IUCN) was consolidated during the IV World Congress of Parks, in Caracas, in 1992, not discussing whether or not the need for a category, based on in Extractive Reserves in Brazil. Category VI: Sustainable Natural Ecosystems (Protected Area with Managed Resources) was then incorporated.



Figure 2: Woman fishing in the Canavieiras Coastal and Marine Extractive Reserve/BA
Photo: Enrico Marone (2016).

and Marine Extractive People (CONFREM). The commission aims to develop, articulate and implement strategies for traditional coastal and marine extractive territories in the social, cultural, environmental and economic spectrum, guaranteeing their livelihoods and sustainable production.

CONFREM Brazil works to establish and strengthen Coastal and Marine Extractive Reserves, as well as other traditional coastal and marine communities across Brazil's coast. It was created in 2009, motivated by the need for communities in the reserves to access Brazil's governance systems. It aims to train, create advocacy and aid capacity building. Table 1 details the socio-economic profile of municipalities with the surveyed Resex. It is clear that many Resex have higher MHDl and per capita income than others. These are mainly because of the large population and its geography — many of these are municipal headquarters as well as tourist hubs and port centres. These discrepancies though do not accurately reflect the socio-economic reality of fisher families and those communities that live on the coasts of these municipalities.

Table 1: Profile of the municipalities that contain Coastal and Marine Extractive Reserves

Municipalities profile from the Extrativists Reserves												
Unit (Resex/APA)	State	Municipality	Estimated population 2020	Per capita income (annual R\$)	Infant mortality 2017 (per 1,000 live births)	MHDI	Female population 2017	Male population 2017	Life expectancy (years) 2010	Taxa de extrema pobreza (%)	Adult literacy (%)	Housing with running water and bathroom 2010 (%)
Araí Peroba	PA	Augusto Corrêa	46.471,00	6.719,53	17,11	0,52	48,17	51,83	51,83	40,76	25,3	25,07
Chocoaré Mato Grosso	PA	Santarém Novo	6.753,00	6.316,13	18,69	0,587	47,72	52,28	71,42	29,2	38,46	46,11
Mãe Grande												
Curuçá	PA	Curuçá	40.584	7.090,39	14,26	0,582	48,77	51,23	72,36	27,54	39,04	61,26
Soure	PA	Soure	25.565	7.090,59	36,65	0,615	50,13	49,87	70,57	16,69	44,02	63,88
Cururupú	MA	Cururupú	32.626	7.090,59	19,57	0,733	49,16	50,84	71,06	21,45	36,27	34,62
Tracuateua	PA	Tracuateua Magalhães	31.257	8.247,91	30,04	0,531	47,81	52,19	71,57	97,44	27,23	29,30
Cuinarana	PA	Barata	8.573	9.056,52	11,11	0,597	47,53	52,47	73,06	69,76	22,42	64,80
Canavieiras	BA	Canavieiras	30.906	9447,68	20,7	0,59	50,25	49,75	72,74	12,62	32,56	79,15
Canavieiras	BA	Una	18.544	13.415,79	35,3	0,56	47,92	52,08	67,61	17,45	31,81	-
Canavieiras	BA	Belmonte	23.437	12.442,31	23,7	0,598	48,81	51,19	71,26	13,19	34,68	75,07
Cussurubá	BA	Caravelas	22.093	15.910,13	20,5	0,616	49,23	50,77	72,46	11,82	34,75	67,16
Cussurubá	BA	Alcobaça	22.490	11.365,43	23,6	0,608	49,16	50,84	71,28	13,94	32,82	64,59
Cussurubá	BA	Nova Viçosa	43.783	11.470,31	22,3	0,654	49,64	50,36	71,77	11,89	40,22	73,60
Arraial do Cabo	RJ	Arraial do Cabo	30.593	24.711,70	10,82	0,733	50,83	49,17	73,31	1,14	62,72	93,31
Baía do Iguape	BA	Maragogipe	44.793	7.429,63	20,2	0,621	49,75	50,25	72,58	21,34	38,1	71,80
Baía do Iguape	BA	São Félix	14.762	14.138,21	24,1	0,639	51,18	48,82	71,11	14,31	45,89	67,75
Baía do Iguape	BA	Cachoeira	33.567	13.985,81	25,2	0,647	51,75	48,25	70,72	16,73	49,27	72,45
Caeté Taperaçu	PA	Bragança	128.914	8.920,18	26,1	0,60	49,4	50,6	70,27	20,59	39,93	55,22
Acaú-Goiana	PB	Caaporã	21.955	15.225,27	26,2	0,602	50,45	49,55	70,41	12,68	35,72	86,52
Acaú-Goiana	PB	Pitimbu	19.275	13.555,07	26,8	0,57	49,43	50,57	70,2	22,04	30,35	78,59
Acaú-Goiana	PE	Goiana	80.055	15.152,79	21,9	0,561	51,56	48,44	71,75	12,71	47,8	80,09
Corumbau	BA	Porto Seguro	150.658	21.317,76	19	0,676	49,98	50,02	73,05	7,33	49,86	81,92
Corumbau	BA	Prado	28.194	15.773,03	21,6	0,621	49,36	50,64	72,03	14,47	37,5	71,84
Maracanã	PA	Maracanã	29.516	7.639,88	16,57	0,57	48,2	51,8	70,85	31,11	33,12	47,25
Arapiranga												
Tromai	MA	Carutapera	23.952	7.029,33	15,87	0,574	48,48	51,52	70,4	27,76	34,23	19,85
Arapiranga	MA	Luis Domingues	6.984	7.205,65	7,69	0,588	47,79	52,21	70,4	33,85	38,8	28,61
Itapetinga	MA	Bequimão	21.299	6.082,57	28	0,601	49,13	50,87	70,42	34,72	38,58	18,29
Tubarão	MA	Icatu	27.269	5.795,84	-	0,546	47,93	52,07	68,59	43,21	-	11,79
Tubarão	MA	Campos	28.932	5.661,77	11,76	0,535	47,75	52,25	70,55	53,44	29,68	10,89
Lagoa do Jequiá	AL	Jequiá da Praia	11.536	18.032,24	-	0,556	49,06	50,94	71,32	20,48	-	88,36
Batóque	CE	Aquiraz	80.935	24,63	15,76	0,641	48,88	51,12	72,27	8,09	40,25	59,31
Gurupi Piriá	PA	Augusto Corrêa	46.471	6.719,53	17,11	0,52	48,17	51,83	71,3	40,76	25,3	25,07
Gurupi Piriá	PA	Viséu	61.751	7.971,69	22,4	0,515	47,43	52,57	71,57	44,66	24,75	18,02
Praíinha do Canto Verde	CE	Beberibe	53.949	13.744,68	21,8	0,638	49,59	50,41	71,67	20,15	38,01	53,42
Resex Delta do Parnaíba	MA	Araioses	46.771	5.853,72	24,62	0,521	48,22	51,78	67,52	40,55	23,23	31,94
Resex Delta do Parnaíba	MA	Água Doce do Maranhão	12.652	6.901,51	11,9	0,5	48,04	51,96	66,81	39,02	18,7	43,32
Resex Delta do Parnaíba	PI	Ilha Grande	9.457	7.744,85	18,29	0,563	48,88	51,12	67,48	27,87	35,88	68,53
Pirajubaé	SC	Florianópolis	508.826	42.719,16	7,71	0,847	51,8	48,2	77,35	0,27	80,03	-
São João da Ponta	PA	São João da Ponta	6.217	7.368,34	-	0,583	47,99	52,01	71	27,39	38,19	50,48
Mocapajuba	PA	de Odivelas	18.129	7.919,32	18,6	0,585	47,87	52,13	71,01	17,27	35,73	52,72
Tauá Mirim	MA	São Luis	1.108.975	30.699,57	17,36	0,768	53,19	46,81	73,76	4,53	73,45	81,26
Mestre Lucindo	PA	Marapanim	28,45	8.311,98	6,17	0,609	47,81	52,19	70,61	20,6	41,31	55,18
Mandira	SP	Cananéia	12.541	23.977,74	10,53	0,72	49,83	50,17	76,07	5,67	50,92	76

Source of the data: UNDP BRAZIL, IPEA AND FJP, 2020; IBGE, 2017.]

Table 2 details coastal and marine extractive reserves, according to state. Some reserves, like the Acaú-Goiânia and Delta do Parnaíba spill over state boundaries and have been classified as such. Also detailed are the Amazonian mangroves, created in 2018. These estuaries and mangroves are one of the most expressive ecosystems in the world (Figure 3). They are home to many species of fish, crustaceans, mammals, reptiles and birds, ecological wealth that makes the region hugely necessary to conserve.

Table 2: Total area (ha) and Population (number of families) of the studied Marine Protected Areas distributed across Brazilian regions

	EXTRACTIVE RESERVES	STATES	NO. OF FAMILIES	AREA IN HECTARES
NORTHEASTERN 1 REGION				
1	Acaú-Goiana	PERNAMBUCO/PARAIBA	1,436	6,676.79
2	Baía do Iguape	BAHIA	4,676	10,082.59
3	Batoque	CEARÁ	262	601.45
4	Canavieiras	BAHIA	1,866	100,688.41
5	Cassurubá	BAHIA	1,666	100,578.38
6	Corumbau	BAHIA	719	89,996.76
7	Lagoa do Jequiá	ALAGOAS	1,483/1,718	10,196.69
8	Prainha do Canto Verde	CEARÁ	309	29,805.48
	8 RESEXs	5 STATES	12,652	348,626.55
NORTHEASTERN 2 REGION – AMAZONIAN MANGROVES				
9	Arapiranga Tromai	MARANHÃO	5,000	186,908
10	Cururupu	MARANHÃO	1,483	186,056.73
11	Itapetininga	MARANHÃO	1,100	16,294
12	Baía do Tubarão	MARANHÃO	7,000	223,917
13	Delta do Parnaíba	MARANHÃO/PIAUI	1,297	27,022.07
	5 RESEXs	2 STATES	15,880	640,197.80
NORTH REGION – AMAZONIAN MANGROVES				
14	Araí Peroba	PARÁ	1.226	62.578,12
15	Mestre Lucindo	PARÁ	1.500	26.464.88
16	Mocapajuba	PARÁ	2.800	21.027,80
17	São João da Ponta	PARÁ	388	3.409,49
18	Caeté Taperaçu	PARÁ	4.409	42.489,81
19	Chocoaré Mato Grosso	PARÁ	672	2.783,20
20	Cuinarana	PARÁ	409	11.036,41
21	Gurupi Piriá	PARÁ	3.475	72.789,93
22	Mãe Grande Curuçá	PARÁ	2.706	36.678,78
23	Maracanã	PARÁ	1.506	30.179,65
24	Soure	PARÁ	1.297	29.578,80
25	Tracuateua	PARÁ	2.015	27.864,50
	12 RESEXs	01 STATE	22.403	366.881,67

	EXTRACTIVE RESERVES	STATES	NO. OF FAMILIES	AREA IN HECTARES
SOUTHEASTERN REGION				
26	Arraial do Cabo	RIO DE JANEIRO	1,055	51,677.39
27	Mandira	SÃO PAULO	22	1,177.81
	2 RESEXs	2 STATE	1.077	53,455.20
SOUTH REGION				
28	Pirajubaé	SANTA CATARINA	88	1,712.10
	01 RESEX	01 STATE	88	1,712.10
	28 EXTRACTIVE RESERVES	11 STATES	52.100 FAMILIES	1,410,873.32

Source of the data: ICMBio and CONFREM research.

This ecosystem is crucial to the Amazon coast, and highlights how extractive reserves need to be conserved and their resources managed sustainably. The latter is of prime importance, to ensure that local communities do not suffer economically but can also benefit from them in the long term. Recognizing and delineating these areas will help recognize problems and find solutions specifically designed for them.

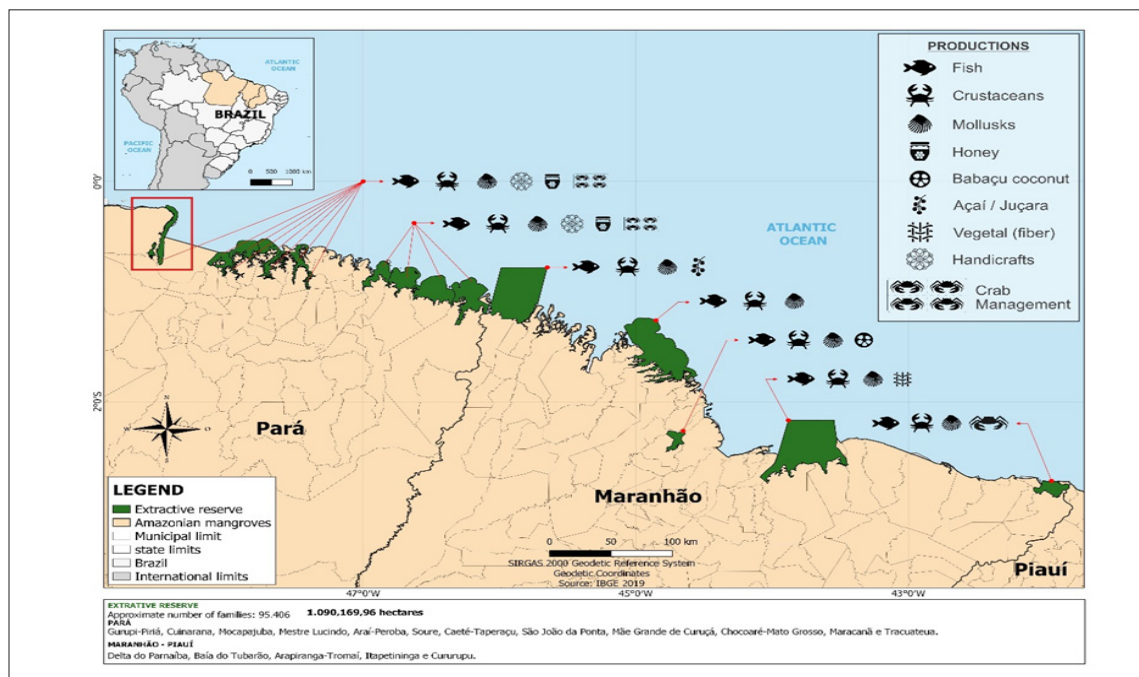


Figure 3: Amazonian Mangrove Brazilian Coastal and Marine Extractive Reserves

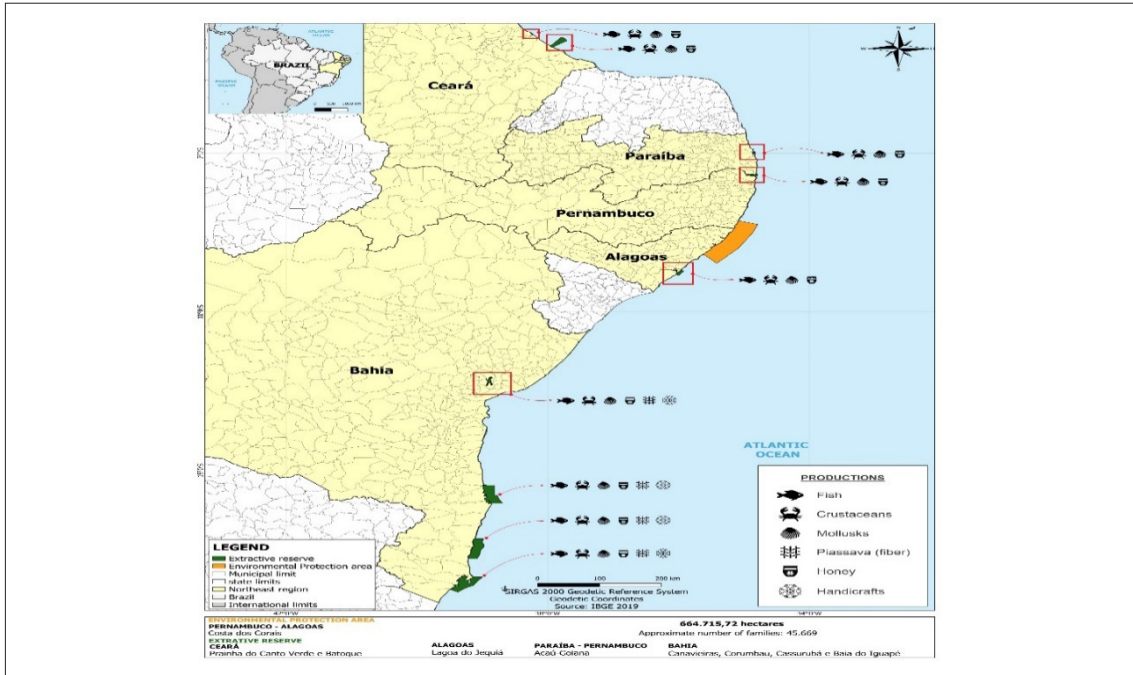


Figure 4: Coastal and Marine Extractive Reserves in Northeastern Brazil and the Environmental Protection Area of Costa dos Corais

Figure 4 details extractive reserves in Northeast Brazil, in particular the Marine Environmental Protection Area of Costa dos Corais. Costa dos Corais is the largest environmental protection area on the coast. The Abrolhos region, in the state of Bahia, is rife with reef environments and rich in biodiversity, home for several species of corals, turtles, sea birds, humpback whales and other marine mammals.

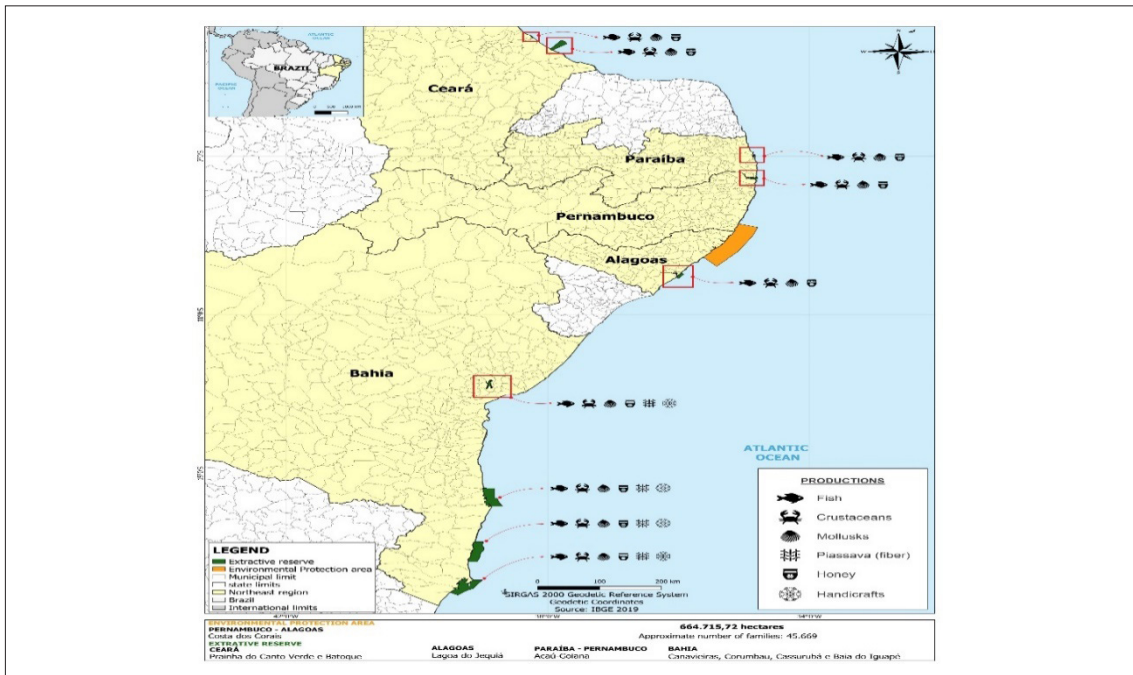


Figure 5: Map of the Southeastern Brazilian Coastal and Marine Extractive Reserves

Figure 5 identifies Extractive Reserves in the southeastern states, including the Resex Mandira, whose beneficiaries are inhabitants of Quilombo Mandira and Arraial do Cabo Resex. These areas suffer from mass tourism, which hugely impacts artisanal fishing. Mass tourism in addition hurts the small-scale tourism activities conducted by fishers in the community by isolating them from big money tour operators.

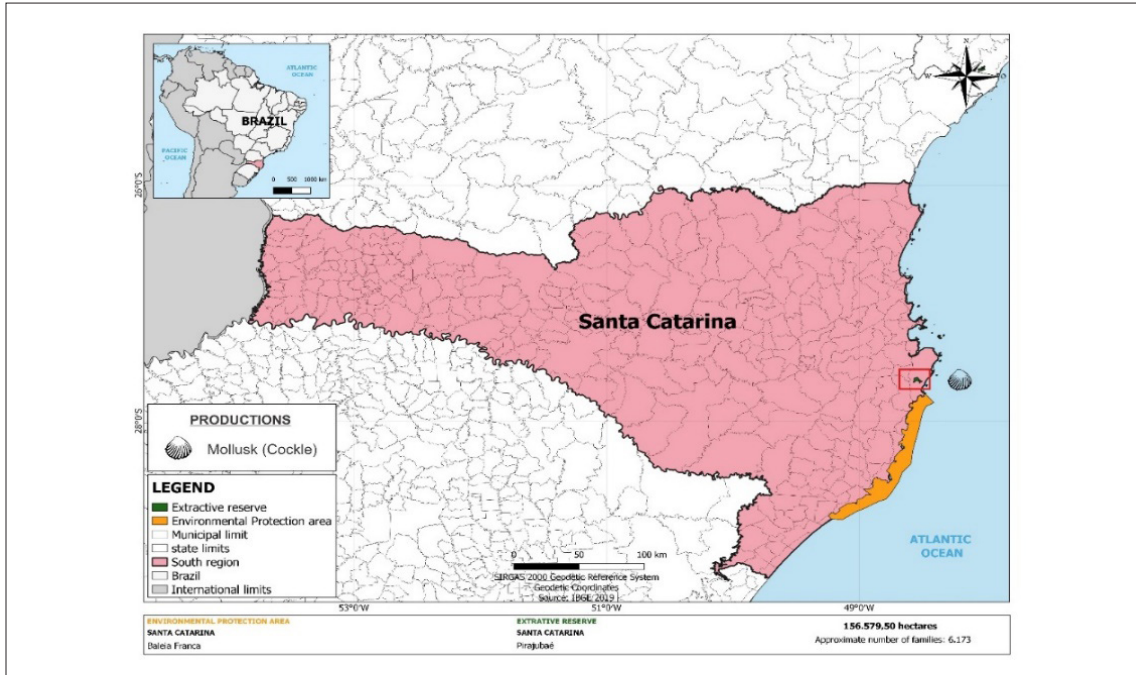


Figure 6: Map of Southern Brazilian Coastal and Marine Extractive Reserves

Figure 6 details the Southern Brazilian Coastal and Marine Extractive Reserve. It is the only one located in a large capital—Florianópolis—in the state of Santa Catarina.

3. Social development

3.1. Poverty

The United Nations Sustainable Development Goals (SDGs) 2030 list eradication of poverty as among its primary goals. Two of its basic principles are to reduce the number of poor at least by half, by 2030, and ensure that all men and women, especially the poor and vulnerable, have equal rights to economic resources, access to basic services, ownership and control over land, natural resources and can avail of new technologies and financial services.

Brazil has high rates of poverty and dropped four places to 84th in UNDPs Human Development Index 2020. This drop follows a period of growth, when the country's HDI rose from 0.762 in 2018, to 0.765, in 2019. The index, it must be mentioned, does not consider the impact the Covid-19 pandemic had on the population.

Brazil also ranks eighth in the world in income inequality. The country's Gini index (the coefficient ranges from 0-1 where zero indicates perfect equality and 1 indicates perfect inequality), rating is 0.543—ranked 156th in the world. The numbers are testament to the vast gap between the pockets of wealth in the country and the rising socio-economic inequality in sections of society.

Table 3: Profile of the municipalities where the Extractive Reserves are located

Profile of the municipalities in which the Extractive Reserves are inserted							
Unit (Resex)	state	County	Estimated population 2020	Per capita income (annual R\$)	Mortalidade infantil 2017 (óbitos/ mil hab)	IMDH	Extreme poverty rate (%)
Araí Peroba	PA	Augusto Corrêa	46,471,00	6,719,53	17,11	0,520	40,76
Chocoaré Mato Grosso	PA	Santarém Novo	6,753,00	6,316,13	18,69	0,587	29,20
Mãe Grande Curuçá	PA	Curuçá	40,584	7,090,39	14,26	0,582	27,54
Soure	PA	Soure	25,565	7,090,59	36,65	0,615	16,69
Cururupú	MA	Cururupú	32,626	7,090,59	19,57	0,733	21,45
Tracuateua	PA	Tracuateua	31,257	8,247,91	30,04	0,531	97,44
Cuinarana	PA	Magalhães Barata	8,573	9,056,52	11,11	0,597	69,76
Canavieiras	BA	Canavieiras	30,906	9,447,68	20,70	0,590	12,62
Canavieiras	BA	Una	18,544	13,415,79	35,30	0,560	17,45
Canavieiras	BA	Belmonte	23,437	12,442,31	23,70	0,598	13,19
Cussurubá	BA	Caravelas	22,093	15,910,13	20,50	0,616	11,82
Cussurubá	BA	Alcobaça	22,490	11,365,43	23,60	0,608	13,94
Cussurubá	BA	Nova Viçosa	43,783	11,470,31	22,30	0,654	11,89
Arraial do Cabo	RJ	Arraial do Cabo	30,593	24,711,70	10,82	0,733	1,14
Baía do Iguape	BA	Maragogipe	44,793	7,429,63	20,20	0,621	21,34
Baía do Iguape	BA	São Félix	14,762	14,138,21	24,10	0,639	14,31
Baía do Iguape	BA	Cachoeira	33,567	13,985,81	25,20	0,647	16,73
Caeté Taperaçú	PA	Bragança	128,914	8,920,18	26,10	0,600	20,59
Acaú-Goiana	PB	Caaporã	21,955	15,225,27	26,20	0,602	12,68
Acaú-Goiana	PB	Pitimbu	19,275	13,555,07	26,80	0,570	22,04
Acaú-Goiana	PE	Goiana	80,055	15,152,79	21,90	0,561	12,71
Corumbau	BA	Porto Seguro	150,658	21,317,76	19,00	0,676	7,33
Corumbau	BA	Prado	28,194	15,773,03	21,60	0,621	14,47
Maracanã	PA	Maracanã	29,516	7,639,88	16,57	0,570	31,11
Arapiranga Tromai	MA	Carutapera	23,952	7,029,33	15,87	0,574	27,76
Arapiranga Tromai	MA	Luis Domingues	6,984	7,205,65	7,69	0,588	33,85
Itapetinga	MA	Bequimão	21,299	6,082,57	28,00	0,601	34,72
Baía do Tubarão	MA	Icatu	27,269	5,795,84	-	0,546	43,21
Baía do Tubarão	MA	Humberto de Campos	28,932	5,661,77	11,76	0,535	53,44
Lagoa do Jequiá	AL	Jequiá da Praia	11,536	18,032,24	-	0,556	20,48
Batóque	CE	Aquiraz	80,935	24,63	15,76	0,641	8,09
Gurupi Piriá	PA	Augusto Corrêa	46,471	6,719,53	17,11	0,520	40,76
Gurupi Piriá	PA	Viscu	61,751	7,971,69	22,40	0,515	44,66
Praíha do Canto Verde	CE	Beberibe	53,949	13,744,68	21,80	0,638	20,15
Resex Delta do Parnaíba	MA	Araioes	46,771	5,853,72	24,62	0,521	40,55
Resex Delta do Parnaíba	MA	Agua Doce do Maranhão	12,652	6,901,51	11,90	0,500	39,02
Resex Delta do Parnaíba	PI	Ilha Grande	9,457	7,744,85	18,29	0,563	27,87
Pirajubá	SC	Florianópolis	508,826	42,719,16	7,71	0,847	0,27
São João da Ponta	PA	São João da Ponta	6,217	7,368,34	-	0,583	27,39
Mocapajuba	PA	São Caetano de Odivelas	18,129	7,919,32	18,60	0,585	17,27
Tauá Mirim	MA	São Luis	1,108,975	30,699,57	17,36	0,768	4,53
Mestre Lucindo	PA	Marapanim	28,45	8,311,98	6,17	0,609	20,60
Mandira	SP	Cananéia	12,541	23,977,74	10,53	0,720	5,67

Source: Pnud Brazil, Ipea and FJP, 2020; IBGE, 2017.

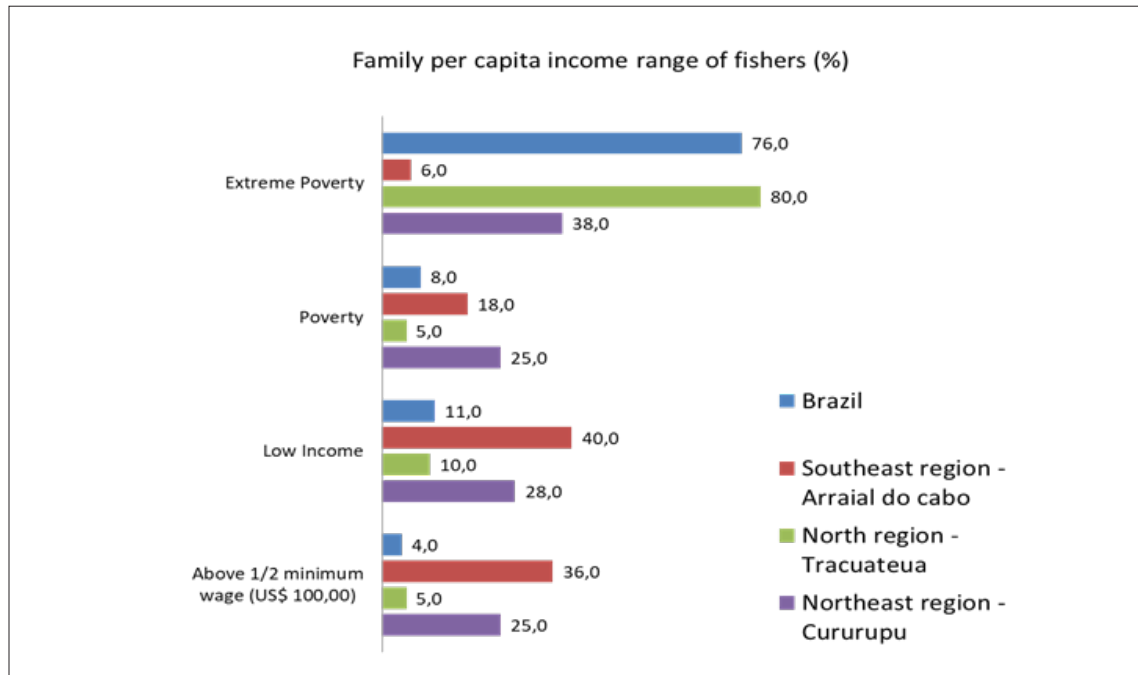


Figure 7: Family per capita income range of fishers (%)
Source of the data: Cadúnico (2020).

Our data reveals similar gaps in the study areas. High MHD and per capita income in municipalities do not accurately illustrate the state of artisanal fishers and their families. The high figures are mostly caused by the large population, the area's geography (headquarters or port centres) and tourism. Fisher families that live on the coasts lag behind on all indicators.

These indicators also differ in different regions of the country. Resex located in the southern most regions show better income indices than those further north.

In the Resex de Tracuateua, located in the state of Pará, 80 per cent of families have a per capita income of the extreme poor. In sharp contrast, Arraial do Cabo Resex, in the state of Rio de Janeiro, only 6 per cent fall into extreme poverty (Figure 7). Extremely poor families live on a monthly per capita income of U\$ 17.37. Poor families have a per capita monthly income between U\$ 17.383-34.75.

Several initiatives to eradicate poverty exist in the country. Government social programmes use the *Cadastro Único* or Single Registry, which contains data about families in poverty and extreme poverty. The Registry is compiled by municipalities and aids implement public policies across the country. The study analyses two such initiatives; Bolsa Família (PBF) or Family Allowance Program, a social protection program aimed at conditional cash transfer (PAES-SOUSA; VAITSMAN, 2014) and "Bolsa Verde" or Green Grant (WONG et al, 2019) for people that live in protected areas.

Bolsa Família is a federal government cash transfer programme. It was instituted by Provisional Measure 132, on October 20, 2003, and converted into law on January 9, 2004, by Federal Law no. 10,836, which unified and expanded previous cash transfer programs (PAES-SOUSA; VAITSMAN, 2014). Currently, *Bolsa Família* serves more than 14 million Brazilian families., These numbers seem huge, but when considering the size of the country and its low-income population, indicates that more needs to be done. There are at least 1.5 million people who qualify for the programme, but are on the registration waiting list. Their benefits are yet to arrive.

The number of fishing families and artisanal fishers, listed in the *Cadastro Único* and benefitting from *Bolsa Família* is listed in Table 5. Of the 279,870 families registered, 80 per cent qualify for the *Bolsa Família* and avail of the allowance. Some of the conditions listed as qualifiers are school

attendance, child immunization, prenatal monitoring for pregnant women, and remedial education for children and those at risk of being drawn into child labour. Poor families that have pregnant women or children between 0-17 years of age also qualify for the programme.

Table 4: Families of artisanal fishermen who received the Bolsa Família in Brazil (2020)

Families of artisanal fishermen who received the Bolsa Família in Brazil				
	Families		People	
	N	%	N	%
No	55.214	20	130.982	14
Yes	224.656	80	792.645	86
Total	279.870	100	923.627	100

Source: CADÚNICO (2020). |Elaborated by the authors.

Its importance notwithstanding, the programme is still insufficient to contribute significantly to the eradication of poverty among families, including families in fishing communities. According to Domingos (2018), despite its power to improve the living status of many, the programme lacks the capacity to completely eradicate poverty. Poverty, the report says, is based on more than just family income. It is necessary therefore to implement other policies to support it.

Bolsa Verde, coordinated by Ministry of the Environment, was discontinued in 2018, because the government said a lack of financial resources. *Bolsa Verde* was initially part of the Brazil Sem Miséria Program, and fell under the purview of the Ministry of Social Development—its official name was the Environmental Conservation Support Program. It was instituted by Law No 12,512, of October 14, 2011 and regulated by Decree No 7,572/2011. The programme directly benefitted over 53,000 families of extractivists and small farmers in extreme poverty in more than 1,000 territories.

These families are currently responsible for the maintenance of more than 35 million ha of native forests played a highly relevant role in the conservation of natural forest and fishing resources throughout the Brazilian territory. Considering that, the programme also listed environment protection as among its objectives. WONG et al (2019) reviewed the programme and found three times more benefits than costs.

In 2017, CONFREM Brazil, in alliance with the National Council of Extractive Populations (CNS), made attempts to restart the programme but have till date been unsuccessful.

In the aftermath of Covid-19, the government instituted an Emergency Aid. Under discussion since 2020; this Emergency Aid, established by Law 13, 982/2020, is a financial benefit granted to informal workers, individual microentrepreneurs (MEI), the self-employed and unemployed. Artisanal fishers were inserted into the programmes, largely due to the demonstrations carried out by fisher associations. Some states also relaxed payments of dues for energy and water services.

3.2. Employment

Economic, socio-cultural, civil and political rights are recognized as universal, indivisible and mutually reinforcing for all human beings. The challenges faced by traditional peoples—artisanal fishermen, indigenous people, riverine communities, extractivists, and *quilombola*—are increasingly under the scrutiny of international human rights mechanisms and development agencies.

Law No. 11,959 of June 29, 2009, provides for the National Policy for the Sustainable Development of Aquaculture and Fishing. The law regulates fishing activities. Artisanal fishing, like industrial fishing, is a segment of fishing and therefore covered by the law. It is legally defined as professional fishing activity carried out autonomously and/or under a family work regime, without employment relationships.

Fishing creates income and provides food security for a good part of the population living on the coasts of Brazil. In addition to other extractive activities, fishing helps shape the cultural identity of many communities. There is no employment policy for fishing communities and traditional peoples and communities in general in the country. There are no job creation and skill development programmes for fishing communities, both marine and inland.

Our research indicates that despite a lack of government initiative, non-governmental organizations, fishing associations, indigenous organizations, *quilombolas* have shown ways ahead. For instance, the Cooperative of Artisanal Fishermen of the Municipality of Carutapera, in the Extractive Reserve Arapiranga Tromai, (state of Maranhão), works with the marketing of fish, mostly called yellow hake¹, and in educating of fishermen and artisanal women. These isolated initiatives have not resulted in a change in public policy at the state or federal level

There has been a sharp decline of such policies for artisanal fisheries and in the last few years they have been virtually non-existent. Even when these policies are drafted, they are disconnected with reality.

According to the Special Secretary of Aquaculture and Fishing within the Ministry of Agriculture, Livestock and Supply there are several existent working action plans for fishing communities. These include:

- Updating of the Fishing Law N° 11. 959/2009
- Development of the National Fishing Plan
- Recreation and strengthening of the Permanent Management Committees (CPGs)
- Revision of the Closed Season; Encouragement of fishing research projects
- Resumption of exports for the European Market
- Strengthening of dialogue with other departments for the development of Fishing
- Construction in partnership with SDI/MAPA of the Label-ARTE for artisanal fish products
- Support recovery policies for endangered fish species
- Strengthening of Sustainable Tourism through Sport Fishing Standardization between MAPA and MMA for the recognition of Pescado de Extrativo/Manejo as an Organic Product
- Monitoring and construction of the action plan for the ordering of fishing impacted by the oil spill (BRAZIL, 2021).

Many concerns remain. There is a total absence of dialogue between the government's priorities and its effects on rights of fishers. While the focus is on strengthening industrial fishing and large-scale cultivation, it cannot come at the cost of employment and income loss for artisanal fishermen and women.

Fishers face many challenges as part of the labour force, mostly due to a historical partnership between middlemen and politicians. This relationship is harmful for fishermen marketing their fish (PARTELOW et al, 208). Middlemen establish the price for products, thus forcing fishers to compensate for low costs with additional hours of work to earn an adequate income. Fishing communities are also thrust into unsafe, unhealthy working conditions without infrastructure for health protection. Diegues (2004) points out that their economic vulnerability is further magnified by the high perishability of the main resource captured by fishermen and fisherwomen.

¹ Yellow hake (*Cynoscion acoupa*) is a species of salt water hake. They can measure up to 1.30 m in length, with good commercial value.

Figure 8 illustrates the major production difficulties faced by fishing communities. During the pandemic, middlemen reduced prices for fish products due to a reduction in demand from urban areas. Lacking the ability to sell directly or transport their wares via freight to urban areas themselves, local fishermen and women had to bear the brunt of the loss.

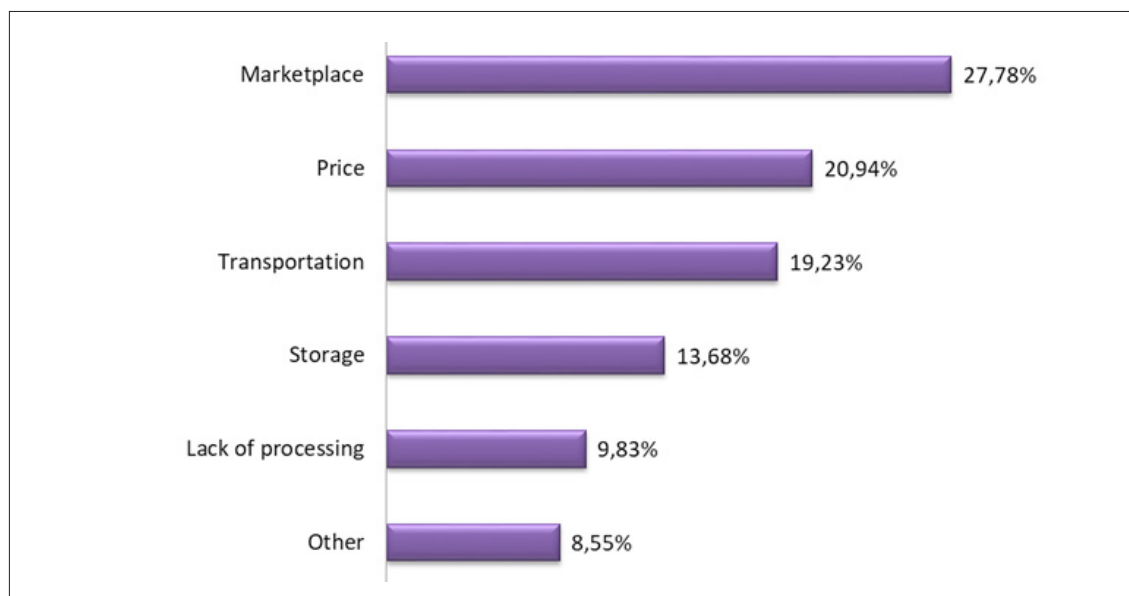


Figure 8: The main production difficulties in fishing communities

Artisanal fishing has managed, especially after the promulgation of the 1988 Constitution, to secure an environmental/labour compensation strategy. This strategy, the *Seguro-Defeso*, is a form of unemployment insurance. There is a closed season for fishing in Brazil, high traffic fishing areas are shut down to aid species to recover and reproduce. Artisanal fishermen—estimated at just under one million by the Ministry of Fisheries and Aquaculture in 2011 (MPA, 2011)—lose their single source of livelihoods in this period. They are a key target audience of this policy. Since 1991, *Seguro-Defeso* has ensured that artisanal fishermen receive a monthly minimum wage in the closed season. Unfortunately, a lack of regulation to identify beneficiaries has led to many who don't qualify access it.

To access these benefits the law requires that persons reside in rural housing, or has urban clusters around it. Artisanal fishermen are identified as those who rely on fishing as their chief means of living. Spouses, companions as well as children over 16 years of age qualify if the family works as a group in the sector (BRAZIL, 1991a, art. 12). In addition to supporting documents, potential beneficiaries must also be registered in the RGP (Registro Geral de Pesca - General Fishing Registry). There have been difficulties with securing these registrations since 2019. Fishing associations and fisher movements have, as of now, secured proof of application to the registry as a means of identification, until the state issues the IDs to all.

The informal nature of artisanal fishing means economic protection for those working in the sector is rarely guaranteed. The pandemic has magnified these problems. There has been a reported decrease in fish consumption during the pandemic. Prices have also dropped. The pandemic has majorly impacted local economies, affecting those already vulnerable.

3.3. Social Inclusion

Social exclusion is deep-rooted in Brazil. Slavery and historical exploitation and decimation of the indigenous population has left scars, which have only deepened over time. In 1988, the federal constitution of Brazil said that “everyone is equal before the law, every citizen has the right to education, security, health and citizenship, and collective rights to land and culturally differentiated collectivities, especially indigenous peoples and *quilombola* communities”. This led to a change in the legal paradigm of indigenous politics in Brazil.

Guardianship was abolished and autonomous rights dependent on cultural specificities of indigenous peoples in the country was guaranteed. Article 68 of the Law of Transitional Constitutional Provisions (ADCT) also established that “the remnants of *quilombola* communities that occupy their lands are recognized as definitive property.

In addition to allowing indigenous communities to use their own languages and learning processes, the state also guaranteed the protection of indigenous cultures—including its social organization, customs, languages, beliefs and traditions. Despite legal provisions, inequality and discrimination remain a part of Brazil's society.

Social inclusion happens almost exclusively through public policies. These programmes, although insufficient, have improved the government's response to the problem, especially when faced with public mobilization and large-scale social movements seeking a guarantee of rights. Most policies, Cunha and Costa noted in 2003, were created as a response to demands that emerged from the public. Policies for social inclusion play an important role in affirmative action in the fight against inequality and segregation. Social inclusion includes guaranteeing access to basic rights, such as, health, education, security, housing, work, culture and leisure, etc.

Table 5: Laws, decrees, resolutions that deal with social inclusion

Rights	Regulations
Protection of women against domestic violence	Law nº 11.340 / 2006 (Law Maria da Penha)
Ensuring the rights of the elderly	Law nº 10.741 / 2003 (Statute of the Elderly)
Criminalization of Racism (Racism Law)	Law nº 7.716/1989
Guaranteeing the right to same-sex marriage	Resolution No. 175/2013 of the National Council of Justice
Quotas for inclusion of people with disabilities in the labor market	Law nº 8.213/1991
Quotas for black, brown, indigenous and disabled students	Law nº. 12,711 / 12 (Quota Law)
National Policy for the Sustainable Development of Traditional Peoples and Communities.	Decree nº. 6,040, OF 02/07/2007
Homophobia crimes	Framed as Injury, art. 140 of the Penal Code Brazilian
Ensures that diversity must be respected in the school environment.	Law nº 9.394 / 1996 - Law of Directives and Bases of Education
Mandatory study of Afro-Brazilian and indigenous history and culture in elementary and high school, in public and private networks.	Law nº. 11,645 of 2008 that amended article 26A of the LDB - Law of Guidelines and Bases of Brazilian Education
Creation of the Unified Health System (insertion of a device on Indigenous Health, Quilombola Health and assistance in rural communities of farmers, artisanal fishermen, among others)	Law nº. 8.080, of September 19, 1990

Source: BRAZIL(2020). |

Programmes like *Bolsa Família* (assistance to low-income families), PROUNI (University for All Program) and the *Minha Casa Minha Vida* program (for the acquisition of own property) are created with the idea of helping social inclusion.

Despite the existing legal framework and multiple programmes, implementation remains problem. Deep rooted inequality and discrimination remain, to this day, a Brazilian reality. The pandemic has only worsened this situation and increased gaps in access to basic services. Fundação Getúlio Vargas found that study hours for poor students had reduced in comparison to those in private schools during the pandemic. This, the report noted, was a worrying setback, because it would mean those in rural and poor settings lagged behind, worsening the already existing divide. “This will aggravate poverty,” Vargas wrote, and will “aggravate hunger, and leave many young people without a future.”

There was a fourfold reduction in emergency aid for informal workers, the unemployed, rural workers and artisanal fishers in 2020. This reduction in aid resulted in 9.2 million people being pushed to poverty, the Center for Research in Macroeconomics of Inequalities at the University of São Paulo found. The number of people living in extreme poverty increased by 5.4 million over the course of the pandemic. Women and Afro-Brazilians were the worst affected.

Figure 9 details out how households used emergency aid in 2020. In the 32 areas surveyed, over half the respondents (55.31 per cent) used this emergency aid to secure food for the family, an illustration of how dire the situation had become.

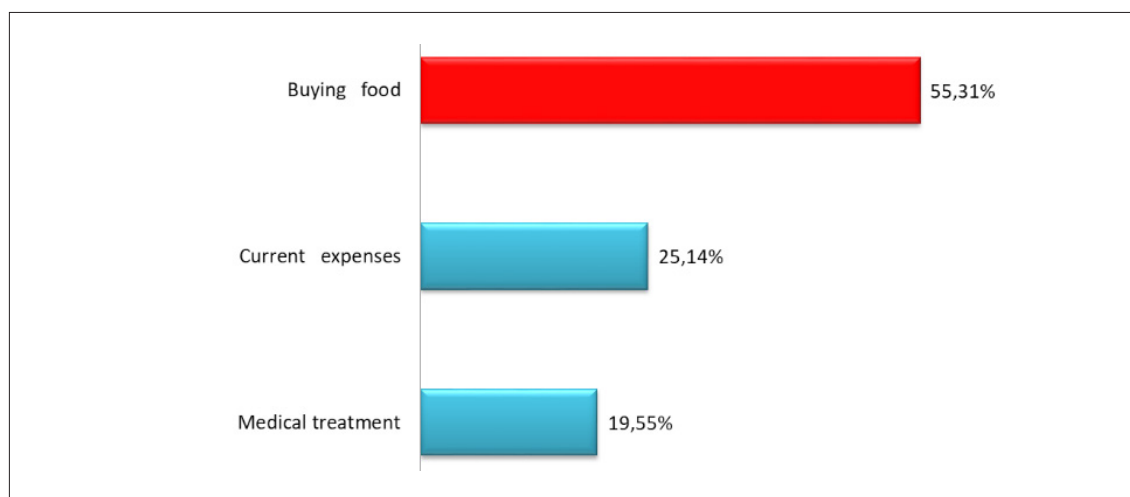


Figure 9: How emergency aid helped families in communities

The health and economic crises, intertwined during the pandemic and deepened historical inequality in Brazil, exposing a lack of government intervention. There is an urgent need to address this by effecting policies that enable social inclusion.

3.4. Health

The 8th National Health Conference held in 1986 is the basis for most of Brazil’s health policies. It was responsible for defining health in the constitution and the construction of the Brazilian Unified Health System (SUS). Created by Law No. 8,080, on September 19, 1990, the SUS, supported by the Federal Constitution of 1988 Art. 196. Section II on Health says that, “Health is a right of all and a duty of the State, guaranteed through social and economic policies aimed at reducing the risk of disease and other conditions and universal and equal access to actions and services for its promotion, protection and recovery”.

Health services are spread across the federal, state and municipal level. The services range from basic health units, specialized centers, public hospitals, maternity facilities and disease services. Over 150 million people (71.5 per cent of the country) depend on the SUS. SUS hospitals housed over 8.9 million people for 24 hours or more in 2019—64.9 per cent of all hospitalizations in the country. The data was collected before the pandemic, but it is generally assumed that since 2020, use of SUS services has exponentially increased (IBGE, 2019).

The SUS is supposed to aid every citizen in the country, and provide integral and equitable service to all patients and workers. Low investment poses a huge challenge to this. In 2017 alone, the government blocked a proposed injection of R\$ 42 billion on public services (BRAZIL, 2017). A part of this was supposed to help improve SUS infrastructure, implementation and administration. While expenses have remained the same, a lack of investment has meant budgets have decreased dramatically, leading to overcrowded facilities and a shortage of healthcare professionals.

Fisher and coastal populations depend hugely on the services provided by the SUS. On December 2, 2011, the Ministry of Health instituted the National Policy for the Integral Health of Rural and Forest Populations (PNSIPCF), through Ordinance No. 2,866. It was approved at the 14th National Health Conference. This was the result of a prolonged social movement in rural, forest and coastal areas led by unions, urban workers and academic institutions.

The PNSIPCF aims to improve the health of rural and forest populations through actions and initiatives that recognize gender, generation, race/color, ethnicity and sexual orientation. It will do so by providing access to health services, improve quality of life and reduce health risks at work. To aid the latter, agricultural technological innovations are being considered.

Pena and Martins (2014) revealed that fishers and shellfish gatherers are susceptible to many forms of disease at work and also suffer a variety of accidents. Despite this, they do not have access to effective diagnosis, treatment or rehabilitation centres. There are almost no regulations to prevent accidents and work related illness. Furthermore, as special Social² Security insurers, shellfish gatherers and fishers do not have paid leave, or the security to guarantee recovery if affected by serious illnesses and accidents. They cannot access insurance benefits commonly granted to salaried workers.

The oil spill in Northeastern Brazil in 2019, massively impacted fishers' lives. It is one of the greatest environmental tragedies to have hit the country. So far, no work has been done to study its impacts on fishers' health. Seafood, water and people on the coast have not been monitored to understand the possible dangers they face because of the spill.

Public health care equipment, doctors and specialists are mostly located in the South and Southeast—in large urban centers located in the capitals of the Brazilian states. This puts indigenous communities and fishing communities in a position where they cannot access SUS facilities. These SUS facilities, against all odds, play a huge role in public health in the country.

The Covid-19 pandemic accentuated the vulnerability of the country's health system—especially in fishing communities. Alyssa Leng and Hervé Lemahieu (2021) from the Lowy Institute, Sydney, used various criteria (confirmed cases, confirmed deaths, confirmed cases per million, confirmed deaths per million, confirmed cases in proportion to tests, tests by thousand inhabitants), to create the Covid Performance Index survey. According to the Index, Brazil's pandemic response was the worst of the 98 countries surveyed. Brazil has one of the most consolidated public health systems in the world, but a lack of federal leadership is chiefly to blame for this debacle. Local social organizations and fishing associations have worked to reduce the impact of the pandemic on the community. In addition, our research indicates that fishing communities' chief access to healthcare comes from SUS health posts spread across their territories.

2 Fishers are special social insured in Brazil, as well as rural and extractivist producers (Laws No. 8,287 / 2001 and 11,718, of 2008), differentiating themselves from the other categories by their younger retirement, shorter contribution time and lower remuneration than all the other categories (LOURENÇO et al, 2006).

Table 6: Health Assistance in Coastal and Marine Extractive Reserves

Percentages average	
Variable	%
Attendances in communities (%)	22.10
Attendances at the municipalities' headquarters (%)	14.64
Attendances at health centers (%)	39.59
Attendances in public hospitals (%)	12.01
Community health worker visits (%)	56.46
Health services considered regular (%)	25.79

Source of the data: ICMBio.]

The chief problem is that of regularity and access. Only 25.79 per cent of the community access health facilities frequently. Over half (56.46 per cent) have had community health workers visit their homes. The numbers availing services at municipal headquarters (14.64 per cent) and public hospitals (12.01 per cent) remains abysmally low.

3.5. Literacy and education

Article 6 of the constitution deems education, health, work, leisure, security, social security, protection for motherhood and childhood and assistance to the destitute as social rights. Article 205 declares education as the right for all. It is a duty of the state and the family, to promote, encourage, in collaboration with society, the full development of individuals, and help them qualify for work.

According to the National Education Guidelines and Bases Law no. 9394/96, basic education consists of early childhood education, elementary education and high school. These include special education, youth and adult education, professional education, indigenous education and rural education. Fishing communities have access to many of policies, aimed to address literacy and education in rural areas.

The National Education Programme on Agrarian Reform (PRONERA) is a rural education policy, developed to aid agrarian reform and strengthen quality of life in rural Brazil. It was developed in 1998 as a result of rural workers unionizing to seek their right to education of quality.

Rural education in the country has undergone a huge transformation under the current government, which has dismantled longstanding structures for growth. Previous governments have struggled with improving education standards in rural Brazil. The Michel Temer and Bolsonaro governments have presided over the destruction of the rural education programme. Illiteracy and school dropouts have risen in rural areas. A lack of public policy, schools have aided in this. According to the School Census (IPEA 2019), between 2014-19, 12,196 rural schools were shut down—an average of 2,032 schools a year.

The Youth and Adult Education Programme—accessible to fishing communities—has also seen a massive number of school dropouts for a variety of reasons. Young women, for example, drop out of school because of pregnancy. Many programmes also do not account for fishing schedules, resulting in a clash of timings, which sees many unable to attend classes regularly. Teachers, additionally come from other areas and do not have local knowledge. This inhibits their ability to adapt, absorb, and create better teaching methods for the local population.

According to the Chico Mendes Institute for Biodiversity Conservation (ICMBio), 61.4 per cent of people in fishing communities have received an elementary education. Despite this, a mere 8 per cent have completed high school and only 0.3 per cent attended university. This gap highlights the need to develop educational programs that can help bridge the inequality in educational structures.

These inequities have long been on the agenda for a number of social organizations working in these communities. Fishermen associations, the Landless Rural Workers (MST) and the Rural Workers' Federations and Confederations, have, in collaboration with teachers, educators, and NGOs, created significant uproar throughout the country in defense of public education and rural education. They have denounced the closure of rural schools and the dismantling of the public education policy in Brazil vigorously and called to create more schools in the countryside, and an education system that is more participatory, inclusive, and concerned with practical knowledge. These demands are based on the legacy of the educator Paulo Freire. It asks for the redevelopment of an educational policy that will be secular, democratic and equal.

Rural education is important for the sustenance of fishermen and farmers in rural Brazil. Any policy needs to also respect, value and preserve their culture, knowledge and way of life. Doing so will also aid in peaceful coexistence and sustainable growth in production. Rural education is an important paradigm for social development.

3.6. Housing

The Universal Declaration of Human Rights included the right to housing as a fundamental right in 1948. Brazil's constitution puts the onus of responsibility for this on the State. According to the João Pinheiro Foundation (2018), urban Brazil runs a deficit of 6,355,743 homes. It is one of the country's main social problems. In rural Brazil, this deficit is estimated at 1.2 million over the last decade (IBGE, 2010). The National Rural Housing Program (PNHR), created under the 'My Home My Life Program' (Programa Minha Casa Minha Vida—PMCMV), is supposed to provide decent housing in the countryside for farmers and rural workers, by building new houses or renovating, expanding, completing existing ones. Artisanal fishers and indigenous communities are included in the criteria. The PNHR will do this by using funds from the Federal government's budget and housing finance—using the Guarantee Fund for Length of Service (FGTS). It is a pioneering programme because it collaborates not just with other government spheres, but also civil society entities. As of now, the PNHR is working with Organizing Entities (EO)—city halls, state governments and respective housing companies—and private associations like private non-profits, unions, associations, condominiums and cooperatives to renovate and construct housing.

Their target audience are farmer families, rural workers, settlers from the National Agrarian Reform Program (PNRA), *quilombolas*, extractivists, artisanal fishers, riverside dwellers, indigenous people and other traditional communities. Between 2009-15 about 200,000 houses were built in rural areas, under the programme's ambit. Fagundes et al. (2013) have found that reduced resources have contributed to the poor realization of these projects in certain areas of the country.

The PNHR had been defunct since June 2016, during the Michel Temer government, and only resumed, slowly, in October 2018. The 2020 Budget Law (PLOA) proposal reduced the PMCMV budget—of which PNHR is a part. This has resulted in a 41 per cent—R\$ 1.9 billion—reduction in its budget.

In 2018, Decree No. 9,424 regulated granting installation credit for settlement projects to PNRA beneficiaries. Installation credit for housing and housing reform in Extractive reserves is administered by the INCRA (Instituto Nacional de Colonização e Reforma Agrária), the federal land reform agency INCRA and implemented by state superintendencies in partnership with the ICMBio, and organizations representing extractives.

Low investment, bureaucracy, difficulties in access to basic documentation has led to delays and often made housing construction in fishing communities unfeasible. In Marine Extractive Reserves, these problems have been exacerbated in recent years by the need to obtain a Real Use of Rights Concession Contract (CCDRU) signed between a local extractives association and the Environmental Ministry (MMA).

According to our research, 43 per cent of families in the 28 coastal resex have accessed a housing credit. Leaders who participated in the direct survey reported different stages of implementation of the housing policy, with some houses built in the first phase and others awaiting completion.

Table 7: Access to housing credit in Extractive Reserves in Brazil

	COASTAL AND MARINE EXTRACTIVE RESERVES	STATES	FAMILIES PER RESEX	HAD ACCESS TO HOUSING CREDIT (YES / NO) (%) E NON INFORMATION
1	Acaú-Goiana	PERNAMBUCO/ PARAIBA	1,436	-
2	Baía do Iguape	BAHIA	4,676	-
3	Batoque	CEARÁ	262	-
4	Canavieiras	BAHIA	1,866	YES
5	Cassurubá	BAHIA	1,666	NO
6	Corumbau	BAHIA	719	NO
7	Lagoa do Jequiá	ALAGOAS	1,718	NO
8	Prainha do Canto Verde	CEARÁ	309	-
9	Arapiranga Tromai	MARANHÃO	5,000	NO
10	Cururupu	MARANHÃO	1,483	YES
11	Itapetinga	MARANHÃO	1,100	NO
12	Baía do Tubarão	MARANHÃO	7,000	NO
13	Delta do Parnaíba	MARANHÃO/PIAUÍ	1,297	YES
14	Araí Peroba	PARÁ	1,226	YES
15	Mestre Lucindo	PARÁ	1,500	NO
16	Mocapajuba	PARÁ	2,800	NO
17	São João da Ponta	PARÁ	388	YES
18	Caeté Taperaçu	PARÁ	4,409	YES
19	Chocoaré Mato Grosso	PARÁ	672	YES
20	Cuinarana	PARÁ	409	NO
21	Gurupi Piriá	PARÁ	3,475	YES
22	Mãe Grande Curuçá	PARÁ	2,706	YES
23	Maracanã	PARÁ	1,506	YES
24	Soure	PARÁ	1,297	YES
25	Tracuateua	PARÁ	2,015	YES

	COASTAL AND MARINE EXTRACTIVE RESERVES	STATES	FAMILIES PER RESEX	HAD ACCESS TO HOUSING CREDIT (YES / NO) (%) E NON INFORMATION
26	Arraial do Cabo	RIO DE JANEIRO	1,055	-
27	Mandira	SÃO PAULO	22	*YES
28	Pirajubaé	SANTA CATARINA	88	-
TOTAL			52,100	

Source: ICMBio. |



Figure 11: Houses for Artisanal Fishers at the Canavieiras Extractive Reserve

Photo: AMEX Archive.

3.7. Water, Sanitation & Energy

It is necessary to think of sanitation, drinking water and energy policies in an integrated and sustainable way for rural communities. In Brazil however, these policies are dealt with separately, leading to huge dissonance and negatively impacting fishing communities. Public initiatives to implement alternative sanitation do not consider the specificities of fishing communities. They do not establish dialogue with communities they are supposed to serve and usually present unsatisfactory results for all involved. Electrical installation projects that respect local geography and attempt to coexist with nature are still lacking.

3.7.1. Sanitation & Drinking Water

The issue of basic sanitation is inserted in three articles of the Brazilian constitution. Article 21, XX, gives the Union the competence to “institute guidelines for urban development, including housing, basic sanitation and urban transport”. Article 23, IX, asks that the Union, states, districts and municipalities promote “housing construction programs and the improvement of housing conditions and basic sanitation”. Finally, Article 200, IV, says that it is the responsibility of the Unified Health System (the “SUS”), under the terms of the law, “to participate in the formulation of the policy and the execution of basic sanitation actions”.

Article 3, I a of the Sanitation Law defines drinking water supply as being “constituted by the activity and the supply and maintenance of infrastructures and operational means necessary for the public supply of drinking water”. Providing drinking water to a population greatly reduces health risks. The National Health Foundation’s (FUNASA) Sanitation Manual, deems drinking water to be the first sanitary and social measure that a sanitation programme must implement.

A huge number of households in extractive reserves (Table 12) have access to piped water (55.58 per cent). Despite this, 17.23 per cent consume poor quality water and almost a third (31.17 per cent) do not treat their water at all. Almost a fourth of those living in extractive reserves (23.45 per cent) do not have access to basic sanitation facilities.

3.7.2. Energy

Access to electricity is essential for a country's economic and social development. In Brazil, a huge part of the rural population is still deprived of this. To increase electrical coverage, the Federal Government instituted, through Decree No. 4.873 / 2003, the National Program for the Universalization and Use of Electric Energy—*Luz para Todos Programme* (PLPT). This is supposed to mainly serve peripheral communities and traditional populations, including residents in conservation areas.

Over half the population of in extractive reserves have access to the public power grid (53.38 per cent) but only 2.94 per cent have generators for use when the grid fails. More needs to be done to address rural electrification in the country.

Table 8: Community infrastructure in marine AP / UC *

Unit (AP/UC*)	Region	Households with piped water (%)	households with poor quality water consumption (%)	Households that do not perform water treatment (%)	Households without sanitary facilities (%)	Households with public electricity network (%)	Households with generators public electricity network (%)
Acaú-Goiana	Northeast	75,60	30,00	0,00	89,00	99,00	0,00
Baía do Tubarão	Northeast	0,00	0,00	0,00	0,00	0,00	0,00
Baía do Iguape	Northeast	0,00	0,00	0,00	0,00	0,00	0,00
Arapiranga Tromai	Northeast	0,00	0,00	0,00	0,00	0,00	0,00
Itapetininga	Northeast	0,00	0,00	0,00	0,00	0,00	0,00
Baía do Iguape	Northeast	87,00	0,00	0,00	80,00	96,28	0,00
Batóque	Northeast	76,70	19,10	40,10	5,50	96,30	0,00
Canavieiras	Northeast	83,20	43,10	62,90	5,90	88,50	0,70
Cassurubá	Northeast	84,00	68,30	77,50	10,60	82,40	0,60
Corumbau	Northeast	67,40	27,80	51,00	19,50	82,76	2,46
Cururupú	Northeast	23,20	22,10	36,80	37,6	0,00	75,20
Lagoa do Jequiá	Northeast	96,70	5,00	72,70	13,70	0,00	0,00
Prainha do Canto Verde	Northeast	52,70	0,00	29,00	12,00	96,00	0,00
Delta do Parnaíba	North	54,60	36,38	39,50	25,00	96,86	0,23
Araí Peroba	North	90,40	6,60	51,80	34,90	97,00	0,00
Caeté Taperapu	North	79,00	18,20	65,10	18,80	97,70	0,60
Chocoaré Mato Grosso	North	77,00	34,00	54,00	36,00	99,00	1,50
Mestre Lucindo	North	0,00	0,00	0,00	0,00	0,00	0,00
Mocapajuba	North	0,00	0,00	0,00	0,00	0,00	0,00
São João da Ponta	North	0,00	0,00	0,00	0,00	0,00	0,00
Cuinarana	North	93,12	3,19	0,00	21,13	99,01	0,00
Gurupi Piriá	North	62,00	21,40	82,00	54,00	0,00	0,00
Mãe Grande Curuçá	North	88,80	8,50	1,00	20,71	96,65	0,79
Maracanã	North	69,20	7,40	48,40	56,40	98,90	0,00
Soure	North	65,45	41,45	29,30	30,15	0,00	0,00
Tracuateua	Southeast	53,80	17,10	52,70	52,80	68,90	0,13
Arraial do Cabo	Southeast	96,00	6,00	0,00	70,40	99,50	0,00
Pirajubáé	South	80,36	66,70	78,95	0,00	98,	0,00
Averages		55,58	17,23	31,17	23,45	53,38	2,94

Source of the data: ICMBio |

* Extractive Reserves and Conservation Units.

4. Climate change

Over the years Brazil has made many international commitments to combat climate change. These include:

- ❖ A 37 per cent reduction in toxic gas emissions by the year 2025; increased to 43 per cent by 2030
- ❖ Increasing renewable energy sources in the national energy matrix
- ❖ The country also committed to strengthening the Forest Code, completely ending Amazon deforestation by 2030 and expanding the sustainable management of native forests

While there is near certainty that the planet's rising temperatures are a direct consequence of human action, it is necessary to note that all humans have not been impacted by climate change in quite the same way. The impact of climate change, and decisions made to combat it, mostly impact indigenous peoples, *quilombolas*, fishers and artisanal fishers, among others, in a very significant manner. In the recent past there have many instances where policies and disasters have come together to affect the lives of fishing communities. These include:

- The 2019 oil spill on the coast of Brazil (SOARES et al, 2020), impacted 9 states in the Northeast and two in the Southeast. The spill impacted about 1,000 localities and the way of life of thousands of fishing and artisanal fishing families. These families are responsible for producing over 60 per cent of the fish that in the region. Despite being considered the largest socio-environmental tragedy on the Brazilian coast, there has, till date, been no rehabilitation for the communities worst hit. The spill led to a crisis in their socio-economic conditions, one that was only heightened by the pandemic which arrived a few months later.
- Bill 191/20 proposed by the Federal Government in the Chamber of Deputies, which proposes to deregulate extraction of mineral, water and organic resources in indigenous reserves. The Articulation of Indigenous Peoples of Brazil (APIB) believes that altering this constitutional regulatory framework represents a major threat to the rights of indigenous peoples and the integrity of their territories. It may even lead to large scale deforestation and the degradation of Brazilian.
- A revision of the country's conservation areas with bills aimed at revising and even removing extractive reserves.
- Bill 5822/19, currently being processed by the Chamber of Deputies, will authorize small-scale mining in extractive reserves, provided certain conditions are met. Currently, the law prohibits any type of mining activity in extractive reserves. This has been to protect these areas and allow communities that rely on its ecology harvest, practice small scale farming use them sustainably.
- Resolution No 500 dismissed a number of National Environment Council (CONAMA) resolutions. It dismisses Resolution 303/2002, which established Permanent Preservation Areas (PPA) "covered by vegetation with a dune-fixing or mangrove-stabilizing function" on coastal strips and Resolution 302/2002, which determined that artificial reservoirs maintain a minimum surrounding strip of 30 meters as PPAs. After massive demonstrations and protests by fishers, academic institutions, NGOs as well as support and protests by Ministries at the federal and state levels, the Supreme Court rendered Resolution 500 null and void.

Fishing is hugely impacted by climate change. Fish populations can be affected by changes in migration patterns which in turn affects reproduction. A change in atmosphere, like wind, for example, can influence changes in phytoplankton and, thus, reduce biological and fishing. El Nino impacts fishing economics hugely. The intensity of rain over extended periods of time has altered fishing scenarios across the country.



Figure 11: Amazon mangroves from the Extractive Reserve of Cururupu/MA.
Photo: Rômulo Menezes.

A survey was carried out by CONFREM BRAZIL (2018) during the 1st National Seminar on Coastal and Marine Extractivism identified the main problems of climate change for the sector. Their findings revealed that increasing tidal and river levels, threatened the territories of several communities—those on islands were the most affected. Strong winds and intense rain over prolonged periods directly impacted species cycles and caused disruptions in food chains and fisheries production. A decrease in certain species, because of predatory fishing and overfishing was also noted.

The survey highlighted the lack of input received from artisanal fishers and extractivists on the impact of climate change in their territories. Developing strategies that include traditional people and communities in mitigation must be a priority.

5. Fisher associations

Fishing communities have relied on social cooperation to fight discrimination and denial of justice and equality for years in the country. Fish worker organizations played a huge role in fighting against the first fishing colonies in the early 19th century. For years after, fishing organizations were controlled by the government, via the Navy, and had almost no participation of actual fishers. Over the years though, many leaders, supported by the Pastoral Council of Fishers, (a branch of the Catholic Church), have emerged to challenge this hegemony. During the creation of the Brazilian constitution, a movement by fishers aided in inserting rights for the community to organize into the actual text. This allowed for the rise of the National Fisher Movement (MONAPE) in 1988. In 2006, the National Fisher Articulation (ANP) was born. In 2009, the National Fisher Movement (MPP) emerged as an important artisanal fisher organization in Brazil.

In December 2007, the need for representation of Coastal and Marine Extractive Reserve leaders, gave birth to CONFREM Brazil. It aims to work with traditional fishing and extractive communities, strengthening the coastal and marine extractive reserves and enabling integration and implementation of policies that help guarantee environmental rights for the community. CONFREM Brazil became official at the 1st Marine RESEXs meeting in 2009, in the city of Bragança, in the state of Pará. In 2014, it expanded its scope of action beyond extractive reserves, to include other conservation units and other coastal and marine extractivist territories.

Countless associations concerning extractive reserves, environmental protection areas, such as the Extractive Women's Networks, tides and waters, Fisher cooperatives and unions, are a part of CONFREM. These organizations are responsible for local mobilization and seek to establish partnerships for the implementation of policies at the national level. These organizations are also demanding registration of fishers and artisanal fishers into a directory so they can work without restrictions.

This demand however has faced many operational difficulties. Successive governments have neglected basics such as vehicle licensing, creating a recovery plan for at risk species, or continuing with the *Seguro Defeso* programme to guarantee the reproduction of aquatic species, with fisher and artisanal fisher participation.

During the pandemic, local and national organizations became the main source of support for communities. The local fishers faced multiple challenges during the pandemic and the study results depicted the same.

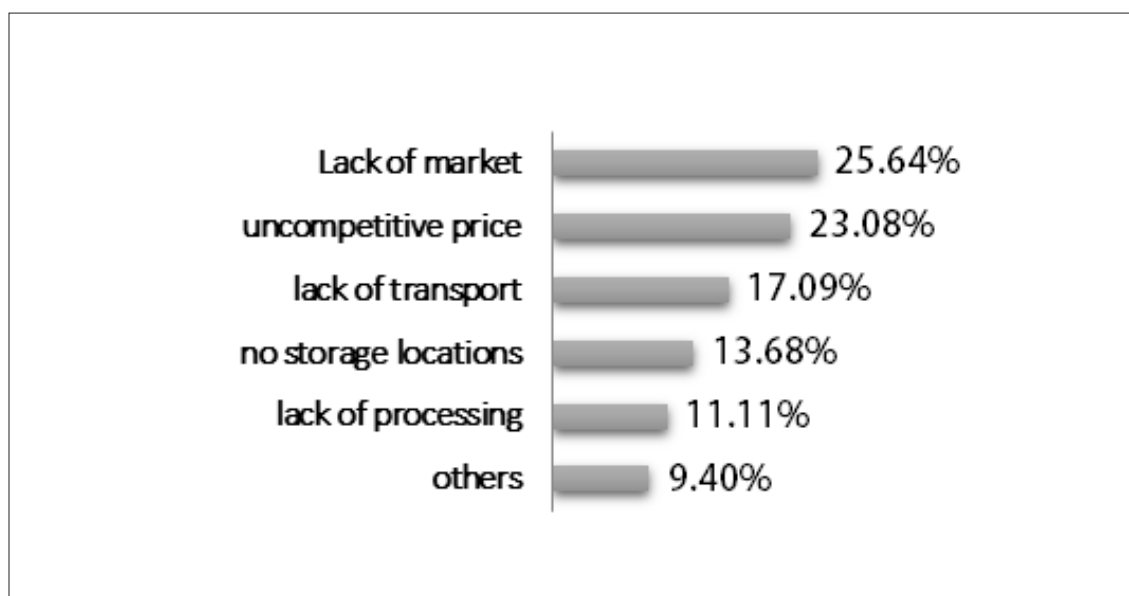


Figure 12: Difficulties faced by fishers in times of COVID 19 pandemic

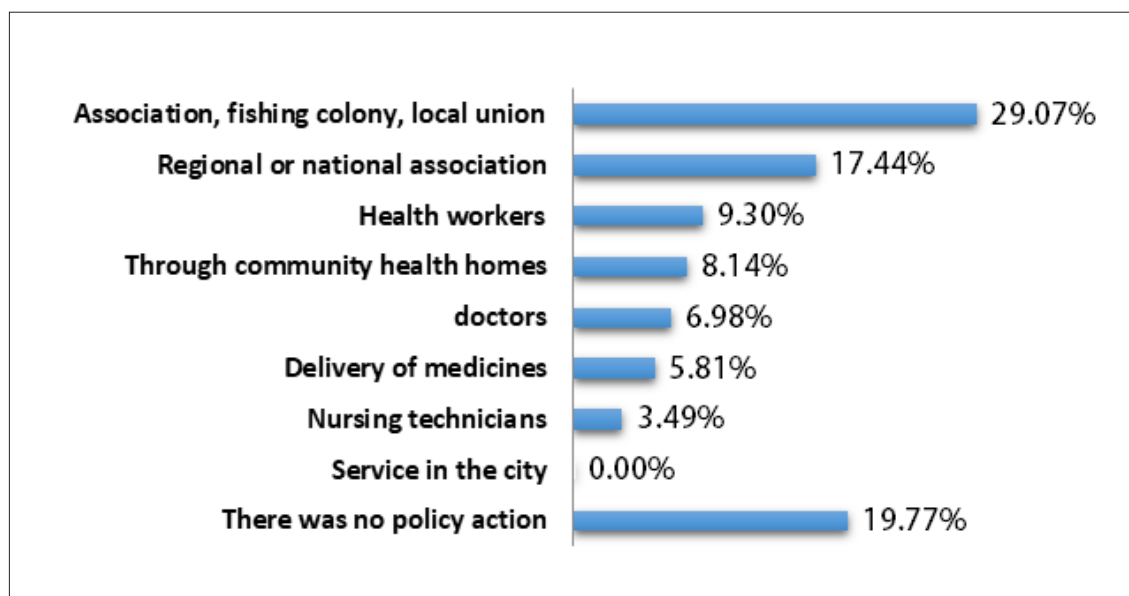


Figure 13: How public services reached communities in COVID 19 pandemic times

Almost a fifth of the leaders interviewed (19.77 per cent) as part of our survey denied the existence of any Covid-19 assistance policy in the country (Figure 11). 46.51 per cent said that any policies implemented were made accessible only because of local and national associations. Associations and fishing organizations also helped provide masks, sanitizer, soap and food packages during the crisis. They also helped with advocacy during the pandemic.

5.1. Violence against women and girls in fishing communities in Brazil

The Maria da Penha Law (Law 11.340, of August 7, 2006) was created to curb domestic and family violence against women. The law provides for five types of domestic and family violence against women: physical, psychological, moral, sexual and patrimonial. The Brazilian Penal Code also has harsh punishments for harassment, rape, sex trafficking, online violence and femicide.

Despite all this, violence against women and girls in Brazil has increased every year. According to the 12th Brazilian Yearbook of Public Security (FBSP, 2018), there was an 8.4 per cent rise in the number of rapes in the country from 2016 to 2017 —the number of registered cases rising from 54,968 to 60,018. There was also a 4 per cent increase in femicides in 2018. Femicides accounted for 29.6 per cent of intentional women homicides in 2018.

Between 2011 and 2017, 83,068 cases of sexual violence against children aged 0-9 were registered in the Ministry of Health's Information System for Notifiable Diseases (SINAN). Of this total, 74.2 per cent (43,034) were female, 25.8 per cent (14,996) male. 3.3 per cent of victims suffered from some form of disability.

SINAN recorded 37,546 reports of violence against women from January to April 2020, and average of 313 reports per day—a report every 5 minutes. Since the pandemic began, 497 women have been killed in Brazil—one femicide every 9 hours between March and August.

The data, while horrifying, is also incomplete. There is a complete absence of data from rural areas. The problem of domestic violence in rural areas, in addition to a lack of access to policies led to the *Marcha das Margaridas*, or March of the Daisies, where women from across the country marched to the capital to demand their rights, and draw attention to the various forms of female oppression in rural society.



Figure 15: National Workshop of Women of the Waters and the Mares
Photo: CONFREM Brazil Archive.

In response to a demand during the 2007 March, the government installed the National Forum to Combat Violence against Women in the Field and the Forest. Many rural women's organizations and institutions as well as various ministries of the government took part in the Forum.

There is no government policy to address violence against women in rural Brazil yet. Some Brazilian states have developed policies to aid rural women. The federal government runs a call centre for women—Call 180—which, in addition to receiving reports of violations against women, sends reports to competent bodies and monitors the case progress.

There also exist specialized police departments for women. In 2014, IBGE (2019) there were 441 police stations specially designated to handle cases of violence against women. The number reduced to 417 in Brazil—the report also noted that only 15 per cent work round the clock. Most municipalities (91.7 per cent) lack specialized police stations for women. Existing ones are located in capitals and medium-sized municipalities.

Women in fishing communities face similar forms of violence as their counterparts across the country. Their situation has, over the years, worsened due to a lack of knowledge, housing and access to urban centers, where these help and support can be found.

Over the last five decades, there has been increased focus on combating gender violence in society. Led by feminist movements, both rural and urban, social movements have sprung up everywhere. Despite this, studies on violence against women in rural Brazil remains low. When it comes to women fishers there is a complete absence of statistical data—even on other parameters; while data is available it is never gender specific.

Women fishers, working in tandem with unions and associations have helped create advocacy and education to combat all forms of violence against women, as well as ensure their visibility in society. Among the most noteworthy are the National Movement of Men and Women Fishers (MPP), the Women Network of Fishing Communities of Southern Bahia, Women Network of Amazonian Mangroves (MA, PI, PA and AP), Women Network of APA Costa dos Corais, Women Network of the Delta do Parnaíba and the Movement of the Mangaba Gatherers of the state of Sergipe. These local women groups have come together to design actions and partnerships that aid victims and survivors of violence in fishing communities.

5.2. Access to Justice

The constitution guarantees every citizen the right to justice. In addition it also guarantees every citizen the right to avail of justice saying that “the State will provide full and free legal assistance to those with insufficient resources”. In a country marked by historical social inequality, justice has been tough to access for most. Today it has magnified further due to a huge political and economic disparity in its society.

Fisher rights are protected by local, regional and national organizations that rally together to help implement policies that provide justice. These include institutions such as the public prosecutor, and ministries responsible for delivering justice autonomously.

The chief problem is that of implementing the rights of indigenous people and communities and providing them with legal services as well as adhering to their traditions when passing decisions. The latter is key to resolving disputes.

ILO Convention 169 Article 1 defines indigenous and tribal peoples as “peoples that have social, cultural and economic conditions that distinguish them from other sectors of the national community, and that are governed, totally or partially, by customs or traditions or by special legislation”. To guarantee the fulfillment of this fundamental human right, effective participation of traditional communities is necessary. Protocols that meet their needs and also allow for joint resolution need to be designed. In this the work of the Public Prosecutor’s Office is essential. They monitor the consultation process, aid all parties and can help clarify and empower these communities in their desire to access justice.

During the pandemic these rights were grossly violated for economic interests. Agro-industrial and mining enterprises did not pause their activities in lands traditionally occupied by indigenous people, *quilombolas* and traditional fishermen, and caused huge distress to the community.

5.3. Sustainable small-scale fishing

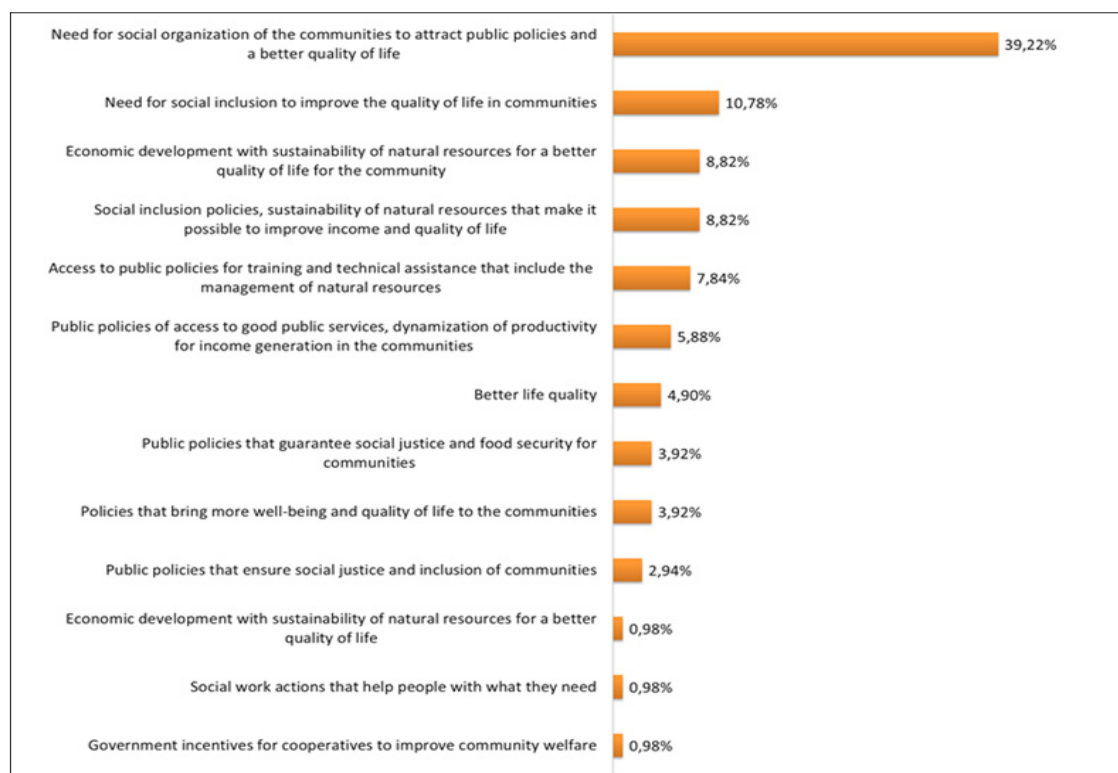


Figure 12: Community conceptions of what social development is

Our surveys indicate that a majority of respondents (39.22 per cent) understand social development as the need for social organization to attract public policies and a better quality of life. Policies of social inclusion and sustainability of resources were cited by 19.6 per cent as a necessity for social development (Figure 15). This indicates that there is a desire and a deep understanding for the need for social development on ground, even if government action has been minimal.

In recent years there has been a complete dismantling of Brazil's environmental and social development policies, especially those aimed to aid indigenous and traditional communities, including small scale and artisanal fishers. This has threatened indigenous peoples, *quilombolas* and other traditional peoples and communities and even endangered extractive reserves. Various factors have contributed to this situation:

- ❖ In 2019, the President of the Republic drastically reduced the number of seats for civil society representatives in the National Environmental Council (CONAMA). His decree, removed, among others, the Brazilian Society for the Advancement of Science (SBPC) and the National Association of Municipalities and the Environment (ANAMMA). It has impacted the way decisions are made about Brazilian environmental policy.
- ❖ Fisheries are now exclusively dealt with by the Ministry of Agriculture, Livestock and Supply in the Secretariat of Aquaculture and Fisheries. This means fisheries planning is done independent of environmental ministry advice.
- ❖ The termination of the *Bolsa Verde* programme has severely impacted environmental conservation and worsened living conditions of the poor. A cash transfer scheme, it was part of the Brazil Without Extreme Poverty Plan (BSM). It helped improve living conditions of people and communities who carry out activities for the conservation of natural resources in rural areas. In addition to regulatory frameworks, a set of policies was instituted to implement community forest units, and promote the sustainable use of natural resources by these families.
- ❖ According to a new decree, the Ministry of Agriculture, Livestock, and Food Supply will carry out the preliminary analyses of technical projects by themselves. This may simplify processes, but also creates a lack of clarity on possible impacts on the environment and the lives of fishers.
- ❖ The 2019 oil spill on the coast of Brazil affected 14 conservation units spread across the North east states of Paraíba, Alagoas, Bahia, Ceará, Maranhão, Pernambuco, Piauí, Rio

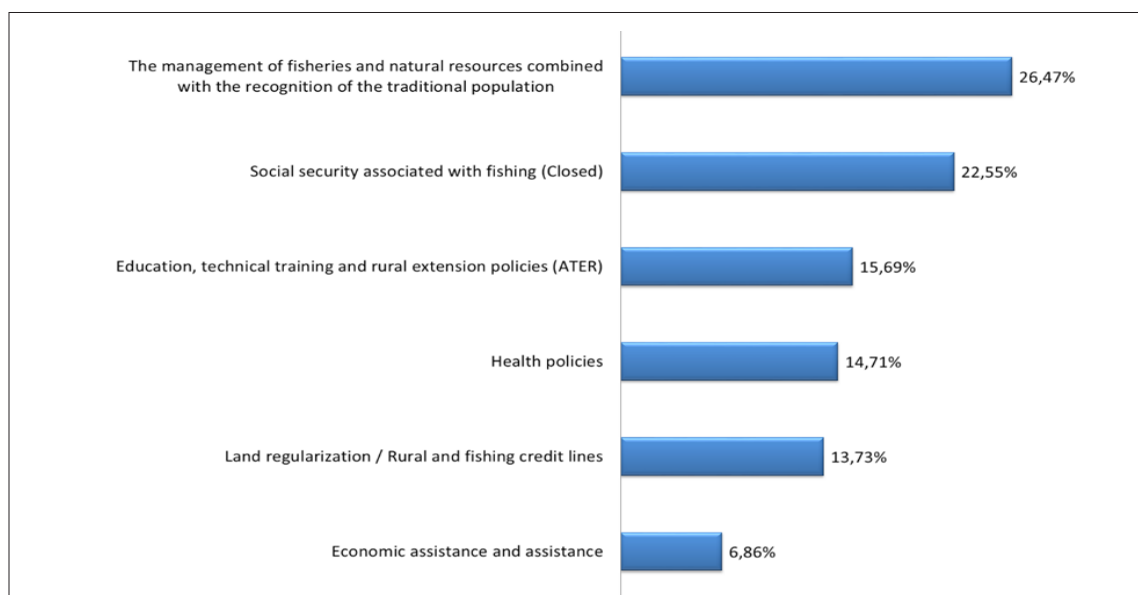


Figure 16: Important social policies for the life of fishermen in Extractive Reserves

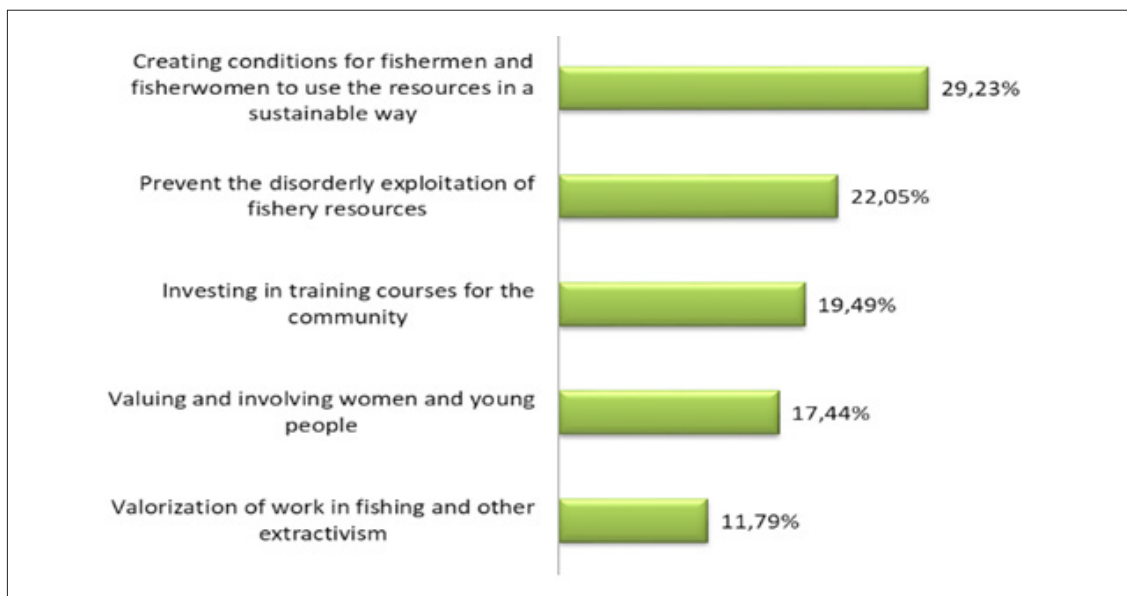


Figure 17: How social development policies contribute to sustainable resource use
Source: research data, 2021.

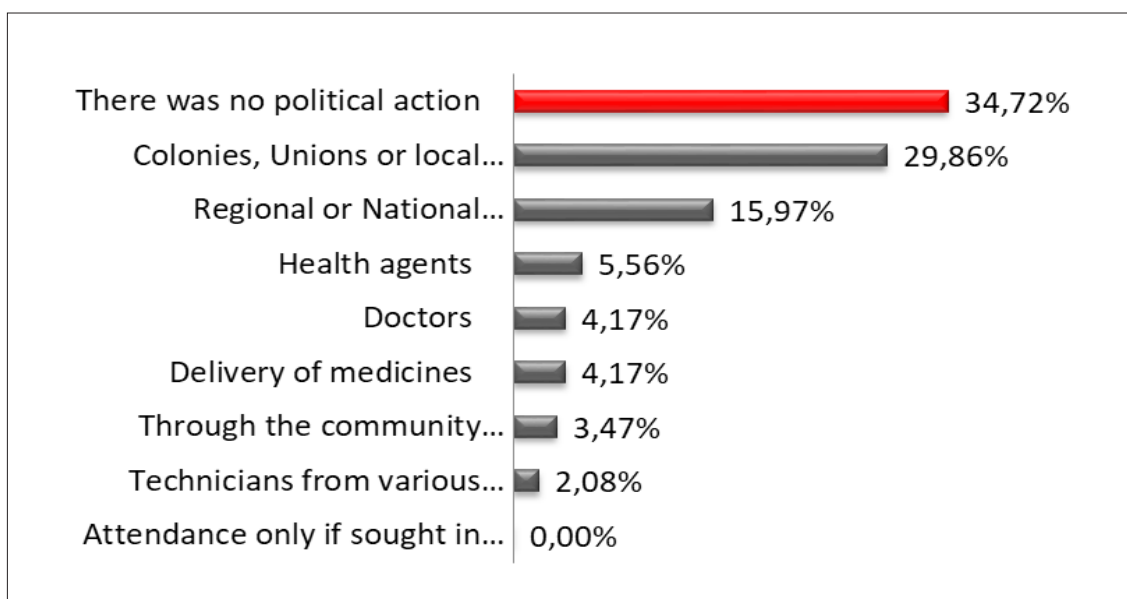


Table 18: How Public Policy Reaches Communities in These Pandemic Times COVID 19
Source: research data, 2021.

Grande do Norte, Sergipe, and the states of Espírito Santo and Rio de Janeiro in the Southeast region. It covered 129 municipalities and more than 1,000 localities, impacting all ecosystems, marine biodiversity, and artisanal fishing activities. The federal government reacted two months after the beginning of the spill instituting emergency aid for professional artisanal fishermen in the municipalities affected by it. The aid caused huge confusion, because it demanded that all beneficiaries show a general fishing registration ID, which has been an ongoing problem for the community across the country. At the beginning of 2021, CONFREM Brazil estimated that less than a third of the fishermen affected received any kind of compensation at all.

- ❖ The government's 'Adopt a Park' programme, encouraged private, national and foreign individuals and companies to invest in the conservation, restoration, and improvement of federal conservation units across the country. A list of 100 (in the FLONA, RESEX, REBIO, PARNA and ESEC categories) marked the beginning of private investment in Conservation

Units. By creating the programme the government omitted its obligation to carry out prior, free and informed consultation with the Conservation Units, based on ILO Convention 169, which covers indigenous peoples, *quilombolas*, and traditional communities. There was no publicity for the programme. Furthermore, participation was hugely ineffective.

Our surveys also looked to investigate the extractivists' point of view on how they understand central issues for social development based on conservation and sustainable use of resources.

Over a quarter of respondents (26.47 per cent) considered management of fisheries and recognition of traditional policies hugely important social policies for sustainable development (Figure 16). Social security ranked second in the list, with 22.55 per cent considering it a necessity for sustainable use of resources. Investing in training and capacity building will go a long way towards aiding in sustainable resource use, our research suggests (Figure 17).

During the pandemic, fishing communities suffered in a myriad of ways. Our research revealed that over a third were disillusioned by a lack of political action to combat the crisis, while 45.83 per cent believe that any aid they could access was due to local, regional, or national social organizations. It reinforces the importance of social organizations within the community and the need to promote them, help them grow and prepare them to advocate for sustainability as a guarantee for better life.

6. Conclusion and Recommendations

There need to be more studies conducted on the impacts of climate change on coastal and marine biodiversity. These must also cover areas and species of socioeconomic importance to fishing communities.

In the time of the pandemic, economic policies have ignored artisanal fishing as a priority. Social and environmental policies across the country are being weakened and dismantled. A lack of these policies will see a rise in denial of rights and a spike in social inequalities and poverty in Brazil.

Sustainable fishing, a traditional extractive activity, guarantees work and income to thousands of families and food security for a good part of the Brazilian population. It also makes it possible to sustain an entire value chain that also involves other segments.

Our research confirms the historical vulnerability of these social groups and a lack of government action to combat this. There is an absence of policies to reduce the impacts of climate change. There is dispute in coastal territories for the construction of large scale enterprises. The government has given those with economic power access to water resources, thus isolating fishers. Fishers work in dangerous conditions and often compete with other forces to simply survive. There is also a lack of recognition and protection for their way of life

Since 2019, Brazil has suffered many setbacks in its policies to deal with traditional peoples and communities. Its adoption of the Sustainable Development Goals (SDGs) and the

Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (FAO) have been ineffective. Local learning and knowledge has not been considered to make artisanal fishing sustainable.

Action has to be taken to recognize the rights of fishers, in particular women, children and young adults. There is an urgent need for the establishment of a digital inclusion policy that considers rural populations too.

The impacts of Covid-19 can be reversed by subsidies for fishing communities. These can come via a reallocation of public resources or through public / private partnerships. Increasing income in the community, providing access to new technologies and advocating environmental conservation could reverse the current situation.

The government's housing programme needs to be restarted, with an increased focus on considering local realities, when constructing units. Basic sanitation, drinking water and electricity needs to be available to all.

Violence against women can be combatted by providing support for survivors, education and advocacy.

Extractive Reserves can be strengthened by implementing a co-management governance model among fishermen, fisherwomen, civil society organizations, government and academia.

Fishermen and women need to be involved with collecting data on fish landings, and environmental recovery. Constructing a legal framework that monitors production, decline of resource and the supply chain will aid in transparency.

Finally, the people of the tides and the waters, the coastal and marine extractivists, must be considered chiefly responsible for conservation of biodiversity. Their knowledge of natural resource management must be considered of high value. This is necessary for the future of humanity.

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The Bolsa Família Program (PBF) is a federal government cash transfer program, under conditions, instituted by Provisional Measure 132, of October 20, 2003, converted into law on January 9, 2004, by Federal Law no. 10,836, which unified and expanded previous cash transfer programs.

The Bolsa Verde Program is part of the Brazil sem Miséria Plan (PBSM) and its official name is the Environmental Conservation Support Program. It was instituted by Law No. 12,512, of October 14, 2011 and regulated by Decree No. 7,572 / 2011.

Único Unified Health System (SUS), was established by Law No. 8080 of September 19, 1990, which provides for the conditions for the promotion, protection and recovery of health, the organization and functioning of the corresponding services.

Installation and Strengthening of Family Agriculture Credit Program - PRONAF, in group "A" in Extractive Reserves established by Decree No. 9,424, of June 26, 2018, regulates item V of the caput of art. 17 of Law 8,629, of February 25, 1993, which provides for the granting of installation credits for settlement projects to beneficiaries of the National Agrarian Reform Program.

Social Security Law as special insured Program Minha Casa Minha Vida.

The Food Acquisition Program (PAA), created by art. 19 of Law No. 10,696, of July 2, 2003, has two basic objectives: promoting access to food and encouraging family farming

Artisanal Fisherman Insurance - benefit paid to artisanal fishermen, prevented from exercising fishing activity during the closed season for species reproduction

Emergency Social Protection Aid for people in vulnerable situations due to the COVID pandemic 19

8. Annexure

List of UCs where direct research was carried out

	EXTRACTIVE RESERVES	STATES	NO. OF FAMILIES	AREA IN HECTARES
NORTHEASTERN 1 REGION				
1	Acaú-Goiana	PERNAMBUCO/ PARAIBA	1,436	6,676.79
2	Baía do Iguape	BAHIA	4,676	10,082.59
3	Batoque	CEARÁ	262	601.45
4	Canavieiras	BAHIA	1,866	100,688.41
5	Cassurubá	BAHIA	1,666	100,578.38
6	Corumbau	BAHIA	719	89,996.76
7	Lagoa do Jequiá	ALAGOAS	1,483/1,718	10,196.69
8	Prainha do Canto Verde	CEARÁ	309	29,805.48
	8 RESEXs	5 STATES	12,652	348,626.55
NORTHEASTERN 2 REGION – AMAZONIAN MANGROVES				
9	Arapiranga Tromai	MARANHÃO	5,000	186,908
10	Cururupu	MARANHÃO	1,483	186,056.73
11	Itapetininga	MARANHÃO	1,100	16,294
12	Baía do Tubarão	MARANHÃO	7,000	223,917
13	Delta do Parnaíba	MARANHÃO/PIAUI	1,297	27,022.07
	5 RESEXs	2 STATES	15,880	640,197.80
NORTH REGION – AMAZONIAN MANGROVES				
14	Araí Peroba	PARÁ	1.226	62.578,12
15	Mestre Lucindo	PARÁ	1.500	26.464.88
16	Mocapajuba	PARÁ	2.800	21.027,80
17	São João da Ponta	PARÁ	388	3.409,49
18	Caeté Taperaçu	PARÁ	4.409	42.489,81
19	Chocoaré Mato Grosso	PARÁ	672	2.783,20
20	Cuinarana	PARÁ	409	11.036,41
21	Gurupi Piriá	PARÁ	3.475	72.789,93
22	Mãe Grande Curuçá	PARÁ	2.706	36.678,78
23	Maracanã	PARÁ	1.506	30.179,65
24	Soure	PARÁ	1.297	29.578,80
25	Tracuateua	PARÁ	2.015	27.864,50
	12 RESEXs	01 STATE	22.403	366.881,67
SOUTHEASTERN REGION				
26	Arraial do Cabo	RIO DE JANEIRO	1,055	51,677.39
27	Mandira	SÃO PAULO	22	1,177.81
	2 RESEXs	2 STATE	1.077	53,455.20
SOUTH REGION				
28	Pirajubaé	SANTA CATARINA	88	1,712.10
	01 RESEX	01 STATE	88	1,712.10
	28 EXTRACTIVE RESERVES	11 STATES	52.100 FAMILIES	1,410,873.32



Social Development and Sustainable Fisheries: Brazil

Prepared by:

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Recent years have seen Brazil's social and environmental policies weakened and dismantled at a frightening scale. Rights violations, lack of access to benefits, and a complete disregard for the sector during the pandemic has led to a rise in inequality and poverty. Our research confirms a lack of government initiative and desire to combat historical vulnerabilities in small-scale fishing communities. Much like other sectors, even fisheries in Brazil are fighting to protect themselves from large scale enterprises taking away livelihoods, and indeed a way of life. The country's adoption of the Voluntary Guidelines to Guarantee Sustainable Fishing Small Scale (FAO) has been ineffective. Much more needs to be done to aid the community, the sector and uplift them to a standard that ensures sustainability and its survival.



ICSF (www.icsf.net) is an international NGO working on issues that concern fishworkers the world over. It is in status with the Economic and Social Council of the UN and is on ILO's special list of Non-Governmental Organizations. It also has Liaison status with the FAO. ICSF works towards the establishment of equitable, gender-just, self-reliant and sustainable fisheries, particularly in the small-scale, artisanal sector.

ICSF draws its mandate from the historic International Conference of Fishworkers and their Supporters (ICFWS), held in Rome in 1984, parallel to the World Conference on Fisheries Management and Development organized by the Food and Agriculture Organization of the United Nations (FAO). As a global network of community organizers, teachers, technicians, researchers and scientists, ICSF's activities encompass monitoring and research, exchange and training, campaigns and action, as well as communications.