

CLME⁺ Sub-Project # 2:
EAF for the Shrimp and Groundfish
Fishery

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Abbreviations/Acronyms

CANARI	Caribbean Natural Resource Institute
CARICOM	Caribbean Community
CLME	Caribbean Large Marine Ecosystem
CNFO	Caribbean Network of Fisherfolk Organisations
EAF	Ecosystem Approach to Fisheries
EBM	Ecosystem Based Management
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEAF	Governance Effectiveness Assessment Framework
IDB	Inter-American Development Bank
IUU	Illegal, Unreported and Unregulated
MEY	Maximum Economic Yield
MSY	Maximum Sustainable Yield
NBSLME	North Brazil Shelf Large Marine Ecosystem
REBYC II LAC	Sustainable Management of Bycatch in Latinamerican and Caribbean Trawl Fisheries project
RFAB	Regional Fisheries Advisory Body
RFB	Regional Fisheries Body
SAP	Strategic Action Programme
TDA	Transboundary Diagnostic Analysis
UWI	University of the West Indies
WECAFC	Western Central Atlantic Fishery Commission

1. Situation Analysis

1.1. Shrimp and groundfish along the North Brazil Shelf LME

The shrimp resources in the North Brazil Shelf Large Marine Ecosystem (NBSLME) support one of the most important export-oriented shrimp fisheries in the world. More specifically, the shrimp trawl fishery that takes place off Trinidad and Tobago and Venezuela is considered as one of the most valuable fisheries along the NBSLME. A number of larger penaeids are targeted along this area and include the southern brown shrimp (*Farfantepenaeus subtilis*), pink spotted shrimp (*F. brasiliensis*), southern pink shrimp (*F. notialis*) and southern white shrimp (*Litopenaeus schmitti*), and the smaller seabob shrimp (*Xiphopenaeus kroyeri*). Notwithstanding the foregoing, it should be noted that the general distribution and abundance of many of the abovementioned species differ markedly among the countries in the region.

The groundfish resources such as red snapper (*Lutjanus purpureus*), weakfish (*Cynoscion sp.*), whitemouth croaker or corvina (*Micropogonias furnieri*) and sea catfish (*Arius sp.*) along the Brazil-Guianas region are important for economic and social reasons, with the red snapper probably being the most important groundfish in the region because of its wide distribution range and export value. The fisheries are multigear, multispecies and multinational, using fishing methods that can be classified as industrial or artisanal depending on the level of mechanization (Booth *et al*, 2001). Sardine (*Sardinella sp.*) and tuna are also exploited, and although the volume of the tuna catch is relatively small, the value is significant (Heileman, 2008).

The key ecosystem interactions that exist for this fishery are with coastal wetlands that serve as important nursery habitats. At the human level, interactions with other marine sector users such as offshore energy and marine transportation could potentially increase and contribute to threatening the sustainability of the continental shelf ecosystem goods and services. Examples of such interactions with the habitat and living resources of the ecosystem include accidental spills of noxious substances from transiting ships and from possible hydrocarbon production and distribution infrastructure, disposal of garbage at sea and ballast water discharges, which increase the threat of alien invasive species.

The most valuable landings for export have been the penaeid shrimp resources of the region. The majority of shrimp are exported, whereas finfish are more important for local consumption. There is generally more robust data available on exported commodities, since exporters usually keep accurate information for their own business and for tax purposes as national customs offices require export information.

In terms of volume of landings, Guyana exceeds most other countries in the region. Landings have been dominated by undifferentiated groundfish and Atlantic seabob, with catches remaining stable over the period 2000-2010. There was a marked change in landings of penaeid shrimps 1980 onwards, at which seabob landings were differentiated from other penaeid landings (FAO 2013). A review undertaken by FAO, as part of the first CLME Project, indicated that Suriname and Trinidad have the largest landings of undifferentiated groundfish. The assessment also indicated that Suriname had the most significant landings of seabob for the countries assessed along the NBSLME whilst penaeid shrimps only formed a small proportion of landings in the other countries. (FAO 2013).

The information below summarizes the importance of the shrimp and groundfish fisheries to the countries along the NBSLME:

Brazil

In Brazil, the value of shrimp landings is estimated at approximately US\$ 30 million/year. Regarding groundfishes, the most valuable fisheries are those targeting red snapper (landings are worth up to US\$ 25 million/year) and catfishes (landings are worth up to US\$ 18 million/year.). Weakfish was the main by-catch species in the shrimp fisheries. Some fisheries management measures are in place already and these include: closed seasons and areas for catfish fisheries; a closed season for weakfish; and for red snapper, all vessels have to fish at depths beyond 50 m and must use vessel monitoring systems (FAO, 2013a).

Guyana

According to the National Consultation Report from Guyana, the shrimp and groundfish fisheries contribute to the economy and to the national food and nutrition security of the country. The fishery is considered to be both economically and culturally important to Guyana. In 2010, production in the industry reached 45 072 tonnes of which 16 038 tonnes were exported for a value of approximately 9 Billion Guyana dollars with the contribution of the fisheries sector to the Gross Domestic Product estimated at 3% (FAO, 2013b).

Suriname

In Suriname, fish exports amounted to 25 693 tonnes in 2011; the export values show an increasing trend for fish but a decreasing one for marine shrimp, because of the collapse of the penaeus stocks. The total export value for fishery products is approximately US\$ 33 million annually (FAO, 2013c).

Trinidad and Tobago

In Trinidad and Tobago, the most significant species identified in terms of volumes landed was that of croaker (representing $\frac{3}{4}$ of the catch from gillnets), followed by shrimp and weakfish (a combination of several closely related species). Shrimp landings have the highest value (TT\$ 25-30 million/year), whereas trawl bycatch was of a much lower value. The industrial shrimp trawling has the highest bycatch/shrimp ratio (FAO, 2013d).

Although this Sub-Project focuses on the NBSLME (Brazil-Guianas) region, it should be noted that shrimp and groundfish fisheries are also important to the economies of a number of other CLME+ participating countries such as Jamaica, Panama, Colombia and Nicaragua.

1.2. Status of shrimp and groundfish stocks along the NBSLME

Catches show a relatively stable pattern over the last years; however some species still undergo heavy exploitation. Recent reported catches have been more informative and indicate that landings have been stable, but in some cases, such as penaeid shrimps, excluding seabob, landings have been low.

Notwithstanding the foregoing, the true status of many of the species in this area remain unclear as many of the countries do not have capacities to undertake stock assessments regularly. Heileman (2008) compiled information available on status of the stocks that was updated during the first phase of the CLME (Table 1). In cases where assessments have been undertaken, there are clear signs of overexploitation of the southern red snapper (*Lutjanus purpureus*) resource, with declining catch rates and a decrease in the size of this species. Recent trends in catch per unit effort and other analyses indicate that the corvina is now overexploited in some areas, with the low stock levels of this species being commensurate with exploitation levels beyond the MSY level. Similarly, lane snappers (*L. synagris*), bangamary (*Macrodon ancylodon*) and sharks are also showing signs of overexploitation. A decrease in the average size of some groundfish species has raised sustainability issues. The increasing capture of small individuals is potentially compromising recruitment to the spawning stock. For instance, in Brazil, immature southern red snappers comprise over 60% of the catch of this species. Trawl and Chinese seines harvest bangamary at ages far below the age at maturity. Some deep slope demersal and pelagic species are underexploited and still have potential for development.

In general, all the shrimp species in the region are subjected to increasing trends in fishing mortality and the fishery is generally overcapitalized. Stocks of brown and pink spotted shrimp may be close to being fully exploited, with the latter being overexploited in some areas. There has been a general downward trend in the abundance of brown and pink shrimps, particularly during the late 1980s and throughout the 1990s. The trends in fishing mortality were not high enough to have created the very conspicuous decline in abundance, which implies that environmental factors (seasonal river run-off and rainfall) may be more significant than fishing in determining recruitment in these species (Heileman, 2008). In the case of the seabob shrimp fisheries of Suriname and Guyana, preliminary analyses have indicated that there is no evidence from the catch and effort data that the stock is overfished and/or that overfishing is occurring (CRFM, 2009, 2013).

A recent stock assessment carried out on shrimp in Trinidad and Tobago with data collected to 2012 indicates that despite a reduction in fishing effort, which probably led to a slight recovery of the stock, overfishing is still occurring.

Assessment of Guyana and Suriname seabob stocks also carried out recently with data through 2012-2013 suggest that overfishing is not taking place, even though there is high uncertainty of the results, as some parameters had to be estimated (in particular in Guyana).

A study on Brown (*Farfantepenaeus subtilis*) and pink (*Farfantepenaeus brasiliensis*) shrimp stocks was carried out in French Guyana using 2001-2013 data and shows that the spawning biomass is at its lowest level since 1989. Even though the reason for such a decline is unclear, it is believed that it could be associated to both fishing impact and environmental stressors. Further, shrimp recruitment is believed to be heavily impacted by poor environmental conditions as seen during the years 2011 and 2013 on the brown and pink shrimp stocks. Red snapper stock shows signs of recovery according to information collected in 2011. Corvina (*Cynoscion acoupa*) stock which was assessed in 2012, with a high level of uncertainty and in the absence of accurate data shows that the stock is likely to be fully to overexploited.

In Brazil, the last compilation of available assessments was done during the CLME project in 2012. Since then monitoring possibilities have decreased and there is no updated information available. However, a reduction of the fleet has occurred (from 250 to 60 boats), meaning that the pressure on the resources has probably decreased, hence benefitting to the state of the stock.

Future assessments should involve the industry (including processing plants), both for data collection and data processing. The increasing involvement of the industry in data collection and provision for stock assessment is to be noted as a relevant trend that will help designing and implementing EAF management plans in the near future.

Moreover, all assessment studies underline the necessity to carry out joint assessments with neighbouring countries, as stock recruitment might be shared and occur across national jurisdictions, in particular within the FAO/WECAFC ad hoc Working Group on Shrimp and Groundfish resources of the Brazil-Guianas Continental shelf. Parameters such as illegal fishing and unreported catches should be taken into account, as well as the evolution of the fishery in terms of fishing effort, even though this requires the design and implementation of an appropriate monitoring system.

Historically, the focus in this region has been on the promotion of fishery development, which has encouraged entrants to the fishery and the adoption of subsidies to reduce fishing cost operation. However, the state of resources indicates that this is no longer an appropriate management approach; instead the region should give consideration to limiting the number of new entrants into the fisheries with no expansion of existing fishing activity. Such an approach however, does not mean that development of the sector is not required, but should instead be redirected to making better use of the resources that are being caught. This would include eliminating wasteful discarding, improving value added to the landed catch, decreasing post-harvest losses and reducing unnecessary input costs for current fishing and processing activities (FAO, 2014).

Table 1: Summary of shrimp and groundfish stock status in Guyana, Surinam and Trinidad & Tobago. The confidence in the information provided is referred to as high (H), medium (M) or low (L). (amended from FAO 2013: Assessment Studies, CLME Case Study on Shrimp and Groundfish Report 9) length-based (L) or catch-effort based (C/E) methods used to determine status of the stock.

Groundfish Stock	Method	Confidence	Stock status	Exploitation status	
Lane Snapper <i>Lutjanus synagris</i>	Suriname	L	1999: M	M	L
	Guyana	L	1999: L		
	Trinidad	L C/E	2006: M	M	L
Southern Red Snapper <i>Lutjanus purpureus</i>	Guyana	L C/E	2006: M	H	H
Sea Trout <i>Cynoscion virescens</i>	Guyana	L C/E	2007: M	M	H
	Suriname	L	1999: L	H	M
Whitemouth Croaker <i>Micropogonias furnieri</i>	Trinidad	L	1999: M	H	H
Bangamary <i>Macrodon ancylodon</i>	Guyana	L	2004: M	M	M
Butterfish <i>Nebris microps</i>	Guyana	L	1999: L		H
Jamaica Weakfish <i>Cynoscion jamaicensis</i>	Trinidad	L	1999: M	H	H

Penaeid Shrimp Stock	Method	Confidence	Status	Exploitation	
Southern Pink Shrimp <i>Farfantepenaeus notialis</i>	Guyana	L	1999: M	M	M
	Trinidad	L C/E	2005: M	M	M
Brown Shrimp <i>Farfantepenaeus subtilis</i>	Guyana	L	1999: M	M	M
	Suriname	L	1999: L	M	M
Pink-spotted Shrimp <i>Farfantepenaeus brasiliensis</i>	Guyana	L	1999: M	M	H
	Suriname	L	1999: L	M	M
Atlantic Seabob <i>Xiphopenaeus kroyeri</i>	Suriname	C/E	2012: H	L	L
	Guyana	C/E	2012: L	L	L
	Trinidad	L C/E	2005: M	H	H
Combined Shrimp (5 species)	Trinidad and Venezuela	C/E	2011: M	M	L

1.3. The Shrimp and groundfish fishery in the NBSLME and the CLME+ SAP

The most economically important fishery within the CLME+ is located along the Guianas-Brazil continental shelf (NBSLME) and includes the shrimp and groundfish fishery. The shrimp and groundfish fishery is dependent on the continued health of the coastal habitats found along this continental shelf. As such it is recognised, maybe more so within this fishery ecosystem than the other two identified during the TDA phase, that the sustainability of this fishery is dependent on the continued health and productivity of its surrounding habitats. In light of the importance of this fishery to the economies of the countries on the NBSLME, a specific strategy promoting the implementation of EAF/EBM with special focus on the shrimp and groundfish fishery was included in the CLME+ Strategic Action Programme (SAP). Under this strategy, a number of short-term (0-5yrs) and medium-term (6-10) actions were agreed upon that relate to the objectives of this Sub-Project:

- 6.1 [**Short, Medium**] Strengthen the FAO-WECAFC-CRFM sub-regional arrangement for the management of the shrimp and groundfish fisheries, and establish a decision-making capacity for policy formulation and management
- 6.4 [**Short, Medium**] Explore and establish a sub-regional arrangement to address the issue of insecurity for fishers (person and property); e.g. cases of armed robbery and assault
- 6.5 [**Short, Medium**]¹ Explore and establish the most appropriate mechanism for integrating the four sub-regional arrangements
- 6.6 [**Medium**] Operationalise and further enhance an interlinked, sub-regional Decision-Support Systems (DSS) for sustainable fisheries and environmental protection in the Guianas-Brazil continental shelf
- 6.7 [**Medium**] Establish and/or enhance the capacity of sub-regional and national arrangements for implementing management and conservation measures
- 6.8 [**Medium**] Establish and/or strengthen the capacity of Regional Fisheries Bodies to cooperate with and build capacity among member States to implement the EBM/EAF approach, through National Action Plans (NAPs), data/information management and analysis and operationalisation of national intersectoral coordination and consultation mechanisms (incl. science-policy interfaces)
- 6.9 [**Medium**] Establish and/or strengthen and harmonize(sub-)regional initiatives to combat IUU by combining compliance measures (Monitoring Control and Surveillance plus awareness building among consumers and producers) with the provision of alternative livelihoods
- 6.10 [**Medium**] Develop and implement initiatives for sustainably enhancing livelihoods by identifying and building capacity for diversification, viable alternative sources of Decent Work and/or improved incomes, and creating added value for current catches
- 6.11 [**Short, Medium**] Develop and implement sub-regional EAF management plans for shared fishery resources along the Guianas-Brazil Shelf

¹ Although efforts will be made to begin work on this action in the first five years, most of the effort will take place during the second 5years with the expectation that the action will become completed in the medium-term.

2. Baseline analysis (problems, gaps and opportunities)

2.1. Governance challenges and environmental, socio-economic problems and concerns

There are a number of governance and management challenges faced by the countries within the NBSLME as they move towards the implementation of the EAF for their shrimp and groundfish fisheries.

Governance Challenges

At present, the biennial sessions of the Western Central Atlantic Fishery Commission (WECAFC) offer the only opportunity for fisheries managers from the NBSLME to meet and discuss management matters pertaining to their fisheries and particularly the shared resources. Other opportunities, although in a more sporadic way, may become available through various technical or policy related regional workshops. There is recognition of the transboundary nature of the shrimp and groundfish stocks and that national level management measures would only be effective if there is a move towards more transboundary approaches in management. Notwithstanding the foregoing, little has changed in management approaches in the last few years. Further it is believed that language barriers and conflicts between the countries (related to oil/gas exploration, borders/delimitations and illegal fisheries) are important factors that contribute to the continuous gap in the governance of the shrimp and groundfish fisheries.

Reviewing the various aspects of fisheries governance (institutional, legal, policy and management) the following can be concluded:

- *Institutional frameworks:* fisheries authorities (departments or divisions) are established and functioning in each of the countries at national level. Their mandates are generally clear and embedded in laws. These authorities encounter serious funding and human resources limitations and therefore often do not have a presence at the local level. Consequently, there is a clear and expressed need to work more closely with local authorities and with other government agencies and fisherfolk organizations that are present in the fisheries communities and can share fisheries management tasks.
- *Legal frameworks:* Each of the countries have a fisheries act or law which governs the sector. However, these laws are generally outdated and processes are ongoing (e.g. in Suriname and Trinidad and Tobago) to review and modernize these laws and the related regulations. Specific regulations for trawl fisheries (e.g. license/permit schemes) are often in place, but are hardly enforced.
- *Policy frameworks:* Fishery policy frameworks are incomplete and outdated in the countries concerned. In some cases fisheries policies are being reviewed and need to undergo an internal governmental approval process. It should be noted, however that the latest policy processes see a more inclusive and holistic approach to fisheries within its ecosystem and inclusion of a wider variety of stakeholders in the policy development process at national level. Notwithstanding the foregoing, there are however quite a few policies developed in recent years that were never endorsed at Ministerial or cabinet level and as such lack the political backing and funding required to implement them.

- *Management frameworks:* Although many fisheries departments report that they have aspects of a management plan in place, in many instances these ‘plans’ appear to have limited use and in most cases are still considered “draft” (with the exception of Surinam). This has been mainly because they are viewed as policy documents, and are being used to develop policy for fisheries rather than describe the current management being implemented. Generally, the plans are long, complicated with large descriptive sections, costly to develop, difficult to read and difficult to update. Whilst many of these plans, if updated, would prove to be valuable management tools, this has proved to be too unwieldy an approach and most plans have not been ratified at the relevant political levels.

Table 2: Status of National Management Plans for countries within the North Brazil Shelf for Shrimp and Groundfish as of December 2014

Country	Name of Plan	Status
Suriname	National Management Plan for Seabob (2010-2015)	Approved
Brazil	National Management Plan for Shrimp (2014)	Finalized but not yet approved
Guyana	Fisheries Management Plan (2007-2011)	Not approved
Trinidad and Tobago	Management Plan for the Trawl Fishery (dev. in 1992)	Not approved

- *Regional Management Frameworks:* At (sub)-regional level there is only one relevant institution in which the countries collaborate on fisheries matters, which is WECAFC. As a consequence of the nature of WECAFC, being a Regional Fisheries Advisory Body (RFAB), recommendations and decisions emanating from Sessions of WECAFC are voluntary in nature and cannot be enforced by the RFAB at national level in the member countries. This gap in enforcement power does not have to be seen as a constraint, if the governments and other stakeholders adopt and implement the WECAFC recommendations at the national level for the transboundary species and fisheries concerned. If such an approach is adopted WECAFC would only monitor the status of implementation of the recommendations through the national strategies and plans developed and implemented by members.

Environmental and Socio-Economic Problems and Concerns

- *Overfishing:* In general, all the shrimp species in the region are subject to increasing trends in fishing mortality and the fishery is generally overcapitalized. Stocks of brown and pink spotted shrimp may be close to being fully exploited, with the latter being overexploited in some areas. There has been a general downward trend in the abundance of brown and pink shrimps, particularly during the late 1980s and throughout the 1990s. In the case of the seabob shrimp fisheries of Suriname and Guyana, preliminary analyses have indicated that there is no evidence from the catch and effort data that the stock is overfished and/or that overfishing is occurring (CRFM, 2009). Excessive by-catch and discards and destructive fishing practices are on-going, and are of concern throughout the area, with the shrimp by-catch situation being well known in the region (Heilemen, 2008).

- Illegal, Unregulated and Unreported Fishing:* IUU fishing poses one of the biggest threats to fisheries management for developing states, with the problem being compounded by a number of factors, such as the large area of marine space to be policed, close proximity of countries leading to situations of stocks straddling the borders of neighbouring states; migratory nature of some fisheries resources and the fishing fleets that follow them; inadequate financial and technical resources for surveillance and enforcement; and insufficient skilled manpower for maintaining adequate management systems (CRFM, 2005). It is known that such activities occur within the NBSLME, especially in the shrimp and red snapper fisheries, with Brazil, Suriname, Guyana, Venezuela and Trinidad & Tobago having identified illegal fishing as a key management issue that needs to be addressed (Chakalall *et al*, 2002). A common theme and priority issue among all countries is the need to deal with piracy and improve maritime security. Although it is recognised that increased patrols by the maritime coast guard are required, these marine surveillance activities are costly and therefore would need to be adopted along with other less costly options, such as public awareness and sensitization and appropriate Port State Measures. Improved monitoring and communications at sea and better international co-operation will also help reduce threats, as will Vessel Monitoring Systems (VMS), which is now routinely required for all larger vessels (FAO, 2014).
- Climate Change:* The vulnerability of any sector to climate change is a function of (a) the degree of exposure to the threat, (b) the sector's sensitivity to the risk and (c) the capacity of the sector to cope with or adapt to the threat. A preliminary assessment of fisheries in the Caribbean region (and adjacent areas) showed that the fisheries sector in the Caribbean is highly vulnerable and adaptation is necessary (Nurse, 2011). Storms and hurricanes are projected to become more intense and more frequent causing floods, loss, damage and hampering the safety of fishers in the Caribbean. Coastal erosion is threatening coastal infrastructure, housing and landing sites. Changes are already affecting the distribution and abundance of marine organisms in the oceans and impacts are expected to be highest in sub-tropical and tropical regions such as the Caribbean. The projected decrease in maximum potential catch yield region will impact the livelihood and employments of hundreds of thousands of fishers in the Caribbean. Projected negative impacts (direct and indirect) on the fisheries sector take place, among others, through habitat and ecosystem damage; linkage between ocean warming as a triggering mechanism in the proliferation of harmful algal blooms and various diseases; dependence of fisherfolk on the sector for employment, revenue generation and human well-being; and many fisherfolk tend to reside in vulnerable, low-lying coastal areas which exposes their physical assets (e.g. boats, gear, homes) to climate-related events such as storm surge and sea-level rise. While the sector has demonstrated considerable resilience to climate variability in the past, factors such as lack of consistent governance, access to capital on reasonable terms, weak fisherfolk organizations and consequently low bargaining power will compromise adaptation capacity in the future; and lack of insurance and other institutional support to enable the sector to rebound in the aftermath of extreme events e.g. severe storms, will compromise adaptation even more in the future.
- By-Catch and Destructive Fishing Practices:* Practically all fishing gear catch non-target species that, for the most part, cannot be returned alive to the sea. This unintended fishing mortality has drastically reduced several fish populations around the world, particularly demersal species in areas where there is an intensive shrimp trawl fishery. Fish populations can even be reduced outside the fishing grounds. The shrimp by-catch issue is well known in the region, where studies in many countries have attempted to quantify the impact on several commercial species. Analysis of the species and size composition of the by-catch reveals that

many commercial species are included, that only a small part is utilized (often for local consumption), and that undersized individuals generally dominate the by catch in the landings.

- *Pollution*: Pollution across the NBSLME is considered to be moderate, but severe in localised hotspots near urban areas. Most of the pollution is concentrated in densely populated and industrialised coastal basins and not widespread across the region. Water quality in the coastal areas is threatened by human activities that give rise to contamination from sewage and other organic material, agrochemicals, industrial effluents, solid wastes and suspended solids (Heileman, 2008).
- *Habitat Degradation*: Human activities along the coastlands have led to severe habitat modification along the Guianas-North Brazil continental shelf. For example, in Guyana, mangrove swamps have been drained and replaced by a complex coastal protection system, while on the Brazilian coast, there has been significant reduction in the original mangrove area because of cutting for charcoal production and timber, evaporation of ponds for salt, and draining and filling for agricultural, industrial or residential uses, and the development of tourist facilities. In Brazil, erosion also threatens coastal habitats and some coastal lagoons have been cut off from the sea (Heileman, 2008). Whilst there exist a few examples of zonation of areas and the establishment of protected areas, these appear to primarily have been established to reduce gear conflicts and as such, any risk reduction to habitat is probably coincidental. There is a general lack of habitat information (FAO, 2014).

2.2. Progress towards the implementation of EAF

For over 30 years the member countries of WECAFC have worked together in shrimp and groundfish fisheries research, shared stock assessment information, statistics and other information on policies, strategies, fisheries fleets and their activities and management planning of the fisheries. Since 1979 the WECAFC countries, and particularly those sharing the North-Brazil Guianas shelf resources have carried out joint projects through a Working Group on shrimp and groundfish. The information and advice generated and shared has been used by the member countries for policy development and implementation as well as management planning of the utilization of the resources. The working group's generated information is well-documented and used as reference for measuring effectiveness of management measures taken. Although the Working Group for shrimp and groundfish was not very active during the period 2007 – 2012, work in this region continued through the implementation of the CLME project, (GEF ID 1032). A number of activities undertaken under the CLME project (GEF ID 1032) such as Transboundary Diagnostic Analysis (TDA), stakeholder and governance analyses and capacity building sessions to promote the implementation of the Ecosystem Approach to Fisheries (EAF) in these fisheries have provided a firm basis for this Sub-Project on shrimp and groundfish to build on. The CLME+ Strategic Action Programme, which has been endorsed by 22 countries, assigns an important role to the governance of shrimp and groundfish fishery (Strategy 6): ***Implement EBM/EAF of the Guianas-Brazil continental shelf with special reference to the shrimp and groundfish fishery.*** Through the actions outlined under Strategy 6 the region requested that the Regional Fisheries Bodies (WECAFC-FAO and CRFM) working along the Guianas-Brazil Shelf to establish with their members a sub-regional management arrangement for the shared stocks.

In response to this request, the sixth session of the WECAFC Scientific Advisory Group (SAG), which was held in Texas in November 2013, made the following recommendation for consideration at the Fifteenth Session of WECAFC:

The Session give consideration to re-activating the Shrimp and Groundfish Working Group, as a joint WECAFC/CRFM/IFREMER Working Group on shrimp and groundfish of the North-Brazil Guianas shelf.

This recommendation was considered favorably at the Fifteenth Session and led to the reestablishment of the Working Group in March 2014.

Draft revised Terms of Reference (ToRs) have been developed and will be updated as required by the participating countries and partners. The scope of the working group will be to provide scientific and management advice for the sustainable management of the shrimp and groundfish resources of the Northern Brazil-Guianas shelf, paying close attention to the principles of the Ecosystem Approach to Fisheries. The Working Group, is currently receiving some limited support from the Inter-American Development Bank (IDB)/FAO project "*Investing in ecosystem-based shrimp and groundfish fisheries management of the Guianas -Brazil Shelf*", in terms of assessing the value and management potential of shrimp and groundfish stocks and fisheries of the Guianas -Brazil Shelf in order to enable sustainable investments in ecosystem-based management of these marine resources.

As in the past, the Working Group will continue to apply EAF practices and tools by integrating researchers, fishers, policy advisors and managers in the generation of policy and management advice. The CLME Project (GEF ID 1032) capacity building sessions on the EAF, as well as some organized by the CLME project partner organizations such as FAO, Caribbean Network of Fisher Organizations (CNFO), University of the West Indies (UWI), Caribbean Natural Resource Institute (CANARI) and CARICOM Regional Fisheries Mechanism (CRFM), with a total of over 300 participants, provides a firm basis for application of the EAF in the NBSLME. In this respect, the Working Group intends to continue promoting the sharing of EAF experiences.

Moreover, it is anticipated that the CLME⁺ project will support the establishment of a sub-regional shrimp and groundfish management arrangement, to assist in building capacity for monitoring, control and surveillance of the shrimp and groundfish fisheries fleets and contribute to the joint combat against IUU fishing.

Further, in the last few years a number of countries along the NBSLME have introduced a number of fisheries management controls (through regulations) which include: a limited number of licenses provided to industrial fisheries; mesh or hook size limits, and zones where only particular types of fishing are allowed. Other recent measures include banning of all industrial shrimp trawling in Venezuela waters in 2009, implementation of a harvest control rule in Suriname in 2010, and an expansion in the requirement for larger vessels to carry a satellite-based Vessel Monitoring System that allows vessel activities to be tracked remotely. Likely changes to be introduced shortly include a closed season for shrimp trawling in Trinidad and a harvest control rule in Guyana similar to that used in Suriname. These initiatives illustrate what is possible within the region to help fisheries meet their overall ecological and socio-economic sustainability objectives. Notwithstanding the foregoing the current set of controls that have been applied in these fisheries appear to be reactive rather than proactive as they were introduced to resolve specific problems rather than as part of a plan to minimise risks and optimise benefits from these fisheries resources.

2.3. Business-as-Usual (“BaU”) versus the alternative scenario

Fish production

The need to develop a more ecosystem-based approach to the management of shrimp and groundfish fisheries is evident. The combined harvest of shrimp and groundfish by Brazil, Colombia, French Guyana, Guyana, Suriname, Trinidad and Tobago and Venezuela reached an all-time high about a decade ago. In 2003 some 175 000 tonnes of shrimp and groundfish were landed by these countries. In recent years the landings reduced to 78 000 in 2010, with a slight increase to 81 000 tonnes in 2012. This reduction by over 50% means that production is now back at the level of the mid-1980s.

In the absence of GEF support the sector will continue to seek the limits of production and further overexploit the shared stocks, which would result in a drop in overall landings, decreasing stocks and negative impacts to the associated marine habitats. Notwithstanding the foregoing, the race to fish the last fish will persist due to perverse incentives such as vessel fuel subsidies, foreign fishing fleet agreements that benefit the privileged few. Without Maximum Sustainable Yield (MSY) or Maximum Economic Yield (MEY) principles being applied for the transboundary resources as a whole, competition between the countries and fleets will continue and increase.

Food security of the population, particularly in the coastal communities, will be affected negatively by further reduction in catches. Income earning opportunities in processing plants, vessel maintenance, inputs supply, fish marketing and trade and other businesses will be constrained, resulting in livelihoods deterioration, and increase in poverty and increased hunger levels.

Reduction of product will also mean that operating benefits and net profits of vessels will be further limited, causing breaches in vessel maintenance programmes, reducing on-vessel safety of the crew, reduction in crews, worsening labour contracts, and pushing captains towards IUU fishing.

Ecosystem

Uncoordinated and unregulated shrimp and groundfish fisheries bottom trawling practices will increasingly harm vulnerable marine habitats and their ecosystem functions. The current open access “freedom to fish” behaviour will increasingly negatively impact, through the use of trawl nets, the few unspoiled areas and important spawning grounds for aquatic animals as well as some important habitats.

Whilst it is anticipated that issues relating to bycatch would be partially addressed in the countries that participate in the GEF funded project “Sustainable Management Of Bycatch In Latin America And Caribbean Trawl Fisheries” (REBYC II LAC), the transfer of knowledge and gear technologies that minimizes bottom and substrate damage to the other NBSLME countries is not secured.

Marine species diversity (fish, shrimp, marine mammals, turtles) will be reduced if harmful fishing practices are continued. This will have negative consequences for the marine organisms but will also negatively impact the bird and animal species as well as coastal communities that depend on these resources for their food security. Similarly, if coastal mangrove areas are not conserved, this will affect the reproduction capacity of precious shrimp stocks and mean the end of shrimp fisheries.

Governance

Fisheries authorities of the NBSLME countries would continue to focus their management efforts at the national level, with limited involvement of the private sector and other stakeholders from other sectors that are impacted by or impact on fisheries management (e.g. navy, environment, coast guard, trade). Application of the EAF will remain rudimentary and the scope for making advances towards the full adoption and implementation of EAF in fisheries management will be lost. Efforts started

under the CLME Project (GEF ID 1032) and other partner initiatives in recent years will remain incomplete and inadequate. Institutions will continue their “silo approaches”, not taking in consideration what is happening around them. Laws and regulations, as well as policies and management plans will remain focused at national level. No coherence or harmonization of management measures or approaches will be put in place and penalties for illegal fisheries will remain insufficient. Enforcement of management plans and related laws and regulations would not be effective as monitoring, control and surveillance (MCS) systems that may be developed are as limited as the types of fisheries and areas covered nationally.

Conflicts

Conflicts over illegal, unreported and unregulated (IUU) fishing of shrimp and groundfish resources will increase further, causing more casualties among fishers and others. Such conflicts often relate to fishing in each others’ waters, in areas that are legally closed for trawling or fishing during closed seasons. As long as MCS systems are not coordinated and are not even in place in some countries, conflicts will continue and create tensions between the governments and fisherfolk in the sub-region, as clear proof of infringements are often lacking. Moreover, as the countries in the region continue to sign agreements with foreign fishing fleets conflicts increase between the small-scale coastal fishers and these “new” fleets that harvest mainly for the market in their country of origin and attach less importance to sustainability of the resources and livelihoods of the local fishing communities.

As such, with the support of the GEF, the CLME+ Project and associated shrimp and groundfish Sub-Project will be crucially important in providing assistance to the countries of the North-Brazil Guianas Shelf adopt and implement approaches that do not perpetuate “business as usual” but rather pursue the alternative scenario (EAF) described further below.

3. Project Strategy

3.1. Rationale

This Sub-Project aims to contribute to the delivery of Output 3.2. (O3.2.) under COMPONENT 3 of the main CLME+ Project Document: *“Transition to an ecosystem approach for the shrimp and groundfish fisheries of the NBSLME”*. This project has been developed in response to the corresponding calls for action under the **CLME+ Strategic Action Programme (SAP)**, politically endorsed at the regional level in 2013.

More specifically, the CLME+ Shrimp and Groundfish Sub-Project can be linked to SAP Strategy 6

- **Strategy 6: Implement EBM/EAF of the Guianas-Brazil continental shelf with special reference to the shrimp and groundfish fishery**

In addition to this, Actions under SAP Strategies 1, 2 and 3, and under CLME+ Project COMPONENTS 1, 2, 4 and 5 will further facilitate the implementation of this Sub-project, as they help building the support base for its activities, and for the continuation of efforts beyond the sub-project’s lifespan.

Sub-Project activities will build upon:

- the concept of **interactive governance**, defined as *the whole of interactions among public, civil and private actors taken to solve societal problems and to create societal opportunities; including the formulation & application of principles guiding those interactions and care for institutions that enable and control them*
- progress and results from **other related regional and national-level efforts**

It is broadly recognized that the ultimate, over-arching goal of the implementation of the EAF approach for the shrimp and groundfish fishery –*i.e. maximized, sustainable contributions from the resource to human well-being in the region*– will only be achievable in the medium- (6-10 year time frame) to long term (10-20 years). Even so, this over-arching goal constitutes a critically important primary reference for the shaping of the CLME+ Sub-Project’s objectives, outcomes, outputs and activities.

Giving due consideration to the above, the project strategy and logical framework for the Shrimp and Groundfish Sub-Project have been shaped around the different components of the **Governance Effectiveness Assessment Framework (GEAF; TWAP Project, GEF ID 4489; Figure 1)**.

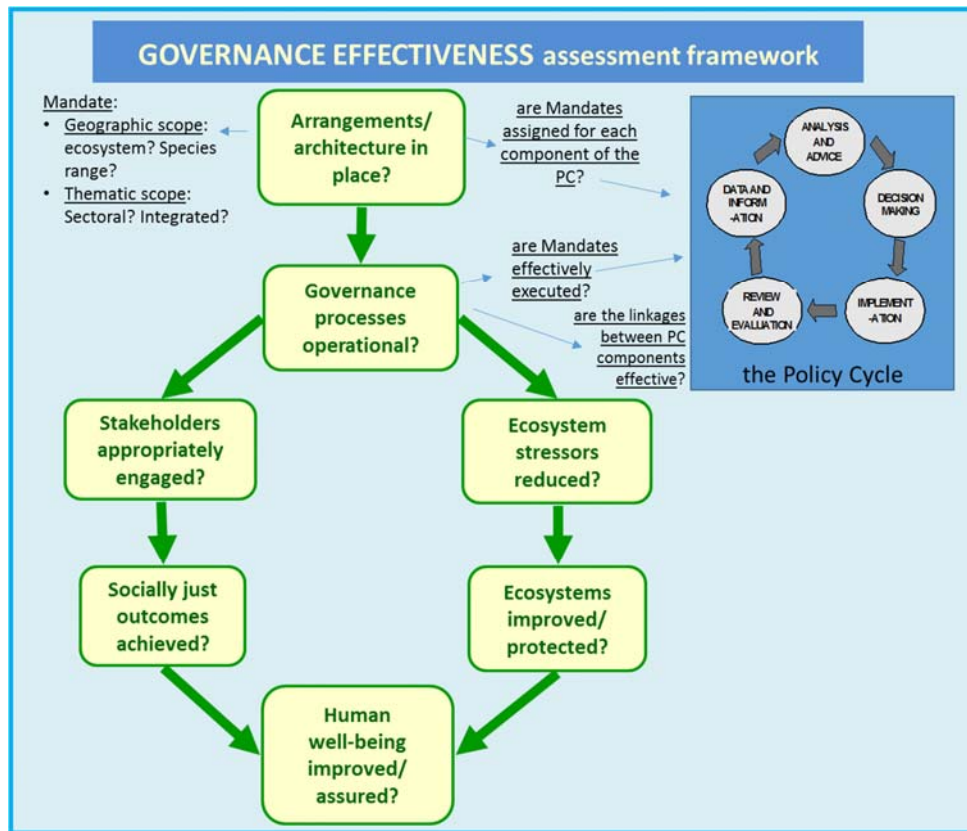


Figure 1. the “Governance Effectiveness Assessment” (GEAF) framework developed under the “TWAP” Project (adapted here for the case of EAF in lobster fisheries) links improved socio-economic and ecosystem conditions back to enhanced governance arrangements and more effective policy cycle implementation

Bearing the over-arching goal of enhanced human well-being in mind, and with an implementation time span limited to max. 4 years, the GEF-supported Sub-Project activities will put a strong focus on the following components of this framework:

1. Establishment and operationalization of the transboundary governance architecture/arrangements and processes, beyond the current baseline situation
2. Ensuring adequate stakeholder involvement
3. Implementation of enhanced, socially just stock management/stress reduction measures

Reference is made in the context of Item 1 above - *the operationalization of governance processes* - to the 5 components of the policy cycle (see the inset in the upper-right corner of Figure 1):

The strengthening of the data & information collection, management and exchange capacity, within and among the relevant institutional arrangements, will indeed be of great importance to facilitate **(a)** a better description and quantification of the baseline situation and **(b)** to define common medium- and long-term targets, for (especially) the following components of the GEAF Framework:

4. Current versus desired shrimp and groundfish stock status
5. Aspects of human well-being associated/linkable with the current and desired status of shrimp and groundfish stocks and fisheries

During the project, and following a participatory approach, the preliminary –and rather generically formulated- targets regarding desired stock status and associated socio-economic benefits included in this proposal will need to be fine-tuned and validated, as existing data gaps are gradually being filled.

The participatory approach will further need to ensure that a broader array of key stakeholders are involved than what has been possible during the preparatory phase. It is precisely through the operationalization of the enhanced governance arrangements that the processes of more comprehensive stakeholder involvement, and of enhanced target setting/revision will be facilitated.

Under an adaptive management approach, baseline values and targets relating to respectively the current versus the desired status of shrimp and groundfish stocks and associated socio-economic benefits (Figures 1 and 2) can then be periodically reviewed and (where applicable) revised. Such information will assist the different stakeholder groups (governments, civil society stakeholders and private sector) in the implementation of the combination of responses that will be needed to achieve the specified targets.

3.2. Incremental reasoning

The GEF (co-)funded Sub-Project activities will put special emphasis on addressing root causes and barriers to the implementation of EAF for the shrimp and groundfish fisheries. It will demonstrate practical management measures “on-the-ground” within a meaningful geographic sub-region of the CLME⁺. It will also catalyse more region-wide adoption and implementation of EBM/EAF, by consolidating cooperation and coordination mechanisms, and by fostering the replication and up-scaling of Sub-Project results.

The move from BaU to EAF will however involve additional costs, which at this stage cannot be fully covered by the countries or (sub-)regional organizations themselves. These constitute the incremental costs of the move towards EAF, part of which will be financed from the GEF contribution to the CLME⁺ Project and by co-financing from the countries and partner organizations.

More specifically, incremental cost funding from the GEF will be of critical importance to: enhance stakeholder participation (stronger involvement of civil society and private sector); enhance data collection, management and exchange in support of improved, transboundary decision-making; and to kick-start the coordinated implementation of compatible/harmonized management measures, and the monitoring and evaluation of progress and (preliminary) results.

DPSIR FRAMEWORK

(Driver-Pressure-State-Impact-Response)

(slightly modified version – CLME)

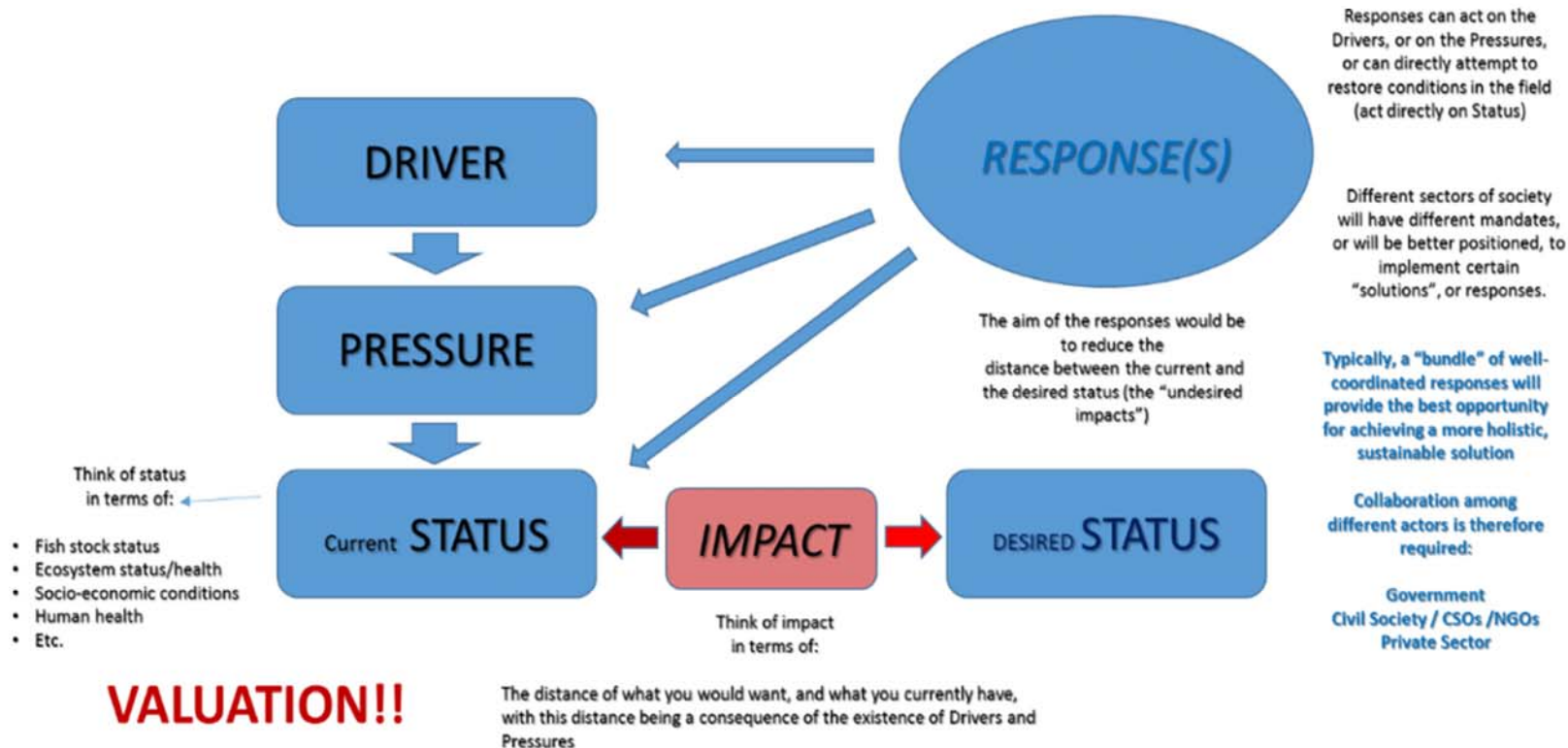


Figure 2: The Driver-Pressure-Status-Impact-Response (DPSIR) framework as a tool to support the implementation of the Shrimp and Groundfish Sub-Project.

3.3. Objectives, outcomes and outputs

3.3.1 Objectives and geographic scope

The **over-arching goal** to which the Guianas-Brazil Continental Shelf Shrimp and Groundfish Fishery Sub-Project will contribute is to maximize, in a sustainable way, the contributions of the shrimp and groundfish resources to human well-being and socio-economic development in the CLME⁺ region, while conserving the structure, diversity and functioning of the ecosystems that host these species.

In order to contribute to this goal, the following **objectives** have been set for the Sub-Project:

- a. Optimize the transboundary coordination for the sustainable management of shrimp & groundfish stocks on the NBSLME, to foster long-term human well-being of direct and indirect stakeholders
- b. Full policy cycle implementation at the sub-regional (NBSLME) level, through the development, approval and initiation of implementation of a sub-regional shrimp and groundfish fisheries management plan
- c. Full policy cycle implementation at the national level, through the development, approval and initiation of implementation of national fisheries management plans (with special attention to IUU and safety at sea, and enhanced stakeholder participation/contributions in the transition to EAF)
- d. Capture and disseminate best practices and lessons learnt, for the replication and up-scaling of the EAF approach in other CLME⁺ fisheries

The Sub-Project will focus its interventions along the Guianas-Brazil continental shelf (NBSLME) with the participation of the following countries: Brazil, Guyana, Suriname, and Trinidad & Tobago. Participation from French Guyana, as non-GEF eligible country, will be encouraged in regional level activities. Cost implications of this participation are to be covered by France. Similarly, the participation of Venezuela will be investigated further during the project inception phase.

The results obtained from activities relating to objective (a), (b) and (c) will be used to facilitate expansion of the EAF approach and the Sub-Regional and National Management Plans, lessons learnt, and best management practices (as applicable and agreed upon) to the wider CLME⁺ region (objective (d)).

3.3.2 Sub-Project Results Framework (Outcomes & Outputs)

The following outcomes and outputs have been identified:

- **Outcome 1 – Transboundary governance arrangements in place and operational**
 - Output 1.1: Sub-regional arrangements for participatory governance and EAF- management of the shrimp and groundfish fisheries, with advisory and decision-making capacity for policy formulation and management, within the broader context of EBM for the NBSLME
 - Output 1.2: Participatory governance arrangements strengthened/established at national level to facilitate adoption of the EAF approach, within the broader context of EBM for the NBSLME
 - Output 1.3: Sub-regional data policy to support EAF management of the fishery

- **Outcome 2 – Enhanced capacity for EAF-based management of the shrimp and groundfish resources**
 - Output 2.1: Enhanced knowledge base on shrimp and groundfish resources, and on the communities they sustain
 - Output 2.2: Enhanced baseline on stock/ecosystem and socio-economic stressors in the NBSLME, with special attention to IUU fishing
 - Output 2.3: Operational sub-regional data and information repository on fisheries and their associated ecosystems in the NBSLME
 - Output 2.4: Plans and agreements, at sub-regional and national levels, to support actions against Illegal, Unreported and Unregulated (IUU) fishing in the shrimp & groundfish fisheries
 - Output 2.5: Capacity of national institutions and stakeholders strengthened to implement the management plans

- **Outcome 3 – Sustainable Management Measures – including stress reducing/limiting measures – designed, adopted and piloted**
 - Output 3.1: EAF sub-regional management plan(s) for shrimp & groundfish fisheries
 - Output 3.2: National implementation plans for the sub-regional EAF management plan(s) (FMPs)
 - Output 3.3: Enhanced MCS measures to combat Illegal, Unreported and Unregulated (IUU) fisheries, at sub-regional and national levels
 - Output 3.4: Enhanced awareness and buy-in along the value chain, on critical importance of legally sourced fisheries products

- **Outcome 4 – Long-term socio-economic benefits from the shrimp and groundfish resource facilitated, with special attention to livelihoods and social justice**
 - Output 4.1: Foundations in place to achieve long-term livelihoods support from shrimp & groundfish fisheries for the fisheries-dependent communities in the NBSLME
 - Output 4.2: Criteria of “Decent Work”/social protection mainstreamed
 - Output 4.3: Role of women in shrimp & groundfish fishery enhanced (pilot scale)

- **Outcome 5 – Mechanism in place to track progress towards EAF and to facilitate learning-by-doing, and strategy to ensure continuity and up-scaling of Sub-Project efforts**
 - Output 5.1: System to track and evaluate progress towards EAF and to facilitate related strategic/adaptive decision-making, adopted and operational
 - Output 5.2: Lessons learnt and best practices from the Sub-Project activities documented and disseminated among interested CLME+ states and other stakeholders
 - Output 5.3: Sub-Project after-life plan, and additional (co-)financing leveraged

OVERARCHING GOAL:					
The Guianas-Brazil continental shelf shrimp and groundfish fishery Sub-Project will aid to maximize, in a sustainable way, the contributions of the shrimp and groundfish resource to the long-term human well-being and socio-economic development in the NBSLME region, while conserving the structure, diversity and functioning of the ecosystems that host these species					
Outcome & Outputs	Indicators	Baseline	Milestones & Targets	Source of verification	Risk and Assumptions
OUTCOME 1. TRANSBOUNDARY GOVERNANCE ARRANGEMENTS IN PLACE AND OPERATIONAL					
<p>Output 1.1 (O1.1)</p> <p>Sub-regional arrangements for participatory governance and EAF-management of the shrimp & groundfish fisheries, with advisory and decision-making capacity for policy formulation and management, within the broader</p>	<p>O1.1.PI1 Sub-regional advisory and decision-making mechanism(s) for interactive fisheries governance & management established, covering the full NBSLME region</p> <p>O1.1.P/SRI2 New/updated management regulations are reflective of the advice provided by the sub-regional advisory arrangement</p> <p>O1.1.PI3 Advice provided by the sub-regional advisory arrangement is reflective</p>	<p><i>Problem:</i></p> <ul style="list-style-type: none"> ▪ Shrimp and groundfish resources of the NBSLME are fully or over-exploited, and insufficient efforts are being made to optimize management for maximized long-term, sustainable socio-economic benefits ▪ Conflicts at national level, and bi/multi-laterally, over fishing activities are many and increasing in frequency ▪ Gaps and weaknesses, at sub-regional and national levels, in interactive living marine resources governance arrangements inhibit effective & sustainable stock management 	<p>O1.1.T.PI1 (Milestone) currently existing advisory arrangements (centred around the FAO-WECAFC/CRFM/IFREMER Working Group on shrimp & groundfish fisheries) further consolidated throughout the Sub-Project period; (Target) Formal agreement among relevant parties on the operationalization of a decision-making arrangement (body(s) with formal mandate), by end of Sub-Project Year 2 (SPY 2)</p> <p>O1.1.T.P/SRI2 (Target A) Proof of uptake by the Decision-Making Body, of technical advice provided by the Working Group (WG), for at least 50% of relevant, updated or newly developed on-the-ground management measures; (Target B) Proof of involvement of civil society and private sector representatives in the development and consolidation of WG advice</p>	<ul style="list-style-type: none"> ▪ <i>Standard sub-project reporting practices/ outputs</i>² ▪ Sub-Project progress reports ▪ Reports of the annual WECAFC/ CRFM/ IFREMER Working Group on Shrimp and Groundfish fisheries meetings ▪ Minutes & participants lists of other relevant meetings (e.g NICs,...) ▪ Transboundary agreement for the management of shrimp and 	<p>Inadequate capacity to maintain the governance/management mechanism; difficulty of harmonizing management measures/regulations in the sub-region invalidates the usefulness of the mechanism</p> <p>Turnover of staff in national institutions preventing from taking full benefit of capacity building program</p> <p>Inadequate coordination and collaboration at the national level resulting in failure to promote</p>

²Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

context of EBM for the NBSLME	of a participatory process	<ul style="list-style-type: none"> ▪ Stakeholders are insufficiently involved in the planning and decision making so as to ensure the relevance of, and buy-in on the management regulations 		groundfish fisheries between the countries concerned	participatory governance and conflict among the stakeholders
<p>Output 1.2 (O1.2) Participatory governance arrangements strengthened/ established at national level to facilitate adoption of the EAF approach, within the broader context of EBM for the NBSLME</p>	<p>O1.2.PI1 National Inter-sectoral coordination and stakeholder involvement</p>	<ul style="list-style-type: none"> ▪ Current approach to the problem is predominantly national and sectoral, whereas the problem and its solutions are transboundary and multi-facetic (interactions between fisheries, habitat degradation and pollution) <p><i>Baseline reports:</i></p> <ul style="list-style-type: none"> ▪ Reports from the shrimp & groundfish case study under the CLME Project (GEF ID 1032) ▪ Governance assessment report for the CLME+ and NBSLME fisheries <p><i>Progress:</i></p> <ul style="list-style-type: none"> ▪ Politically endorsed CLME+ SAP calls for actions towards establishing EAF/EBM in the 	<p>O1.2.T.PI1 (Milestone) Awareness raised in all NBSLME countries on the importance of (a) inter-sectoral coordination and (b) stakeholder participation; (Target) By Sub-Project End (SPE), sustainable National Inter-Sectoral mechanisms (NICs) - including representatives from fisheries (all levels of stakeholders) - are in place in 60% of the NBSLME countries</p>	<p>Turnover of staff in national institutions preventing from taking full benefit of capacity building program</p> <p>Insufficient enforcement of the laws (when they exist) or unwillingness to design appropriate legal provisions</p>	

		<p>NBSLME within the next 10 years (SAP Strategy 6)</p> <ul style="list-style-type: none"> ▪ WECAFC/CRFM/IFREMER shrimp & groundfish working group established ▪ 2 well-established RFBs 			
<p>Output 1.3 (O1.3)</p> <p>Sub-regional data policy to support EAF management of the fishery</p>	<p>O1.3.PI1. Data Policy adopted at sub-regional level</p>	<p><i>Gaps/Challenge:</i></p> <ul style="list-style-type: none"> ▪ None of the established RFBs currently combines full coverage of the NBSLME with a decision-making mandate ▪ Practice of data & information sharing among the NBSLME countries on shrimp & groundfish fisheries and resources is limited and irregular 	<p>O1.3.T.PI1.(Milestone A) Draft Data Policy for EAF completed during SPY1; (Milestone B) Stakeholder consultation on Data Policy completed by end of Sub-Project Month 18; (Target A) Data policy adopted by at least 2 (neighbouring) countries by end of SPY2; (Target B) by at least 4 countries by SPE</p>	<ul style="list-style-type: none"> ▪ <i>Standard sub-project reporting practices/ outputs³</i> ▪ Reports from stakeholder consultations + participants lists ▪ Approved data policy document 	

³Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

		<p><i>Progress:</i></p> <ul style="list-style-type: none">▪ CRFM Data Policy outline in Report of 3rd Annual CRFM Scientific Meeting▪ iMarine Data policy generically designed for data sharing and generation of derived products in support to EAF▪ FIRMS Information Management Policy▪ Global Record framework policy			
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OUTCOME 2: ENHANCED CAPACITY FOR EAF-BASED MANAGEMENT OF THE SHRIMP AND GROUND FISH RESOURCES					
<p>Output 2.1 (O2.1) Enhanced knowledge base on shrimp and groundfish resources, and on the communities they sustain</p>	<p>O2.1.PI1 Number of published fisheries inventories in FIRMS with status information; and number of marine resources with status information published in FIRMS that build upon catch/effort data sources available in the regional repository (O2.3)</p> <p>O2.1.PI3 Number of countries with Fishing Vessel Registers, and interacting with the Global Record</p>	<ul style="list-style-type: none"> ▪ Practice of data & information sharing among the NBSLME countries on shrimp & groundfish fisheries and resources is limited and irregular ▪ Data sets often produced in an <i>ad hoc</i> manner, with large gaps; methodologies differ among countries ▪ Gaps exist in both ecological and socio-economic data and information 	<p>O2.1.T.PI1 (Milestone) Agreement on minimum data requirements / data collection formats and stock/ resources and fisheries assessment methods by the Working Group members, by end of Sub-Project Month 20; (Target 1) Marine resources and fisheries inventories of shrimp and groundfish containing basic existing data validated and published in FIRMS for at least 4 countries by SPY 2; (Target 2) Updated shrimp and groundfish status reports with catch and effort, biological and socio-economic data and information, disseminated through FIRMS resources and fisheries inventories from at least 4 countries, by SPE;</p> <p>O2.1.T.PI3 (Milestone) Agreement on minimum data requirements / data collection formats for the Vessel Registers agreed by the Working Group members, by end of SPY_2 ; (Target) Integrated national fishing vessel registry information included in the Global Record of Fishing Vessels, with services tailored for and</p>	<ul style="list-style-type: none"> ▪ <i>Standard reporting practices/outputs</i>⁴ ▪ Reports on the shrimp and groundfish catch and effort, biological and socio-economic data ▪ Global Record of Fishing Vessels Refrigerated Transport Vessels and Supply Vessels (Global Record) (<i>entries of vessels by the concerned countries</i>) 	<p>Inadequate uptake by the countries;</p> <p>National systems are weak with irregular update of the information resulting in limited usefulness for fisheries management and environmental protection;</p> <p>Mitigation: Demonstrate value through implementation of FIRMS and other data workflow in a few selected countries.</p> <p>Sustainability of iMarine platform not guaranteed at this stage; Mitigation: data</p>

⁴Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

			accessible from the DSS, from 3 countries, by Sub-Project Year 4		uploaded in the RDB is available through standard data exchange formats hence can be easily transferred and hosted in other repositories
<p>Output 2.2 (O2.2)</p> <p>Enhanced baseline on stock/ecosystem and socioeconomic stressors in the NBSLME, with special attention to IUU fishing</p>	<p>O2.2.PI1 baseline reports on magnitude and specificities of IUU affecting the shrimp & groundfish resource in the NBSLME</p>	<p><i>Progress:</i></p> <ul style="list-style-type: none"> Continental Shelf TDA, produced under the CLME Project <p><i>Gaps:</i></p> <ul style="list-style-type: none"> <i>Inadequate baseline information esp. on the IUU fishing issue in the NBSLME countries</i> 	<p>O2.2.PI1 baseline reports updated and available for 3 countries, by end of SPE</p> <p>Updated information on IUU fishing situation made available by at least 3 NBSLME countries to the WECAFC/CRFM/OSPESCA IUU fishing Working Group by the end of SPY 3.</p>	<ul style="list-style-type: none"> <i>Standard reporting practices/outputs</i>⁵ Data & Information repository (to be established under Output 2.3) 	
<p>Output 2.3 (O2.3)</p> <p>Operational sub-regional data and information repository on</p>	<p>O2.3.PI1 Repository created</p> <p>O2.3.PI2 Repository populated with data sets</p> <p>O2.3.PI3 Repository Sustainability Strategy</p>	<p><i>Progress:</i></p> <ul style="list-style-type: none"> Ongoing work by FAO on the Fishery Resources Monitoring System (FIRMS) Ongoing work by FAO in iMarine on the development of Regional Databases in 	<p>O2.3.PI1 (Milestone A) Repository/DSS designed to provide updated information useful for EAF-based fisheries management, by SPY 2; (Target) Repository/DSS (infra)structure in place, with sustainable hosting & maintenance solution, by SPY 4</p>	<ul style="list-style-type: none"> <i>Standard reporting practices/outputs</i>⁶ Repository web portal FIRMs web portal 	

⁵Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

⁶Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

<p>fisheries and their associated ecosystems in the NBSLME</p>		<p>support to EAF (i.e. stocks and ecosystems assessments)</p> <ul style="list-style-type: none"> ▪ On-going work by FAO on the Vessel Records Monitoring Framework (VRMF) ▪ Guiana Shield Facility work & data on terrestrial/coastal ecosystems ▪ National-level work under e.g. the FIPs ▪ Inventory on potentially relevant data & information repositories conducted under the Caribbean Marine Atlas – Phase 2 (CMA2) Project, and supported through the CLME+ PPG <p><i>Gaps & challenges:</i></p> <ul style="list-style-type: none"> ▪ No sub-regionally approved data policy to support data access & exchange 	<p>O2.3.PI2 (Milestone) Access to updated information on state of shrimp resources, and status/trends of related fisheries, policy briefs and management decision, within 6 months/1 year from achievement of target O2.3.T.PI1 or O1.3.T.PI1 , whichever comes last; repository updated with most recent data sets, by SPE</p> <p>O2.3.PI3 Sustainable hosting, data collection/uploading & infrastructure maintenance solution identified and adopted, by SPE</p>		
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<p>Output 2.4 (O2.4) Plans and agreements, at sub-regional and national levels, to support actions against Illegal, Unreported and Unregulated (IUU) fishing in the shrimp & groundfish fisheries</p>	<p>O2.4.PI1 Plans of Action to combat IUU fishing (POA-IUU) in the shrimp & groundfish fisheries in the NBSLME</p> <p>O2.4.PI2 National-level adoption of the FAO Port State Measures Agreement</p>	<ul style="list-style-type: none"> ▪ None of the NBSLME countries have ratified the 2009 PSMA ▪ None of the project countries has currently a national plan to address IUU fishing ▪ A Regional POA –IUU does not exist ▪ While Vessel monitoring systems (VMS) are being introduced at national level, data and information is hardly shared with neighbouring countries. ▪ MCS is inadequate in the countries and requires substantial capacity building efforts 	<p>O2.4.PI1 (Target A) Endorsed National POAs (NPOA –IUUs) in at least 3 countries, by SPY4 (2018); (Target B) Regional POA (RPOA-IUU) for endorsement at 17th Session of the WECAFC (early 2018)</p> <p>O2.4.PI2 FAO Port State Measures Agreement signed by at least 3 NBSLME countries, by SPE</p>	<ul style="list-style-type: none"> ▪ Examples of NPOAs/ regional POA to combat IUU fishing from other regions and countries are available on-line 	
<p>Output 2.5 (O2.5) Capacity of national institutions and stakeholders strengthened to implement</p>	<p>O2.5.PI1 Number and type of capacity building needs addressed by the Sub-Project</p> <p>O2.5.PI2 Confirmed cases of strengthened institutional and stakeholder capacity</p>	<ul style="list-style-type: none"> ▪ National institutions have inadequate capacity to design and implement suitable fisheries management plans (staff, skills, structure,...) 	<p>O2.5.T.PI1 Capacity building actions for national institutions in at least 50% of the countries within 5 years</p> <p>O2.5.T.PI2 EAF processes integrated in management planning and management implementation in at least 4 countries within 4 years</p>	<ul style="list-style-type: none"> ▪ Reports of training programs and list of permanent national staff participating in these programs ▪ Training certificates ▪ Results from questionnaires/tests 	

the management plans					
OUTCOME 3 : SUSTAINABLE MANAGEMENT MEASURES - including STRESS REDUCING/ LIMITING MEASURES -DESIGNED & ADOPTED, AND PILOTED					
Output 3.1 (O3.1) EAF sub-regional management plan(s) for shrimp & groundfish fisheries	O3.1.PI1 Existence/number of EAF sub-regional management plan(s)	<i>Progress:</i> <ul style="list-style-type: none"> ▪ One national management plan (Suriname) for seabob fisheries adopted, in the framework of a certification plan ▪ None of the project countries has a plan to address IUU fishing ▪ Ongoing Fisheries Improvement Projects (FIPS): Brazil and Suriname (snapper) <i>Gaps & Challenges:</i> <ul style="list-style-type: none"> ▪ No transboundary agreements or plans developed or in place for the 	O3.1.T.PI1 One sub-regional plan is developed and adopted by end of SPY 3	<ul style="list-style-type: none"> ▪ <i>Standard reporting practices/outputs</i>⁷ ▪ Sub-regional plan (endorsed version) ▪ WECAFC Session Decisions & reports ▪ CRFM Ministerial Council meeting minutes ▪ Ministerial approval of the sub-regional management plan for shrimp and groundfish fisheries by the national fisheries authorities and by CRFM and WECAFC 	No agreement is reached among stakeholders on the harmonized measures under the management plan National management plans are not formally adopted and hence operational plans cannot be implemented. Limited buy-in from stakeholders (authorities, as well as those involved directly in the fishery) resulting in low adoption and implementation rates.

⁷Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

		S&GF fisheries in the NBSLME		<ul style="list-style-type: none"> CRFM and WECAFC reporting to the countries, on progress with the adoption and implementation of the plan and/or agreement 	
<p>Output 3.2 (O3.2)</p> <p>National implementation plans for the sub-regional EAF management plan(s) (FMPs)</p>	<p>O3.2.PI1 Number of countries with national EAF FMPs; number of plans under (partial) implementation</p>		<p>O3.2.T.PI1 (Target A) EAF-based national Fisheries Management Plans (FMPs) including operational plans and measures against IUU fishing are developed in at least 3 NBSLME countries, by end of SPY4; (Target B) implementation of EAF FMPs initiated in at least 2 countries, by SPE</p>		
<p>Output 3.3 (O3.3)</p> <p>Enhanced MCS measures to combat Illegal, Unreported and Unregulated (IUU) fisheries, at sub-regional</p>	<p>O3.3.PI1 Package of measures to enhance MCS developed; implementation of MCS measures piloted</p>	<p><i>Gaps & Challenges:</i></p> <ul style="list-style-type: none"> While Vessel Monitoring Systems (VMS) have begun to become introduced at national level, data and information is hardly shared with neighbouring countries Solutions for IUU fishing by industrial floats will not always be transferable to artisanal float, and vice versa 	<p>O3.3.T.P/SRI1 (Milestone A) MCS protocols incorporating best practices to combat, deter and eliminate IUU fishing established and agreed by at least 4 countries by SPY3; (Milestone B) training and inspection manuals developed, by end of SPY3; (Target A) enhanced implementation of MCS measures piloted in the region, by SPE (preliminary sub-targets, to be fine-tuned/validated: (a) collaborative agreements/MoUs signed between national institutions combating IUU fishing in at least 3 countries by SPY4;</p>	<ul style="list-style-type: none"> MCS protocols Online training and inspection manuals on MCS Lists of participants in MCS training sessions 	

and national levels		<ul style="list-style-type: none"> ▪ Vessel Records necessary pre-condition to VMS ▪ MCS is inadequate in the countries; substantial capacity building & demonstration efforts are needed 	(b) inspectors from at least 6 countries competent and capable to fight IUU fishing in their countries by SPY4, through collaborative efforts/economies of scale with main project and other sub-projects); (Target B) aimed reduction of at least 25% of transboundary IUU activities for a selected fishery, among at least 2 neighboring countries, by SPE		
Output 3.4 (O3.4) Enhanced awareness and buy-in along the value chain, on critical importance of legally sourced fisheries products	O3.4.P/SRI1 Enhanced awareness and buy-in at all levels along the value chain O3.4.P/SRI2 Buy-in demonstrated through stakeholder action against IUU demonstrated/piloted, at all levels along the value chain	<i>Progress:</i> <ul style="list-style-type: none"> ▪ Financial support granted by Google to Conservation International, for the “+Sustainable Fisheries” initiative ▪ Ongoing Fisheries Improvement Projects (FIPS): Brazil and Suriname (snapper) ▪ MSC-certified seabob shrimp fishery in Suriname 	O3.4.T.P/SRI1 (Target) Enhanced awareness and buy-in at all levels along the value chain achieved for at least 3 fisheries by SPY3 O3.4.P/SRI2 Stakeholder action against IUU demonstrated/piloted, at all levels along the value chain; for at least 2 fisheries; by SPE		

OUTCOME 4: LONG-TERM SOCIO-ECONOMIC BENEFITS FROM THE SHRIMP & GROUND FISH RESOURCE FACILITATED, WITH SPECIAL ATTENTION TO LIVELIHOODS & SOCIAL JUSTICE					
<p>Output 4.1 (O4.1) Foundations in place to achieve long-term livelihoods support from shrimp & groundfish fisheries for the fisheries-dependent communities in the NBSLME</p>	<p>O4.1.PI. Combined Fisheries sector employment figures including gender.</p> <p>Export statistics (volume and value) of fresh and processed shrimp and groundfish products.</p> <p>Fisheries management plans mainstreamed in rural and coastal development plans, as well as climate change strategies.</p>	<ul style="list-style-type: none"> ▪ The relative export value per volume of shrimp and groundfish product is limited. ▪ Value addition at local level is limited. ▪ Fisheries is hardly being considered in rural development planning, as is evidenced by the national development plans. <p><i>Progress:</i></p> <ul style="list-style-type: none"> ▪ Ongoing Fisheries Improvement Projects (FIPS): Brazil and Suriname (snapper) ▪ MSC-certified seabob shrimp fishery in Suriname 	<p>O4.1.T.SRI1 Shrimp and groundfish fisheries dependent communities have long-term access to sustainable fisheries resources and apply economically, socially and ecologically viable harvesting practices.</p> <p>O4.2.T.SRI1 Fisheries Management Plans (developed with support from CLME+) and related fisheries regulations guarantee long-term access (with preferential treatment) for local fishers, by SPE</p> <p>O4.3.T.SRI1 Viability studies on best-practice fishing gears are available to fishers and financial institutions/ investors by SPY4</p>	<ul style="list-style-type: none"> ▪ <i>Standard reporting practices/outputs</i>⁸ ▪ Reference to fisheries in rural and coastal development plans ▪ Investment statistics (related to value addition in the shrimp and ground fish value chain). 	<p>Corruption is constraining investment in value addition at local level</p> <p>Political instability and rapidly changing governments cause instability and insecurity for fishers and investors in the sector</p>

⁸Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

<p>Output 4.2 (O4.2) Criteria of “Decent Work”/social protection mainstreamed</p>	<p>O4.2.PI1 Awareness on social security and protection, as well as insurance and decent work conditions has improved</p>	<ul style="list-style-type: none"> ▪ Exploitation of labourers on the industrial shrimp and groundfish trawling fleets is common. ▪ No labour codes of practice are used in the fisheries sector of the participating countries ▪ Social protection and insurance programmes are not available or not accessible to the crew on industrial fishing vessels or for small-scale fishers 	<p>O4.2.T.PI1 (Milestone) A report on social security and conditions of work (including safety and health matters) in shrimp and groundfish fisheries comprising at least 3 countries, by SPY3;</p> <p>O4.2.SR1 (Milestone) Draft fisheries sector labour codes of practice developed for the shrimp and groundfish fisheries value chain, by SPY3. T.PI2 (Target) Promotional and advocacy materials developed and distributed in support of introduction of good labour practices, accessing social security, insurance and promoting decent work in at least 3 countries by SPY 4</p>	<ul style="list-style-type: none"> ▪ Report ▪ Promotional materials ▪ Fisheries sector labour codes of practice (draft) 	
<p>Output 4.3 (O4.3)</p> <p>Role of women in shrimp & groundfish fishery enhanced (pilot scale)</p>	<p>Gender disaggregated data in terms of fisheries sector employment</p>	<ul style="list-style-type: none"> ▪ analysis for rigorous and comprehensive understanding of gender issues in shrimp and groundfish fisheries is not available ▪ The role of women in shrimp and groundfish value chain is not well-document ▪ Participation of women in policy and planning process in the fisheries sector is low 	<p>O4.3.T.PI1 (Milestone) A sub-regional gender analysis report of the fisheries value chain is prepared by SPY3; (Target) Guaranteed attention to gender aspects in fisheries policies and management plans for shrimp and groundfish at national and sub-regional level by SPY 4</p>	<ul style="list-style-type: none"> • Gender analysis report • Reports documenting policy and planning processes report on participation by gender 	

OUTCOME 5: MECHANISM IN PLACE TO TRACK PROGRESS TOWARDS EAF AND TO FACILITATE LEARNING-BY-DOING, AND STRATEGY TO ENSURE CONTINUITY AND UP-SCALING OF SUB-PROJECT EFFORTS					
<p>Output 5.1 (O5.1) System to track and evaluate progress towards EAF and to facilitate related strategic/adaptive decision-making, adopted and operational</p>	<p>O5.1.PI1 operational M&E system, shaped on the Governance Effectiveness Assessment (GEA) Framework</p>	<p><i>Progress:</i></p> <ul style="list-style-type: none"> ▪ CLME Project shrimp & groundfish governance assessment ▪ TWAP methodology for assessing governance architecture and performance (GEF ID 4489) ▪ GEF IW Focal Area suggested suite of indicator categories ▪ Adoption of the Governance Effectiveness Assessment (GEA) Framework during the CLME+ Project Preparation Phase <p><i>Challenge/Need:</i></p> <ul style="list-style-type: none"> ▪ Current absence of broadly adopted M&E framework, with well-established indicator baseline values, makes it difficult to measure/estimate distance- 	<p>O5.1.T.PI1 M&E framework consisting of process indicators (incl. governance/policy cycle architecture & performance), stress reduction indicators, stock & ecosystem/habitat status, and socio-economic status/well-being indicators agreed upon by the WECAFC/CRFM/IFREMER Working Group, by the end of SPY1; baseline values for at least 40% of indicators under the M&E framework identified by at the latest the end of SPY2; values for at least 70% of indicators identified by SPE; target values for key stock/ecosystem/socio-economic indicators under the M&E framework agreed upon through participatory approach (at least 3 countries) by end of SPY2; permanent M&E mechanism in place and associated, clear institutional mandates agreed upon by SPE;</p>	<ul style="list-style-type: none"> ▪ <i>Standard reporting practices/outputs</i>⁹ ▪ Periodic Sub-Project progress reports ▪ National reports ▪ Assessment reports ▪ Reports of RFB Meetings ▪ Reports from WECAFC/CRFM/IFREMER Working Group 	<p>Frequent changes in the leadership of fisheries authorities may hamper the follow-through on the policy cycle implementation.</p>

⁹Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

		<p>to-end targets, and to set realistic SMART targets for the Sub-Project; <u>an adaptive project management approach will be necessary</u></p> <ul style="list-style-type: none"> While the policy cycle concept and associated governance assessment concepts were introduced during the CLME Project and CLME+ Project Preparation Phase, these concept have yet to be deliberately applied in practice by stakeholders, in one of the major commercial fisheries in the CLME+ region 			
<p>Output 5.2 (O5.2) Lessons learnt and best practices from the Sub-Project activities documented and</p>	<p>O5.2.PI1 multi-lingual materials documenting best practices & lessons learnt</p> <p>O5.2.PI2 dissemination activities & associated target public</p>	<ul style="list-style-type: none"> Lessons learnt from CLME Project case study Pre-existing partner websites Shrimp & groundfish fisheries stakeholder inventory from CLME Project Governance assessment from CLME Project 	<p>O5.2.T.PI1 (Target A) Experience note(s), tailored to CLME+ stakeholders and documenting best practices/lessons learnt, available in at least English, Spanish and French and produced & available by SPE; (Target B) A least 1 GEF/CLME+ Sub-Project Experience Note produced, produced in a timely matter to facilitate dissemination by the CLME+ PCU</p>	<ul style="list-style-type: none"> <i>Standard reporting practices/outputs</i>¹⁰ Experience notes (digital/printed copies) Videos or similar dissemination materials (e.g. on 	

¹⁰Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

disseminated among interested CLME+ states and other stakeholders		<ul style="list-style-type: none"> ▪ Pre-identified dissemination means for CLME+ target public: regular meetings of RFBs, NIC meetings, annual GCFI meetings ▪ Pre-identified dissemination means for LME COP target public (IW:LEARN and LME COP Project websites, events & activities incl. IWC Conferences, annual COP meetings), LME conferences,... 	<p>to the global LME Community of Practice (<i>see also Output 5.3 of the main CLME+ Project Results Framework</i>)</p> <p>05.2.T.PI2 Best practices & lessons learnt disseminated and/or made permanently available, through -as a minimum- the following means: (a) websites of relevant members of the CLME+ partnership; (b) electronic and/or printed materials, disseminated among all CLME+ countries and stakeholder groups with an interest in shrimp & groundfish fisheries; (c) at least 1 regional workshop, targeting at least 60% of the NBSLME countries (this may be done in association with pre-planned, recurrent meetings of GCFI, OSPESCA, CRFM, WECAFC,...)</p>	<p>policy cycle implementation) on Youtube and project and RFB websites, etc.</p> <ul style="list-style-type: none"> ▪ Meeting/workshop reports or minutes 	
Output 5.3 (05.3) Sub-Project after-life plan, and additional (co-)financing leveraged	05.3.PI1 after-life plan to further advance region-wide adoption & implementation of EAF for the shrimp & groundfish fisheries in the NBSLME	<p><i>Progress:</i></p> <ul style="list-style-type: none"> ▪ GEF contribution received for the shrimp & groundfish case study under the CLME Project, and leveraged co-financing ▪ GEF commitment for financial support for the 	<p>05.3.T.PI1 sub-project after-life plan - including financing strategy - developed and approved by relevant bodies (FAO-WECAFC, CARICOM-CRFM,...), by SPE</p> <p>05.3.T.PI2 additional resources for the implementation and continuation of the Sub-Project, matching at least the GEF</p>	<ul style="list-style-type: none"> ▪ <i>Standard reporting practices/outputs</i>¹¹ ▪ Post-sub-project plan (physical/digital document) ▪ Meeting minutes/decisions 	

¹¹Project PIRs, Steering Committee Meeting & Advisory Group meeting reports, MTE report, TE report, meetings + meeting reports of regional governance bodies, CLME+ partners, project & partner websites, and SAP M&E portals

	<p>O5.3.PI2 amount of additionally mobilized financial resources</p>	<p>CLME+ shrimp & groundfish fishery Sub-Project, and co-financing for the first years of implementation of the Sub-Project, committed and/or expected at project inception, allow to catalyse implementation of Strategy 6 of the 10-year SAP</p> <ul style="list-style-type: none"> ▪ The FAO-IDB project on “Investing in ecosystem-based shrimp and groundfish fisheries management of the Guianas -Brazil Shelf” is currently (2014-2015) working on investment proposals that may contribute to sustainability of the CLME+ Sub-Project achievements <p><i>Challenge/Need:</i></p> <ul style="list-style-type: none"> ▪ Further strengthening of the financial support base for Sub-Project implementation (e.g. up-scaling) needs to be ensured ▪ Continuity of efforts under SAP Strategy 6, beyond the Sub-Project life span, needs to be ensured 	<p>contribution to the sub-project, mobilized by end of SPY3</p>	<ul style="list-style-type: none"> ▪ Formal (co-)financing commitments 	
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3.4. Project indicators and impact monitoring

For the CLME+ Sub-Projects, the conceptual approach to project impact monitoring will be similar to the one adopted for the main UNDP/GEF CLME+ Project. This approach is reflected in the structure and content of the Results Framework contained under Section 5 of this document. It is based on the GEF indicator categories for project monitoring & evaluation (M&E) (Figure), and enriched with additional categories stemming from the work developed under the TWAP Project (GEF ID 4489, see also Figure4). Under the project's M&E framework, (draft) SMART¹² targets have been associated with the different project outputs.

With its strong focus on being a catalyst for enhanced, transboundary governance processes, many of the Sub-Project's Indicators will fall under the category of "**Process Indicators**".

It will therefore be of critical importance to continuously link processes and obtained progress/results back with the over-arching goal to which the project is expected to contribute, i.e. maximized, sustainable contributions from the shrimp and groundfish resources to human well-being and socio-economic development. In this context, periodic fine-tuning and/or revision of planned processes may be needed, as preliminary results are evaluated and additional knowledge is acquired. Such will demand an adaptive (project) management approach.

In line with the above, preliminary "**Stress Reduction**" and, as feasible, "**Ecosystem/Stock Status**" and "**Socio-economic Status**" Indicators and associated Targets are to be defined, following –to the extent that such is possible during a project preparation phase- a consultative/participatory approach. Wherever feasible, approximate baseline values for these indicators have been identified using the best information available to date. These values will need to be updated as better information becomes available as a consequence of the implementation of activities under the Sub-Project.

For certain of the (draft) targets currently set under the project results framework, a fine-tuning and/or formal revision and adoption of their values by a broad group of (relevant) stakeholders¹³ will not be feasible until the transboundary governance arrangements and processes that will facilitate such broader stakeholder participation have been made operational. The operationalization of these processes is expected to be achieved through the activities associated with esp. Outcome 1 and 2 of the Sub-Project.

Certain of these project indicators and their associated baseline values and targets can then also become part of the overarching, longer-term Monitoring & Evaluation Framework for SAP implementation, and contribute to the "State of the Marine Ecosystems and associated living resources" reporting that will be supported through CLME+ Project Component 5.

¹² SMART indicators are: Specific, Measurable, Achievable, Relevant and Time-bound

¹³ i.e. beyond the governance bodies, country representatives and organizations that actively participated in the development of the current Sub-Project proposal

Causal-Chain Analysis

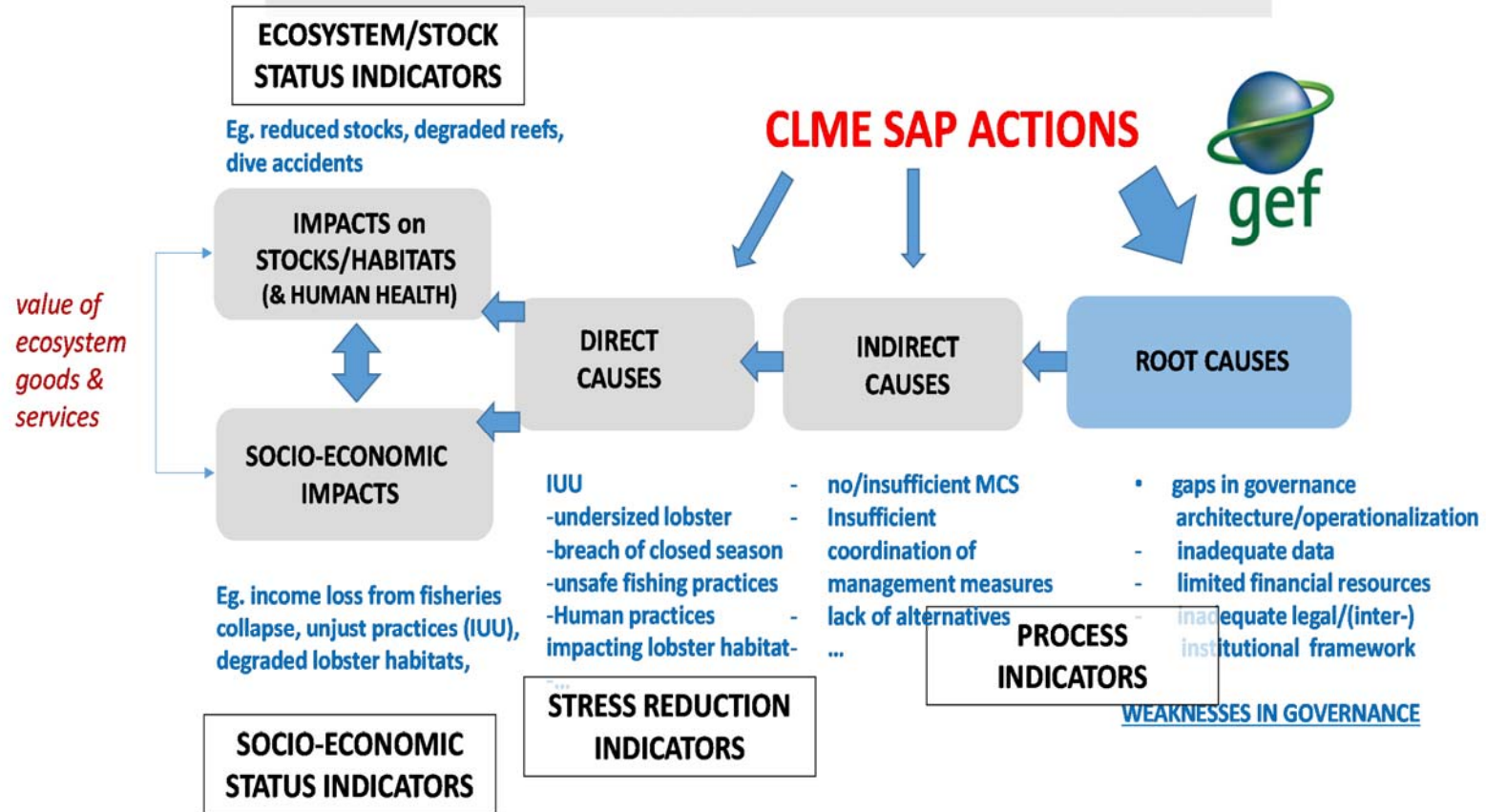


Figure 3. The different types of indicators typically used for the monitoring and evaluation of results under GEF (co)funded International Waters Projects

Associations between the components of the GEAF framework (which was used to structure the Sub-Project strategy, described under Section **Error! Reference source not found.**) and **(a)** the different sub-Project components, and **(b)** impact monitoring indicator types, are illustrated in the figure below.

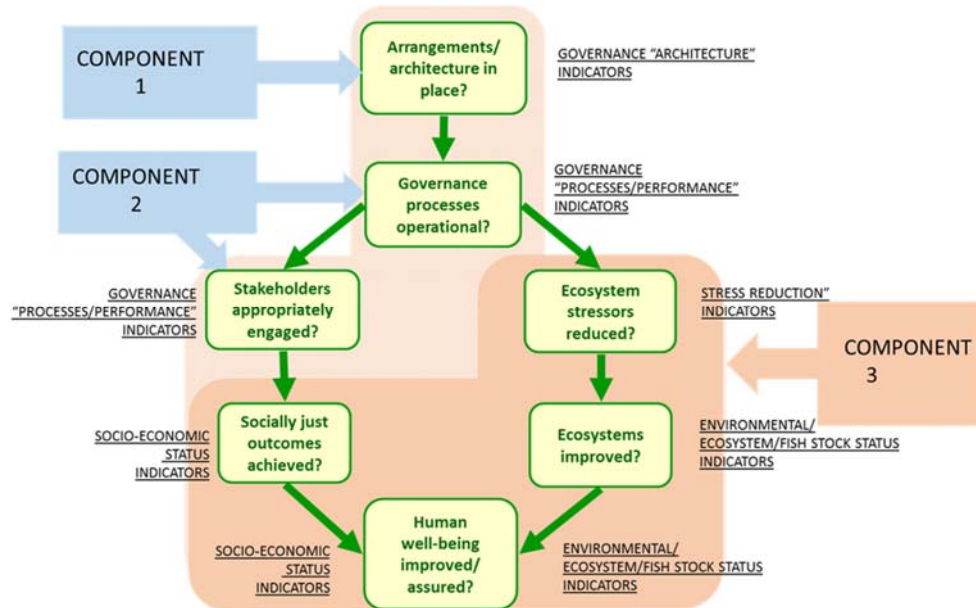


Figure 4. Association between the elements of the GEAF framework, and **(a)** the sub-project components and **(b)** the different project impact monitoring indicator types

It is intended that during the sub-project's inception phase, the project objectives, indicators and reference points will be further fine-tuned and developed through a participatory approach. They will then be used to steer and inform the sub-project management process, and to guide monitoring and evaluation of its implementation.

3.5. Risks and assumptions

There are a lot of risk and assumptions to deal with due to the geographic location of the shrimp and groundfish Sub-Project which have different customs/culture, language, legal and management frameworks and include the following:

- No buy-in from stakeholders (authorities, as well as those involved directly in the fishery) resulting in insufficient enforcement of the laws (when they exist) or unwillingness to design appropriate legal provisions
- Inadequate coordination and collaboration at the national level resulting in failure to promote participatory governance and conflict among the stakeholders
- Political conflicts (e.g. about borders, gas/oil exploration) between countries that share the shrimp and groundfish resources may reduce political will to collaborate on shrimp and groundfish management.
- Inadequate uptake by the countries: National systems are weak with irregular update of the information resulting in limited usefulness for fisheries management and environmental protection; Mitigation: Demonstrate value through implementation of FIRMS and other data workflow in a few selected countries.
- Sustainability of iMarine platform not guaranteed at this stage; however it recently found additional support for the next 4 years.
- Collaboration with the GEF supported REBYC II LAC project will enable the CLME+ project to build on local level co-management experiences and introduction of new (less damaging) fishing gears.
- Language barriers will not cause large delays in the preparation process of plans and agreements between the countries.

3.6. Cost effectiveness, sustainability and replication potential

Cost effectiveness

Sub-Project activities will be embedded within the context of a regional priority, set under the CLME+ SAP, and the WECAFC Biannual Work Plans. This means that the project will be able to build upon past and ongoing efforts at regional, sub-regional and national levels, which in turn will result in the high cost effectiveness of the GEF investment under this Sub-Project. Strategic coordination of efforts with other national, sub-regional and even global initiatives will further enhance cost effectiveness. Cost effectiveness will further also be increased through the outputs under Outcome 4 of the sub-project, in particular those relating to replication, up-scaling and long-term sustainability of activities and results:

The **replication potential** of the Sub-Project is substantial because:

The sub-project has been designed in such a way as to enable **cost-effective replication and up-scaling** of best practices and lessons learnt from the implementation of activities in a limited sub-set of countries, across the wider range of CLME+ states particularly to support implementation of the other Sub-Projects to be implemented under Component 3.

At the level of the efforts toward the adoption of EAF, replication will be facilitated across the Sub-Projects under CLME+ Project Document Component 3 as all sub-projects have been shaped around a common conceptual framework: the Governance Effectiveness Assessment Framework (GEAF). The

use of this framework, developed under the TWAP Project and adopted by the CLME+ Project will not only facilitate replication within the context of the suite of CLME+ Sub-Projects, but also among other efforts to adopt the EAF approach, both within the CLME+ region and beyond.

Sustainability of progress and results obtained through the CLME+ Sub-Project's contributions will be ensured as:

- (a) the sub-project's design foresees for strong ownership over the project activities by those organizations and institutions at the regional, sub-regional and national level that have a formal long-term mandate for the management of the shrimp and groundfish resource
- (b) the timeline of sub-project activities and milestones will be aligned as much as possible with the timeline of the relevant existing governance processes within CRFM and WECAFC
- (c) the development and region-wide adoption of a monitoring & evaluation (M&E) framework to track progress towards EAF for the shrimp and groundfish fisheries in the CLME+, including the definition of medium- to long-term targets in terms of status of shrimp and groundfish stocks, , and associated desired socio-economic benefits, will trace a roadmap for action which will extend beyond the sub-project life span itself
- (d) the development of a project after-line plan, to be delivered by the end of sub-project year 3, is embedded as a specific output (O5.3.) in the sub-project's logical framework under Outcome 5

3.7. Beneficiaries, and stakeholder involvement plan

Long-term and short-term beneficiaries

In the medium and long term, the most important beneficiaries of the shrimp and groundfish Sub-Project activities are expected to be the peoples of the CLME+ region (and beyond) that make a living, or benefit in any other way, out of the sustained existence of the shrimp and groundfish resources. In this context, the stakeholder groups on which the sub-project activities will mostly focus are fisherfolk and other stakeholders along the value chain. "End consumers" of the shrimp and groundfish resources will of course also be beneficiaries of the project outcomes, particularly as they will benefit from continued supply, have greater likelihood of consuming legally caught products and may benefit from safety improvements through collaboration along the value chain.

In the shorter term, the Sub-Project activities are expected to benefit those organizations and institutions that have been given a mandate linkable/of relevance to the over-arching objective of the CLME+ shrimp and groundfish Sub-Project:

"to maximize in a sustainable way the contributions of the shrimp and groundfish resources to human well-being and socio-economic development in the CLME+ region, while conserving the structure, diversity and functioning of the ecosystems that host this species"

These include regional and sub-regional fisheries bodies, and fisheries ministries and technical departments at the country level, plus their peers involved in the protection of key shrimp and groundfish habitats. Within the context of integrative, interactive governance, this "public sector" stakeholder group should be expanded to also include the relevant civil society and private sector representatives with key roles in the shrimp and groundfish fisheries policy and management cycles.

Achieving sustainable shrimp and groundfish fisheries, as a means to sustain livelihoods and promote socio-economic development in the CLME+, can also be of strategic importance in the context of the

other objectives of the CLME⁺ Project, and the over-arching objectives of the CLME⁺ SAP: the high economic value of the shrimp and groundfish fisheries and its exports in particular can help taking pressure away from other living marine resources in the CLME⁺; at the same time additional awareness can be built among stakeholders, in the context of the shrimp and groundfish value chain, on the importance of healthy, well-managed and sufficiently protected marine ecosystems/habitats (e.g.mangroves) that are critical to these resources.

Primary and secondary beneficiary countries

Primary beneficiaries to this project include Brazil, Guyana, Suriname and Trinidad & Tobago. Venezuela and French Guiana are also likely to be primary beneficiaries of the project. Secondary beneficiaries to the project will include all other CLME⁺ countries that have a shrimp and groundfish fishery.

Stakeholder involvement plan

Involvement in project implementation of key stakeholders linkable to the shrimp and groundfish policy and management cycles will be secured through the project management & execution arrangements -specifically designed for this purpose- described under Section 5, and through the provisions made for this purpose under the sub-project logframe and budget.

Involvement of stakeholders is expected through meetings of the National Intersectoral Committees to be supported under the CLME⁺ Project. At the regional level, the involvement of all key stakeholders will be guaranteed under the WECAFC/CRFM/IFREMER Working Group on Shrimp and Groundfish, where policy and decision makers, fisheries representatives, processors and exports, NGOs, CSOs and researchers will meet.

A more detailed participation scheme will be developed by the shrimp and groundfish Sub-Project co(executing) organizations during the project inception phase. Periodic reviews, and, whenever applicable, revisions of the stakeholder involvement plans may take place during project execution using the concept of adaptive project management.

4. Total budget and work plan

Table 3. Preliminary Budget Breakdown (GEF contributions only; to be revised/fine-tuned during Project Inception Phase)

PROJECT OUTCOME	OUTPUTS	Amount (USD) Year 1	Amount (USD) Year 2	Amount (USD) Year 3	Amount (USD) Year 4	Total Amount (USD)
OUTCOME 1. TRANSBOUNDARY GOVERNANCE ARRANGEMENTS IN PLACE AND OPERATIONAL	O1.1	25000	30000	35000	5000	95000
	O1.2	20000	15000	15000	0	50000
	O1.3	0	30000	0	0	30000
	Sub-total	45000	75000	50000	5000	175000
OUTCOME 2: ENHANCED CAPACITY FOR EAF-BASED MANAGEMENT OF THE SHRIMP AND GROUND FISH RESOURCES	O2.1	20000	10000	20000	6000	56000
	O2.2	10000	25000	5000	0	40000
	O2.3	0	30000	6000	0	36000
	O2.4	6000	45000	28000	0	79000
	O2.5	7000	10000	7000	2000	26000
	Sub-total	43000	120000	66000	8000	237000
OUTCOME 3 : SUSTAINABLE MANAGEMENT MEASURES - including STRESS REDUCING/ LIMITING MEASURES -DESIGNED & ADOPTED, AND PILOTED	O3.1	25000	40000	40000	30000	135000
	O3.2	3000	10000	20000	20000	53000
	O3.3	15000	60000	45000	18000	138000
	O3.4	0	10000	6000	0	16000
	Sub-total	43000	120000	111000	68000	342000
OUTCOME 4: LONG-TERM SOCIO-ECONOMIC BENEFITS FROM THE SHRIMP & GROUND FISH RESOURCE FACILITATED, WITH SPECIAL ATTENTION TO LIVELIHOODS & SOCIAL JUSTICE	O4.1	15000	10000	10000	4000	39000
	O4.2	0	15000	40000	8000	63000
	O4.3	0	15000	12000	4000	31000
	Sub-total	15000	40000	62000	16000	133000
OUTCOME 5: MECHANISM IN PLACE TO TRACK PROGRESS TOWARDS EAF AND TO FACILITATE LEARNING-BY-DOING, AND STRATEGY TO ENSURE CONTINUITY AND UP-SCALING OF SUB-PROJECT EFFORTS	O5.1	10000	10000	10000	15000	45000
	O5.2	0	0	3000	4000	7000
	O5.3	0	0	6000	5000	11000
	Sub-total	10000	10000	19000	24000	63000
TOTAL		156000	365000	308000	121000	950000

Table 4. Tentative Work Plan, and alignment with relevant regional governance processes
(to be revised during Project Inception Phase)

OUTCOME S & OUTPUTS	2015				2016				2017				2018			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
O1. Transboundary governance arrangements																
01.1.																
01.2.																
01.3																
O2. Enhanced capacity for EAF																
02.1.																
02.2.																
02.3																
02.4																
02.5																
O3. Sustainable management measures																
03.1.																
03.2																
03.3																
03.4																
O4. Long-term socio-economic benefits																
04.1.																
04.2																
04.3																
O5 Mechanism to track progress																
05.1.																
05.2																
05.3																
TEMPTATIVE ALIGNMENT WITH RELEVANT REGIONAL GOVERNANCE PROCESSES																
WECAFC																
CRFM																
UNEP CEP																

5. Project management & implementation arrangements

The CLME+ Project Coordination Unit (PCU) will oversee the overall implementation of the CLME+ Shrimp and Groundfish Sub-Project throughout the implementation period, to:

- ensure its continued alignment with the overall objectives of the CLME+ Project and SAP¹⁴
- ensure synergies with other related CLME+ Project activities
- promote synergies with other relevant regional initiatives
- promote the timely achievement of the expected sub-project outcomes, and of the associated outputs (targets) under Component 3 of the main CLME+ Project

¹⁴ Once established, the interim SAP implementation coordination mechanism will help ensuring alignment of the sub-project with the CLME+ SAP objectives

Implementation of the Sub-Project will be led by the Secretariat of FAOs Western Central Atlantic Fishery Commission (WECAFC), which has been found the most suitable partner agency for this sub-project. This is justified by the fact that:

- WECAFC has been assigned a lead coordinating role under SAP Strategy 6
- WECAFC heads the regional working group on shrimp and groundfish
- WECAFC includes all beneficiary countries of this CLME⁺ sub-project
- WECAFC has established a functional system of focal points and experts assigned in all countries, facilitating the implementation of the pilot
- WECAFC has (through FAO) been involved in the CLME TDA and CLME case studies on shrimp and groundfish
- WECAFC guarantees sustainability, due to being embedded in the United Nations system (through FAO) and the Commission can issue regional (non-binding) fisheries management recommendations

WECAFC will, at the national level in the countries covered by this sub-project, work closely with those organizations and institutions with a formal mandate for, and/or broadly recognized (potential) role in the sustainable management of the shrimp and groundfish resources and its associated habitats. The specific role of each partner will be defined in alignment with the scope of the partner organization's mandate or recognized strength. WECAFC can thus engage additional partners in the implementation of project activities.

Co-operation arrangements for the implementation of sub-project activities can be based on Memoranda of Understanding (MoU) or similar, and, where financial transactions are involved, on UN to UN agreements (inter-agency agreements; e.g. between UNOPS and FAO-WECAFC) and/or grant agreements. The specificities of these arrangements will be further fine-tuned during the CLME⁺ Project inception phase.

In the above context, project management arrangements will contemplate the payment of instalments under the sub-project grant to implementation partners. The payment of instalments will follow, to the best possible extent, a pre-defined (agreed upon) timeline, on which major project milestones will be identified. Advances will be paid at the beginning of each project year, to cover implementation costs for that specific year. Payments will be linked to the delivery of mutually agreed upon project deliverables, incl. standardized technical and financial progress reports and initial and/or revised work plans (as applicable).

Coordination of sub-project activities among the different partners (incl. their subsidiary bodies) will further be supported by the Interim Fisheries Coordination Mechanism, to be established under Component 1 of the main CLME⁺ Project, during the Project inception phase.

Expected partners include: CRFM, IFREMER, UNEP-CEP, CERMES/UWI, CNFO, CANARI, Fisheries Ministries and Environmental Ministries of CLME⁺ participating countries, relevant civil society and private sector actors, etc.

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Terms of Reference for the WECAFC/CRFM/IFREMER Working Group on Shrimp and Groundfish in the Northern Brazil-Guianas Shelf

Convener: Fabian Blanchard (Ifremer, French Guyana)

1. ROLE OF THE WORKING GROUP

1.1 Scope

The scope of the working group is to provide scientific and management advice for the sustainable management of the shrimp and groundfish resources of the Northern Brazil-Guianas shelf in the WECAFC Region. In undertaking its work, the working group will pay due attention to the Code of Conduct's Article 6.4 of the general principles¹⁵ and the principles of the Ecosystem Approach to Fisheries.

1.2 The goal of the Working Group

Using a multidisciplinary approach the working group will contribute to the sustainable management of the shrimp and groundfish resources of the Brazil-Guianas shelf by providing advice based on the best available knowledge. In pursuing this goal the working group will contribute to the fulfilment of national and regional responsibilities for the management of the shrimp and groundfish resources and related or interacting species or fisheries in the WECAFC Region under the code of Conduct for Responsible Fisheries, in line with the principles of Ecosystem Approach to Fisheries and in accordance with agreed, documented management goals.

1.3 Terms of Reference (TORs)

Shrimp and groundfish resources are transboundary and therefore the TORs may apply at sub-regional and/or national levels as appropriate. The working group, with the support of FAO, WECAFC Secretariat, CRFM and UNEP, will act in an advisory capacity to guide and facilitate the sustainable management of the shrimp and groundfish resources.

Specifically, the working group will:

- (a) Share available data and information on Shrimp and groundfish resources.
- (b) Develop common methodologies for assessment and monitoring of Shrimp and groundfish stocks, possibly involving the private sector formally in data collection.

¹⁵ 6.4 Conservation and management decisions for fisheries should be based on the best scientific evidence available, also taking into account traditional knowledge of the resources and their habitat, as well as relevant environmental, economic and social factors. States should assign priority to undertake research and data collection in order to improve scientific and technical knowledge of fisheries including their interaction with the ecosystem. In recognizing the transboundary nature of many aquatic ecosystems, States should encourage bilateral and multilateral cooperation in research, as appropriate.

- (c) Monitor changes in availability, distribution and abundance of shrimp and groundfish resources in the Brazil-Guianas shelf
- (d) Compile and analyse catch, effort and individual size (when available) data on shrimp and groundfish fisheries in the sub-region and monitor and evaluate changes.
- (e) Compile and analyse data and information about the social and economic importance of shrimp and groundfish fisheries.
- (f) Provide management advice and advice on the implementation and performance of sub-regional management regulations on shrimp and groundfish resources to countries and regional organizations.
- (g) Establish communication between the members of the working group, and between the working group and interested parties including the private sector.
- (h) Take other necessary actions involving the emerging issues regarding the shrimp and groundfish resources, such as environmental changes of local or global economic context.
- (i) Establish links with the CRFM annual scientific meeting as appropriate, in order to avoid duplicating efforts and tasks and optimize use of technical and financial resources.
- (j) Establish link with other sub-regional initiatives (ex. CLME+, ReByC II projects) for mutual benefits.
- (k) Wherever relevant, address issues dealing with pollution and habitat degradation and their impacts on the shrimp and groundfish resources in collaboration with appropriate national, sub-regional and/or regional institutions or stakeholders.
- (l) Report to WECAFC and CRFM on the outcome of each session

1.4 Mode of Operation

1.4.1 Role of Countries

The members of the working group will play a leading role in its activities through the following activities and commitments:

- Participate in agreed activities of the working group, and ensure the participation of
- appropriate experts;
- Implement, at the National level, the work identified in the agreed work plan of the Group;
- Host working group meetings on a rotational basis.

1.4.2 Role of Convenor

The Convenor of the working group will play a leading role during the organization of the meetings by coordinating the inputs of the members of the working group:

- Call for meetings as appropriate;
- Ensure that contributions are received in a timely manner and in the appropriate format;
- Ensure that outputs are delivered as agreed during each meeting;

- Collaborate closely with FAO-WECAFC and other sub-regional and regional organizations as appropriate.

1.4.3 Role of FAO

The FAO/WECAFC Secretariat will play a supporting role in the activities of the working group by assisting in:

- Co-coordinating the activities of the working group (including facilitate procurement of funding);
- Providing a technical secretary and technical backstopping;
- Providing technical assistance and support to research;
- Facilitating training.

1.4.4 Role of other organisations (e.g.CRFM, UNEP)

Subregional organisations have an important role to play in assisting their member countries to participate fully in the activities of the working group by:

- Providing technical assistance and support;
- Facilitating procurement of funding when possible;
- Facilitating the decision-making process at the Subregional level.

1.5 Communication

A mechanism for on-going communication among working group members (Video conference, Skype and email), is essential to ensure that the work of the group is sustained between meetings. It must include all working group members.

The successful functioning of the working group also requires that each member country and organization/ agency identify a national node or focal point through which communications will be directed. The outputs of the working group will be communicated through working group reports to WECAFC, CRFM, UNEP and national fishery administrations via the WECAFC Secretariat.

1.6 Working Group meetings

The working group should meet physically once a year or at a minimum, once every two years. The meetings should be of three to five days duration. Meetings should use cost-effective accommodations and institutional facilities.