

**Project Evaluation Series**

**Terminal evaluation of the project  
“Sustainable management of bycatch in  
Latin America and Caribbean trawl fisheries”  
(REBYC-II LAC)**

**GCP/RLA/201/GFF  
GEF ID: 621538**

**Annex 2. Country report for Brazil**



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## Abbreviations and acronyms

B&D Guidelines	International Guidelines on Bycatch Management and Reduction of Discards
BRD	Bycatch reduction device
BRL	Brazilian real
CCRF	Code of Conduct for Responsible Fisheries
CSO	Civil-society organization
EAF	Ecosystem approach to fisheries
EAFM	Ecosystem approach to fisheries management
EEZ	Exclusive economic zone
GDO	Global development objective
GEF	Global Environment Facility
GEO	Global environmental objective
FADURPE	Apolônio Sales Foundation for Educational Development
FAO	Food and Agriculture Organization of the United Nations
HS	Highly satisfactory
HU	Highly unsatisfactory
ILO	International Labour Organization
IUCN	International Union for the Conservation of Nature
M&E	Monitoring and evaluation
ML	Moderately likely
MS	Moderately satisfactory
MU	Moderately unsatisfactory
NGO	Non-governmental organization
OED	Office of Evaluation (FAO)
REBYC-II LAC	“Sustainable management of bycatch in Latin America and Caribbean trawl fisheries” project
RPCU	Regional Project Coordination Unit
SAP/MAPA	Secretariat of Aquaculture and Fisheries of the Brazilian Ministry of Agriculture, Livestock and Supply
SSF Guidelines	Voluntary Guidelines for Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication
TED	Turtle excluder device
UA	Unable to assess
UFRPE	Federal Rural University of Pernambuco

# Executive summary

## Introduction

1. This document is part of the terminal evaluation of the regional project entitled “Sustainable management of bycatch in Latin America and Caribbean trawl fisheries” (REBYC-II LAC), GCP /RLA/201/GFF. It presents the findings, conclusions and recommendations of the component implemented in Brazil, one of the focus countries chosen by the Food and Agriculture Organization of the United Nations (FAO) for inclusion in the terminal evaluation. The project was funded by the Global Environment Facility (GEF) and implemented and executed by FAO. The implementation of project activities in Brazil was led by the Secretariat of Aquaculture and Fisheries of the Brazilian Ministry of Agriculture, Livestock and Supply (SAP/MAPA).
2. The terminal evaluation, as set out in the project document and in line with GEF and FAO requirements, has a dual purpose of accountability and learning – i) to inform the donor (GEF), regional bodies, national institutions and counterparts in project execution and ii) to assess the sustainability of project results and identify key lessons and recommendations that could inform future activities. The evaluation is primarily targeted at the project decision makers, the implementing agency and executing/co-executing agencies, and SAP/MAPA, in particular, in Brazil.
3. In terms of geographic scope, the evaluation spans seven shrimp fishing sites in the North Coast, Northeast Coast, Central Coast (defined as the southern Northeast maritime zone to the northern Southeast maritime zone) and Southeast/South Coast subregions of Brazil. The evaluation assessed the achievements of pilot activities. The COVID-19 pandemic rendered planned visits to project sites impossible.
4. The terminal evaluation assessed and rated the project based on the criteria of relevance, effectiveness, efficiency, sustainability and factors affecting performance (monitoring and evaluation (M&E) and stakeholder engagement).
5. The tools for primary and secondary data collection were selected with a view to generating a broad spectrum of information and to validating and triangulating the evaluation’s findings. They comprised an evaluation matrix of questions for each criterion, a desk review, document analysis and interviews with key informant at project sites, conducted online. In addition, the evaluation team developed a questionnaire and administered it to key stakeholders at all project sites.

## Main findings

6. The main findings of the evaluation, organized by evaluation criterion and question, are presented below.

### Relevance

7. To what extent was the project relevant to Brazil’s national priorities and streamlined with GEF and FAO priorities, strategic objectives and programmes?

**Finding 1.** The project was highly relevant to Brazil’s requirements and succeeded in mobilizing stakeholders and non-state actors in the shrimp fishing sector to work towards meeting national, GEF and FAO priorities.

**Finding 2.** Shrimp trawl fisheries are of socioeconomic importance along the entire Brazilian coastline in terms of income, employment, local livelihoods, food security, foreign exchange earnings and many other

things. The proposed objectives of the project were consistent with national development goals for fisheries management.

### **Effectiveness**

8. To what extent did the project contribute to the achievement of stated environmental and development objectives? Were the intended results as expected and were there any unintended results?

**Finding 3.** The project helped to enhance awareness of bycatch management, seeking out measures to reduce the impact of trawling on the environment, drawing on technological developments for responsible fishing.

**Finding 4.** There was better-than-expected collaboration between stakeholders – fishing communities, civil society organizations (CSOs), non-governmental organizations (NGOs), academia, research institutions and the government – as well as lasting dialogue on public policy in relation to fisheries management.

### **Efficiency**

9. To what extent was project implemented efficiently and cost effectively?

**Finding 5.** Shrimp/bottom-trawl fisheries vary from region to region, with site-specific characteristics directly affecting the efficiency of project implementation and bycatch management, be it in terms of developing bycatch reduction technologies or social and economic safeguards.

**Finding 6.** The national project coordination team was highly efficient in partnering with different institutional stakeholders and liaising with existing projects to cover planned activities, processes and products, maximize funding, avoid duplication and overlaps and overcome political instability.

### **Factors affecting performance**

10. Was the M&E plan practical and sufficient (M&E design)? Did the M&E system work in line with the M&E plan (M&E implementation)? Was information gathered in a systematic way, using appropriate methodologies? Was the information from the M&E system used appropriately to make timely decisions and foster learning during project implementation? To what extent were other actors, such as CSOs, indigenous populations or local communities and the private sector, involved in project design and implementation and what was the effect on project results?

**Finding 7.** Project-level monitoring and reporting were carried out appropriately and on time, for the most part, and supported project implementation.

**Finding 8.** The co-financing committed in the project's endorsement and approval stages was substantial. It came in slightly lower than expected in US dollar (USD) terms, but higher level than expected in Brazilian real (BRL) terms.

**Finding 9.** The project was highly successful when it came to the inclusion of diverse stakeholders, engaging institutional stakeholders and partnering with them, enhancing knowledge on bycatch management issues with a view to improving the sustainability of Brazil's shrimp trawl fisheries.

**Finding 10.** Stakeholder awareness and mobilisation were enhanced, mainly in the artisanal fisheries subsector, making fishers and fishworkers mindful of the importance of ensuring decent work in fishing and the sustainable use of fisheries resources.

### **Sustainability**

11. What is the likelihood that the project results will remain useful or persist after the end of the project?



**Finding 11.** National and local buy-in to the project was made possible by bringing together government and other stakeholders. This, combined with evidence of effective and efficient project implementation, underscores the high ownership level achieved. Although the four management plans developed may help sustainability in the medium and long term, methodological questions remain on the achievement of results.

### **Cross-cutting issues**

**Finding 12.** By introducing integrated management and reducing discards and bycatch, the project generated and enhanced knowledge on the sustainability and management of shrimp trawl fisheries, as well as the environmental impact of shrimp trawling.

**Finding 13.** The project carried out workshop activities, value-chain and socioeconomic analysis at selected fishing sites that included a gender dimension highlighting a historical-cultural and political role women play in fishing-sector management.

### **Conclusions**

**Conclusion 1** (Findings 1 and 2, relevance). The project enhanced knowledge on the sustainability of shrimp trawl fisheries and bycatch management, environmental impact assessments and biodiversity conservation by mobilizing stakeholders and non-state actors and meeting national development objectives for fisheries management.

**Conclusion 2** (Findings 3 and 4, effectiveness). Time constraints limited the implementation of certain project activities and interactions between stakeholders. Still, the project piqued the shrimp fishery sector's interest in replicating and enlarging its scope to other fishing areas. In addition, it successfully fostered ongoing dialogue on public policy, plans and projects in relation to fisheries management, which may form the basis for a plausible and compelling regulatory framework.

**Conclusion 3** (Findings 3 and 4, effectiveness). Bycatch reduction devices (BRDs) have been shown to reduce bycatch, with positive effects on biodiversity and the ecosystem, contributing to the global environmental objectives (GEOs). Furthermore, no significant changes in the capture of target species occurred, providing equitable livelihoods and income for fishing communities and adding value to local fisheries, thus contributing to global development objectives (GDOs).

**Conclusion 4** (Findings 3 and 4, effectiveness). On average, the tested devices worked efficiently, reducing the shrimp catch by no more than 15 percent and excluding more than 25 percent of all bycatch. There was a significant reduction in the bycatch of endangered and protected elasmobranch species (such as sharks, rays and skates).

**Conclusion 5** (Findings 5 and 6, efficiency). Partnerships between institutions and stakeholders led to widespread improvements in the knowledge of trawling and bycatch management in Brazil's coastal areas. Managing bycatch, therefore, reflected the diverse characteristics of each fishing site, highlighting existing problems and the need to resolve them cohesively, either by developing reduction technologies or through social and economic safeguards.

**Conclusion 6** (Finding 9, factors affecting performance). Stakeholder engagement created an enabling environment, strengthened by the representation of community organizations, allowing for participatory processes to achieve desired livelihoods.

**Conclusion 7** (Finding 11, sustainability). The functional integration of government and other stakeholders fostered an enabling environment for national ownership, sustainable results and the long-term impacts needed for bycatch management. In addition, it promoted the incorporation of conservation and the sustainable use of biodiversity in shrimp trawling.

**Conclusion 8** (Finding 13, cross-cutting issues). By analysing project activities, the evaluation team was able to identify the role of women in the sector. They observed fisherwomen’s leadership skills, positive attitude, ability to take criticism, sense of responsibility, resilience and companionship.

## Recommendations

**Recommendation 1.** FAO and project management should facilitate the successful completion of the project components, disseminate project information and support project sustainability and replication.

**Recommendation 2.** FAO and the GEF should plan a follow-up project in Brazil. The joint initiative to support the Brazilian government should continue in a subsequent project to be negotiated by 2023 and operational by 2024. It should incorporate immediate, essential measures based on the empirical fishing knowledge of stakeholders and a strategy to manage shrimp resources and ensure the sustainability of fisheries.

**Recommendation 3.** The project partners and the Government of Brazil should maintain their efforts to advance technological innovation (software and devices such as BRDs) to ensure the sustainability of shrimp fisheries and bycatch management. BRDs have been shown to reduce bycatch, with positive effects on biodiversity and the ecosystem and no significant changes in the capture of target species, providing equitable livelihoods and income to fishing communities and adding value to catch.

**Recommendation 4.** The Government of Brazil and project partners should upscale the participative decision-making process promoted by the project. Actions must be taken by 2022 to ensure that the shrimp management plan comes into effect within a one-year timeframe.

**Recommendation 5.** The project partners and the Government of Brazil should work together to advance a decent work agenda. The evaluation underscored (Conclusion 7) the importance of promoting a decent work agenda in the short term, within a six-month timeframe.

**Table 1. GEF evaluation criteria ratings**

Criteria	Mid-term evaluation rating (June 2019)	Final evaluation rating – Brazil	Corresponding justification in evaluation report
<b>A. ASSESSMENT OF PROJECT RESULTS</b>			
1. Overall quality of project outcomes	MS	HS	All. The project managed to meet the country’s priorities and demonstrate its relevance in relation to Brazil’s development concerns.
1.1. Relevance	S	S	Section 3.1. For more effective M&E and to truly promote sustainability, the exchange of information is necessary. This is the best way of facilitating the effective implementation of shrimp fishing policies and management measures.
1.2. Effectiveness	MS	S	Section 3.2. The project was satisfactory with regard to the overall achievement of outputs, as well as to the achievement of unexpected effects. Delays, administrative issues and other matters weighed on effectiveness. To facilitate effective implementation, the national coordination team managed to integrate actions and projects.
1.2.1. Delivery of outputs	S	S	Section 3.2. The level and delivery of outputs achieved were as expected. There were minor shortcomings in delivery at output level. Eighty-three percent of expected outputs were fully achieved, while 17 percent were partially achieved.

Criteria	Mid-term evaluation rating (June 2019)	Final evaluation rating – Brazil	Corresponding justification in evaluation report
1.2.2. Attainment of outcomes and project objectives	MS	S	Section 3.2. The extent to which objectives/outcomes were achieved was highly satisfactory, given the attainment of almost all expected outcomes.
1.2.3. Likelihood of impact (review of outcomes to impacts)	UA	HS	Section 3.4. The healthy integration of government and stakeholders in the process promoted an enabling environment for sustainable results and the long-term usefulness of impacts.
1.3. Efficiency	MS	S	Section 3.3. Efficiency was satisfactory. Some aspects, such as coordination, were highly satisfactory. Elsewhere, effectiveness was moderate, for example, in relation to timeframe and budgetary aspects, which impacted administration.
<b>B. PROJECT IMPLEMENTATION AND EXECUTION RATING</b>			
2. Quality of project implementation	MS	HS	All. The project aligned with the country's priorities and demonstrated its relevance to Brazil's development concerns.
2.1. Project oversight	MS	HS	Section 3.3. Project oversight was not observed. Monitoring and reporting were carried out appropriately and in a timely manner, for the most part, and supported project implementation.
3. Quality of project execution	MS	HS	All. The project managed to meet national priorities and demonstrated its relevance to Brazil's development concerns.
3.2. Project management arrangements and delivery (project management unit, financial management, etc.)	MS	HS	Section 3.3. Project management arrangements were highly satisfactory. Delivery was achieved in a timely manner and only slowed due to the COVID-19 pandemic and certain bureaucratic issues.
3.3. Knowledge management and communication	U	S	Sections 3.3 and 3.4. The project aggregated information and knowledge on the effect of bycatch in the context of diverse local fishing sites. Communication was satisfactory, although relevant information must be properly transmitted to the different national stakeholders.
<b>C. PROCESSES AND FACTORS AFFECTING ATTAINMENT OF PROJECT OUTCOMES</b>			
4. Project design and readiness	MU	S	Sections 3.3 and 3.4. Since the mid-term evaluation, no shortcomings were evident in the quality of design, although the project was overly ambitious and geographically stretched. The ecosystem approach to fisheries management (EAFM) was tailored to the country's capacity and needs, while encompassing the three pillars of sustainability (human wellbeing, ecological wellbeing and governance).
5. Project partnerships and stakeholder involvement	HS	HS	Section 3.4. Stakeholder involvement and partnerships continued to be forged and project implementation (even some unplanned partnerships) was highly satisfactory.
6. Co-financing	S	S	Section 3.3. Co-financing was at the expected level and fully met on an in-kind basis, though lower

Criteria	Mid-term evaluation rating (June 2019)	Final evaluation rating – Brazil	Corresponding justification in evaluation report
			than expected in cash terms. In all, therefore, the co-financing leveraged was satisfactory.
<b>D. M&amp;E RATING</b>			
7. Overall quality of M&E	MS	HS	Section 3.3. Monitoring and reporting were conducted appropriately, proactively and in a timely manner. For the most part, they supported project implementation and output delivery.
7.1. M&E design	S	HS	
7.2. M&E plan implementation (including financial and human resources)	MS	S	
<b>E. SUSTAINABILITY OF PROJECT OUTCOMES</b>			
8. Overall likelihood of risks to sustainability	ML	ML	All. As the project managed to meet national priorities and demonstrate its relevance, the risk to sustainability is moderate.
8.1. Financial risk	ML	ML	Section 3.3. Although all sides lived up to their commitments, the likelihood of financial resources to underpin sustainability are moderate. Sustaining some outcomes may be feasible.
8.2. Sociopolitical risk	L	L	Section 3.3. There is no guarantee of social and political stability in Brazil.
8.3. Institutional risk	ML	ML	Sections 3.3 and 3.4. Institutional weakness is still of great concern in Brazil. While the project showed concrete progress on creating strong institutions for the integrated management of shrimp trawling, moderate risks remain to institutional arrangements that can sustain the outcomes achieved.
8.4. Environmental risk	ML	ML	Section 3.3. Socioeconomic and environmental differences between the pilot sites were evident, affecting project activities. These were addressed using an EAFM methodology, thanks to stakeholder engagement. Still, there are externalities outside the project's remit that could have an impact on sustainability if follow-up activities do not take place in line with the management plans.

Note: Highly satisfactory (HS), satisfactory (S), moderately satisfactory (MS), moderately unsatisfactory (MU), unsatisfactory (U) and highly unsatisfactory (HU). The ratings for sustainability are likely (L), moderately likely (ML), moderately unlikely (MU), unlikely (U) and unable to assess (UA).

# **1. Introduction**

12. This document presents the results of the terminal evaluation of the Brazil component of the regional full-size “Sustainable management of bycatch in Latin America and Caribbean trawl fisheries” project (REBYC-II LAC), GCP /RLA/201/GFF. Brazil was one of the terminal evaluation focus countries selected by FAO. The project was funded by the GEF and implemented and executed by FAO. The execution of project activities in Brazil was led by SAP/MAPA. The Brazil-specific findings, conclusions and recommendations feed into the regional terminal evaluation.

## **1.1 Purpose of the evaluation**

13. The terminal evaluation, as set out in the project document and in line with GEF and FAO requirements, has the dual purpose of accountability and learning. On the one hand, it serves to inform the donor (GEF), regional bodies, national governmental actors and counterparts in project execution. On the other, by assessing the results, their impact and the country’s contribution to the objectives of the REBYC-II LAC project, the evaluation identifies measures to consolidate the sustainability of project results and highlights key lessons to inform future activities.

## **1.2 Intended users**

14. The primary target audience of the evaluation comprises the key project decision makers, the implementing and executing/co-executing agencies, specifically SAP/MAPA, the Western Central Atlantic Fishery Commission, the Caribbean Regional Fisheries Mechanism (CRFM), FAO and other members of the project steering committee, as well as national focal points, and other co-executing partners. The report also aims to inform the GEF and the GEF-FAO Coordination Unit on project results. They will benefit specifically from the evaluation’s findings, lessons and recommendations on how to further improve the design and implementation of future projects.

## **1.3 Scope and objectives of the evaluation**

15. The terminal evaluation covers the full project implementation period, from its beginnings in July 2015 to the completion of technical activities at the end of July 2021. It considers the activities of all project components in Brazil. Specifically, it assesses: i) the performance of the project in Brazil; ii) its results and their sustainability, and any transformational changes that occurred in the enabling environment for sustainable shrimp trawling fisheries; and iii) any shortcomings and good practices of project implementation. It also assesses the project’s design and takes into consideration the findings and conclusions of the mid-term evaluation conducted between October 2018 and June 2019.
16. The geographic scope of this evaluation spans seven shrimp fishing sites in the North Coast, Northeast Coast, Central Coast (defined as the southern maritime zone of the Northeast Region to the northern maritime zone of the Southeast Region) and Southeast/South Coast subregions of Brazil. The evaluation assessed the achievements of pilot activities. The COVID-19 pandemic rendered planned visits to project sites impossible.
17. The evaluation objectives and questions are also aligned with the GEF terminal evaluation guidelines, which state that terminal evaluations should assess, at a minimum, and provide a rating for relevance, effectiveness, efficiency, sustainability and factors affecting performance (M&E and stakeholder engagement). They follow the list of evaluation questions in each area of analysis and the criteria presented in the evaluation terms of reference and inception report.

## 1.4 Methodology

18. The first methodological tool developed for this analysis was the evaluation matrix (Appendix Table 4). The tools chosen for the evaluation, based on primary and secondary data collection and secondary quantitative and qualitative sources and material, were selected with a view to generating a spectrum of information, validating and triangulating findings. The methods used for data collection in response to the evaluation questions were a desk review, document analysis and key informant interviews at project sites, held online. A questionnaire was also developed and administered to key stakeholders at in-country sites to gather further input and support the triangulation process, as they could not be visited due to the COVID-19 pandemic.
19. The guiding questions for the evaluation were established in the terminal evaluation terms of reference. These questions are incorporated into the evaluation matrix (Appendix Table 4), along with subquestions, indicators, methods and sources of information. Each criterion was rated on the GEF six-point scale, namely: highly satisfactory (HS), satisfactory (S), moderately satisfactory (MS), moderately unsatisfactory (MU), unsatisfactory (U) and highly unsatisfactory (HU). The ratings for sustainability are likely (L), moderately likely (ML), moderately unlikely (MU), unlikely (U) and unable to assess (UA). The REBYC-II LAC ratings provided in the 2019 mid-term evaluation are shown by way of comparison and as a gauge of changes in performance. The ratings facilitate a comparison with routine GEF reporting and contribute to the GEF programme learning process (IWLern).

### 1.4.1 Data collection methods and tools

20. The identification of key stakeholders to be involved in the evaluation process considered “ownership and enhancement of the relevance of eventual use of the evaluation”. Appendix 1 presents a list of stakeholders, by interest group, contacted to participate in the evaluation process, while Appendix 3 presents the stakeholder analysis matrix.
21. During implementation, the REBYC-II LAC project built a network of partners with a focus on improving Brazilian fisheries management through the application of the EAFM, aggregating proposals to construct a Brazilian Shrimp Fisheries Management Plan through 81 workshops (63 at local level, 14 at state level and four at subnational level).
22. The primary evaluation audience comprises the main project decision makers and implementers – active stakeholders with the authority to take decisions on the evaluand, such as SAP/MAPA – other government entities, funding agencies interested in developing initiatives to strengthen institutional and regulatory arrangements for shrimp trawl fisheries and the shrimp fishing sector itself. FAO project personnel – the FAO Office in Brazil.
  - i. *Stakeholder engagement*: A list of 183 stakeholders was presented by the national project coordination team, comprising 61 researchers or government representatives and 122 private-sector, artisanal producer and industrial-sector representatives. The list contained stakeholders that attended the four subnational workshops. Unfortunately, only 70 of the 122 productive-sector representatives provided contact details.
    - Remote interviews were conducted with all 61 researchers and/or government representatives on reference, steering or advisory groups. All groups answered common evaluation questions and subquestions, formulated according to each group’s role in the project, in line with the guidance provided in the evaluation terms of reference. The method was steered by the evaluation questions set out in the

terms of reference for the final evaluation. Individual interviews were also conducted with the national project coordinator, national and local focal points, project consultants and government officials. Group meetings organized by the national coordination team were followed up, wherever possible, for further input.

- The 70 fishing-sector beneficiary representatives (the learning group) were contacted for responses to a specific questionnaire containing broad and open questions.
  - The regional project coordination team supported the evaluation with an overview of project implementation and execution at regional and country level.
  - The FAO Office in Brazil was contacted for further information on administrative and budget evaluation, as well as consultant contract information.
- ii. *Interview:* Questionnaires, comprising open and semi-open questions related to the evaluation criteria and project implementation, were sent to stakeholders for further input and to boost the participation in the evaluation of those individuals with direct and indirect roles in project execution and performance. The evaluation matrix (Appendix 2) served as the basis for the questionnaires. The steering group provided additional inputs to facilitate the evaluation process, as described in the evaluation inception report. The questionnaire sent to the reference, advisory and learning groups, using Google Form, is shown in Appendix 4 and the results can be found in Finding 10, Box 4 (stakeholder engagement analysis).
- iii. *Key informant interviews:* Appendix 5 presents a more detailed questionnaire sent to the reference group based on the evaluation questions and the subquestions of the evaluation matrix. The results were translated and used directly in the corresponding sections to aid the analytical process, with a view to identifying the results achieved and benefits obtained. Useful information included the level of satisfaction of beneficiaries, incentivizing factors and barriers to implementation.
- iv. *Regional project personnel:* An online meeting of the evaluation team, Lead Technical Officer, Lead Technical Unit and Regional Project Coordination Unit (RPCU) discussed project design; the achievement of expected outputs, outcomes, and objectives (effectiveness); efficiency, cost-effectiveness and budgetary issues; implementation and execution arrangements, partnerships and stakeholder involvement; the main challenges, impacts and how they were mitigated; the sustainability of outcomes (likelihood); and key lessons and recommendations.
- v. *FAO personnel in Brazil:* Accountable for administrative and bureaucratic issues: transfer of financial resources for project execution, originating from the implementing agencies (GEF and FAO) and executor agency (FAO) and in the hiring of consultants.
23. The proposed evaluation method optimized effort, timeframe and budget, to varying degrees, and grouped stakeholders with common interests and roles. It enabled participants to be fairly heard and avoided bias due to constraints such as power differentials, literacy levels and confidence levels, allowing freedom of speech. Reaching these participants and leaving no one behind ensured the envisaged level of participation. Analyses of reports and minutes from the workshops conducted allowed evaluation of the participatory approach.

## 1.5 Limitations

24. The degree and level of stakeholder participation in the evaluation process varied according to budgetary and time constraints. The evaluation attempted to weigh the level of stakeholder participation against the benefits and hurdles involved. The COVID-19 pandemic did not allow in-country visits, while the broad geographic spread of fishing sites in Brazil presented other challenges. Also, it was challenging to obtain a comprehensive sample of stakeholders from each site using the online tools available (such as email, telephone calls and other online platforms). Not everyone had provided contact details, while those who did had limited access to the internet or appropriate hardware. Still, the guiding criteria remained the “online mission” for sites with different performance levels, as determined by project implementation personnel and FAO at the planning stages of the evaluation, based on information from monitoring materials.
25. A final limitation was the availability of stakeholders to provide answers to the questionnaire due to time constraints. They were either unavailable or were no longer with the interest groups they had represented when attending the workshops or implementing the project.
26. While the evaluation team received some form of contact from all listed stakeholders when it sent the online questionnaires, participants had the option of guaranteed anonymity. Of the 183 stakeholders contacted, 70 responded to the question and 31 did not identify themselves. So, while it might seem statistically weak, this is an impressive number to work with from sociopolitical perspective, especially given the project’s complexity.



## 2. Background and context

27. Shrimp/bottom-trawl fisheries constitute an important part of Brazil's marine fishery economy. The country's priorities for the fishery sector and its specific social, economic and environmental aspects are reflected in its diverse political and institutional characteristics from north to south. Efforts to ensure more sustainable trawling are still a core issue, be it through changes to existing fishing gear or the search for alternative equipment or management mechanisms to reduce damage to the environment and cut bycatch while maintaining socially equitable livelihoods and ensuring sustainability.
28. The subnational regions and pilot fishing sites chosen for project activities in Brazil are shown in Box 1. Because of the country's size and the vast array of fishing gear and methods used, the project focused exclusively on shrimp trawling in the following geographical regions and subregions: North (Box 1.a, Figure 1), Northeast (Box 1.b, Figure 2), Central (Box 1.c, Figure 3), and South/Southeast (Box 1.d, Figure 4). The descriptions clearly show the diversity of the country's shrimp fisheries, complicating the establishment of an all-encompassing institutional and legal framework for trawl management at a national and local level.
29. Myriad ecosystems are to be found along Brazil's coastline, as well as diverse forms of shrimp fishery. Knowledge of their dynamics varies. Activities take place on various scales (small, medium, and large), have different social and economic aspects, and are carried out from estuaries and lagoon areas to coastal and oceanic zones. The norms and rules governing these fisheries are many, sometimes conflicting and out of touch with reality.

**Box 1. The four coastal subregions where project activities were implemented in Brazil**

## a. The North Coast subregion

The North Coast fishery management unit spans the north coast of Brazil. In shrimp fishery management terms, this means Brazil's coastal waters, territorial sea and the Exclusive Economic Zone (EEZ) – the Amazon continental shelf and the northern part of Northeast subregion, including the coast of the states of Amapá, Pará, Maranhão and Piauí (Figure 1). It forms part of an extensive shrimp fishing ground that extends as far as the mouth of the Orinoco River in Venezuela, covering about 223 000 km<sup>2</sup>, known as the Brazil-Guyana area (according to the North Coast management plan).

**North** (Pará State); **scale:** industrial; **main species:** *F. subtilis*, *F. brasiliensis*; **fleet:** 100 boats, 17–23 m in length, 325–425 horsepower); **fishers directly involved** (at sea): 500.

## b. The Northeast Coast subregion

The Northeast Coast fishery management unit extends from the limits of Ceará and Piauí states to Todos os Santos Bay in the state of Bahia, according to the division of maritime areas adopted by the Program for the Assessment of the Sustainable Potential of Marine Living Resources in the Brazilian EEZ (REVIZEE Program),<sup>1</sup> in turn based on oceanographic and biological characteristics and type of dominant substrate (Figure 2). In this region, shrimp are an important fishery resource, traditionally captured by small- and medium-scale operations along the entire coast (according to the Northeast Coast management plan).

**Northeast** (Pernambuco state); **scale:** artisanal; **main species:** *Xiphopenaeus kroyeri*, *Litopenaeus schmitti*; **fleet:** 25 boats, 8–12 m length, 10–25 horsepower); **fishers directly involved** (at sea): 75 (with a possible expansion of pilot sites to Maranhão and Alagoas States).

## c. The Central Coast subregion

The Central Coast fishery management unit (Figure 3) stretches from Salvador (13°00'S) to Cabo Frio (22°52'S), encompassing the southern coast of Bahia, including Todos os Santos Bay, the coast of Espírito Santo and the north coast of Rio de Janeiro. In this region, shrimp are an important fishery resource, traditionally captured by small- and medium-scale operators along the entire coast. Annual shrimp production in the Central Coast subregion is estimated at 7 400 tonnes. Despite the economic and social importance of the product, especially for coastal communities, information on fisheries, the biology and biological behaviour of the species is limited and basically focuses on seabob shrimp (*Xiphopenaeus kroyeri*), the main caught species (per the Central Coast management plan).

## d. The Southeast/South Coast subregion

The Southeast/South Coast fishery management unit covers the coast of the Southeast and South subnational regions of Brazil (Figure 4), comprising coastal waters, the territorial sea and the EEZ, which extends from the municipality of Cabo Frio (22°52'S) in the state of Rio de Janeiro to Arroio Chuí (34°40'S) on the border between the state of Rio Grande do Sul and Uruguay. It is about 2 000 km long and has a total area of around 700 000 km<sup>2</sup>. In this region, shrimp are an important fishery resource, traditionally caught by small-, medium- and large-scale fisheries along the entire coastline (according to the Southeast/South Coast management plan).

**Main species:** *Xiphopenaeus kroyeri*, *Farfantepenaeus brasiliensis*, *Farfantepenaeus paulensis*, *Litopenaeus schmitti*; *Artemesia longinaris*, *Pleoticus muelleri*; **fleet:** about 1 500 boats; **fishers directly involved** (at sea): around 4 500.

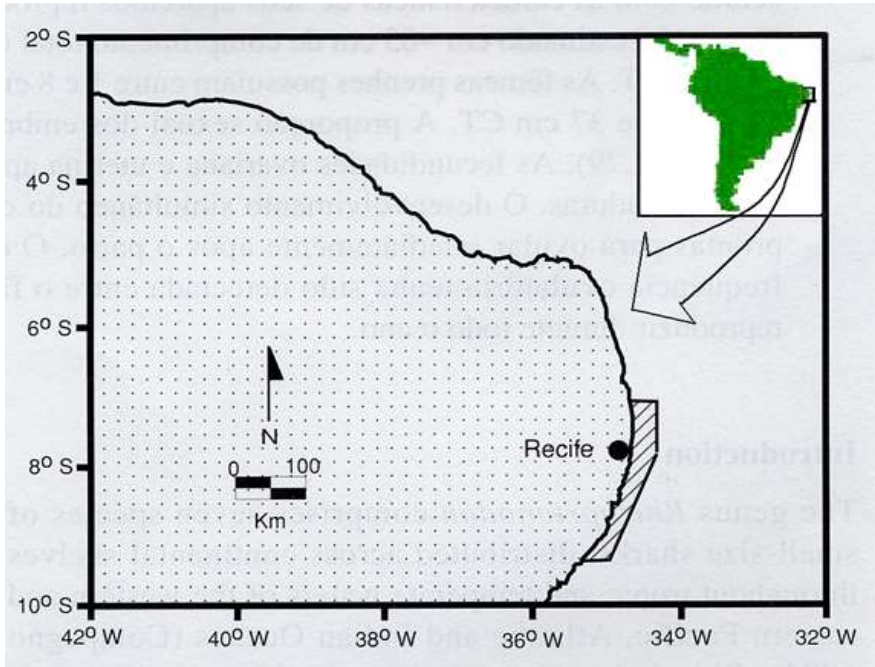
<sup>1</sup> <https://sites.ufpe.br/pilote/revizee/>

**Figure 1. Pink shrimp fishing ground on the Amazon continental shelf**



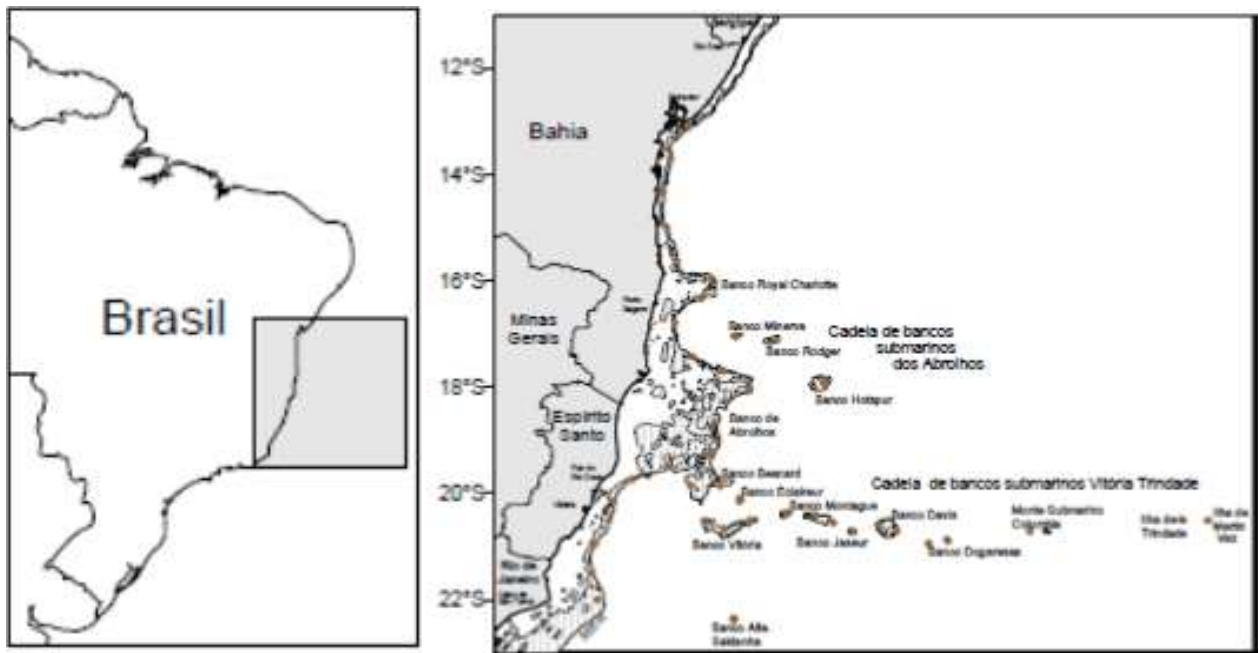
Source: Aragão (2012). Map conforms to UN, 2020. [Map of South America](#).

**Figure 2. Northeastern coast shrimp fishing management unit**



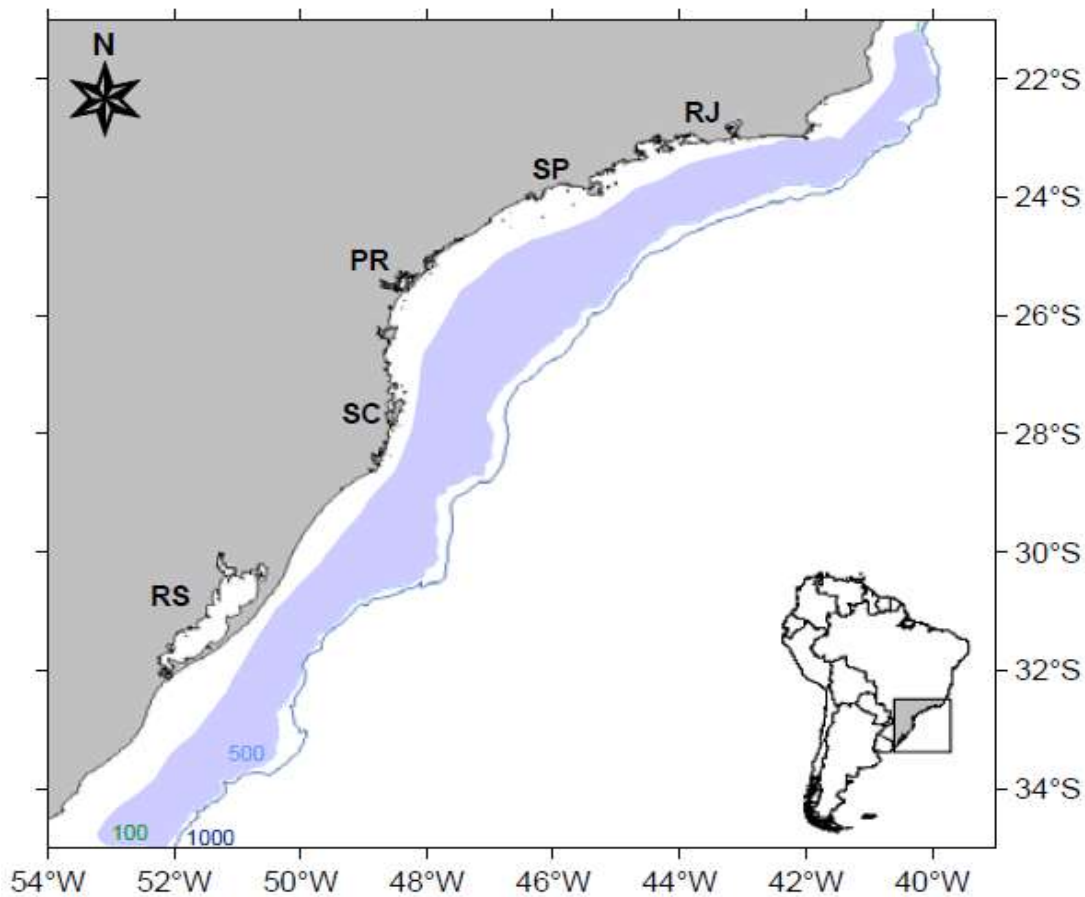
Source: Mattos (2204). Map conforms to UN, 2020. [Map of South America](#).

**Figure 3. Central coast shrimp fishing management unit**



Source: Brazilian Shrimp Fishery Management Plan – Final Report. Maps conform to UN. 2020. [Map of South America](#).

**Figure 4. Southeast/South coast shrimp fisheries management unit**



Source: Haimovici and Ávila-da-Silva (2005). Map conforms to UN. 2020. [Map of South America](#).

## 2.1 Theory of change

30. Based on the project document, the evaluation team reconstructed a theory of change for the project, using the cause-and-effect relationship concept (causal chains and impact paths). To this end, it reviewed the results framework (activities, products, results, objectives) and designed the impact pathways in a logical way. Consequently, it was possible to understand the logic of each cause-and-effect relationship and, in particular, to identify complementary assumptions. Unfortunately, while the executing partners were asked for theory-of-change validation, no feedback was forthcoming.
31. The theory of change shows how the different design elements of the project are logically interconnected to achieve results and create impact. Impact is defined as a notable change in the status of a conservation object (ecosystem, species, resources). Assumptions are made in each step along the logical lines of: "if we have product A and assume that B happens, the result will be C". For instance, if legal frameworks and bycatch co-management are reviewed and amended (product) to support a management plan, and we assume that the plan is adopted and implemented by the community (assumption), we can predict that the community will better manage its resources (result).
32. The results are split into direct results – the changes generated as a direct consequence of the proper use of the products – and intermediate and final results – secondary results, the achievement of which requires other assumptions. Put another way, the lower tier is based on the capabilities and access of communities to inputs, assets, resources and knowledge. The next level assumes that if communities have all of the above, they can choose and make informed decisions about managing their assets and resources. By making informed decisions, they will protect their asset base and implement positive coping strategies that will ultimately strengthen their ability to anticipate, adapt and transform during short- and long-term crisis events. This may contribute to the reduction of waste and better use of incidental catches associated with shrimp trawling fisheries in the country, through the expansion of knowledge about these catches as well as the development of technologies to mitigate impacts of the activity.
33. The exercise for Brazil tried to observe specificities of the implementation and execution of the REBYC-II LAC project, taking into account its achievements and following the theory of change set out in the regional terminal evaluation report. It recognizes the threat of unsustainable trawl practices underpinned by the project's GEO. The GDO is linked to the GEO by the premise that the global environmental benefits generated by the project will form the basis of livelihood enhancement and diversification and contribute to food security and poverty eradication. Furthermore, by securing livelihoods, the responsible trawling practices introduced by the project are more likely to be maintained and contribute to environmental sustainability. REBYC-II LAC adopted a more holistic approach consistent with FAO's Code of Conduct for Responsible Fisheries (CCRF) (FAO, 1995). The Ecosystem Approach to Fisheries (EAF) is a practical way to fully implement the CCRF. EAF is a management planning process that incorporates the principles of sustainable development, including human and social wellbeing, ecological and environmental wellbeing, and governance (FAO, n.d.).
34. The results have been organized under the first three components of the project framework, based on the causal relationship between its direct and final results. Component 4 relates to project management at a regional level, so is not included in the theory of change at country

level. The cause-and-effect relationship is based on the outputs of the Brazilian final report<sup>2</sup> (June 2020 to June 2021) and the direct changes that occurred as a result of project-induced production.

35. Three intermediate results are not directly under the control of the project and depend on other factors, namely: fisheries governance (component 1); fisheries production and the sustainable use of shrimp resources (component 2); and the social and economic dimensions, by capacity building and enhancing livelihoods (component 3). Together, they contribute to an improvement in sustainable production and successful bycatch management practices, in line with the International Guidelines on Bycatch Management and Reduction of Discards (B&D Guidelines) (FAO, 2011) and the Voluntary Guidelines for Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (SSF) Guidelines (FAO, 2018).
- i. Fisheries governance: Improve institutional and regulatory arrangements for shrimp/bottom-trawl fisheries and bycatch co-management (component 1), favouring the sustainable development of fisheries and strengthening financial incentive programmes as a means of improving fisheries governance. Two direct results were envisaged: the effective application of the instruments through positive decision-making, designed and supported by a National Shrimp Fisheries Management Plan, and the establishment of a Standing Committee of Shrimp Fisheries Management to coordinate inter-institutional strategies. Moreover, any true improvement in fisheries governance directly affects the sustainable use of shrimp resources (intermediate result). This enhances the co-management institutional structures of shrimp/bottom-trawl fisheries and bycatch and enables the sustainable management of the shrimp-fisheries value chain (final result), leading to a reduction in waste and better use of incidental catch. This, in turn, increases the supply of goods and services from biodiversity and fisheries. For this impact path, the project logic suggests a cause-and-effect results indicator associated with the following products: best bycatch management practices (product 1.1.1); national legal framework and bycatch co-management reviewed and amended (product 1.2.1); and community organization strengthened, allowing for participatory processes (at fishing community and enterprise levels) (product 3.1.3). The assumptions related to the political will to effectively promote fisheries governance, the positive use of public investment, policy continuity and inter-institutional coordination (Box 2).
  - ii. Fisheries production and the sustainable use of shrimp resources: Strengthen bycatch management and responsible trawling practices within an EAF framework (component 2) using bycatch information, best practices on bycatch and discard, the testing of new products, methods and technologies, and a monitoring system. This process involves technological packages, technical assistance and regulation, as well as the characterization of shrimp trawling and development of BRDs, to better fishing practices. These help to conserve biodiversity and natural resources by improving fishing practices and the sustainable use of shrimp resources (intermediate results). Those improvements, in turn, increase the supply of goods and services from biodiversity and fisheries, enhancing the co-management institutional structures of shrimp/bottom-trawl fisheries and bycatch, as well as the sustainable management of the shrimp fisheries value chain (final result). This results in the reduction of waste and better use of incidental catch. The assumptions of

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<sup>2</sup> Projeto manejo sustentável da fauna acompanhante na pesca de arrasto na América Latina e Caribe REBYC II – LAC. Informe final do Brasil. Brazil final report from June 2020 to June 20201.

this impact path rely on a willingness to improve best practices and an ability to maintain them (Box 2).

- iii. *Social and economic dimensions through capacity building and enhanced livelihoods:* Promote sustainable and equitable livelihoods through enhancement and diversification (component 3), curbing mismanagement through EAFM capacity building among stakeholders at local, subnational and national level; supporting the co-management planning process; conducting value-chain analysis, focusing on the utilization of bycatch and the role of gender and vulnerable groups; and identifying existing and potential alternative non-fishery livelihoods for men and women along the value chain. The direct effects of such instruments should have direct results on the shrimp fisheries value chain and its socioeconomic significance, including the contribution of bycatch to food security and nutrition and the role of women in shrimp fisheries. In the absence of other pressures, the intermediate result (capacity building) should be to reduce waste and foster better use of incidental catch from shrimp trawling. The ensuing social and economic outcomes are effective indicators. The assumptions associated with this path of impact involve a practical improvement in livelihoods through sustainable fishing, requiring adequate supply and demand. Once the value chain is taken into account, not everything is within the project's control (Box 2).

## Box 2. Assumptions included in the project theory of change

<i>Theory of change impact path</i>	<i>Assumptions: ① = fulfilment can be attributed to the project; ② = assumptions the project can help to fulfil</i>
<i>1. Fisheries governance</i>	<ul style="list-style-type: none"> <li>• Political interest in the conservation of biodiversity and the management of natural resources as strategic instruments and a matter of public policy ②</li> <li>• Political will to channel financial resources and available funds for the sustainable production of shrimp resources ②</li> <li>• Establishment, ① adoption and community implementation ② of a National Shrimp Fisheries Management Plan</li> <li>• Establishment of the Standing Committee of Shrimp Fisheries Management – inter-institutional strategies for decision-making ②</li> <li>• There are sufficient capacity, political and legal instruments to ensure that the better use of fishery resources, biodiversity and sustainable production contribute to the sustainability of shrimp fisheries ①</li> </ul>
<i>2. Fisheries production and sustainable use of shrimp resources</i>	<ul style="list-style-type: none"> <li>• Effective, equitable and transparent participation of stakeholders in the implementation of project activities ① and decision-making ②</li> <li>• Enough information to establish management plans for the sustainable use of shrimp fishing resources ②</li> <li>• Characterization of shrimp trawling bycatch ①, including estimates of quantities, composition and proportion used and discarded ②</li> <li>• Stock productivity and sustainable recovery, as well as the economic and social viability of the sector, through monitoring and control ②</li> <li>• Development of BRDs, incorporating traditional knowledge and innovative engineering ①</li> </ul>
<i>3. Social and economic dimensions through capacity building and enhanced livelihoods</i>	<ul style="list-style-type: none"> <li>• Political will through the allocation of resources and planning of specific programmes at local, subnational and national level ②</li> <li>• Enough information to establish management plans for food security and nutrition, and poverty eradication ②</li> <li>• Increased profitability of marine shrimp fisheries; measures adopted for the viability of fishing activities, sustainability of fishing resources, and enhancement of fishers' livelihoods ②</li> <li>• Characterization of the role of women in shrimp trawling ①</li> </ul>





### 3. Evaluation questions: key findings

**Relevance:** To what extent was the project relevant to Brazil's national priorities and streamlined with GEF and FAO priorities, strategic objectives and programmes?

**Effectiveness:** To what extent did the project contribute to the achievement of stated environmental and development objectives? Were the intended results as expected and were there any unintended results?

**Efficiency:** To what extent was project implemented efficiently and cost effectively?

**Sustainability:** What is the likelihood that the project results will remain useful or persist after the end of the project?

**Factors affecting performance:** Was the M&E plan practical and sufficient (M&E design)? Did the M&E system work in line with the M&E plan (M&E implementation)? Was information gathered in a systematic way, using appropriate methodologies? Was the information from the M&E system used appropriately to make timely decisions and foster learning during project implementation?

**Stakeholder engagement:** To what extent were other actors, such as CSOs, indigenous populations or local communities and the private sector, involved in project design and implementation and what was the effect on project results?

#### 3.1 Relevance

**Finding 1.** The project was highly relevant to Brazil's requirements and succeeded in mobilizing stakeholders and non-state actors in the shrimp fishing sector to work towards meeting national, GEF and FAO priorities.

**Finding 2.** Shrimp trawl fisheries are of socioeconomic importance along the entire Brazilian coastline in terms of income, employment, local livelihoods, food security, foreign exchange earnings and many other things. The proposed objectives of the project were consistent with national development goals for fisheries management.

36. The project assessed the difficulties, demands and challenges of trawling and mobilizing the sector to align with national priorities, demonstrating its relevance to Brazil's development concerns. This included formulating a National Management Plan for the Sustainable Use of Marine Shrimp Resources and establishing the Standing Consultative Committee for the Management of Shrimp Fisheries. Brazil met bottom-up demand for all of the subnational levels where pilot fishing site-level activities were implemented. At the time of writing, Decree No. 10736 of 29 June 2021 had been signed, establishing the National Collaborative Network for the Sustainable Management of Fisheries Resources (Rede Pesca Brasil). The network is consultative and advisory in nature and aims to subsidize the management and sustainable use of fishery resources. Although it does not cite shrimp resources and trawling explicitly, it highlights the formation of the Standing Committee for Fisheries Management and the Sustainable Use of Groundfish Fishery Resources. Irrespective of efforts to create the Standing Committee, the project supported initiatives to strengthen the institutional and regulatory arrangements for shrimp trawling. Addressing bycatch issues from north to south, a series of planned measures are underway to facilitate the implementation of ongoing activities proposed by stakeholders.

37. Most of the activities undertaken in Brazil followed the EAFM method, be it workshops or shrimp management plans. It was the first time in the country's history that EAFM was used to build a management plan with the direct engagement of diverse stakeholders. The project's mid-term evaluation highlighted the high level of country ownership, which was down to two things: i) the harmony between the project's objectives and the country's priorities, mainly the need to establish equitable and sustainable management policies for shrimp trawling; and ii) the fact that the

project built on ongoing activities. In addition, the continued support expressed by all stakeholders, non-state actors and government officials for the project and its objectives is an indicator of ownership.

38. Since the mid-term evaluation, there have been no significant changes in the project's relevance. However, its high degree of effectiveness (see section 3.2) affected common project objectives and goals to achieve sustainable fishing policies. Most stakeholders considered the project's technical design and results matrix appropriate to delivering expected outcomes. The project design was shown to be adequate in terms of stimulating debate on bycatch management and adaptations (such as BRDs) based on an ecosystem approach in the pilot fishing areas, as well as feasible outcomes to be achieved within the project's timeframe. With regional variances, the project achieved the objective of collectively discussing and developing the best technological revamps. They added to and coincided with certain actions previously initiated in fishing sectors involved in shrimp trawl fishery, including small-scale fisheries, as reducing bycatch and avoiding discard were already a concern.
39. The matrix was consistent with the foundations of the EAF in its comprehensive approach to fisheries management, including its three pillars: policy, bycatch management and socioeconomic aspects. The GEF project was executed in select fishery systems and implemented through pilot activities with a view to laying the basis for EAF in other places and sectors. Still, as participants pointed out, a single project is unlikely to address the ecological, human and governance issues that need to be tackled for sustainable fisheries. What's more, time constraints did not allow for greater community engagement and ended up hindering greater interaction between stakeholders. Furthermore, the focus on technical experiments limited the scope of the results, as few addressed the human and ecological dimensions, either on their own or in an integrated way.
40. The inclusion of new technologies and protocols in project activities was essential to achieve stated project objectives, such as protecting bycatch-related species. In addition to boosting the capture of target species through greater selectivity, bycatch reduction can enhance biodiversity and improve ecosystem health and help to achieve the project's GEO. It is important to reiterate, however, what was stated in the mid-term evaluation: that technological advances alone are not enough to promote specific practices for trawling and bycatch reduction.
41. In terms of sustainable management, fishing community representatives should have been involved in the design of the project and relevant components, enabling them to get to know the project. In addition, this would have facilitated better socialization and objectivity between fishers and other stakeholders, the exchange of information, strategy reviews and tailored co-management activities and targets to fully reflect local fishing realities. Comments from project participants, such as fishers, researchers and government officials, in addition to other evidence, suggest that "despite showing interest in the project's objectives and results, complete voluntary uptake was not observed." In any case, a stakeholder agreement allowed the drafting of four shrimp fishery management plans and sufficient participation was ensured (see section 3.2 and Box 3 for more).

## 3.2 Effectiveness

**Finding 3.** The project helped to enhance awareness of bycatch management, seeking out measures to reduce the impact of trawling on the environment, drawing on technological developments for responsible fishing.

**Finding 4.** There was better-than-expected collaboration between stakeholders – fishing communities, CSOs, NGOs, academia, research institutions and the government – as well as lasting dialogue on public policy in relation to fisheries management.

42. To achieve the stated GEOs and GDOs, the project was structured into four interlinked components, with six outcomes, 15 outputs (two of which relate to project M&E) and associated activities. The Brazilian analysis, therefore, spans the first three components, as component 4 relates to project management at a regional level (so, 3 components and 12 outputs). Box 3 shows the percentage of planned activities, products and targets achieved in Brazil for the final reporting period of June 2020 to June 2021.

Component 1. Improving institutional and regulatory frameworks for shrimp/bottom-trawl fisheries and co-management.

43. Component 1 aims to establish the enabling conditions, including the governance frameworks necessary for long-term solutions to trawl fisheries and bycatch management, through its two outcomes: stronger regional collaboration on shrimp/bottom-trawl fisheries and bycatch management and better legal and institutional frameworks in project countries for shrimp/bottom-trawl fisheries, bycatch co-management and EAF. The four outputs and associated activities of component 1 were appropriate to achieving stated project outcomes.

44. The fishers recognized the added value and knowledge created by the project on best bycatch management practices, in line with the B&D and SSF Guidelines (output 1.1.1). The achievement of target 1.b.1 was total from the national project coordination team, with the EAF applied at the local and national level and a new bycatch management framework adopted. In parallel to this report drafting, the team finalized four management plans for shrimp trawl bycatch in each subnational region (target 1.b.2). The plans were brought to fruition through comprehensive workshops in each region and submitted for comment and adoption by the competent fisheries management bodies (Decree No. 10 736 of 29 June 2021). Additional amendments and comments were incorporated into the final versions of the four subnational management plans for shrimp fishing and submitted to the Government for approval in August 2021 by the national REBYC-II LAC coordination team.

45. By engaging the productive sector, the project sought to bring about technological alternatives to reduce the negative impact of trawling on the environment. The results showed the effectiveness of systematically reaching out to stakeholders and presenting and discussing results achieved, wherever possible. This was part of the strategy for shrimp/bottom-trawl fisheries and bycatch management agreed in the initial implementation phase (output 1.1.2). Consequently, a regional bycatch management policy/strategy, including recommendations for the harmonized regulation of shrimp/bottom-trawl bycatch, was approved by at least one regional fishery body and endorsed nationally, as it met the country target (1.b.2).

46. The intended results were achieved thanks to a methodology focused on gathering knowledge and enabling dialogue – the best way to build participatory management mechanisms in the fisheries sector. The EAFM approach proved an adequate tool when it came to stakeholder engagement, although it was not implemented sufficiently equally to change fishers' and shipowners' views. Still, it paved the way for institutional EAF structures and the co-management of shrimp/bottom-trawl fisheries and bycatch (output 1.2.2) and was achieved in full. In addition, the functional multisectoral committee at national level and the subnational centres of excellence achieved Brazil's target of enhancing the institutional framework, though certain legal amendments have yet to be approved.

47. Rede Pesca Brasil contributed to the accomplishment of a national legal framework for shrimp/bottom-trawl fisheries and bycatch co-management (output 1.2.1). The legislation on shrimp trawl fisheries was reviewed, focusing on bycatch and the application of the EAF, while a new legal and regulatory framework was proposed (target 1.a) and finalized. The initiative consolidates competencies related to the National Policy for Sustainable Development of Aquaculture and Fisheries. It is a step towards the sustainable development of national fishing activities, providing legal protection, food security, continuity of income and employment generation for thousands of workers who rely on fishing for their livelihoods.
48. Fishing-sector buy-in was satisfactory. However, small-scale fishers expressed concern over the design of BRD experiments and the participatory process that led to the drafting of management plans. Rede Pesca Brasil's objective is to foster co-management by giving fishing companies, fish workers' associations and other stakeholders the opportunity to participate regularly in management decision-making on the shrimp trawl fishing industry, along with all relevant fishing-sector bodies. Fishers' mistrust of the potential benefits of using BRDs is primarily down to an insufficient number of BRD experiments. Although not widely and homogeneously acknowledged, the project improved institutional and regulatory frameworks for the effective co-management of shrimp/bottom-trawl fisheries. It adequately addressed bycatch issues, effectively implementing fishing policies and management measures for shrimp fisheries. This was possible thanks to the engagement of stakeholders, who brought their traditional and empirical knowledge to the process.
49. The project created the opportunity to broaden the discussion on conflicting shrimp fishing regulations on issues such as turtle excluder devices (TEDs). Perhaps unexpectedly, however, it has also helped to foster participation and dialogue between interested parties (such as governments, industry and small-scale fishers) in what remains a highly conflict-ridden productive sector. TEDs use in Brazil still poses management challenges and will require prolonged dialogue and extensive technical improvements.

#### Component 2. Strengthening bycatch management and responsible trawling practices within an EAF framework.

50. Component 2 of the project mainly focused on field testing, identifying technologies to reduce bycatch and generating (primarily biological) information. It aimed to strengthen bycatch management and responsible trawling practices through two outcomes: i) selected key shrimp/bottom-trawl fisheries in the region were successfully co-managed through an EAF and ii) an enabling, incentivized environment was created in which trawl operators promoted responsible practices. Promoting public and private investments in sustainable fishing gear, vessels and better management approaches is essential to support responsible trawl fisheries and is consistent with the collaborative and participatory approach promoted by EAFM. The project achieved the targets in the management plans and shared the information generated. An assessment of baseline bycatch in shrimp trawl fisheries was also conducted. It included, among other things, species composition, main biological traits of the species caught, discards, ecological interactions and ecosystem resilience. Although a data-monitoring system at country level is still lacking, it was possible to analyse threats to seabed habitats and fish stocks and conduct a comparative analysis of the results between sites (target 2.a.).
51. By understanding fishing dynamics, the identification, development and implementation of alternative fishing methods, such as BRD technologies and other management measures (Output 2.1.2), and a reduction in negative fishery impacts on bycatch species, ecosystems and biodiversity was possible. The participatory process created a bond of trust between stakeholders and the REBYC-II LAC team, forging new perspectives on fishing and continuing activities in sustainable

way. Stakeholders believe these changes will affect daily fishing-sector activities, with bycatch gaining in social and economic importance, both in terms of income and food security in many fishing communities. As a result, the target 2.c - fishing gear behaviour and of bycatch during interactions with fishing gears - was cancelled.

52. The project published catalogues describing the species caught and the primary fishing vessels and equipment used in shrimp trawl fisheries. The catalogue splits the catch into three main clusters: order, family and species. Each of the sections includes key diagnostic and habitat features. The species is further subdivided into diagnostic characteristics, global distribution, biological aspects and classification by species threat in line with the International Union for the Conservation of Nature (IUCN) Red List (IUCN, n.d.). Lastly, the catalogue illustrates species collected at each location, with their respective minimum and maximum lengths, and in total 22 orders, 48 families and 117 species were described. The evaluation team deemed both the vessel and gear catalogue (target 2.b.1) and the bycatch species catalogue highly satisfactory. Also satisfactory were the project's pilot tests of fishing gear and devices developed to reduce bycatch (target 2.c); management measures to reduce and ensure the survival of bycatch (target 2.d); and BRD demonstration workshops (target 2.e). However, fishers' participation notwithstanding, BRD methods and testing were not sufficiently robust to produce conclusive views on bycatch reduction. They were conducted in highly complex shrimp fishery situations, amid various species of shrimp, myriad species of bycatch and issues of seasonality. Even so, the trials were a step in the right direction towards full implementation.
53. Fishers, skippers and shipowners' engagement in the EAFM training enriched the project itself. Indeed, their participation got the management planning process underway (Output 2.1.3). It was an opportunity for empirical and scientific knowledge-sharing and dialogue between participants. National guidelines on participatory management and stakeholders' skill in applying EAF (target 2.f) were developed through capacity-building on ecological modelling, analyses/management strategy evaluation and an integrated model for Brazil's shrimp trawl fisheries. The need for participatory work was evident, and each stakeholder had to fulfil their role transparently to bring about transformational change in fisher behaviour, namely, greater environmental awareness and fishing-sector organization. The project thus achieved its intended results on co-management for the decentralization of responsibilities and greater enforcement of subnational management measures.
54. EAFM opened the fishing communities to dialogue, highlighting how BRDs could help to improve shrimp fisheries, for example, by reducing the time spent on on-board selection and onshore processing and by catching larger shrimp specimens to increase boats' profitability and fishers' income. However, scaling up awareness of BRDs and bycatch management is still a challenge, particularly communicating the impacts on the wider shrimp value chain, such as people making a living from net mending. Among the technical issues encountered was getting fishers to agree to conduct the tests in line with established protocols.
55. Nonetheless, evaluation interviews suggested that the use of EAFM methodologies, new techniques for generating knowledge and understanding the drivers of bycatch and discard, greater stakeholder engagement and potential incentives for bycatch management (Output 2.2.1) did not develop a solid foundation for responsible trawling practices. While the project hit its targets, there was insufficient incentive to maintain the bycatch and discard practices needed for better fisheries management. Learning the socioeconomic characteristics of the communities in question (target 2.b.2) and proposing the use of certification schemes to add value and provide an incentive to improve practices in shrimp trawling (target 3.c) were not enough to entrench broader stakeholder engagement.

56. Discussions were held on a technological overhaul of shrimp fisheries, bringing government, the fishing sector, CSOs and academia together to design the best strategy for each fishing site. Still, the project's timeframe was too short to achieve all of its goals. For example, trawl net adaptations for the introduction of BRDs are difficult to implement when the nets have been used traditionally for many years. Prolonged dialogue and repeated experiments are needed before new measures can be put in place and stakeholders adopt them voluntarily.
57. Some new products were developed (Output 2.2.2), incorporating traditional knowledge and unprecedented engineering. However, much remains to be done to identify and introduce suitable technologies, management measures and alternative fishing methods.

### Component 3. Promoting sustainable and equitable livelihoods through enhancement and diversification.

58. Component 3 promoted sustainable and equitable livelihoods through enhancement and diversification in the shrimp/bottom-trawl fisheries subsector through the following outcome: capacities and opportunities for enhanced sustainable and diverse livelihoods created and gender equality promoted. The logic of the project design was as follows: if management measures to reduce bycatch were introduced, there would be impacts on those depending on bycatch for income and food security (including women and youth).
59. Reductions in negative coastal ecosystem impacts are again envisaged to achieve an expected outcome because potential reduction (using exclusion devices or banning trawling) can affect income, livelihoods, food security and related socioeconomic issues. In line with the MTE Report, within this component an explicit gender dimension is evident, although to varying degrees of analysis.
60. In small-scale fisheries, for social and economic reasons, bycatch has been consumed, contributing to fishing communities' food security and income. The project conducted value-chain analyses of the use of bycatch and the roles of men, women and vulnerable groups (output 3.1.1). It gave a better understanding of their roles in shrimp trawling, their economic and social value and the importance of women in fishing community governance. Such engagement strengthened community organizations to facilitate participatory processes (at household and enterprise level), leading to desired livelihood changes (Output 3.1.3).
61. Stakeholder engagement, bolstered by community representation, created an enabling environment for participatory processes to bring about the desired livelihood changes. Notwithstanding complaints that the participatory process should have been broadened, it was through this small-scale subsectoral engagement that a more in-depth discussion on specific aspects of shrimp fisheries management and sustainability took place, allowing the assessment and identification of existing and potential alternative livelihoods to shrimp trawl fisheries (target 3.b). Thus, non-fishery livelihood alternatives were identified for both men and women along the value chain. Capacity-building support was provided accordingly, including the promotion of decent work (output 3.1.2).
62. Box 3 shows results that align with output 4.1.1, namely, an operational project monitoring system that provides systematic progress information on project outcome and output targets. Educational videos were made, based on the success of participatory research using TEDs, presenting their beneficial effects. During the research, voluntary interviews were conducted with fishers, researchers, fish workers (such as net menders), shipowners and public-sector managers, who participated directly in the activities. In addition, research sailings were conducted with on-board observers. The experimental protocol was based on 30 simultaneous trawling, with a TED installed in one of the nets to validate the device's performance compared with the control net.

Three other short videos were also produced on i) participatory research, ii) shrimp catches and the utilization and rejection of fauna, and iii) turtles and elasmobranchs caught during trawling.

### Box 3. Percentage achievement of products and targets in Brazil

<b>REBYC-II LAC output</b>		
<b>Output 1.1.1 – Best bycatch management practices, in line with the B&amp;D and SSF Guidelines, disseminated to all countries in the region</b>		
Final Draft National Management Plan for Shrimp Fisheries in line with the B&D Guidelines and EAF submitted to government for approval		
Activity	% activity	% product
Elaboration of the final diagnostic and management action plan for the Southeast Coast	100%	25%
Elaboration of the final diagnostic and management action plan for the Central Coast	100%	25%
Elaboration of the final diagnostic and management action plan for the Northeast Coast	100%	25%
Elaboration of the final diagnostic and management action plan for the North Coast	100%	25%
<b>Output 1.2.1 – National legal frameworks for shrimp/bottom-trawl fisheries and bycatch co-management reviewed and amended</b>		
Regional Standing Committee for the Management of Shrimp Fishery and its scientific subcommittee are operational and providing management recommendations		
Activity	% activity	% product
Review of recent changes in the national legal framework and elaboration of the final report	100%	100%
<b>Output 2.1.2 – Alternative fishing methods, BRD technologies and other management measures identified and adopted by fishers</b>		
a) Final publishable report on BRDs and other measures to reduce bycatch and discards, including recommendations for management and uptake		
Activity	% activity	% product
Report of one square mesh test on a small-scale shrimp trawler from Farol de São Thomé in Rio de Janeiro State	100%	100%
Final report of REBYC-II LAC in Sirinhaém, Pernambuco	100%	100%
b) Report detailing fisher adoption of BRDs and other management measures at project pilot sites		
Activity	% activity	% product
Extension activities that led to the adoption of a square mesh window by a fisher in the artisanal fishing community of Balneário Piçarras in Santa Catarina State	100%	100%
Information was passed on to fishermen during experiments	100%	50%
<b>Output 2.2.1 Drivers of bycatch and discard practices investigated and understood, and potential incentives identified for bycatch management</b>		
Catalogue of bycatch species in Brazilian shrimp trawl fishery		
Activity	% activity	% product
Book published with detailed information on fishes caught in two pilot sites (Pernambuco and Pará)	100%	100%
PhD thesis at the Federal University of Pará (student Breno Maia)	100%	100%

<b>REBYC-II LAC output</b>		
<b>Output 4.1.1 Project monitoring system operational and providing systematic progress information on project outcome and output targets in all countries</b>		
Audiovisual material prepared and disseminated for outreach efforts on the use of BRDs		
Activity	% activity	% product
<b>Video 1.</b> What is this net? <a href="https://drive.google.com/file/d/1koEqEvqnFdTU6IFv0KJLx4_EbJqSmwRf/view?usp=sharing">https://drive.google.com/file/d/1koEqEvqnFdTU6IFv0KJLx4_EbJqSmwRf/view?usp=sharing</a>	100%	100%
<b>Video 2.</b> Where is this net?? <a href="https://drive.google.com/file/d/1Cyox38K-OnsUeQVjble31eyMq96n5Ei-/view?usp=sharing">https://drive.google.com/file/d/1Cyox38K-OnsUeQVjble31eyMq96n5Ei-/view?usp=sharing</a>	100%	100%
<b>Video 3.</b> The REBYC-II LAC Project in Southeast and Southern Brazil <a href="https://www.youtube.com/watch?v=Rfh7GLBCuHs&amp;t=70s">https://www.youtube.com/watch?v=Rfh7GLBCuHs&amp;t=70s</a>	100%	100%
<b>Video 4.</b> Shrimp fishery: Fisher tips on how to install a Nordmore grid <a href="https://www.youtube.com/watch?v=PdRRp65vNsc">https://www.youtube.com/watch?v=PdRRp65vNsc</a>	100%	100%
<b>Video 5.</b> Shrimp fishery: Results from experiments with bycatch reduction <a href="https://www.youtube.com/watch?v=3QU6DyFOenE">https://www.youtube.com/watch?v=3QU6DyFOenE</a>	100%	100%
<b>Video 6.</b> REBYC-II project: Content describing the project <a href="https://www.youtube.com/watch?v=QVqznEakbW4">https://www.youtube.com/watch?v=QVqznEakbW4</a>	100%	100%
<b>Video 7.</b> Live chat about bycatch and BRDs <a href="https://www.youtube.com/watch?v=3Cde-rGXTqA">https://www.youtube.com/watch?v=3Cde-rGXTqA</a>	100%	100%
<b>Video 8.</b> Community participatory workshops <a href="https://youtu.be/sRO8VeOhJIQ">https://youtu.be/sRO8VeOhJIQ</a>	100%	100%
<b>Video 9.</b> Evaluation of results of experiments with BRDs by fishers and researchers <a href="https://www.youtube.com/watch?v=LevZ2FjqMtg&amp;feature=youtu.be">https://www.youtube.com/watch?v=LevZ2FjqMtg&amp;feature=youtu.be</a>	100%	100%
<b>Video 10.</b> A fisher describes his experience using a BRD <a href="https://youtu.be/_7AtVcWyptI">https://youtu.be/_7AtVcWyptI</a>	100%	100%
<b>Video 11.</b> Web series, episode 1 – How to prepare your trawl net <a href="https://youtu.be/5F4gKOEAzvU">https://youtu.be/5F4gKOEAzvU</a>	100%	100%
<b>Video 12.</b> Web series, episode 2 – How to install a Nordmore grid <a href="https://youtu.be/6UezmW5nBGI">https://youtu.be/6UezmW5nBGI</a>	100%	100%
<b>Video 13.</b> Web series, episode 3 – How to make a escape opening <a href="https://youtu.be/A4JNoW6zh8">https://youtu.be/A4JNoW6zh8</a>	100%	100%
<b>Video 14.</b> Setting the best Nordmore grid for your net <a href="https://youtu.be/D_VQXX7vJow">https://youtu.be/D_VQXX7vJow</a>	100%	100%
<b>Video 15.</b> Six tips for better adjustments to a Nordmore grid <a href="https://youtu.be/xCxewvejJaU">https://youtu.be/xCxewvejJaU</a>	100%	100%
<b>Video 16.</b> The REBYC-II LAC Project in the Northeast of Brazil <a href="https://www.youtube.com/watch?v=lvs2CWbd1Ac">https://www.youtube.com/watch?v=lvs2CWbd1Ac</a>	100%	100%
<b>Video 17.</b> Participatory research and tests with TED in Ubatuba-SP <a href="https://drive.google.com/file/d/1zLJkhVjpogqot8kl_GuUtmL7h7nRp56u/view?usp=sharing">https://drive.google.com/file/d/1zLJkhVjpogqot8kl_GuUtmL7h7nRp56u/view?usp=sharing</a>	100%	90%
<b>Video 18.</b> Tests with TED in Ubatuba-SP: results for shrimp, bycatch and rejected fauna <a href="https://drive.google.com/file/d/1P6HSvt87wVvIxfR4XsP3fulvY32nCP1o/view?usp=sharing">https://drive.google.com/file/d/1P6HSvt87wVvIxfR4XsP3fulvY32nCP1o/view?usp=sharing</a>	100%	90%
<b>Video 19.</b> Tests with TED in Ubatuba-SP: participatory research <a href="https://drive.google.com/file/d/1aziWcBe_mBYLab0IKk6o78GSMwhEScJc/view?usp=sharing">https://drive.google.com/file/d/1aziWcBe_mBYLab0IKk6o78GSMwhEScJc/view?usp=sharing</a>	100%	90%



REBYC-II LAC output		
<b>Video 20.</b> Tests with TED in Ubatuba-SP: results for turtles and elasmobranchs <a href="https://drive.google.com/file/d/1aziWcBe_mBYLAb0IKk6o78GSMwhEScJc/view?usp=sharing">https://drive.google.com/file/d/1aziWcBe_mBYLAb0IKk6o78GSMwhEScJc/view?usp=sharing</a>	100%	90%
<b>Video 21.</b> Pathways to the sustainability of shrimp trawl fishing <a href="#">Meet Google Drive – One place for all your files</a>	100%	100%
<b>Video 22.</b> Where is this net? <a href="https://drive.google.com/file/d/1QQyfBbhlr4HkXeVk2Hv3xbxHehgGbnQZ/view?usp=sharing">https://drive.google.com/file/d/1QQyfBbhlr4HkXeVk2Hv3xbxHehgGbnQZ/view?usp=sharing</a>	100%	100%

Source: Projeto manejo sustentável da fauna acompanhante na pesca de arrasto na América Latina e Caribe REBYC II – LAC. Informe final do Brasil. Brazil final report from June 2020 to June 20201.

### 3.3 Efficiency and factors affecting performance

#### 3.3.1 Efficiency

**Finding 5.** Shrimp/bottom-trawl fisheries vary from region to region, with site-specific characteristics directly affecting the efficiency of project implementation and bycatch management, be it in terms of developing bycatch reduction technologies or social and economic safeguards.

**Finding 6.** The national project coordination team was highly efficient in partnering with different institutional stakeholders and liaising with existing projects to cover planned activities, processes and products, maximize funding, avoid duplication and overlaps and overcome political instability.

63. The evaluation looked at institutional commitment to project execution and implementation, taking into account cost-effectiveness, undesirable administrative issues due to political change or instability, stakeholder behaviour and challenges in building an enabling environment for project implementation. Each project site has specific characteristics that directly influence the efficiency of bycatch management, be it the development of reduction technologies or social and economic safeguards. Consequently, socioeconomic and environmental differences between the pilot sites proved a challenge when it came to implementing activities, requiring tailored planning for each fishing site.
64. Activities such as wrap-up meetings and workshops were delayed or suspended due to the COVID-19 pandemic, resulting in an extension of the project end date. There is no evidence that the pandemic hampered the achievement of the main project outcomes or outputs. The main activities were concluded, although political issues were a daily concern amid institutional reshuffles and administration changes during the implementation period. There are five levels of fisheries administration in the Brazilian institutional framework and there were concerns over project design adaptations and the efficiency of implementation. The potential negative impact of Brazil's political instability and changes in fishing policy priorities also proved a challenge to project sustainability.
65. The regional mid-term evaluation highlighted that project management efficiency differed from country to country. Still, overall project implementation was moderately efficient, depending on contextual background and implementation expertise. For example, in Brazil, the national coordination team was very efficient in partnering with different institutional stakeholders and other ongoing projects on planned activities, processes and products, thus maximizing funding and avoiding duplication and overlaps. In addition, the coordination team promoted dialogue, aided implementation and sought technical advice and partnerships for those institutional stakeholders that needed them.

66. From the outset, project implementation faced a number of institutional and political challenges. The fisheries administration was a complex hierarchy, from ministerial to secretariat level. In addition to organizational challenges in certain ministries, some officials were not familiar with the fisheries system. Since 2019, administrative responsibilities for the fisheries sector have come under the Secretariat of Fisheries and Aquaculture of the Ministry of Agriculture, Livestock and Supply.
67. From the mid-term evaluation to the time of writing, the project adapted to the new political situation and exceeded expectations. It managed to overcome problematic and dubious beginnings, when the country went through several national administrative changes, making project implementation almost impossible. The percentage of outputs achieved at product level indicates a high level of efficiency: 83 percent (19) of outputs were fully achieved, while 17 percent (4) were partially achieved. This may be down in part to FAO's implementation partner, the Apolônio Sales Foundation for Educational Development (FADURPE), based at the Federal Rural University of Pernambuco (UFRPE), which provided continuity in the tumultuous political landscape – something that was also noted in the mid-term evaluation.
68. The project also saw delays in funding transfers due to FAO's complex administrative processes, government administrative issues and bureaucratic matters associated with changes in fishery policy. Nevertheless, implementation at national level was cost-effective and efficient. Furthermore, since the mid-term evaluation, Brazil's fisheries sector has gained momentum, implementing new products and processes to meet targets.

### **3.3.2 Factors affecting performance**

#### **3.3.2.1 Monitoring and evaluation**

**Finding 7.** Project-level monitoring and reporting were carried out appropriately and on time, for the most part, and supported project implementation.

69. The findings and observations in this section are in line with the mid-term evaluation, regarding how monitoring and evaluation (M&E) was conducted. The national and regional coordination teams completed their final assessments of project progress and implementation reviews, as required, while this report was being compiled. Specific information on the last year of project implementation since the mid-term evaluation is currently being analysed. Still, as stated in the mid-term evaluation, M&E is explicitly included in project component 4 (project progress monitoring and evaluation and information dissemination and communication), so is included in the regional terminal evaluation. We outline some of the more Brazil-relevant aspects here.
70. Project-level monitoring and reporting were conducted appropriately and promptly, despite the COVID-19 pandemic and changes in the national coordination team. The monitoring process charted the evolution of project outputs and achievements and flagged any issues in the implementation process that might affect the usefulness of this evaluation. There is little time to implement any recommended adjustments that might arise from the evaluation, but the recommendations may be useful for future activities.

#### **3.3.2.2 Co-financing**

**Finding 8.** The co-financing committed in the project's endorsement and approval stages was substantial. It came in slightly lower than expected in US dollar (USD) terms, but higher level than expected in Brazilian real (BRL) terms.

71. The co-financing raised by REBYC-II LAC is another indicator of national ownership. At the mid-point-point of the project, it was relatively high, according to the mid-term evaluation. Brazil's

committed co-financing, for instance, grew steadily. Despite a sharp downturn in the national economy, which continues to pose difficulties for fisheries management, co-financing remained high and was almost fully committed and allocated.

72. Appendix 6 contains a financial analysis. Despite Brazil's economic downturn, the mid-term evaluation stated the project leveraged co-funding at much higher levels than expected. One hundred percent of in-kind financial contributions were received, while 99 percent of cash commitments were forthcoming in USD terms. Slightly less than expected, this happened due to fluctuations in the USD-BRL exchange rate. The project budgeted consultant salaries and planned payments in REAL. When converted, the final cash contribution was down slightly in USD terms, but around 18 percent ahead of forecast in BRL terms (Appendix Table 6). The scheduled co-financing came from two different sources: the Brazilian Government and FAO (Appendix Table 7). Thus, despite the political turbulence of 2016 and 2017, Brazil succeeded in its co-financing goals. Even if some local projects suffered from a lack of continuity and couldn't be resumed after 2018, the final evaluation of the co-financing element is highly satisfactory.
73. The project's participatory process was a success, persuading stakeholders to attend local, subnational and national workshops. Still, decision-making on financing and co-financing did not trickle down to fishing community level with regard to how and where funds should be used. This featured in stakeholder complaints. A network of universities played an active role in the participatory process by conveying funds through applied research, allocating these at community level through local engagement. The budget for these meetings was meagre compared with the results obtained. Notwithstanding, forecasting fluctuation between the USD-BRL exchange may be necessary for future projects. A national currency valuation against the US dollar will upscale planned funds execution during the project implementation, while BRL devaluation against the USD will downscale planned funds.

### 3.3.2.3 Stakeholder engagement

**Finding 9.** The project was highly successful when it came to the inclusion of diverse stakeholders, engaging institutional stakeholders and partnering with them, enhancing knowledge on bycatch management issues with a view to improving the sustainability of Brazil's shrimp trawl fisheries.

**Finding 10.** Stakeholder awareness and mobilization were enhanced, mainly in the artisanal fisheries subsector, making fishers and fishworkers mindful of the importance of ensuring decent work in fishing and the sustainable use of fisheries resources.

74. In line with the findings of the mid-term evaluation, the project strove to work with diverse stakeholders, including the private sector, from the outset. These included small and large-scale fishers, as well as stakeholders in the harvesting, post-harvesting, processing and marketing sectors. The evaluation team communicated with stakeholders from the list of people who attended subnational-level workshops. The attendees represented interest groups as named delegates, making it possible to analyse representation and commitment, ensuring the credibility of evaluation results.
75. The project was highly successful at all fishing sites. Direct engagement underpinned the project objective to interact and partner with small-scale fishers and various institutional stakeholders. Diverse stakeholders (some antagonistic) dealt with technical matters and policy issues: government agencies, academia, research institutions, NGOs, fishers' associations, fisherwomen's associations, industry, small-scale fishers, etc. Therefore, the national coordination team's strategy to engage in dialogue with stakeholders at several of the fishing sites was vital to obtaining national participatory buy-in, creating an enabling environment for implementation.

76. Stakeholders participated in discussions on project objectives and goals, enhancing locational knowledge and elucidating local needs, while continuing their work on other initiatives. As a result, key stakeholders became involved in project design and implementation, with a positive effect on results, political and administrative issues aside. While stakeholder involvement helped to boost efforts and resources for creating communication materials, better dissemination methods are needed to conduct more appropriate awareness-raising exercises.
77. Stakeholder engagement in the evaluation was highly satisfactory. It involved diverse fishing-sector representatives and groups that were either directly or indirectly involved in the REBYC-II LAC project. The evaluation team's dialogue and interviews with this varied group of actors lent weight to the credibility of the evaluation findings. The project's positive results are down to contributions by many collaborators and their sense of ownership (belonging) and social commitment to the fishing sector, but there was little publicity and communication. Everyone was curious to know what other groups had been involved in discussions and proposals. And, indeed, projects of this size must excel to nurture ownership through referrals from other group meetings.
78. A total of 70 respondents agreed to respond to the online questionnaire, with 18 (25.7 percent) of those from the private sector, 8 (11.4 percent) from government institutions, 25 (35.7 percent) from research institutions and academia, 5 (7.1 percent) from NGOs and 14 (20 percent) considered project personnel (coordinators and focal points). Twelve (17.1 percent) of the 14 of project personnel belong to academia or research institutions supporting project execution, but cited their roles in the project as focal points. Only 8 (11.4 percent) described themselves as researchers, 7 (10 percent) as technicians, 10 (14.3 percent) as fishers, 3 (4.3 percent) as fishers and shipowners, and 5 (7.1 percent) as shipowners. The majority said they played a role in technical and administrative project support and implementation. From the participating pilot sites, 10 percent (10) ticked "do not apply", 2.9 percent (2) were from the North subnational region, 22.9 percent (16) were from the Northeast, 27.1 percent (19) were from the Central area and 37.1 percent (26) were from the Southeast/South (Box 4). Box 5 and the following description outline the results of the online questionnaire, which offers lessons for supporting stakeholders in each step of project implementation.

**Box 4. Profiles of participating stakeholders interviewed for this evaluation**

Stakeholder profile	Quantity (n)	Quantity (%)
<b>Segment</b>		
Private sector	18	25.7
Government institutions	8	11.4
Research institutions and academia	25	35.7
Non-government organizations	5	7.1
Project personnel – coordination and focal points	14	20
<b>Subtotal</b>	<b>70</b>	<b>100</b>
<b>Role in the project</b>		
Researcher	8	11.4
Technician	7	10
Fisher	10	14.3
Fisher and shipowner	3	4.3
Shipowner	5	7.1
Technical and administrative	37	52.9
<b>Subtotal</b>	<b>70</b>	<b>100</b>
<b>Subnational region</b>		
Pilot sites – North	2	2.9
Pilot sites – Northeast	16	22.9
Pilot sites – Central	19	27.1
Pilot sites – Southeast/South	26	37.1
Pilot sites – “do not apply”	7	10
<b>Subtotal</b>	<b>70</b>	<b>100</b>

79. For 75.9 percent of those surveyed, the “design and activities of the project were adequate to allow sustainable management of bycatch”. Thirteen percent said it was inadequate, while 11.1 percent said the project results didn't allow for proper evaluation.
80. The project made a major contribution to shrimp fisher-community understanding of the importance of managing bycatch. Some 59.3 percent of those surveyed attributed changes in attitude on managing bycatch directly to the project. In contrast, 37 percent said the project did not enhance their view that bycatch should be responsibly managed. Only 3.7 percent had no opinion on the subject.
81. Managing bycatch was paramount for 98.1 percent of stakeholders interviewed, with only 1.9 percent deeming it inessential. For 72.2 percent, the use of BRDs was likely to affect target species production, impacting income and fishing community subsistence. About 18.5 percent did not have any clear opinion on the topic and 9.3 percent thought BRDs would have no impact at all.
82. Some 79.6 percent of respondents said the project’s achievements would positively influence shrimp trawl management, while 20.4 percent thought it would not. Only 25.9 percent believed the fishing sector would widely accept BRDs and other measures to reduce bycatch, however.

One-third of respondents did not have a concrete opinion, while 40.8 percent said the sector would not implement the management measures.

83. The degree to which the project considered gender issues divided opinion: 44.5 percent believed it was satisfactory, 40.7 percent said it was unsatisfactory and 14.8 percent had no view on the issue.
84. Lastly, 48.1 percent believed the project generated a sense of ownership of the project outputs and outcomes and capacity building towards sustainability. Some 40.7 percent had no sense of project ownership and 11.1 percent did not know.

### Box 5. Results of online stakeholder questionnaires

QUESTIONS	Yes (%)	No (%)	Don't know (%)
Are the project's design and activities adequate to enable sustainable management of bycatch?	75.9	13.0	11.1
Has the project changed your views about trawl bycatch?	59.3	37.0	3.7
Do you think managing bycatch is important?	98.1	1.9	0.0
Will the BRDs improve or reduce catches of target species, livelihoods and income?	72.2	9.3	18.5
Will these achievements make a difference in the longer term?	79.6	20.4	0.0
Do you think the BRDs and other actions to reduce bycatch will be widely accepted by the trawl industry?	25.9	40.8	33.3
Was the level of involvement of women in project activities satisfactory?	44.4	40.7	14.8
Do you feel a sense of ownership of the project?	48.1	40.7	11.1

85. Brazil succeeded in engaging stakeholders from the workshops, which went beyond the project's goals and objectives. As far as component 1 was concerned, stakeholders agreed that the existing institutional and legal framework might be improved through EAFM, enhancing dialogue between various policy levels and strengthening the fisheries management system and value chain. On component 2, the project tackled the need to achieve better environmental conditions for the sustainable development of fisheries by establishing measures that helped to reduce the level of environmental pollution, in addition to actions on awareness-raising, environmental education and inspection. Furthermore, stakeholders understood that research was needed to generate top-class scientific data, underpinned by traditional knowledge. As for component 3, it was essential to look at the profitability of marine shrimp fisheries and reduce the fishing fleet's operational costs. Hence, the measures adopted to enhance the lives of traditional fishing peoples and communities, public fishing policies and institutional capacity-building require further improvement.
86. Ownership of and commitment to the project's expected outcomes strengthened the envisaged participatory process at local, subnational and national level. Stakeholders recognized the joint effort to use common sense, underpinned by the engagement of CSOs and NGOs and the newly created network of universities and research centres. Even so, local activities should have been enhanced, so that fishers could get to know the project better. Improving M&E, therefore, should allow a review of strategies and developments with regard to setting co-management activities.
87. Interviewees raised concerns about the need to champion a decent work agenda. Though it was a grievance of those suffering harsh daily working conditions, the project did not address decent work issues directly. However, the private sector and CSOs acknowledged the poor working

conditions, citing health risks from repetitive work and long hours. Identifying fishers' disease-related working conditions is insufficient; there is no professional rehabilitation centre or action to prevent disease and work accidents in fishing. Without recognition of work-related illnesses and accidents, access to assistance and social-security policies becomes problematic. All this notwithstanding, the project forged an enabling environment in workshops, which, together with the EAFM methodology, created an enthusiastic participatory process and the right environment for freely expressing concerns and needs with regard to a decent work agenda.

88. Stakeholders, therefore, cited the identification and seizing of fishery opportunities, along with the rights to freedom, equity, security, participation and public organization, gender equality, solidarity and human dignity, as being key to decent work, capable of generating an adequate financial return and the necessary social protection. Learning processes and the appropriation of knowledge, coupled with practical and real-life experience, have helped to build trust, contributing to fishers' collective empowerment.

### 3.4 Sustainability

**Finding 11.** National and local buy-in to the project was made possible by bringing together government and other stakeholders. This, combined with evidence of effective and efficient project implementation, underscores the high ownership level achieved. Although the four management plans developed may help sustainability in the medium and long term, methodological questions remain on the achievement of results.

89. The new shrimp fishery management plans incorporated a definition of fisheries management units and considered the three fundamental components of the EAFM: ecological wellbeing, human and socioeconomic wellbeing and good governance. The plans recognize fishing as a strategic activity in government plans, give fishers their due value and take into account the distinctiveness of the sector. They call for better-quality indicators of fisher livelihoods, in terms of health, education and income, respect for the environment and stability of fish stocks. The actions and measures proposed in the management plans are aimed at achieving this scenario. The EAFM components focus on ecological and human wellbeing for fisheries governance and the sustainability of shrimp resources.
90. The mid-term evaluation stated that countries with a strong institutional framework that could bring about stronger bycatch management and the sustainable management of shrimp trawling were more likely to see sustained, long-term results. This terminal evaluation came to a similar view, once institutional hurdles had been overcome. Although the evaluation team agrees that the factors that make current frameworks conducive to sustainability are tied to institutional robustness, political and economic turbulence, as has been the case in Brazil, have served to weaken institutions and undermine the implementation of fishing policy. Concerns have grown over Brazil's capacity to continue the management, data-collection and enforcement work begun under this project should new turbulence arise.
91. Stakeholders now advocate for legislation to ensuring the continued use of BRDs. BRDs have been tested to a certain extent in 15 of Brazil's 17 coastal states, but more work needs to be done to boost acceptance of and reduce resistance to such management measures.
92. The initial phase of BRD implementation produced positive results, building on project dialogue. On average, the test devices worked efficiently, reducing the shrimp catch by 15 percent and reducing the bycatch by more than 25 percent. In addition, there was a significant reduction in the bycatch of endangered and protected elasmobranch species. However, there were some locations and/or fleets where there was no opportunity to install the BRD methodology. In

general, these were situations in which there was sectoral or managerial conflict, hindering implementation.

93. In Brazil, in line with the mid-term evaluation, there are moderate social, policy, institutional and financial risks to sustainability. While fishers and their organizations tested the BRDs, acceptance levels were far lower than desired, as the BRDs did not achieve universally clear benefits. As the 2019 mid-term evaluation put it, if fishers do not embrace the technologies, this could have a strong negative impact on sustainability.

### 3.5 Cross-cutting issues

#### 3.5.1 Environmental and social safeguards

**Finding 12.** By introducing integrated management and reducing discards and bycatch, the project generated and enhanced knowledge on the sustainability and management of shrimp trawl fisheries, as well the environmental impact of shrimp trawling.

94. The project made it possible to aggregate several pieces of information, in addition to knowledge regarding the effect of bycatch in the country's shrimp trawling fisheries and local fishing sites diversities. The project provided and enhanced knowledge on fisheries sustainability and management, and environmental impact assessment, associated with natural resources in general and fisheries in particular. The mid-term evaluation found that environmental safeguards are key elements of the Project, with which we agree. Furthermore, a series of social issues, or safeguards, are embedded in the project. These issues, in order to support sustainable development within the shrimp trawling sector, include specific products and expected outcomes to support enhanced and equitable livelihoods and food security issues associated with bycatch. Hence, the project has clear equity and development factors weaved in several of its expected outcomes.
95. Advancing planning protocols to change the fishing-gear systems used in shrimp trawling today poses risks to social, economic and environmental safeguards. From a technical perspective, device effectiveness, fishing-fleet characteristics, oceanographic conditions and the aforementioned fishing ground require financial and political support for on-the-ground research to test technical-scientific and traditional knowledge. From a legal perspective, avoiding short-term restrictive measures should enable voluntary uptake. Lastly, from a social and economic perspective, the probable decrease in catch, either target species or bycatch, continues to make it challenging to estimate the precise impact on food security and income for fishing communities.

#### 3.5.2 Gender

**Finding 13.** The project carried out workshop activities, value-chain and socioeconomic analysis at selected fishing sites that included a gender dimension highlighting a historical-cultural and political role women play in fishing-sector management.

96. Though not consistently addressed in most case studies, gender analyses conducted by project partners identified fisherwomen's leadership skills, positive attitude, ability to listen to criticism, sense of responsibility, resilience and companionship. A general complaint was that harvesting was still a male-dominated activity, while women were seen as supporters or, at most, involved in post-harvest activities. Women are still mostly absent from the capture phase. They play an even smaller role in fisheries management. Fisherwomen bemoaned the fact that their roles in fishing activities were rarely the target of fishery management policies. This is largely down to cultural traditions in the fishery system and conservative family structure. In contrast, they noted that women in fishing communities ended up with a double workload, as they had to take care of household chores and children, while supporting the fishing activities of their husband or partner.



97. There was little parity in project workshops. In some locations, there was no women's participation. Opinion was divided on the degree to which gender issues were taken into account in project implementation. According to the online stakeholder questionnaire (Box 5), 44.4 percent of respondents believed women's participation to be satisfactory, 40.7 percent deemed it unsatisfactory and 14.8 percent had no opinion. The project conducted two workshops on gender issues, in Sirinhaém, in the state of Pernambuco in the Northeast Coast region, and in Anhatomirim, in the state of Paraná in the South Coast region. From the list of stakeholder groups interviewed (Appendix 1), women made up 50 percent of the steering group, 35.9 percent of the reference group, 37.8 percent of the advisory group and 11.4 percent of the learning group. This means that less than one-third, or 27 percent, of fishing-sector representatives were women, with the greatest inequality in the learning group.
  
98. A gender analysis highlighted the need for economic alternatives for women in the shrimp fisheries value chain, such as value-added products that would boost income and enhance food security and nutrition. However, while stakeholder engagement explored such economic alternatives, the information compiled suggested low project ownership levels and a lack of understanding of fisherwomen's dependency on bycatch at community level. There was an option in Brazil to take a more theoretical approach to an analysis of the role of women in site-level socioeconomic studies, complementing the participation of fisherwomen in EAFM workshops. Fisherwomen (including representatives of small-scale fisheries associations, retailers and shrimp peelers, for instance) believed they would be greatly affected if fish production from trawling fell significantly, affecting their livelihoods (food security and income). In line with the mid-term evaluation, more comprehensive insights are needed into how different gender roles are affected by current bycatch and discard practices and how they could be affected by changes in shrimp/bottom-trawl fisheries management and bycatch reductions. Stakeholders acknowledged, however, the role of women in food security.



## 4. Conclusions and country-specific recommendations

### 4.1 Conclusions

**Conclusion 1.** (Findings 1 and 2, relevance). The project enhanced knowledge on the sustainability of shrimp trawl fisheries and bycatch management, environmental impact assessments and biodiversity conservation by mobilizing stakeholders and non-state actors and meeting national development objectives for fisheries management.

99. The project was a starting point for raising community awareness of the responsibility of using fishing methods that promoted sustainable and equitable livelihoods. Project results are likely to be sustainable, but a single project is unlikely to be sufficient to cover the ecological, human and governance dimensions required to ensure fisheries sustainability.
100. The management plans compiled as part of the project extol the importance of evaluating management measures such as BRDs, closed seasons, fishing fleet controls, on-board observers and the like. It is important to avoid controversial policies, as pressures may lead to shrimp overfishing in the absence of regulation. Moreover, outstanding results, irrespective of technical and political issues, may over-inflate expectations, hampering the ability to engender sustainability, the overall vision of project efficacy and the intermediate outcomes it should produce. That could lead to a lack of strategic understanding that stakeholders should foster sustainable and sustained outcomes (such as fishing subsidies).

**Conclusion 2.** (Findings 3 and 4, effectiveness). Time constraints limited the implementation of certain project activities and interactions between stakeholders. Still, the project piqued the shrimp fishery sector's interest in replicating and enlarging its scope to other fishing areas. In addition, it successfully fostered ongoing dialogue on public policy, plans and projects in relation to fisheries management, which may form the basis for a plausible and compelling regulatory framework.

101. The project enabled collaboration with fisher communities and the transfer of technical information on bycatch management. Nonetheless, time constraints did not allow for more significant community engagement and restricted greater interaction between stakeholders. Behavioural changes among fishers and shipowners will require continued long-term work, if project objectives and practical and feasible outcomes are to be achieved within the foreseen timeframe. Such issues are down to politics and the legal, institutional and policy frameworks and the practical application of project results is not foreseen in the short run. The project, therefore, looked to standardize the understanding of the fisheries management process in Brazil, maintaining links between the political and technical dimensions, and between all actors involved, ensuring good governance.

**Conclusion 3.** (Findings 3 and 4, effectiveness). BRDs have been shown to reduce bycatch, with positive effects on biodiversity and the ecosystem, contributing to the global environmental objectives (GEOs)/. Furthermore, no significant changes in the capture of target species occurred, providing equitable livelihoods and income for fishing communities and adding value to local fisheries, thus contributing to global development objectives (GDOs).

102. Even if BRDs can reduce bycatch without causing significant changes to the capture of target species, maintaining the livelihoods and income of fishing communities, adding value to fish and reaching the requisite GDO, their use alone will not solve the problems of trawl fisheries without other management measures. Without integrated fisheries management, it becomes more difficult to make progress and achieve positive results. It is necessary, therefore, to follow a collective, constructive path with stakeholders, which takes time and involves lots of dialogue.

**Conclusion 4.** (Findings 3 and 4, effectiveness). On average, the tested devices worked efficiently, reducing the shrimp catch by no more than 15 percent and excluding more than 25 percent of all bycatch. There was a significant reduction in the bycatch of endangered and protected elasmobranch species (such as sharks, rays and skates).

103. It is necessary to ensure that the private sector sticks to using BRDs and that fishing results are monitored with specialist scientific and technical assistance. Further changes were envisaged at fishery organization and individual level to promote the sustainability of results after project end, both for small- and large-scale shrimp trawling fisheries. Still, the development of BRD tests and the start of discussions on managing bycatch are steps in the right direction. The results suggest that the project reduced the level of resistance to such changes.
104. In a country as diverse as Brazil, where fisheries management is still far from adequate, greater dissemination and extension activities are needed at trawl fishing sites, along with continuity to maintain the integration of stakeholders in the process and institutional strengthening for fisheries management.

**Conclusion 5.** (Findings 5 and 6, efficiency). Partnerships between institutions and stakeholders led to widespread improvements in the knowledge of trawling and bycatch management in Brazil's coastal areas. Managing bycatch, therefore, reflected the diverse characteristics of each fishing site, highlighting existing problems and the need to resolve them cohesively, either by developing reduction technologies or through social and economic safeguards.

105. Bycatch management and responsible trawling practices within an EAF framework achieved satisfactory results. BRD experiments, when conducted on fishers' boats, proved effective at raising awareness of responsible practices, providing evidence that the project was designed with a view to improving their activity. The dissemination and implementation of bycatch management measures should be promoted.
106. Complaints about the difficulties or impossibility of managing bycatch will go nowhere. If bycatch is reduced through the trawl fisheries management process, however, it will generate more benefits for the environment and, thus, for the sustainability of shrimp resources. Efforts are needed, therefore, to minimize the negative externalities surrounding these fishing activities.

**Conclusion 6.** (Finding 9, factors affecting performance). Stakeholder engagement created an enabling environment, strengthened by the representation of community organizations, allowing for participatory processes to achieve desired livelihoods.

107. An enabling environment bolstered the representation of fishing community organizations, enabling participatory processes to bring about desired livelihood changes. The scope of the project with regard to social, economic and ecological issues created awareness and enhanced knowledge of bycatch issues, paving the way for good management practices among stakeholders and beneficiaries. Commitment is now required to strengthen and build capacity to implement the four national shrimp fishery management plans.
108. A situational analysis of shrimp trawl fisheries in Brazil suggests there are opportunities to increase the value of shrimp bycatch species and identify specific areas of action, including options for increased value-added bycatch species.

**Conclusion 7.** (Finding 11, sustainability). The functional integration of government and other stakeholders fostered an enabling environment for national ownership, sustainable results and the long-term impacts needed for bycatch management. In addition, it promoted the incorporation of conservation and the sustainable use of biodiversity in shrimp trawling.

109. The four management plans compiled as part of the project may help sustainability in the medium and long term, however, methodological questions remain as regards the achievement of results. The acceptance of scientific results is a key element here and, to this end, the results need to be followed up, highlighted and presented consistently. The EAFM methodology included the addition and sensitization of stakeholders and the strengthening of institutions as part of the participatory management process. It also highlighted the benefits of new technologies to responsible fisheries, though their acceptance will take time. While there is growing openness to the use of results and to other actions, they will rarely be accepted immediately by the majority, although rising income, profit margins and other beneficial factors should facilitate the process.
110. Stakeholders noted that many fishers are still subject to harsh daily working conditions. The project's enhanced mobilization, mainly from the artisanal fisheries subsector, made fishers and fishworkers mindful of the importance of ensuring decent work in fishing and the sustainable use of fisheries resources. Efforts aimed at protecting and advancing workers' right to decent work may give insight into how fishing groups are formed and how they develop their activities. They may also suggest how they can work together to manage fishing grounds with neighbouring fishing communities to improve governance.
111. 107. Decent work is the converging focus of the International Labour Organization (ILO) Declaration's four components and strategic objectives. Its key dimensions are broadly as follows: employment (generation, opportunity, paid employment and working conditions), social security (insurance, old-age pensions, other types), workers' rights (forced labour, child labour, inequality at the workplace) and social dialogue (union density coverage, collective bargaining coverage, other types). Although the Declaration is an international instrument, it stresses that these elements must be implemented at local level.

**Conclusion 8.** (Finding 13, cross-cutting issues). By analyzing project activities, the evaluation team was able to identify the role of women in the sector. They observed fisherwomen's leadership skills, positive attitude, ability to take criticism, sense of responsibility, resilience and companionship.

112. Despite few genders-specific activities, women who attended the project demonstrated leadership, a positive attitude, an ability of take criticism, a sense of responsibility, resilience, and companionship. Therefore, playing important roles in the shrimp value chain, as shrimp peelers and/or retailers, the project highlighted the need to improve their working conditions and what opportunities for women are if changes in the value chain occur.
113. The extent to which alternative livelihood opportunities need to be created is an issue that needs to be dealt with and should be considered for future work. This ought to entail providing training for women to generate income via other productive activities (not necessarily related to shrimp fishing) in the communities affected by management measures and BRD implementation.

## 4.2 Country-specific recommendations

**Recommendation 1.** FAO and the project management team should facilitate the successful completion of the project components, disseminate project information and support sustainability and replication.

114. The project created national buy-in and fostered the opportunity to boost the generation of information and engage in fisheries management. In-country activities need to enhance mechanisms for coordination and leverage subnational achievements at fishing-site level.
115. The information produced by the project needs further consolidation to generate post-project initiatives and legal instruments suitable for circulation to the intended users: policymakers,

fisheries managers and the general public. In addition, information should be processed and presented in line with the needs of different audiences.

116. Partners should leverage country-level results and build on ongoing activities included in the management plans for fishing policy implementation. Brazil will need to rely largely on its own funding, but it could identify and advocate for additional donor support with FAO's assistance.
117. Specific measures to mitigate environmental, socio-political and economic risk to sustainability are: (a) the design of management plans tailored to specific local needs and strengths; (b) initiatives to support the implementation of institutional and regulatory arrangements; (c) adequately addressing local bycatch issues. These measures could also be taken into consideration in the design of any follow-up project.

**Recommendation 2.** FAO and the GEF should plan a follow-up project in Brazil. The joint initiative to support the Brazilian government should continue in a subsequent project to be negotiated by 2023 and operational by 2024. It should incorporate immediate, essential measures based on the empirical fishing knowledge of stakeholders and a strategy to manage shrimp resources and ensure the sustainability of fisheries.

118. Implementation strategies should be clearly defined, complete with lines of responsibility, and incorporate techniques such as a risk assessment and susceptibility/productivity analyses. Although they may seem complex and challenging at first glance, they are handy and straightforward tools for applying the implementation strategy in a way that will achieve objectives and outcomes.
119. The immediate, essential measures and implementation strategy of a follow-up project must align with the national shrimp fisheries management plan. It must, therefore, set goals to assess plan performance, based on the M&E of fisheries and research results.
120. A capacity-building plan should be included in any follow-up project design. It should also strengthen the soft skills of stakeholders involved in decision-making and planning processes.

**Recommendation 3.** The project partners and the Government of Brazil should maintain their efforts to advance technological innovation (software and devices such as BRDs) to ensure the sustainability of shrimp fisheries and bycatch management. BRDs have been shown to reduce bycatch, with positive effects on biodiversity and the ecosystem and no significant changes in the capture of target species, providing equitable livelihoods and income to fishing communities and adding value to catch.

121. Efforts should focus on fostering fishery-sector acceptance of BRD technologies in Brazil. Resistance to change can be overcome by broadly disseminating the results of the project at the pilot sites where the new technologies were implemented. The newly established Standing Committee for the Management of Groundfish Fisheries should provide a pathway for the implementation of results, including continued BRD experiments, design and management measures and shrimp fishery regulations. Videos and fisher interviews could serve a purpose. For this technological shift to take place, fishers and the fishing industry need to agree that the renewed fishing equipment benefits them to a certain extent and understand benefits that adopting modified gear would entail for fishing in the short and medium term.
122. Simulations using software packages for trawl fisheries management would underpin the powerful benefits of implementing and integrating new technologies for different scales of commercial fishing. In addition, software packages would allow users to optimize the use of fishing gear, thus reducing resistance and increasing trawl efficiency. FAO should collaborate with

countries engaging in information systems and data-collection methodologies (statistics and frameworks) to the greatest extent possible.

123. Technical solutions for a particularly fishing area tend not to be directly transferable to other sites. Over-ambition as to stakeholders' acceptance of technological advancements should be avoided, therefore. Verifying critical assumptions may also greatly affect judgments as to the expected achievements of technological improvements.

**Recommendation 4.** The project partners and the Government of Brazil should upscale the participative decision-making process promoted by the project. Actions must be taken by 2022 to ensure that the shrimp management plan comes into effect within a one-year timeframe.

124. The evaluation concluded (Conclusion 5) that successful partnerships between institutions and stakeholders had enabled an improvement in knowledge on trawling and bycatch management. This is fundamental if Brazil is to generate integrated and comprehensive public policy. The fishing sector, therefore, needs to ensure the sustainable use of natural resources while, at the same time, strengthening livelihoods and sources of income.
125. The extent to which results will be further implemented and sustained by the private sector should be dealt with. Whereas voluntary uptake is likely, economic constraints may hinder adoption. Therefore, the Government of Brazil and key project partners should take action, using formal instruments and immediate measures to engage key stakeholders in continuing on-the-ground activities. The dissemination of achieved results, the development of devices and fishing gear and adequate management are additional actions to consider. Stakeholders must look at the diverse communities involved and lend balanced support to developing research based on scientific and traditional knowledge.
126. Fisheries management in Brazil is still struggling to create the right conditions for implementation. The sector has faced several political and institutional challenges that are hampering responses to fishing-sector needs, preventing the mobilization of responsible fishing actions and obstructing the implementation of fishing policies. The Government should avoid interruptions to fisheries management, encouraging stakeholders to engage, live up to commitments, and follow up on activities and results. Integrating fisheries into the priorities of the country's programmatic framework should include the formulation of effective bycatch mitigation and discard reduction measures. In addition, Brazil needs a stronger and more efficient regulatory framework to protect the marine environment.

**Recommendation 5.** The project partners and the Government of Brazil should work together to advance a decent work agenda.

127. The evaluation underscored (Conclusion 7) the importance of promoting a decent work agenda in the short term, within a six-month timeframe. The evaluation team would, therefore, recommend that stakeholders engage in dialogue on the health-system institutional framework and health policy to better diagnose working conditions-related diseases among fisherfolk and to build capacity for professional rehabilitation centres and actions to prevent disease and work accidents in the industry.
128. It is essential to adopt measures explicitly aimed at improving fishers' working conditions and mitigating the health risks resulting from repetitive tasks and long working hours. Actions aiming at protecting and advancing workers' rights to decent work may give insight into how fishing groups are formed and how they develop their activities. It may also indicate how they can manage fishing grounds with neighbouring fishing communities to improve governance. The decent work agenda is broadly based on the key dimensions of employment (generation,

opportunity, paid employment and conditions of work), social security (insurance, old-age pensions, others types), workers' rights (forced labour, child labour, inequality in the workplace) and social dialogue (density of union coverage, collective bargaining coverage, other types) (ILO, 1999).

129. To better diagnose fishers' working conditions, the health system must adapt and recognize the extent of professional capacity-building needed to prevent disease and work accidents in fishing and to enhance working conditions. Such actions are needed if people are to carry out fishing activities in freedom, equity and security, with participation and public organization, gender equality, solidarity and human dignity. Moreover, decent work can generate financial returns and give people necessary social protection.



## 5. Lessons learned

**Lesson 1. Project implementation.** The participatory approach adopted in drafting the country workplan and the use of associated tools is essential for the successful implementation of EAFM in trawl fisheries in Brazil. Furthermore, by taking into account national capacity, the use of EAFM principles helped to steer project execution and engage stakeholders with a view to achieving expected outcomes and meeting national fisheries development priorities.

**Lesson 2. Partnerships.** Strong partnerships, involving a wide range of actors, are essential to effective co-management. This is particularly true where social, economic and ecological diversity are core issues in projects of this size, with a strong influence on implementation and the sustainability of results.

**Lesson 3. Technology advancement.** The technical description of the vessels and fishing gear used in Brazilian shrimp fisheries was fundamental to the enrichment of scientific and traditional knowledge, fostering applied research and identifying technologies and benefits appropriate to the social and economic realities.

**Lesson 4. Communication and dialogue.** Communication and dialogue were essential to creating the right conditions for implementing the EAFM. An inefficient fisheries management system in Brazil, fraught with political and other hurdles, had led to counterproductive fishing policies that were hampering sustainable fisheries and fisheries management. In addition, knowing these policy issues and understanding the institutional framework helped with stakeholder engagement and commitment, follow-up activities and the achievement of expected results.

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## Appendix 1. People interviewed by group of interest

Based on a clear understanding of each stakeholder's interests, the proposed design for stakeholders engagement is below detailed:

- i. *Reference group*: relevance on the evaluation design; validity on the preliminary findings; and feasibility, acceptability and ownership on the recommendations:
  - Secretariat of Aquaculture and Fisheries of the Ministry of Agriculture, Livestock, and Supply (SAP/MAPA)
  - National project coordination team (general, technical and legal)
  - National project focal point
- ii. *Learning group*: usefulness of the evaluation – the productive and private sectors:
  - Small-scale fisheries associations (national, subnational and local)
  - National Collective of Fisheries and Aquaculture – CONEPE (<https://www.conepe.org.br/>)
  - Union of Shipowners and Fisheries Industries of Itajaí and Region - SINDIPI (<https://www.sindipi.com.br/>)
  - Union of Fisheries Shipowners of the Rio de Janeiro State - SAPERJ (<http://saperj.com.br/>)
  - Union of Fishing Industry, Aquaculture and Shipowners of the State of Pará - SINPESCA (<http://sinpesca.org.br/>)
  - Paiche Company
- iii. *Steering group*: ownership, advice and guidance on evaluations:
  - National project coordination team (general, technical and legal)
  - National project focal point
  - Local project focal points
- iv. *Advisory group*: relevance, quality and credibility of the evaluation processes through guidance, advice, validation of findings and use of knowledge:
  - Government representatives:
    - Aquaculture and Fisheries Secretariat of the Ministry of Agriculture, Livestock, and Supply (SAP/MAPA)
    - Chico Mendes Institute of Biodiversity Conservation – ICMBio
    - Brazilian Institute of the Environment – IBAMA
    - Capixaba Institute of Research, Technical Assistance and Rural Extension – INCAPER
    - Santa Catarina State Government
    - Santa Catarina State Agricultural Research and Rural Extension Company
    - Rio Grande do Sul State Technical Assistance and Rural Extension Company

- Research institution representatives:
  - Fisheries Institute of São Paulo – IP/SP
  - Fisheries Institute Foundation of Rio de Janeiro State – FIPERJ
  - Federal Institute of Maranhão – IFMA
  - Federal Institute of Espírito Santo – IFES
  - Research and Extension Center of the North Region – CEPNOR
  - Tamar Project Foundation
- University representatives:
  - Federal Rural University of Amazon – UFRA
  - Federal University of Pará – UFPA
  - Federal University of PiauÍ – UFPI
  - Federal University of Rio Grande do Norte – UFRN
  - Federal Rural University of Pernambuco – UFRPE
  - Federal University of Sergipe – UFS
  - Federal University of Rio Grande – FURG
  - State University of Santa Catarina – UDESC
- Others:
  - Fishermen and Fisherwomen Movement (MPP)
  - National Articulation of Fisherwomen (ANP)
  - National Commission to Strengthen Marine Extractive Reserves (CONFREM)

**Appendix Table 1. *Reference group*: project coordination (national, technical and legal), and national (government) and local focal points, as well as researchers and technicians, herein considered as project implementers.**

State/region	Name	Institution/Role
Pernambuco/Northeast	Fabio Hazin	UFRPE/ National Project Coordination
Federal District/Central	Ana Silvino	Consultant/ Legal and Institutional Issues
Federal District/Central	Sandra Silvestre	SAP/MAPA/ National Project Focal Point
Ceará/Northeast	José Augusto Aragão	Consultant/ Technical Issues
Pará/North	Bianca Bentes	UFPA/ Subnational North Region Focal Point
Pará/North	Israel Cintra	UFRA/ Subnational North Region Focal Point
Rio Grande do Norte/ Northeast	Fúlvio Freire	UFRN/ Subnational Northeast Region Focal Point (Rio Grande do Norte and Paraíba States)
Pernambuco/Northeast	Vanildo Souza	UFRPE/ Subnational Northeast Region Focal Point (BRDs)
Aagoas/Northeast	Igor da Mata	UFAL/ Subnational Northeast Region Focal Point (Pernambuco, Alagoas and Sergipe States)
Espírito Santo/ Southeast	Mariângela de Lorenzo	Oceanographer/ Subnational Southeast Region Focal Point (Espírito Santo State)
Rio de Janeiro/ Southeast	Luana Prestrelo	FIPERJ/ Subnational Southeast Region Focal Point (Rio de Janeiro State)
São Paulo/Southeast	Antônio Olinto	Instituto de Pesca/ Subnational Southeast Region Focal Point (São Paulo State)
São Paulo/Southeast	Venâncio Guedes	Instituto de Pesca/ Subnational Southeast Region Focal Point (BRDs)
Paraná/South	Rodrigo Medeiros	UFPR/ Subnational South Region Focal Point
Santa Catarina/South	Roberto Wahrlich	UNIVALI/ Subnational South Region Focal Point
Santa Catarina/South	Dérien Lucie Verneti Duarte	Cepsul /ICMBio/ Subnational South Region Focal Point

*Learning group*: productive and private small-scale and large-scale fisheries representatives are those that, let alone their contribution as attendees of thematic workshops and during project implementation phases, are herein considered as beneficiaries, which includes 122 representatives of the fishing sector, both artisanal and industrial, throughout the Brazilian coast.

**Appendix Table 2. *Steering group*: project coordination (national, technical and legal) and national (government) focal point – expert advisers with an implementation accountability role**

State/region	Name	Institution/role
Pernambuco/Northeast	Fabio Hazin	UFRPE/National Project Coordination
Federal District/Central	Ana Silvino	Consultant/Legal and Institutional Issues
Federal District/Central	Sandra Silvestre	SAP/MAPA/National Project Focal Point
Ceará/ Northeast	José Augusto Aragão	Consultan/Technical Issues

**Appendix Table 3. *Advisory group*: subject-matter experts on shrimp fisheries, such as researchers and technicians directly engaged in project design and implementation, and therefore considered partners**

State/region	Name	Institution/role
Pará/ North	Marko Hermmann	UFRA
Pará/ North	Alex Garcia	Cepnor/ICMBio
Pará/ North	Breno Portilho	UFPA
Maranhão/ Northeast	Clarissa Lobato	IFMA
Maranhão/ Northeast	Mary Jane	ICMBio
Piauí/ Northeast	César Fernandes	UFPI
Rio Grande do Norte/ Northeast	Adriana Carvalho	UFRN
Rio Grande do Norte/ Northeast	Ronaldo Angelini	UFRN
Rio Grande do Norte/ Northeast	Alex Barbosa	UFRN
Paraíba/ Northeast	Luís Wagner	ICMBio
Pernambuco/ Northeast	Flavia Lucena	UFRPE
Pernambuco/ Northeast	Albérico Camello	UFRPE
Sergipe/ Northeast	César Coelho	Fundação Tamar
Sergipe/ Northeast	Erik Allan Pinheiro	ICMBio
Sergipe/ Northeast	Ana Rosa Araújo	UFS
Sergipe/ Northeast	Maria Helena	IBAMA
Espírito Santo/ Southeast	Victor Hugo	IFES
Espírito Santo/ Southeast	Nilamon de Oliveira	ICMBio
Espírito Santo/ Southeast	Antônio Carlos	Incaper
Rio de Janeiro/ Southeast	Maria Paula	DPA-RJ/ MAPA
Rio de Janeiro/ Southeast	Raquel Rennó	FIPERJ
Rio de Janeiro/ Southeast	Genaro Cordeiro	FIPERJ
Rio de Janeiro/ Southeast	André de Araújo	FIPERJ
Rio de Janeiro/ Southeast	Beatriz Freitas	FIPERJ
Rio de Janeiro/ Southeast	Douglas Panetto	FIPERJ
Rio de Janeiro/ Southeast	Leticia Nogami	FIPERJ
Rio de Janeiro/ Southeast	Ligia Coletti	FIPERJ
Rio de Janeiro/ Southeast	Mariana Botelho	FIPERJ
Rio de Janeiro/ Southeast	Sérgio Luiz	FIPERJ
Rio de Janeiro/ Southeast	Tiago Oliveira	FIPERJ
Rio de Janeiro/ Southeast	Tulio Arantes	FIPERJ
Rio de Janeiro/ Southeast	Victor Alves	FIPERJ
Rio de Janeiro/ Southeast	Hamilton Hissa	FIPERJ
São Paulo/ Southeast	Bruno Giffoni	Projeto Tamar
São Paulo/ Southeast	Laura Villwock Miranda	Instituto de Pesca
São Paulo/ Southeast	Cintia Miyaji	Empresa Paiche
Paraná/ South	Isabeli Mesquita	Project Extensionist
Santa Catarina/ South	Sergio Winckler	Santa Catarina State Government
Santa Catarina/ South	Everton Giustina	EPAGRI/SC
Santa Catarina/ South	Micheli Thomas	UDESC
Santa Catarina/ South	Bárbara Heck Schallenberger	UDESC
Santa Catarina/ South	Jorge Rodrigues	UDESC
Rio Grande do Sul/ South	Felipe Dumont	FURG
Rio Grande do Sul/ South	Ana Luiza Spinelli	Emater/RS
Rio Grande do Sul/ South	Magda Pereira	Emater/RS

## Appendix 2. Evaluation matrix

Appendix Table 4. Evaluation matrix

Evaluation questions	Subquestions/indicators	Comments	Methods/informants
<b>1. Approach/design – relevance</b>			
Question 1.1: Has there been any change in the relevance of the project since the mid-term evaluation, such as new national policies, plans or programmes that affect the relevance of the project objectives and goals?	The initiatives developed to strengthen the institutional and regulatory arrangements for the shrimp trawl fisheries fulfilled	Establishment of management measures to shrimp fisheries sustainability. Standing Consultative Committee for the Management of the Shrimp Fishery; and definition of a National Management Plan for the Sustainable Use of Marine Shrimps	Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
Question 1.2: Was the project design appropriate for delivering the expected outcomes and congruent with national, regional and international executing and funding institutions?	Sustainable shrimp fisheries, through the implementation of EAF, including bycatch and habitat impact management, achieved.	Capacity building through workshops on ecosystem approach to fisheries shrimps fisheries management (EAF)	
	Promotion of responsible fishing practices and livelihoods enhancement and diversification contributing to food security and poverty eradication strengthened.		
	Level of alignment of the project's objectives and strategies with the needs of different actors.	Level of congruence (high, medium and low) between operational strategies and project objectives	
<b>2. Results, outcome level – effectiveness</b>			
Question 2.1: To what extent have the project contributed to the achievement of stated environmental and development	What results has the project achieved in contributing to improved institutional and regulatory frameworks for shrimp/bottom-trawl fisheries and its effective co-management?	Sustainability. Creation of a conducive and enabling environment for sustainable shrimp trawling fisheries. Quality level (high, medium or low) of the products and results	Analysis of the effectiveness of the collaboration mechanisms among all parties involved.

Evaluation questions	Subquestions/indicators	Comments	Methods/informants
objectives? Were intended results achieved as expected and were there any unintended results?	What results has the project achieved in strengthening bycatch management and responsible trawling practices within the an EAF framework?	generated. Logical framework indicators: level of generation of products (outputs) and results (outcomes) according to planning.	Identification of lessons learned and actions.
	What results has the project achieved in promoting sustainable and equitable livelihoods through enhancement and diversification?		Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
Question 2.2: To what extent can the attainment of results be attributed to the GEF-funded component?	What percentage of the targets in the Results Framework indicators were met?	Percentage of goals met, not met and partially met.	Identification of lessons learned and actions.
			Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
<b>3. Results, output level – efficiency</b>			
Question 3.1: To what extent did FAO deliver on project identification, concept preparation, appraisal, preparation, approval and start-up, oversight and supervision? How well risks were identified and managed?	What are the strengths and weaknesses of the project design in terms of achieving the expected results?	Strength and weaknesses elements of the project vis-a-vis the progress and current context.	<ul style="list-style-type: none"> <li>● Administrative, operational, financial or managerial factors that have contributed or hindered the progress of the project</li> <li>● Minutes and reports of the efficiency of meetings, procedures, etc.</li> <li>● Desk review, document analysis and stakeholder interviews. Project document</li> </ul>
	Did the project experience delays in its execution that hindered the achievement of the project objectives?	Level of progress of activities, generation of products and disbursements according to planning.	



Evaluation questions	Subquestions/indicators	Comments	Methods/informants
	To what extent did the implementation and execution dissipations favour or hinder the achievement of the project objectives?	Perception of different actors on the efficiency of implementation and enforcement provisions	– Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
Question 3.2: To what extent did FAO and its co-executing partners effectively discharge its role and responsibilities related to the management and administration of the project?	To what extent did the institutional structure and governance of the project facilitate or limit the implementation of the project, and contributed to achieving efficient and results-based management?	Level of perception of the functioning of the institutional/ organizational structure	
Question 3.3: To what extent has the project been implemented efficiently and cost effectively, and has management been able to adapt to any changing conditions to improve the efficiency of project implementation?	To what extent did the co-financing committed in the project document materialize?	Level of materialization of co-financing according to planning	
	To what extent have risks been managed and new risks identified?	Level of effectiveness (high, medium and low) in risk management and identification	
	What adaptive measures have been implemented to mitigate the materialized risks?	Level of effectiveness (high, medium and low) in the implementation of adaptive measures	
Question 3.4: Was the project cost-effective? How does the project cost/time versus output/outcomes equation compare to that of similar projects?	Were the project resources sufficient for the successful implementation of the project?	Cost / benefit balance of the structure - Percentage of budget execution level by year and component	
		Percentage of the level of products and results achieved by the project	
		Perception of the adequacy of resources by key stakeholders	

Evaluation questions	Subquestions/indicators	Comments	Methods/informants
<b>4. Sustainability</b>			
Question 4.1: What is the likelihood that the project results will continue to be useful or will remain even after the end of the project?	How has the sustainable use of shrimp resources been incorporated into public policies in programmes for the sustainable development of the productive sector through the allocation of resources and the planning of specific programmes?	Examples of (plans for) incorporating the conservation and sustainable use of biodiversity into their anti-poverty and sustainable development programmes through the allocation of resources and the planning of specific programmes.	Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
Question 4.2: What process has the project generated or supported that ensure sustainability?	Are there changes at the level of the fishing organizations and at the individual level to promote the sustainability of the results after the end of the project?	Examples of changes (or trends to change) at the level of local organizations and communities to promote sustainability of results during implementation and after project completion.	
	Are national and local institutions in a position to: a) commit the necessary resources to continue with the implementation of relevant activities after project closure; and b) establish an effective communication strategy to facilitate the scale-up of project results?	Level of commitment of national and local institutions to provide resources (financial, human, technical) necessary to continue with the implementation of relevant activities	
Question 4.3: What are the key risks which may affect the sustainability of the project benefits?	Are there any environmental, socio-political or economic risks that should be mitigated so as not to compromise the sustainability of the results?	Identification of risks in addition to those included in the risk management matrix	

Evaluation questions	Subquestions/indicators	Comments	Methods/informants
<b>5. Factors affecting performance</b>			
<b>5.1. Monitoring and evaluation</b>	Question 5.1.1: (M&E design) Was the M&E plan practical and sufficient?	Performance of implementation of the monitoring and evaluation system (including quality of indicators). Number of elements of the M&E plan implemented with respect to the total	Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
	Question 5.1.2: (M&E implementation) Did the M&E system operate as per the M&E plan? Was information gathered in a systematic manner, using appropriate methodologies?	Level of effectiveness (high, medium and low) of the M&E system implemented to provide a timely follow-up to the fulfilment of the objectives, results and products of the project Monitor the risks identified and the adaptive measures implemented to mitigate them	
	Question 5.1.3: Was the information from the M&E system appropriately used to make timely decisions and foster learning during project implementation?	Accurate record of budget execution and materialized co-financing	
<b>5.1.2. Stakeholder engagement</b>	Question 5.2.1: To what extent were other actors, such as civil society, indigenous population or local communities and private sector involved in project design or implementation, and what was the effect on the project results?	Level of effective, equitable and transparent participation of local actors and indigenous peoples in decision-making and implementation of activities Number of actors other than those included in the Prodoc involved in the project	The Terminal Evaluation will examine three related (often overlapping) processes: (i) active engagement of stakeholders in project design, implementation of project activities and decision-making; (ii) consultations with and between stakeholders; and (iii) dissemination of project-related information to and between stakeholders.
	Question 5.2.2: What has been the level and quality of stakeholder involvement and project collaboration agreements, both in the design phase and during implementation?	Level of contribution (high, low, medium) of these actors to the results of the project Number of mechanisms/ initiatives implemented to involve additional actors	
	Question 5.2.3: To what extent have local communities been properly informed, consulted and involved in the decision-making process prior to project implementation?		

Evaluation questions	Subquestions/indicators	Comments	Methods/informants
<b>6. Environmental and social safeguards</b>			
Question 6.1: To what extent where environmental and social concerns taken into consideration in the design and implementation of the project?	Are there any environmental, socio-political or economic risks that should be mitigated so as not to compromise the sustainability of the results?	Environmental and social guarantees.	Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
Question 6.2: How sustainable are the results achieved to date at the environmental, social, institutional and financial levels?	Existence/ quality of the facilitating environment (environmental, social, institutional and financial) to guarantee the sustainability of activities and project results	Identification of risks in addition to those included in the risk management matrix	
<b>7. Equity/gender</b>			
Question 7.1: To what extent were gender considerations taken into account in designing and implementing the project?	What strategies has the project implemented to ensure parity for women, youth and other vulnerable groups in project activities and in the benefits that the project provides?	Number of actions or strategies included to incorporate the gender perspective in project design	Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
		Number of actions or strategies implemented to incorporate the gender perspective during project execution	
Question 7.1: Was the project implemented in a manner that ensures gender equitable participation and benefits as well as women empowerment?	To what extent have these strategies been effective?	Percentage of women, youth and other vulnerable groups participating in relevant project activities	
		Percentage of women, youth and other vulnerable groups that receive the benefits of the project	

Evaluation questions	Subquestions/indicators	Comments	Methods/informants
<b>8. Co-financing</b>			
Question 8.1: To what extent did the expected co-financing materialize, and how did the shortfall in co-financing, or the materialization of greater-than-expected co-financing affect project results?	What is the percentage of co-financing materialized with respect to the one committed in Prodoc?	Percentage of co-financing materialized with respect to the one committed	Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
	What has been the effect of the co-financing on the project, especially if it has been less than expected?	Number and type of activities financed by the project partners in response to the co-financing they committed to offer.	
		Number and type of activities that were not carried out due to the lack of compliance with the committed co-financing by the project partners.	
<b>9. Progress towards impact</b>			
Question 9.1: To what extent may the progress towards long-term impact be attributed to the project?	What preliminary signs of impact from the project's contribution can be identified in terms of biodiversity conservation, sustainable management of fisheries resources, especially shrimp, and access by the local population to goods and services?	Indicators of logical framework: level of impact (and results) according to planning.	Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
Question 9.2: Was there any evidence of environmental stress reduction and environmental status change, or any change in policy/ legal/ regulatory framework?		Evidence expressed and examples of transformational changes, manifested by beneficiaries	
Question 9.3: Are there any barriers or other risks that may		Level of stabilization of populations of key threatened species through passive restoration	

Evaluation questions	Subquestions/indicators	Comments	Methods/informants
prevent future progress towards long-term impact?			
<b>10. Knowledge management</b>			
Question 10.1: How is the project assessing, documenting and sharing its results, lessons learned and experiences?	Considering the evaluation carried out under the Background Questions, what lessons learned could be used to improve the design and implementation of similar FAO and SAP/ MAPA projects?	Number of lessons learned and experience-sharing between project partners about project design, implementation and management	Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
Question 10.2: To what extent are communication products and activities likely to support the sustainability and upscaling of project results?		Gaps identified in fisheries management. Design challenges identified and translated into options for similar projects.	
<b>11. Additionality</b>			
Question 11.1: What is the coherence between the programme and its child projects theories of change, indicators and expected/achieved results?	The extent to which the effective implementation of an ecosystem-based approach with a co-management modality was effective?	Project-level carried out appropriately and in a timely manner and supporting project's implementation.	Desk review, document analysis and stakeholder interviews. Project document – Prodoc; project implementation reports – PIRs; project progress reports – PPRs; steering committee report; mid-term evaluation report; country technical report, etc.
	The extent to which the capacity-building workshops on EAFM contributed to coherence between project components?		
	The extent to which did coherence, or the lack of, impact on the effectiveness, give whatever adjustments to the course of execution have arisen? Did it have enough time to be implemented?		

Evaluation questions	Subquestions/indicators	Comments	Methods/informants
<p>Question 11.2: What is the added value of bringing the different interventions together under one programme (or over the same level of investment made through comparable alternatives)?</p>	<p>The extent to which engagement fostered high-level dialogue with key institutions engaged in policy regarding bycatch, shrimp trawling, as well as with institutions engaged in equitable and sustainable fisheries management.</p> <hr/> <p>As bycatch management is a crucial part of EAF, the project intends to support the implementation of the International Guidelines on Bycatch Management and Reduction Discards and the Voluntary Guidelines for Securing Sustainable Small-scale Fisheries in the Context of Food Security and Poverty Eradication (SSF Guidelines).</p>	<p>Level of success involving different stakeholders and engagement of diverse institutions to successful partnership.</p>	

## Appendix 3. Stakeholder analysis

Appendix Table 5. Stakeholder analysis matrix

Key stakeholders	What role related to the intervention/evaluand?	How will they use the evaluation?	What might they gain or lose from the evaluation?	How and when they should be involved in the evaluation?
<p><u>Active stakeholders with the authority to make decisions related to the evaluand:</u></p> <ul style="list-style-type: none"> <li>✓ FAO project personnel</li> <li>✓ Secretariat of Aquaculture and Fisheries (SAP/MAPA) - Governmental entities; funding agency</li> </ul>	Supervision, provision of technical guidance and financial execution and operation of the project. SAP/ MAPA is the implementing agency at the national level	Enhance legal and institutional framework at the regional, national and subnational levels aiming at the implementation of shrimp fisheries management plans	Institutional enhancement and implementation of public policies for the fishing sector sustainability at the regional and national level. M&E plan enhancement. No envisagement of losing anything.	Throughout the evaluation process and from its earliest stages. Answering questions, subquestions and provide any additional information and advice related to the methodological approach, at their corresponding level of accountability.
<p><u>Active stakeholders with direct responsibility for the evaluand:</u></p> <ul style="list-style-type: none"> <li>✓ FAO Office in Brazil</li> <li>✓ Secretariat of Aquaculture and Fisheries (SAP/MAPA) – Governmental entity</li> <li>✓ Apolônio Sales Foundation for Educational Development – FADURPE</li> </ul>	Direct responsibility for financial execution and operation of the project. SAP/ MAPA had direct responsibility for financial execution and operation of the project at the national level, through an established agreement for funds release to FADURPE.	Enhance institutional responsibilities at the regional, national, and subnational levels aiming at the implementation of shrimp fisheries management plans	Institutional enhancement and implementation of public policies for fishing-sector sustainability at the national, subnational and state level. M&E plan enhancement. No envisagement of losing anything.	Throughout the evaluation process and from its earliest stages. Answering questions, subquestions and provide any additional information and advice related to the methodological approach, at their corresponding level of accountability.
<p><u>Secondary stakeholders:</u></p> <ul style="list-style-type: none"> <li>✓ Chico Mendes Institute of Biodiversity Conservation - ICMBio</li> <li>✓ Brazilian Institute of the Environment - IBAMA</li> <li>✓ Capixaba Institute of Research, Technical Assistance and Rural Extension - INCAPER</li> </ul>	Implementation of public policies according to each institutional competencies and accountabilities aiming at helping on the project execution in corresponding sites for the construction of subnationals shrimp management plan.	Enhance institutional responsibilities at the national and subnational levels aiming at the implementation of shrimp fisheries management plans.	Institutional enhancement at each corresponding level of competencies. No envisagement of losing anything.	Providing insights based on the questions and subquestions, and any additional information and advice related to the methodological approach, at their corresponding level of accountability.



Key stakeholders	What role related to the intervention/evaluand?	How will they use the evaluation?	What might they gain or lose from the evaluation?	How and when they should be involved in the evaluation?
<ul style="list-style-type: none"> <li>✓ Santa Catarina State Government</li> <li>✓ Santa Catarina State Agricultural Research and Rural Extension Company</li> <li>✓ Rio Grande do Sul State Technical Assistance and Rural Extension Company</li> </ul>				
<p><i>Secondary stakeholders:</i></p> <ul style="list-style-type: none"> <li>✓ Fisheries Institute of São Paulo - IP/SP</li> <li>✓ Fisheries Institute Foundation of Rio de Janeiro State - FIPERJ</li> <li>✓ Federal Institute of Maranhão - IFMA</li> <li>✓ Federal Institute of Espírito Santo - IFES</li> <li>✓ Research and Extension Center of the North Region - CEPNOR</li> <li>✓ Federal Rural University of Amazon - UFRA</li> <li>✓ Federal University of Pará - UFPA</li> <li>✓ Federal University of Piauí - UFPI</li> </ul>	<p>Institutional competencies and accountabilities aiming at conducting proposed research activities for the project execution in corresponding sites to providing knowledge and scientific information for the construction of subnationals shrimp management plan.</p>	<p>Enhance shrimp fisheries value chain research at the national and subnational levels aiming at providing knowledge and scientific information for M&amp;E of shrimp fisheries management plans implementation.</p>	<p>Establishment of research plan to follow up on the M&amp;E of shrimp fisheries management plans implementation, with corresponding funds. No envisagement of losing anything.</p>	<p>Providing insights based on the questions and subquestions, and any additional information and advice related to the methodological approach, at their corresponding level of knowledge and accountability.</p>

Key stakeholders	What role related to the intervention/evaluand?	How will they use the evaluation?	What might they gain or lose from the evaluation?	How and when they should be involved in the evaluation?
<ul style="list-style-type: none"> <li>✓ Federal University of Rio Grande do Norte - UFRN</li> <li>✓ Federal Rural University of Pernambuco - UFRPE</li> <li>✓ Federal University of Sergipe - UFS</li> <li>✓ Federal University of Rio Grande - FURG</li> <li>✓ State University of Santa Catarina - UDESC</li> </ul>				
<p>131. Secondary stakeholders:</p> <ul style="list-style-type: none"> <li>✓ Tamar Project Foundation</li> </ul>	Project execution and implementation on the use of BRDs, specially Turtle Excluded Devices - TED.	M&E of BRDs, specially Turtle Excluded Devices - TED.	M&E plan enhancement. No envisagement of losing anything.	Providing insights based on the questions and subquestions, and any additional information and advice related to the methodological approach, at their corresponding level of knowledge and accountability.
<p><u>Stakeholders at the grassroots level who directly or indirectly benefit from the intervention:</u></p> <ul style="list-style-type: none"> <li>✓ Small-scale fisheries associations (national, subnational and local)</li> <li>✓ National Collective of Fisheries and Aquaculture - CONEPE</li> <li>✓ Union of Shipowners and Fisheries Industries of Itajaí and Region - SINDIPI</li> </ul>	Project implementation and execution to support dissemination among private and productive sector.	Advocating for productive-sector interests, through management based on productivity, profitability and sustainability, with benefits for Brazilian society. Congregate and uphold the interests of the sector to the determinations and resolutions of government agencies.	Shrimp fisheries value chain enhancement, and management plan implementation, which bring about voices to the sector. At the short-term decrease in shrimp and fish production and technological investment may decrease profitability, although at the medium and long terms shrimp resource improvement is expected to increase fisheries yield.	Providing insights based on the questions and subquestions, and any additional information and advice related to the methodological approach, at their corresponding level of knowledge and accountability.

Key stakeholders	What role related to the intervention/evaluand?	How will they use the evaluation?	What might they gain or lose from the evaluation?	How and when they should be involved in the evaluation?
<ul style="list-style-type: none"> <li>✓ Union of Fisheries Shipowners of the Rio de Janeiro State - SAPERJ</li> <li>✓ Union of Fishing Industry, Aquaculture and Shipowners of the State of Pará - SINPESCA</li> <li>✓ Paiche Company</li> </ul>				
<p><u>Stakeholders at the grassroots level, who do not benefit from the intervention:</u></p> <ul style="list-style-type: none"> <li>✓ Fishermen and Fisherwomen Movement (MPP)</li> <li>✓ National Articulation of Fisherwomen (ANP)</li> <li>✓ National Commission to Strengthen Marine Extractive Reserves (CONFREM)</li> </ul>	None.	Fishers movements aiming at strengthening small-scale fisheries voices towards sustainability and justice.	Small-scale fishing-sector sustainability; and environmental stewardship. No envisagement of losing anything.	Providing insights based on the questions and subquestions, and any additional information and advice related to the methodological approach, at their corresponding level of knowledge and accountability.
<p><u>Other interest groups who are not directly participating in the intervention:</u></p> <ul style="list-style-type: none"> <li>✓ Ministry of the Environment (MMA)</li> <li>✓ Ministry of Foreign Affairs (MRE)</li> <li>✓ Fishers Caiçara Movement</li> <li>✓ Environmental NGOs</li> </ul>	None.	Cross-cutting issues related to the implementation of fisheries public policies, strengthening small-scale fisheries voices towards sustainability and justice; and Environmental NGOs claim for conservation and fishing-sector sustainability.	Public policies implementation; small-scale fishing-sector sustainability; and environmental stewardship. No envisagement of losing anything.	Providing insights based on the questions and subquestions, and any additional information and advice related to the methodological approach, at their corresponding level of knowledge and accountability.

## Appendix 4. Stakeholder questionnaire – reference, advisory and learning groups

### SUSTAINABLE MANAGEMENT OF BYCATCH IN LATIN AMERICA AND CARIBBEAN TRAWL FISHERIES (REBYC-II LAC)

#### FINAL PROJECT EVALUATION

#### **Stakeholder questionnaire – reference, advisory and learning groups**

The FAO Office of Evaluation (OED) is conducting the final evaluation of the REBYC-II LAC project from February to July 2021. The evaluation will assess if the project has achieved its objectives, the sustainability of the results and impacts on the longer term, identify lessons learned and provide recommendations for follow-up actions. It is important to obtain the views of stakeholders and project participants, which is the purpose of this brief questionnaire.

**You may choose to remain ANONYMOUS. However, if you give your name, it will NOT be used in the evaluation report to link you with any statements you have made.**

Please complete Part 1 and respond to the questions in Part 2 as relevant and return the completed questionnaire to the end of April 2021.

Thank you for your kind cooperation.

#### **PART 1**

**NAME (OPTIONAL):** .....

Occupation: ..... Organization: .....

Your role and length of time in the project: .....

Fishing port/community (if applicable): .....

#### **GO TO PART 2**

**PART 2. Select questions as relevant**

	<b>QUESTIONS</b>	<b>Yes</b>	<b>No</b>	<b>Don't know</b>	<b>COMMENTS</b>
1.	Are the project's design and activities adequate to enable sustainable management of bycatch?				
2.	Has the project changed your views about trawl bycatch?				
3.	Do you think managing bycatch is important?				
4.	Will the BRDs improve or reduce catches of target species, livelihoods and income?				
5.	In your opinion, what are the 3 most important achievements of the project?				
6.	Will these achievements make a difference on the longer term? If not, what more is needed?				
7.	Do you think the BRDs and other actions to reduce bycatch will be widely accepted by the trawl industry?				
8.	Was the level of involvement of women in the project activities satisfactory? If not, what do you think was the main reason(s)?				
9.	Do you feel a sense of ownership of the project? If not, why not?				
10.	Apart from COVID, what have been the major problems encountered in executing the project?				
11.	What are your recommendations for future work?				
12.	Any further comments or issues?				

## Appendix 5. Stakeholder questionnaire – key informants

### SUSTAINABLE MANAGEMENT OF BYCATCH IN LATIN AMERICA AND CARIBBEAN TRAWL FISHERIES (REBYC-II LAC)

#### FINAL PROJECT EVALUATION

#### Stakeholder questionnaire – Key informant

The FAO Evaluation Office (OED) is conducting the final evaluation of the REBYC-II LAC project from February to July 2021. The evaluation will assess whether the project has achieved its objectives, the sustainability of results and long-term impacts, identify lessons learned and provide recommendations for follow-up actions.

Wide dissemination is encouraged and thanks in advance for your cooperation. It is important to obtain the views of stakeholders and project participants, which is the purpose of this brief questionnaire.

In addition to obtaining the important opinion of the actors (stakeholders) and participants of the project, through a specific questionnaire, the objective of this brief questionnaire is to disclose the final report of the official project already on the page of the Secretariat of Aquaculture and Fisheries SAP / MAPA (attached to this link), but through this dissemination, expand the scope of the evaluation with other specialists who, even though they did not participate directly in the execution of the project, have expertise and knowledge that allows them to express opinions and suggestions, based on reading the report..

**You can choose to remain ANONYMOUS. However, if you provide your name, it will NOT be used in the assessment report to link you to any statements you have made.**

This questionnaire will be available until the end of May 2021.  
Please complete Part 1 and respond to the questions in Part 2 as relevant.

Thank you for your kind cooperation.

#### PART 1

**NAME (OPTIONAL):** .....

Occupation: ..... Organization: .....

Did you know about the execution of the REBYC-II LAC Project in Brazil?.....

Fishing port/community (if applicable): .....

#### GO TO PART 2

**PART 2. Select questions as relevant**

	<b>QUESTIONS</b>	<b>Yes</b>	<b>No</b>	<b>Don't know</b>	<b>COMMENTS</b>
1.	Did you know about the execution of the REBYC-II LAC Project in Brazil?				
2.	If the answer above was "yes", by what means did you obtain information about the project?				
3.	Based on the report, what is your opinion about the project's design and activities? Do they seem adequate to allow the sustainable management of catches of accompanying fauna?				
4.	Does the project report provide an insight into the capture of accompanying fauna in the trawl?				
5.	Has the project changed your views about trawl bycatch?				
6.	Do you think managing bycatch is important?				
7.	Will the BRDs improve or reduce catches of target species, livelihoods and income?				
8.	In your opinion, what are the 3 most important achievements of the project, based on the report?				
9.	Will these achievements make a difference on the longer term? If not, what more is needed?				
10.	Do you think the BRDs and other actions to reduce bycatch will be widely accepted by the trawl industry?				
11.	Based on the report, do you envisage the of involvement of women in the project activities satisfactory?				
12.	Do the results presented in the report make it possible to assess whether the project was appropriated by the productive sector?				
13.	Does the report present what were the main problems encountered in the execution of the project?				
14.	What are your recommendations for future work considering objectives and outcomes?				
15.	How to ensure the effective implementation of the project's results and outcomes as a public policy for the sustainability of shrimp trawling in Brazil?				

## Appendix 6. Financial analysis

The regional project had a total budget of USD 22 998 491, consisting of USD 5.8 million of GEF funding and USD 17 198 491 of co-financing. Therefore, committed co-financing (mostly from each of the countries involved in the project) was approximately in the proportion of 3:1 (according to the 2019 mid-term evaluation). The final financial in-kind contribution was confirmed at 100 percent, equivalent to USD 1 577 189, while only 68 percent was in cash, a little less than expected. The amount was affected by fluctuations in the BRL–USD exchange rate. In 2015, when the project started, the exchange rate averaged BRL 3.24 to USD 1.00; by the end of the project, it averaged BRL 5.05 to USD 1.00. The total expected co-financing was USD 3 154 378 and the amount that materialized was USD 2 649 313, or 84 percent of expectations. The salaries of consultants and planned payments according to the defined internal chronogram for the execution of the project were set in BRL, so many of the contributions maintained their fixed values BRL. Obviously, this difference decreased the final cash contribution in US dollar terms (Table 1).

**Appendix Table 6. FAO-GEF co-financing data from the mid-term and final evaluations for Brazil**

Sources of co-financing <sup>3</sup>	Type of co-financing	Amount confirmed as of CEO endorsement / approval	Actual amount materialized as of 30 June 2021	Amount materialized as of midterm or closure (confirmed by the review/evaluation team)	Expected total disbursement by the end of the project
National government	Cash	USD 1 577 189	USD 1 564 095	USD 1 213 311	USD 1 577 189
National government	In-kind	USD 1 577 189	USD 1 577 189	USD 434 537	USD 1 577 189
<b>TOTAL</b>		<b>USD 3 154 378</b>	<b>USD 3 141 284</b>	<b>USD 1 647 848</b>	<b>USD 3 154 378</b>

Although co-financing is expected to come from different sources, Brazil reports co-financing from Governmental origin, as shown above (paragraph 87), and from FAO Office. At mid-point-point Brazil had about half of committed levels of co-financing, or USD 1 647 848 of expected USD 3 154 378, lacking USD 1 506 530, as reported in the mid-term evaluation. In fiscal year 2020/2021, co-financing was USD 97 658, equivalent to BRL 493 173 (at an exchange rate of BRL 5.05 per USD). As mentioned, in-kind co-financing was 100 per cent materialized and totally disbursed as expected by the end of the project. Total cash co-financing materialized was, thus, USD 1 564 095 or 99.2 percent of the committed USD 1 577 189 in 2015 as approved at project inception, and as mentioned before. Nevertheless, from the total committed in US dollars, at an average exchange rate of BRL 3.24/USD 1.00 for 2015, the approved value in Brazilian currency terms was BRL 5 110 092. Total disbursement exceeded BRL 6 million, more than 18 percent of the amount committed by the Government of Brazil. Thus, despite political turbulence in 2016 and 2017, as noted, Brazil succeeded in its co-financing commitments. Even if some local projects suffered from a lack of continuity and couldn't be resumed after 2018, the final evaluation is highly satisfactory.

In the last fiscal year (2020/2021), FAO's total disbursement through its Office in Brazil was BRL 342 455, or the equivalent to USD 67 813. As can be seen in Table 2, expenditure was BRL 336 784, equivalent to USD 66 690. A project balance of BRL 5 671 (USD 1 123) was transferred to FAO Brazil (corresponding to Project FAO 2020/Sustainable Management).

<sup>3</sup> Sources of co-financing may include bilateral aid agency(ies), foundations, the GEF, local government, national government, CSOs, other multilateral agencies, the private sector, beneficiaries and other.



**Appendix Table 7. Total disbursement from FAO through its Office in Brazil in the last fiscal year (2020/2021)**

<b>Fundação Apolônio Salles de Desenvolvimento Educacional (“FADURPE”)</b>	
<b>FINAL FINANCE REPORT</b>	
Period: June 2020 to June 2021	
Partner Entity:	Food and Agriculture Organization of the United Nations (“FAO”)
Project Title:	Sustainable Management of Bycatch in Latin American and Caribbean Trawl Fisheries

Source of Financial Resources	Allocated amount
FAO	BRL 336 783.64

Summary of Expenses by Product		
Product	Expense item	Value
P.0 – Coordination	Travel per diems and lodging	BRL 1 600.00
	Consumption items	BRL 875.46
	Human resources	BRL 6 866.40
	Social security	BRL 41 166.51
	Third party services	BRL 17 814.00
	Fees and taxes	BRL 31 564.09
	SUB-TOTAL	BRL 99 886.46
Product 1.1.1	Human resources	BRL 29 785.47
	Social security	BRL 3 531.33
	SUB-TOTAL	BRL 33 316.80
Product 1.2.1	Human resources	BRL 61 213.56
	Seguridade Social	BRL 10 488.25
	SUB-TOTAL	BRL 71 701.81
Product 4.1.1	Travel per diems and lodging	BRL 21 800.00
	Consumption items	BRL 15 746.23
	Human resources	BRL 47 917.12
	Social security	BRL 1 589.88
	Third party services	BRL 44 825.34
	SUB-TOTAL	BRL 131 878.57
<b>TOTAL</b>	<b>BRL 336 783.64</b>	

## Appendix 7. GEF rating table – national component

Appendix Table 8. FAO-GEF evaluation criteria rating table and rating scheme

Criteria	Mid-term evaluation rating (June/2019)	Final evaluation rating – Brazil	Corresponding section of evaluation report justifying the rating
<b>A. ASSESSMENT OF PROJECT RESULTS</b>			
1. Overall quality of project outcomes	MS	HS	All. The project managed to meet the country's priorities and identifying the relevance of the project in relation to Brazil's development concerns.
1.1. Relevance	S	S	Section 3.1 To be more effective in terms of M&E and to really promote sustainability the exchange of information is necessary and is the found way to facilitate effective implementation of fishing policies and management measures for shrimp fisheries.
1.2. Effectiveness	MS	S	Section 3.2. The Project was satisfactory regarding overall effectiveness in the achievement of outputs as well as in the achievement of unexpected effects. The delays, administrative issues, and other matters weighed on effectiveness, and to facilitate effective implementation the national coordination manages to integrate actions and projects.
1.2.1. Delivery of outputs	S	S	Section 3.2. The level and delivery of outputs achieved were as expected and there were minor overall shortcomings in the delivery at the output level. An indicator of this is the achievement mark of 83 percent of fully expected outputs and 17 percent partially achieved.
1.2.2. Attainment of outcomes and project objectives	MS	S	Section 3.2. The extent to which objectives/outcomes have been achieved is highly satisfactory given the attainment of almost all expected outcomes.
1.2.3. Likelihood of Impact (ROtI)	UA	HS	Section 3.4. Healthy integration between the government and involved stakeholders in the process promoted an enabling environment for sustaining results and the usefulness of the long-term impacts needed.
1.3. Efficiency	MS	S	Section 3.3. Efficiency is satisfactory. Some aspects such as coordination are highly satisfactory. In others, such as timeframe and budget aspects, impacting administration, are moderate.
<b>B. PROJECT IMPLEMENTATION AND EXECUTION RATING</b>			
2. Quality of project implementation	MS	HS	All. The project managed to meet the country's priorities and identifying the relevance of the project in relation to Brazil's development concerns.
2.1. Project oversight	MS	HS	Section 3.3. Project oversights were not observed. Monitoring and reporting have been carried out appropriately and in a timely manner, for the most part, and have supported the project's implementation.
3. Quality of project execution	MS	HS	All. The project managed to meet the country's priorities and identifying the relevance of the project in relation to Brazil's development concerns.
3.2. Project management arrangements	MS	HS	Section 3.3. Project management arrangements are highly satisfactory. Delivery has been achieved in a timely manner and only slowed down due to

Criteria	Mid-term evaluation rating (June/2019)	Final evaluation rating – Brazil	Corresponding section of evaluation report justifying the rating
and delivery (PMU, financial management, etc)			COVID-19 Pandemic, besides other bureaucratic issues.
3.3. Knowledge management and communication	U	S	Sections 3.3 and 3.4. The project aggregates information and knowledge regarding the effect of bycatch regarding local fishing sites diversities. Communication was satisfactory, although relevant information needs to be properly transmitted to the different stakeholders within the country.
<b>C. PROCESSES AND FACTORS AFFECTING ATTAINMENT OF PROJECT OUTCOMES</b>			
4. Project design and readiness	MU	S	Sections 3.3 and 3.4. Since the mid-term evaluation, no shortcomings were evinced in the quality of design, although the project was over-ambitious and too geographically expansive. EAFM methodology tailored the country's capacities and needs while including the three pillars (human well-being, ecological well-being, and governance) for sustainability.
5. Project partnerships and stakeholder involvement	HS	HS	Section 3.4. Stakeholder involvement and partnerships continued to forge through, and the implementation of the Project (even some unplanned partnerships) is highly satisfactory.
6. Co-financing	S	S	Section 3.3. Co-financing has been at the expected level, fully applying in-kind although below the expected level in cash. Therefore, as a composite, co-financing leveraged was satisfactory.
<b>D. M&amp;E RATING</b>			
7. Overall quality of M&E	MS	HS	Section 3.3. Monitoring and reporting have been carried out appropriately and in a timely manner, for the most part, have supported the project's implementation, and has been proactive as to the monitoring of outputs.
7.1. M&E Design	S	HS	
7.2. M&E Plan Implementation (including financial and human resources)	MS	S	
<b>E. SUSTAINABILITY OF PROJECT OUTCOMES</b>			
8. Overall likelihood of risks to sustainability	ML	ML	All. As the project managed to meet the country's priorities and identifying the relevance of the project, risk to sustainability is moderately.
8.1. Financial risk	ML	ML	Section 3.3. Although all sides' commitments were achieved the financial resources to underpin sustainability are moderately likely to be available. At least an overall probability of financially sustaining some outcomes may be feasible.
8.2. Sociopolitical risk	L	L	Section 3.3. To the extent possible there is no guarantee of social and political stability in Brazil.
8.3. Institutional risk	ML	ML	Sections 3.3 and 3.4. Institutional weakness is still of great concern all over the country. Although the Project provided evidence to move towards creating strong institutions for the integrated management of shrimp trawling, there are still moderate risks to an institutional arrangement that can sustain achieved outcomes.

<b>Criteria</b>	<b>Mid-term evaluation rating (June/2019)</b>	<b>Final evaluation rating – Brazil</b>	<b>Corresponding section of evaluation report justifying the rating</b>
8.4. Environmental risk	ML	ML	Section 3.3. Socioeconomic and environmental differences between the pilot sites within the country were clearly shown and affected the project activities, which were addressed under an EAFM methodology, thanks to stakeholders' engagement. Nevertheless, there are externalities that fall outside of the Project's possibility to act upon and could have an impact on sustainability if follow-up activities do not according to the management plans.
<b>Overall project rating</b>	<b>MS</b>	<b>HS</b>	

*Note: The GEF six-point scale ratings for overall, implementation and M&E are: highly satisfactory (HS), satisfactory (S), marginally satisfactory (MS), marginally unsatisfactory (MU), unsatisfactory (U), highly unsatisfactory (HU) and unable to assess (UA). For sustainability, they are: likely (L), moderately likely (ML), moderately unlikely (MU), unlikely (U) and unable to assess (UA).*

## **Appendix 8. Additional documents consulted**

Besides the Project document, such as FAO Project Implementation Review (PIR); Budget documents; FAO Project Progress Report (PPR) – Trust Fund Programme; Brazil workshop report minutes; the following documents were consulted:

- i. Brazil Final Report – Projeto Manejo Sustentável Da Fauna Acompanhante Na Pesca De Arrasto Na América Latina E Caribe REBYC-II LAC.
- ii. Draft of Brazil Shrimp Fisheries Management Plans for the North, Northeast, Central, and Southeast/ South subnational regions.

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