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ASSESSMENT OF INSURANCE NEEDS AND OPPORTUNITIES IN THE CARIBBEAN FISHERIES SECTOR

Cover photographs by Uwe Tietze (2015): Fishermen and traditional as well as modern fishing boats in Saint Vincent; Old Road fisheries complex in Saint Kitts with manager and fisheries assistant

ASSESSMENT OF INSURANCE NEEDS AND OPPORTUNITIES IN THE CARIBBEAN FISHERIES SECTOR

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PREPARATION OF THIS DOCUMENT

This publication summarizes the findings of a survey on the needs and demand for a fisheries assets risk insurance mechanism in the Caribbean that responds, among other things, to the challenges posed by climate change. The survey was funded by the World Bank and carried out in close cooperation with the FAO Sub-regional Office for the Caribbean (FAOSLC), the Caribbean Regional Fisheries Mechanism (CRFM), the Caribbean Network of Fisherfolk Organizations (CFNO) and the Western Central Atlantic Fishery Commission (WECAFC). As part of the survey, a field mission was carried out to Barbados, Saint Vincent and the Grenadines, Antigua and Barbuda and Saint Kitts and Nevis.

Questionnaires were sent out to national fisheries authorities, national fisherfolk associations and fishermen/women of all 17 member countries of the CRFM. In addition, an internet-based fisheries risk insurance demand survey was posted on the internet for use by fisheries authorities, fisherfolk associations and fishermen/women/fish processors, traders. The preliminary outcomes of the survey were presented to the 13th and 14th sessions of the Caribbean Fisheries Forum, held respectively in Grenada in March 2015 and April 2016. Discussions on the outcomes also took place at the 15th session of the Forum in Jamaica in March 2017 and at the Blue Growth and Investment Conference held in St George's, Grenada, in May 2016.

The information obtained through the survey was also shared with the fisherfolk that participated in the survey and with the wider fisherfolk community in the Caribbean, via a brochure, which was prepared for the CNFO.

The survey outcomes were used in the design of the United States of America' Department of State supported Caribbean Ocean Assets Sustainability (COAST) initiative. The proposed follow-up from the survey, as presented in chapter 7 of this circular, is currently (2018) receiving attention from various stakeholders active in the insurance and fisheries sectors.

The contract for this study was issued by Conservation International, in support of the business case development activities of the by WECAFC Secretariat coordinated Caribbean Billfish Project (GCP/SLC/001/WBK). Mr Raymon van Anrooy, WECAFC Secretary (2011-2017), assisted in designing survey instruments and methodology, interviewing stakeholders in Barbados and supported the finalization of this circular with the latest information from FAO and WECAFC.

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ABSTRACT

Climate change related natural disasters pose serious threats and risks to livelihoods of fishermen and women as well as to food security in the Caribbean. To respond to these threats and risks, the FAO, the Department of State of the United States of America and the World Bank introduced an initiative on climate risk insurance for the Caribbean Fisheries sector as part of a global initiative on Blue Growth.

In support of this initiative a survey was conducted to identify fisheries assets that could be insured, value these assets, identify climate smart fisheries investments and practices and carry out an insurance needs and demand survey. This Circular presents survey findings from Antigua and Barbuda, Barbados, Grenada, St Lucia, St Kitts and Nevis and St Vincent and the Grenadines. Some of the key findings are that: 97 percent of the fishing vessels and fishing assets were not insured, while in each of the CARICOM countries there is at least one local insurer offering marine insurance; 83 percent of the fishers would purchase insurance coverage for their vessels if it would be more affordable; only 17 percent of the fishers had a health insurance and 20 percent had an life insurance policy. Moreover, more than one-third of the fishers would be interested to invest in safe harbor, anchorage, haul out and vessel storage facilities, including installation of bumper rails on piers and the use of fenders on boats and piers, if this would reduce insurance premiums.

Based on the findings of the insurance demand survey, an organizational arrangement for a Caribbean Fisheries Risk Insurance Facility (CFRIF) was developed, presented at various regional fora and shared with interested stakeholders.

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The authors are further thankful to the GEF funded Climate Change Adaptation in the Eastern Caribbean Fisheries Sector (CC4Fish) project, which supported the publication of this circular.

ABBREVIATIONS AND ACRONYMS

AIS	Automatic Identification System
BARNUFO	Barbados National Union of Fisherfolk Organizations
CALFICO	Calliaqua Fisherfolk Cooperative (Saint Vincent)
CARICOM	Caribbean Community
CCA	Climate Change Adaptation
CCCCC	Caribbean Community Climate Change Centre
CCCFP	Caribbean Community Common Fisheries Policy
CDEMA	Caribbean Disaster and Emergency Management Agency
CFRIF	Caribbean Fisheries Risk Insurance Facility
CNFO	Caribbean Network of Fisherfolk Organizations
COAST	Caribbean Oceans and Aquaculture Sustainability Facility
CRFM	Caribbean Regional Fisheries Mechanism
CSFS	Climate Smart Food Security
DEM	Department of Emergency Management (Barbados)
DRM	Disaster Risk Management
EAF	Ecosystem Approach to Fisheries
FA	Fisheries Authority
FAOSLC	FAO Sub-regional Office for the Caribbean
FAO	Food and Agriculture Organization of the United Nations
FRIF	Fisheries Risk Insurance Fund
HACCP	Hazard Analysis and Critical Control Point
HP	Horsepower
ICBL	Insurance Corporation of Barbados Limited
IDB	Inter-American Development Bank
IUU	Illegal, Unreported and Unregulated Fishing
JICA	Japan International Cooperation Agency
NAGICO	National General Insurance Corporation
NEMO	National Emergency Management Organization (Saint Vincent)
NODS	National Office of Disaster Services (Antigua and Barbuda)
OECS	Organization of Eastern Caribbean States
PS	Permanent Secretary
RIF	Risk Insurance Facility
SDGs	Sustainable Development Goals
SLA	Sustainable Livelihoods Approach
SSB	Single-Sideband Modulation (Radio)
SSF	Small-scale Fisheries
VHF	Very High Frequency (Radio)
WB	World Bank
WECAFC	Western Central Atlantic Fishery Commission

1. BACKGROUND

1.1. Blue Growth and Climate Smart Food Security

The fisheries sector in the Caribbean Community (CARICOM) employs over 182 000 persons, directly or indirectly, who are often from rural communities that lack other income earning opportunities. For these coastal communities, small-scale fishing is a major source of protein and nutrition as well as their main livelihood. It is widely recognized that natural disasters such as hurricanes, heavy rains, floods, landslides and similar events pose serious threats and risks to fishers' livelihoods as well as to their food security. Climate change appears to increase these risks for fisherfolk in the Caribbean. The hurricanes Irma and Maria in the 2017 hurricane season, which caused major damage and losses to the fisheries sectors of Barbuda, Dominica, Cuba, Saba, Sint Maarten and many other Caribbean islands, show the devastation these events can cause to the sector and the economy at large.

With a view to contribute to addressing these threats and risks to the Caribbean fisheries sector, the FAO, the U.S. Department of State, The Nature Conservancy, and the World Bank introduced a concept and diplomatic initiative on climate risk insurance for the Caribbean Fisheries sector, as part of a global initiative on Blue Growth. This initiative is supporting the Climate Smart Food Security (CSFS) efforts of the USA and partners and uses a Risk Insurance Facility (RIF) approach.

In January of 2015, U.S. Secretary of State H.E. John Kerry authorized the commitment of USD 5 million to establish the Caribbean Oceans and Aquaculture Sustainability faciliTy (COAST) initiative.

The objectives of COAST include the following:

a) creating a new insurance product at an affordable premium;
b) informing planning efforts on food security and disaster risk management; and
c) promoting technical assistance for climate resilience among participating Caribbean countries.

It is aimed to incentivize the uptake of climate smart food security best practices within the fisheries sector in Caribbean nations and simultaneously improve food security as well as coastal resilience in the face of a changing climate. The new and innovative aspects of the initiative include enabling an access of fishers and the fishery industry to insurance services at affordable premium rates and subsidizing insurance premiums related to the application of best practice climate smart behaviour.

1.2. Survey Methodology

With a view to support the development of COAST, a study was designed to identify fishery sector assets that could be insured, value these assets, identify climate smart fisheries investments and practices and carry out an insurance demand survey.

The study included a field mission in May 2015 to Barbados, Saint Vincent and the Grenadines, Antigua and Barbuda and Saint Kitts and Nevis, as well as an internet based survey and questionnaires mailed to various stakeholders.

During the mission, meetings and discussions were held with 46 senior executive officers/representatives of national fisheries authorities, ministries of agriculture, ministries of finance, national emergency management authorities, fisherfolk organizations and cooperatives as well as with private sector insurance companies that offer marine insurance policies in these countries.

The discussions focused on climate change related and other risks to the fisheries sector. The livelihoods of fishers and their food security situation was also discussed. Information was collected on preventive and mitigation measures, on existing insurance facilities and on the needs for risk insurance in the fisheries sector. The potential organizational arrangements and cooperation in the field of fisheries risk insurance received attention as well.

Meetings and in-depth discussions were held with over 90 fishermen and women, fish processors and vendors in the four countries visited. The main fisheries complexes, markets and landing sites were visited.

Questionnaires were designed in close cooperation with staff of the FAO Sub-regional Office for the Caribbean (FAOSLC), the Caribbean Regional Fisheries Mechanism (CRFM), the Caribbean Network of Fisherfolk Organizations (CFNO) and the Western Central Atlantic Fishery Commission (WECAFC). These organizations provided technical, as well as logistical support to the survey process and the field mission. The surveys were tested in Barbados and afterwards sent out to national fisheries authorities, national fisherfolk organziations and associations and through these to fishermen and women in all 17 members of the CRFM. In addition to the MS WORD formatted questionnaires, an internet-based fisheries risk insurance demand survey (using the Survey Monkey system) was designed and posted on the internet, to be used by national fisheries authorities, national fisherfolk associations and fishermen/women/fish processors, traders.

The surveys were distributed in the last week of April 2015 and stakeholders were requested to respond within three weeks, by mid-May 2015. One week before the deadline to respond reminders were sent to those fisheries administrations and fisherfolk organizations that had not responded. The analysis of the survey responses started in the last week of May 2015. In total 106 fisherfolk, five fisheries authorities and one fisherfolk organization responded to the survey. The questionnaires for fisherfolk and fisheries authorities can be found in Annex 1.

1.3. Climate change adaptation and disaster risk management in fisheries and aquaculture in the CARICOM and wider Caribbean region

This Circular needs to be seen in the context of the ongoing initiatives of the Caribbean Regional Fisheries Mechanism (CRFM) in collaboration with FAO/WECAFC on "Climate Change Adaptation and Disaster Risk Management in Fisheries and Aquaculture in the CARICOM and wider Caribbean region" (CRFM 2013a, CRFM 2013b; FAO 2015a; and FAO 2015b).

A strategy and action plan for integrating disaster risk management (DRM), climate change adaptation (CCA) and fisheries and aquaculture, with a focus on small-scale fisheries (SSF) and small-scale aquaculture was developed in 2012-2013, and endorsed by the CRFM Ministerial Council in 2014.The Strategy and Action Plan for the sector was built upon and mainstreamed with core policy documents from the region. The regional policy context is primarily the "Regional Framework for Achieving Development Resilient to Climate Change" that articulates the strategy of the Caribbean Community (CARICOM) on climate change.

The CARICOM heads of government endorsed the Regional Framework at their July 2009 meeting in Guyana and issued the Liliendaal Declaration, which sets out key climate change- related interests and aims of CARICOM Member States. Based on the Liliendaal Declaration the Implementation Plan (IP) for the Regional Framework was developed. It is titled "Delivering Transformational Change 2011-21" and incorporates several global and regional instruments concerning climate change and variability[1]. The Caribbean Disaster and Emergency Management Agency (CDEMA) Enhanced Comprehensive Disaster Management (CDM) Framework for 2007-2012 is another core document that emphasizes the need to focus on community-level adaptation and management.

[1] See CRFM 2013c for references and a comprehensive list of recommended further reading.

The Fourteenth Session of the Western Central Atlantic Fishery Commission (WECAFC), held in Panama in February 2012, also agreed to address CCA and DRM in fisheries and aquaculture in future sessions and, in its 2012-13 work plan, included the preparation of the above mentioned strategy, action plan and programme proposal, which received supported from FAO. The Global Environment Fund (GEF) decided, based on the strategy and action plan, and following the requests from various Eastern Caribbean Countries, to finance a project on Climate Change Adaptation in the Eastern Caribbean Fisheries Sector (CC4Fish).

Policy instruments that are relevant to achieving development that is resilient to climate change include the FAO Code of Conduct for Responsible Fisheries, the Caribbean Community Common Fisheries Policy (CCCFP) and the OECS St George's Declaration of Principles for Environmental Sustainability (SGD).These documents contribute to a vision of a regional society and economy that is resilient to a changing climate and enhanced through comprehensive disaster management and sustainable use of aquatic resources.

Many of the policy documents, strategies and guidelines mentioned above refer to the importance of disaster risk management and the role of insurance in particular to mitigate the impact of climate change and variation on the livelihoods of fishers and fisheries communities in general.

2. CONCEPTUAL FRAMEWORK

2.1 Improving the resilience of Caribbean Fisheries

The Climate Smart Food Security (CSFS) Risk Insurance Facility (RIF), has the aim to contribute to improving the resilience of the fisheries sector in the Caribbean against natural disasters and climate change induced ecological changes with negative ecological and economic consequences, such as hurricanes, severe storms, heavy rains, landslides, change of ocean temperatures and currents as well as fish abundance and migration patterns, ocean acidification etc.

By improving the resilience of the fisheries sector, it is expected that the sector will be in a better position to play its important role as provider of food security, employment and income for a large part of the Caribbean population. Apart from providing income and employment, the fisheries sector of the Caribbean also contributes to foreign exchange earnings and exports. By increasing the resilience of the sector these earnings can be safeguarded.

Insurance is a widely recognized instrument to mitigate the economic losses caused by natural and human-made disasters. Its application in the fisheries sector allows fishers to restart their activities faster after a disaster has occurred. This is not new and has been proven successful in other regions and sectors.

However, the "new" concept promoted by the Climate Smart Food Security (CSFS) Risk Insurance Facility is that the insurance instrument could be used not only to mitigate losses and restart business, but also to introduce measures that would reduce vulnerability to disasters and/or reduce the contribution of the sector to climate change.

By reducing or subsidizing insurance premiums for fishers and countries that adopt climate smart practices in the fisheries sector it is aimed to provide incentives for reduction of carbon emissions and use of non-renewable energies, and switch to the use of renewable energies where such is possible.

The Caribbean Ocean Assets Sustainability facility (COAST), which was presented in May 2016 to the Blue Growth and Investment Conference in Grenada, aimed to provide an incentive for risk reduction, mitigation and preparedness in fisheries. The main message would be that insurance premiums would be reduced for countries that:

1) develop a climate-smart food security strategy for the fisheries sector, and

2) implement verified climate-smart food security best practices in the fisheries sector based on this concept, COAST intended to develop a parametric insurance for the fisheries sector against the peril of increasing climate-change related disaster risk.

It was conceptualized that the resilience of the sector could be further improved if the insurance product also attempted to promote the adoption of responsible methods of aquatic resources use and management, including the Ecosystem Approach to Fisheries (EAF); the elimination of IUU fishing and other unsustainable fishing methods and practices and the reduction and better utilization of bycatch. Mitigation also includes the responsible operation, maintenance and management of fishing vessels, fisheries infrastructure, fish and fisheries products marketing and processing facilities and equipment and the improved utilization of catch through elimination of waste and value addition. This could be achieved by applying potential insurance access criteria that make responsible and sustainable practices mandatory for obtaining insurance coverage at a reduced premium rate.

3. ASSETS TO BE COVERED BY THE INSURANCE INSTRUMENT, CLIMATE SMART MEASURES, FOOD SECURITY CONTRIBUTIONS AND ACCESS CRITERIA

The Concluding workshop of the Climate Change Adaptation in the Eastern Caribbean Fisheries Sector (CC4FISH) project preparation phase, was held in Bridgetown, Barbados, in the period 17-19 March 2015. At this workshop, fisheries sector stakeholders from seven eastern Caribbean countries and regional partners (e.g. CRFM, CNFO, TNC, and UWI) discussed, among other things, climate smart measures that could be adopted by small-scale fishers in the Caribbean. The stakeholders agreed in general on the assets that would be in most need of insurance, potential climate smart measures that could be applied, how the measures would contribute to food security and insurance access criteria that could be applied . These were classified at the macro-, meso- and micro-level as follows:

Table 1: Marco level assets to be insured, climate smart measures, food security contributions and insurance access criteria

ASSETS PROPOSED FOR INSURANCE COVERAGE			
Macro level (national level – interventions by governments and under public-private partnerships)			
Asset	**Climate smart measures[2]**	**Food security contributions**	**Potential insurance access criteria and other observations**
Fish landing sites in ownership of the fisheries/market division/government	Hurricane proof construction	HACCP compliant	Suitable location, facility should be guarded at night and safe
Buildings/ infrastructure, freezers, refrigerators, cutting equipment, band saws	Proper maintenance of building and equipment is carried out		In case of processing plant, these should be licensed/approved by health authorities
	Energy efficient equipment, use of solar panels		Fishing licensing/permit systems – information collection improvement for better ecosystem based management

[2] Facilities, which adopt climate smart measures, will be given preference for receiving insurance coverage.

Main fish market infrastructure	Hurricane proof construction	Have ice/refrigeration and clean and hygienic storage space of fish	Mainstreamed fisheries in DRM and Climate Change policies and plans
	Location is suitable and guarded at night against theft and vandalism	Proper cleaning arrangement for the market space and the market is covered with a roof to provide shade	"Building back better" promise after hurricanes
	Energy consumption reduced through solar panels and solar heaters	Training of fish mongers/hawkers in hygiene and safety practices for fish	Vessel monitoring systems – safety-at-sea improvement
			Safe tap water availability
Lionfish invasion fight by the sector	Aquatic biodiversity securing		

Table 2: Meso level assets to be insured, climate smart measures, food security contributions and insurance access criteria

ASSETS PROPOSED FOR INSURANCE COVERAGE			
Meso level (fisherfolk organizations or fishing community level)			
Asset	**Climate smart measures**	**Food security contributions**	**Potential insurance access criteria and other observations**
Fish landing sites in ownership of local community/ fisherfolk	Hurricane proof construction	Food safety and hygiene standards applied	Location is suitable, guarded at night and safe
Boat hauling equipment at communal landing site	Maintenance of building and equipment is carried out		Fisherfolk organization is legally registered
Fuel pumps at landing site			Lockers are available
Slipways, wharfs			

Local fish market infrastructure (owned by community or fisherfolk organization)	Hurricane proof construction	Availability of ice and clean and hygienic storage space of fish	Location is suitable and guarded at night against theft and vandalism
	Energy consumption reduced through solar panels and solar heaters	Proper cleaning arrangement of the market space and the market is covered with a roof to provide shade	Availability of safe tap water
		Training of fish mongers/hawkers in hygiene and safety practices for fish	Market authority checks carried out regularly
Fish Aggregating Devices (FADs) owned by fishers organizations	GPS tracking of FADs to reduce losses and to reduce fuel consumed for search of lost FADs	Increased access to fisheries/fish resources, to secure local fish consumption	FADs co-management plan in place and enforced
Inventory of fishing commissary/supply shops	Promotion/sale of sustainable fishing gears and supplies	Reduced costs and time in finding supplies and equipment – more time for productive activities	Shop registration/VAT number
	Increased local availability to and access to legal gears and equipment		Annual certificate/check of sale of legal fishing gears
	Locally made supplies -reduced transport costs and ecological footprint		

Table 3: Micro level assets to be insured, climate smart measures, food security contributions and insurance access criteria

ASSETS PROPOSED FOR INSURANCE COVERAGE			
Micro level (fisherfolk and private sector companies involved in fisheries related activities)			
Asset	**Climate smart measures**	**Food security contributions**	**Potential insurance access criteria and other observations**
Engines + propulsion system (steering, mounting, propeller)	Outboard or inboard fuel efficient engines in small-scale fisheries, reduction of emissions/ greenhouse gasses, increased financial returns		Storage in a secure place or appropriately secured to the vessel, regular service and maintenance records (either by owner operator or workshop)
			Serial number of engine and model recorded for tracing/inspection
Vessel (hull)	Licensed/trained/experienced skipper/captain and crew, safety -at-sea training of skipper/captain and crew	Have ice and clean and hygienic storage space of fish	Be licensed/registered to access insurance. Have proper markings to facilitate identification of the vessel.
	Design of hull is fuel efficient and seaworthy	Proper fish handling/fish quality and safety training of crew lead to higher/better market prices and food safety for consumers	Safety/navigational equipment (including VHF radio, navigational equipment such GPS, compass, charts, flares, fire extinguisher, first aid kit and life vests on board)
	Seaworthiness of vessel, records of regular inspection and maintenance		Standards for seaworthiness of vessel established and met
	Materials used in fishing vessel construction are durable and efficient		Availability of vessel inspection forms

Equipment on board		Ice boxes/ coolers and proper ice use practices	Solar powered navigation lights
GPS/chart plotter, fish finder, compass, VHF/SSB radio, refrigeration/fish storage equipment, ice machine, others	Turtle excluding devices, bycatch reduction devices as appropriate	Food safety/ maintenance of quality	Power backup systems (photovoltaic/wind)
Hauling equipment/winches			
Fishing gear -pots/traps	Introduction of biodegradable panels in trap/pot fisheries – biodiversity, sustainability issues	Reduction of ghost fishing, secure fish supply through long- term sustainable fishing methods	Adherence to regulations, compliant design of gear (mesh size, etc.)

The information above was used in the development of the survey design and questions (Annex 1)

The workshop noted that many of the fishers do not have insurance schemes because: 1) they are not aware of the costs and benefits of insurance services, and 2) they cannot afford them because of their low level of income or seasonal variation in income. It was added that in some of the Caribbean countries it is difficult to find people qualified to properly assess the value of fishing vessels and their seaworthiness.

4. RESULTS OF THE CARIBBEAN FISHERIES RISK INSURANCE DEMAND SURVEY

Questionnaires were sent out to national fisheries authorities, national fisherfolk associations and fishermen/women in all 17 members of CRFM[3]. An internet-based fisheries risk insurance demand survey (using the SurveyMonkey platform) was designed and posted on the internet, for national fisheries authorities, national fisherfolk associations and fishermen/women, fish processors and traders to use.

[3] Anguilla, Antigua and Barbuda, Grenada, Bahamas, Barbados, Belize, Dominica, Guyana, Haiti, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, and Turks and Caicos Islands.

4.1 **Survey responses**[4]

Survey responses from fisheries authorities and fisherfolk organizations are shown in tables 4 and 5 below.

Table 4: Survey responses[5] to fisheries authorities' questionnaire

Fisheries authorities questionnaire	
Country	**Number of responses**
Anguilla	1
Antigua and Barbuda	1
Belize	1
Dominica	1
Grenada	1
Total responses	5

The fisheries authorities' questionnaires were sent out by the WECAFC Secretariat on behalf of the partner agencies directly to the directors and chiefs of fisheries administrations in each of the 17 CRFM member states. The questionnaires were sent out along with questionnaires for the fisherfolk, which the fisheries authorities and fisherfolk organizations were asked to distribute. In addition to the completed questionnaires, the WECAFC Secretariat received various responses from fisheries authorities that they had distributed the surveys to fisherfolk.

Table 5: Survey responses to the fisherfolk organizations' questionnaire

Fisherfolk organizations questionnaire	
Country	**Number of responses**
Saint Vincent and the Grenadines	2

The fisherfolk organization's questionnaire was distributed through the CNFO secretariat to its members. Except for the fisherfolk organizations in Saint Vincent and the Grenadines, the fisherfolk organizations in the other countries only asked their members to complete questionnaires, rather than completing questionnaires themselves. The reason provided was that fisherfolk organizations mostly did not own fisheries assets.

From the information provided by the fisherfolk organizations and the fisheries authorities, it is estimated that more than 500 fishers, fish processors and vendors received the questionnaire. A total of 115 completed surveys were received from fisherfolk in 11 CRFM member states. Table 6 shows the survey responses from fishers, fish processors and fish vendors.

[4] Not all respondents answered all questions. Questionnaires that were incomplete i.e. where too many questions remained unanswered were not included in the analysis.

[5] The original deadline for returning the questionnaires of 12 May was subsequently extended to 27 May 2015.

Table 6: Survey responses to the fishers, fish processors and fish vendors' questionnaire

Fishers, processors, vendors questionnaire	
Country	**Number of responses**
Anguilla	1
Antigua and Barbuda	14
Barbados	25
Belize	2
Grenada	4
Guyana	21
Montserrat	9
Saint Kitts and Nevis	6
Saint Lucia	9
Saint Vincent and the Grenadines	18
Trinidad and Tobago	6
Total responses	**115**

Most responses were received from Barbados, Guyana, Saint Vincent and the Grenadines and Antigua and Barbuda.

4.2 Occupational and demographic characteristics of respondents

Table 7 presents the occupational characteristics of the respondents to the fisherfolk questionnaire. In some cases, the vessel owner was also the skipper of his/her vessel. However, boat owners, who did not captain their vessel, formed the largest group of respondents.

Table 7: Profession

Country	**Skipper/crew**	**Vessel owner**	**Fish processor/trader**
Anguilla	0	1	0
Antigua and Barbuda	10	13	1
Barbados	3	20	1
Belize	0	1	1
Grenada	1	4	0
Guyana	2	20	2
Montserrat	8	5	1
Saint Kitts and Nevis	2	4	
Saint Lucia	2	7	1
Saint Vincent and the Grenadines	9	14	1
Trinidad and Tobago	1	5	0
Total responses	**38 (27%)**	**94 (67%)**	**8 (6%)**

Table 8 shows age and gender of the respondents. The low percentage of female respondents can be explained by the fact that few women are fishing vessel owner or captain/crew member. In general, the women who responded to the survey are active in fish processing and vending. They typically hire stalls and counters in fish markets, which are operated by the national fisheries or market departments. The equipment that the women fish mongers own includes usually cool boxes, weighing scales, filleting knifes and similar items of small value, for which insurance is not considered necessary. Hence, the limited response by women stakeholders to this survey. The nine female respondents were generally both, boat owners/managers and fish processor/trader.

As far as age of the respondents is concerned, the average age was 46 years. As could be expected, boat owners were generally older and crew members were often younger.

Table 8: Age and gender

Country	Male	Female	Average Age
Anguilla	1	0	57
Antigua and Barbuda	14	0	50
Barbados	20	5	47
Belize	2	0	64
Grenada	2	2	51
Guyana	21	0	46
Montserrat	9	0	?
Saint Kitts and Nevis	6	0	40
Saint Lucia	9	0	39
Saint Vincent and the Grenadines	16	2	47
Trinidad and Tobago	6	0	?
Total	**106 (92%)**	**9 (8%)**	**46**

Regarding the vocational training of skippers and crew members, most respondents stated that they had not received formal training to become captain or fisher. They learned their skills on the job and by reading or taking online courses as well as through attending short training sessions/courses on navigation and safety-at-sea. The short training sessions were generally organized by fisheries authorities, coast guards or projects.

The skippers of medium sized and larger vessels (decked with pilot house) expressed to be knowledgeable, as can be expected, as far as seamanship, navigational and other relevant skills are concerned. They also used navigational and fish finding equipment such as GPS, depth- and fish finders, electronic chart plotters, autopilots, radar, VHF radios with and without AIS, SSB radios. Their boats also carried safety equipment such as life vests, flares, life rings and other floating devices.

The fisher that use smaller open boats, which also fished offshore, in many cases, did however not use GPS and VHF radios. They generally only carried a mobile phone, which functions when in reach of a few miles from shore only. The limited use of proper communication equipment makes it difficult for them to make contact with other boats or shore and thus to locate them in case they are lost at sea, in case of accidents or when a vessel is disabled because of engine failure, broken rudder or other causes.

As far as the level of general education is concerned, most respondents attended secondary school, some completed tertiary education and a few only primary education. The educational levels achieved of boat owners were higher than those of crew members and skippers.

Table 9 presents the percentage of income earned from fishing within the total earnings of the survey respondents. Of the 105 respondents that answered this question some 48 percent stated that they were gaining most of their income from fisheries.

Table 9: Percentage of income earned from fishing

Country	More than half	Less than half
Anguilla	0	1
Antigua and Barbuda	8	6
Barbados	7	17
Belize	1	1
Grenada	2	2
Guyana	11	10
Montserrat	6	3
Saint Kitts and Nevis	2	3
Saint Lucia	4	4
Saint Vincent and the Grenadines	9	7
Total	**50 (48%)**	**54 (52%)**

Fifty two percent of the respondents earned less than half of their total income from fishing. It is interesting to observe than owners of larger fishing vessels are generally among the group that earns less than half of their income from fishing. This suggests that the vessel owners are involved in other types of businesses as well.

4.3 Fishers, fisheries authorities and fisherfolk organizations, whose assets are presently insured/uninsured and who are interested in getting insurance

Table 10 shows the number and percentage of fishers, whose vessels/fisheries assets are insured.

Table 10: Fishermen/women with fishing vessel insurance

Country	Number of fishers, whose vessels/assets are insured	No. of fishers whose vessels/assets are presently not insured
Anguilla	0	1
Antigua and Barbuda	1	12
Barbados	1	21
Belize	0	2
Grenada	0	4
Guyana	0	21
Montserrat	0	9
Saint Kitts and Nevis	0	6
Saint Lucia	0	9
Saint Vincent and the Grenadines	1	16
Trinidad and Tobago	0	5
Total	**3 (3%)**	**106 (97%)**

It is clear from the table above that only few fishers (3 percent) are purchasing insurance coverage for their vessels or other fisheries assets. A large majority of 97 percent of the vessels remains uninsured.

Table 11 shows insurance companies in CRFM member states that responded to the survey that provide marine insurance policies and/or are willing to ensure commercial fishing vessels.

Table 11: Insurance companies that offer marine insurance policies and are open to insure fishing vessels and fishery assets

Country	Insurance companies that offer marine insurance policies/are open to insure fishing vessels and fishery assets
Anguilla	NAGICO insurances, Massy United
Antigua and Barbuda	State Insurance Corporation, Anjo United Insurance Company Ltd., ABI, Andrew Insurance, NAGICO insurances, Massy United
Barbados	Insurance Corporation of Barbados Ltd. (ICBL), Massy United, Lynch Insurance Brokers
Belize	
Grenada	NEWIM, NAGICO insurances, Massy United
Guyana	Assuria, Massy United
Montserrat	
Saint Kitts and Nevis	NAGICO, Massy United
Saint Lucia	NAGICO, Massy United
Saint Vincent and the Grenadines	Bacon insurance, NAGICO insurances, Massy United
Trinidad and Tobago	NAGICO insurances, Massy United

Very few fishers, who responded to the questionnaire have insured their vessels. It may be that the actual number of fishers that have their vessels insured is slightly higher than 3 percent. The reason could be that fishers, who responded to the survey, expect that as a result of their response, they might be able to get more affordable vessel insurance services in future. Fishers, who already have vessel insurance, might have been less motivated to respond to the survey. Nevertheless, also in the direct interviews with fishers in Barbados, Grenada, Saint Kitts and Nevis and St Vincent and the Grenadines, very few fishers and boat owners mentioned to have insured their vessels, and the validation process of the survey results with the fisherfolk organizations only reinforced the findings.

Using the above information on the approximately 33 000 commercial capture fisheries vessels that are operating in the 17 CRFM member states this would imply that only an estimated 1 000 of these vessels are currently insured.

The key reason mentioned for not having purchased vessel insurance is affordability. This is also suggested by the finding that 83 percent of the fishers and fishing vessel owners would want to have their assets insured, if affordable insurance was available. However, a majority of the fishers that completed the survey were not aware that there are insurance companies on their islands, which do insure fishing vessels.

As shown in table 12 below, most fisheries authorities (with the exception of Barbados and partly Antigua and Barbuda) and fisherfolk associations, who responded to the survey, are not insured either.

Table 12: Fisheries authorities and fisherfolk associations with/without assets insurance

Country	Insured fisheries authorities' assets	Uninsured fisheries authorities' assets
Anguilla fisheries division		All assets uninsured
Antigua and Barbuda fisheries division	Only patrol/research vessel and vehicles	Buildings, equipment and three 14-28 feet boats
Barbados fisheries division	All assets insured by ICBL	
Belize fisheries division		All assets uninsured
Dominica fisheries division		All assets uninsured
Grenada fisheries division		All assets uninsured
Saint Vincent and the Grenadines National Fisherfolk Cooperative Ltd.		All assets uninsured
Saint Vincent Goodwill Fishermen's Cooperative Society Ltd.		All assets uninsured

Table 13: Fishers interested/not interested or undecided in getting fisheries assets (vessels, equipment and gears) insurance cover and premiums considered affordable

Country	No. of fishers not interested in vessel or undecided	No. of fishers interested if affordable	Average annual premiums, fishers are prepared to pay in percentage of the asset value to be insured
Anguilla	1	0	
Antigua and Barbuda	4	10	2.61
Barbados	7	15	2.00
Belize	1	1	1.25
Grenada	1	3	3.37
Guyana	2	19	3.10
Montserrat	0	9	?
Saint Kitts and Nevis	0	6	3.60
Saint Lucia	1	8	5.43
Saint Vincent and the Grenadines	1	16	1.96
Trinidad and Tobago	1	5	2.66
Total responses, average affordable premium as perceived by fishers	**19 (7%)**	**92 (83%)**	**2.67**

The annual insurance premiums, fishermen and women are prepared to pay, varies between just over 1 percent to nearly 5.5 percent of the asset value. The average premium rate considered as affordable for most fishers was 2.67 percent of the value of the insured asset. Presently, fishermen insured in Barbados pay 3.5 percent, if only hull and engines are insured, and 5 percent if the entire vessel and equipment is insured, including gear and electronics. Premium rates information from some fishers, marine hull insurers and brokers in the other islands suggest that premium rates between 5 and 7 percent of the asset value are commonly applied.

Seven percent of the fishermen/women surveyed so far, are not interested in obtaining insurance cover for their fisheries assets or are undecided.

4.4 Fishers with health/life insurance and participation in social security schemes

The survey also revealed that only a small number of fisherfolk in the Caribbean, estimated at only 17 percent of all fishers, have health insurance. Of the 83 percent, who do not have health insurance, three fourths had not thought about it, while one quarter of the respondent found health insurance too expensive.

Table 14: Fishers with/without health insurance

Country	With health insurance	Without health insurance	Have no insurance because too expensive	Have no insurance because have not thought about it
Anguilla	0	1	0	1
Antigua and Barbuda	3	9	3	4
Barbados	5	16	6	9
Belize	1	1	0	1
Grenada	1	3	2	0
Guyana	3	18	1	12
Montserrat	1	8	0	7
Saint Kitts and Nevis	1	6	1	3
Saint Lucia		9		5
Saint Vincent and the Grenadines	2	15	4	7
Trinidad and Tobago	1	4	0	3
Total responses	**18 (17%)**	**90 (83%)**	**17 (25%)**	**52 (75%)**

In the case of life (and accident and disability) insurance, the picture is similar to the situation for health insurance. Table 15 shows that 80 percent of the fishers and fishing boat owners do not have life insurance. Again, the main reason for not purchasing such insurance is that the fishers have not thought about the possibility. It is clearly an issue of limited awareness about the availability of these kind of insurance services for fishers, as they are generally available in all Caribbean countries. An effort to raise awareness among fishers on the benefits of life, accident and disability insurance would be necessary.

Recognizing that capture fisheries is globally one of the most dangerous jobs, and that this is not different in the Caribbean region, the number of accidents in fisheries that lead to disability and or death among small-scale fishers in the region is large. Applying the globally available statistics that among every 100 thousand fisherfolk an estimated 80 fishers die each year from accidents in fishing[6], on the approximately 116 000 small-scale fishers in the CRFM member states, this would mean that an estimated 93 fishers die in the Caribbean nations annually while doing their job. The number of fishers that cannot work anymore as a consequence of accidents during fishing or disability resulting from these accidents is probably much higher.

Life, accident and disability insurance services would help tremendously towards securing the livelihoods of disabled fishers and of households of fishers who died when carrying out their work.

[6] See also: http://www.fao.org/fishery/safety-for-fishermen/en/

Table 15: Fishers with/without life (and accident and disability) insurance

Country	With life insurance	Without life insurance	Have no insurance because too expensive	Have no insurance because have not thought about it
Anguilla	0	1	0	1
Antigua and Barbuda	8	1	1	4
Barbados	6	17	3	11
Belize	1	1	0	1
Grenada	0	4	2	2
Guyana	2	19	4	15
Montserrat	1	8	0	8
Saint Kitts and Nevis	1	5	1	2
Saint Lucia	1	8		6
Saint Vincent and the Grenadines	1	16	7	8
Trinidad and Tobago	0	5	1	4
Total responses	**21 (20%)**	**85 (80%)**	**18 (24%)**	**58 (76%)**

The participation of fishers in social security schemes is much higher than in insurance schemes, as is shown in table 16. A majority of respondents is participating in social security schemes and entitled to social security benefits. In Antigua and Barbuda, a strong reason for enrolling in social security is the fact that it is mandatory for obtaining/renewing vessel registration.

Social security/insurance is generally available on the islands for all employed and self-employed persons aged 16 until retirement age. The premiums are paid by the fishers and are generally a percentage of the earnings. The self-employed person's (including most fishers) contributions generally provide for the pension after retirement, but can also cover sickness and maternity benefits and work related injury benefits, as well as for funeral and invalidity. As such, there is a certain overlap with the life, accident and disability insurance services available on the market. The benefits of the social security schemes are generally providing for the basic needs, but are insufficient in most cases. An estimated 50 000 fishers in the CRFM member states are currently not participating in social security schemes. This means that they will have to rely on savings made during their professional/working life or on the support from family members after their retirement from fisheries.

Table 16: The participation of fishers in social security schemes

Country	Number of fishers participating in and entitled to social security benefits	Number of fishers not entitled to social security benefits
Anguilla	0	1
Antigua and Barbuda	12	0
Barbados	9	11
Belize	1	1
Grenada	1	1
Guyana	11	12
Montserrat	1	8
Saint Kitts and Nevis	1	5
Saint Lucia	3	6
Saint Vincent and the Grenadines	17	5
Trinidad and Tobago	1	4
Total responses	**57 (51%)**	**54 (49%)**

4.5 Major risks to fisheries assets perceived by fishers

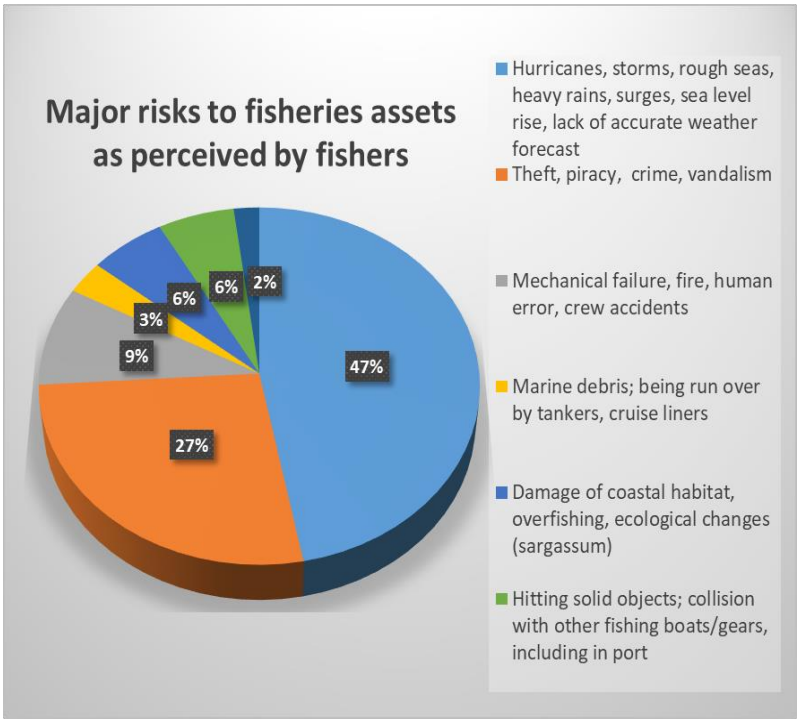
Fishers were asked what they perceived as the greatest risk and underlying cause of damage and loss to their fishery assets. The fishers who responded to the survey seem to have a clear perception of the risks posed to their fisheries assets, as many mentioned similar risks.

Table 17: Major risks to fisheries assets as perceived by fishers in the Caribbean countries

	ANGUILLA	ANTIGUA AND BARBUDA	BARBADOS	BELIZE	GRENADA	GUYANA	MONTSERRAT	SAINT KITTS AND NEVIS	SAINT LUCIA	SAINT VINCENT AND THE GRENADINES	TRINIDAD AND TOBAGO	TOTAL
HURRICANES, STORMS, ROUGH SEAS, HEAVY RAINS, SURGES, SEA LEVEL RISE, LACK OF ACCURATE WEATHER FORECAST	1	15	23	2	3	6	13	5	2	21		**91**
THEFT, PIRACY,CRIME[7], VANDALISM		5	4	1	2	10	3	6	5	12	4	**52**
MECH. FAILURE, FIRE, HUMAN ERROR, CREW ACCIDENTS		2	3		3	1	1	1		4	2	**17**
MARINE DEBRIS; BEING RUN OVER BY TANKER / CRUISE LINERS		1	3						2			**6**
DAMAGE OF COASTAL HABITAT, OVERFISHING, ECOLOGICAL CHANGES (SARGASSUM)			1			6				4	1	**12**
HITTING SOLID OBJECTS; COLLISION WITH OTHER FISHING BOATS/GEARS, INCLUDING IN PORT			5		1	2	3					**11**
LACK OF SAFE MOORAGE/ HARBORS, BOAT RAMPS			2							2		**4**

[7] Includes occasional use of boat for drug running, piracy by fellow fishers.

Figure 1: Major risks to fisheries assets as perceived by fishers.



As shown in figure 1 above, natural calamities such as hurricanes, storms, rough seas, heavy rains, surges, sea level rise as well as a lack of accurate weather forecast pose the greatest risk (47 percent) to the fisheries assets, according to the fishers. Another major risk perceived is posed by theft, piracy, crime and vandalism (27 percent).

4.6 Major mitigation and preventive measures advocated by fishers

A range of mitigation and preventive measures advocated by fishers to deal with identified risks are shown in table 18 below.

Table 18: Mitigation and preventive measures advocated by fishers

Country	Safe harbor, anchorage, boat haul out /storage facilities[8]	Communication/ navigation equipment[9], weather forecast, safety at sea	Security, police patrols, stricter laws, penalties[10]	Regular maintenance of vessels and engines[11]	Training and education, climate smart practices, insurance	Use of FADs, closed fishing seasons, better fisheries management
Anguilla						
Antigua and Barbuda	9	3	2	1	1	
Barbados	11	8	1	1	1	
Belize						
Grenada		3	1	1	1	
Guyana			9			
Montserrat	4					
Saint Kitts and Nevis	1	3	3			
Saint Lucia	1	1	3			
Saint Vincent and the Grenadines	9	3	7	1	4	1
Trinidad and Tobago			3	1		
Total responses	**35 (36%)**	**21 (21%)**	**29 (30%)**	**5 (5%)**	**7 (7%)**	**1 (1%)**

The most important mitigation and preventive measure related to natural calamities, advocated by 36 percent of fishers, are safe harbors, anchorages and boat haul out/storage facilities. The second most important mitigation measures advocated by by 30 percent of the fishers and vessel owners, related to crime and calls for more security, police patrols, stricter laws and penalties. Proper communication and navigation equipment, accurate weather forecast and safety-at-sea precautions are other prevention and mitigation measures widely advocated.

[8] Includes installation of bumper rails on piers, use of fenders on boats and piers, proper tie-up of vessels.
[9] Includes radar, installation of radar reflectors on longline gear, VHF radio with AIS, proper marking of vessels, community watch services.
[10] Includes fishing together with other boats, establishment of piracy assistance fund, installation of GPS tracking devices on boats and engines.
[11] Includes keeping a set of tools and spare parts on board.

4.7 Climate smart practices advocated by fishers

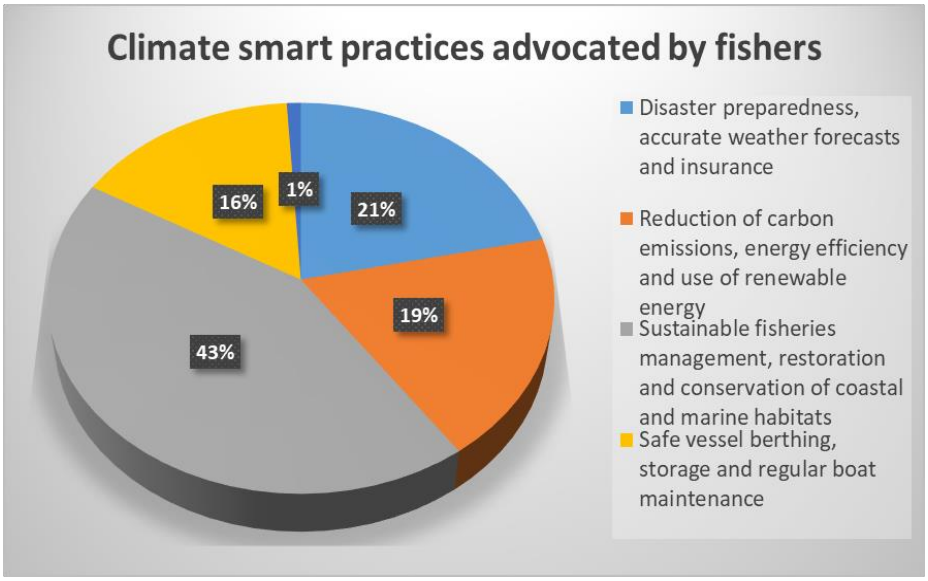
Table 19 and figure 2 present the fishers' perceptions of climate smart practices.

Table 19: Climate smart practices advocated by fishers

Country	Disaster preparedness, accurate weather forecasts, insurance[12]	Reduction of carbon emissions, energy efficiency, use of renewable energy[13]	Sustainable fisheries management, restoration/ conservation of coastal and marine habitat[14]	Safe vessel berthing/ storage, regular boat maintenance[15]	Adequate security at landing sites
Anguilla					
Antigua and Barbuda	4	4	5	1	1
Barbados	9	2	3	3	
Belize	1			1	
Grenada		2	2	2	
Guyana			8		
Montserrat					
Saint Kitts and Nevis	2		2	1	
Saint Lucia			1	1	
Saint Vincent and the Grenadines	1	4	9	4	
Trinidad and Tobago		4	7	1	
Total	**17**	**16**	**37**	**14**	**1**

[12] Includes having adequate communication equipment on board.
[13] Includes use of solar powered battery chargers; use of fuel efficient, low emission 4-stroke O/B engines, diesel engines; use of sails.
[14] Includes use of large mesh sizes, use of hooks that allow for release of fish, garbage disposal on shore and not at sea, safe storage of fuel and lubricants, reduction and better utilization of bycatch, stop disposal of toxic waste into sea, removal of sunken ships from inshore waters, planting of mangroves.
[15] Includes installation of safe lockers and fire extinguishers at landing sites.

Figure 2: Climate smart practices advocated by fishers and fishing vessel owners



By far the most important climate smart practice, advocated by 43 percent of all respondents in the survey, is sustainable fisheries management and restoration and conservation of coastal and marine habitats. Fishers recognize that through fisheries management improvements climate change effects could be adapted to as well. Also very important practices that are advocated by respectively 21 percent and 19 percent of the fishers are disaster preparedness, accurate weather forecasts and having insurance, as well as a reduction of carbon emissions, energy efficiency and increased use of renewable energy.

4.8 Risk insurance needs and risk/mitigation/climate smart practices perceptions of fisheries authorities

The risk insurance needs perceptions of fisheries authorities (FAs) of those countries that participated in the survey are shown in table 20. The table also shows what insurance premiums are considered affordable. Barbados is not included in the table because the fisheries assets are already insured.

Table 20: Risk insurance needs perceptions of fisheries authorities

Country	Risk insurance needs perception
Anguilla	The FA showed interest in insurance of its 15 ft. Boston Whaler vessel, valued at USD 15 000. Affordable annual premium: 6.7% of asset value. They were also interested in insuring its 32 ft. open marine vessel, valued at USD 100 000. Affordable annual premium: 3% of value. The FA also expressed interest in insuring various mooring buoys, valued each at USD 3 000 at annual premiums of 17% of their value.
Antigua and Barbuda	The FA expressed interest in insurance for its three boats ranging from 14 to 28 feet at annual premiums from 3% to 5% of their value.
Belize	The FA would like to insure each of their marine reserve headquarters in offshore islands (valued USD 100 000 each); 20 patrol vessels (valued USD 500 000 altogether); fishing camps (valued USD 10 000 each) at annual premiums equivalent to 1% of asset value.
Dominica	The FA would like to insure their Roseau Fisheries Complex and their Marigot Fisheries Complex (both valued USD 14 million), their Portsmouth Fisheries Complex (valued USD 7 million) and their 29 ft. fisheries research vessel (valued USD 80 000).

Grenada	The FA would like to insure all their fisheries complexes buildings, including cold storage, ice making facilities and equipment valued at USD 16 million; their patrol and research vessel valued at USD 200 000 and their ship-to-shore communication system valued at USD 1 million. Affordable annual premium: 0.01% of asset value.

Perceptions of fisheries authorities of the major risks posed to their assets, potential mitigation and climate smart practices are shown in table 21. The table shows that hurricanes are by far the most important risk identified by the FAs. Mitigation measures proposed relate mainly to hurricane proof construction of fishing complexes and harbours and to disaster risk planning in the fisheries sector. The climate smart actions proposed are diverse and include better planning, fisheries management measures, and use of renewable energy sources.

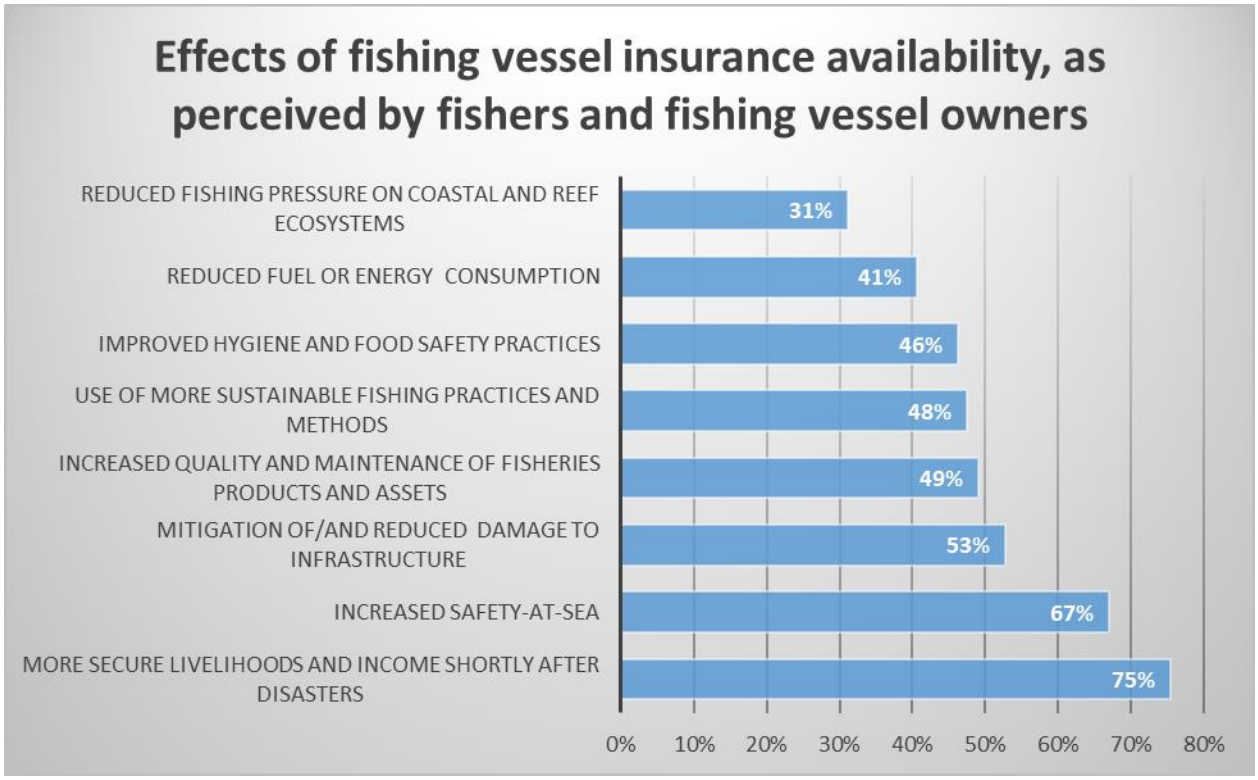
Table 21: Risk, mitigation and climate smart practices perceptions of fisheries authorities

Country	Risks	Mitigation	Climate smart practices
Anguilla	Hurricanes, vandalism	Construction of safe harbours, better security	Stop unregulated coastal development, reduce nearshore fishing
Antigua and Barbuda	Hurricanes, earthquakes, tsunamis	Construct fishery complexes and harbours according to modern building codes; update disaster preparedness plan for FA	Frequent update of disaster preparedness plans; proper implementation of fisheries management plans; use of more fuel efficient and lower emission 4-stroke O/B engines
Belize	Hurricanes	Hurricane proof construction of buildings	Sustainable use, improved management and conservation of fisheries resources
Dominica	Hurricanes, storms	Adhere to storm warnings and make preparations for securing of fishery assets	Preparation for natural calamities; restoration and sustainable management of coastal habitats; reduction of carbon emissions by changing to the use of renewable energy; improvement of building designs
Grenada	Hurricanes, storms, surges	Establish a disaster management plan; train staff on implementation of plan; enhance integrity of construction of buildings; regular maintenance of buildings and equipment	Increase use of solar and other renewable energies; improve buildings designs

4.9 Perceived effects of availability of insurance by fishers

Figure 3 shows what fishers think might be a result of having insurance, if it is considered as climate smart practice.

Figure 3: Perceived effects of availability of insurance by fishers and vessel owners



Three-quarters of the fishers expect a positive effect of vessel insurance services on their livelihoods and income in case a disaster hits the sector. Two-thirds of the fishers expect a positive effect on safety-at-sea measures taken by the fishers as a consequence of insurance availability for fishing vessels. The mitigation of/and reduced damage to infrastructure is regarded by a majority of fishers as another potential positive effect of insurance availability.

5. IDENTIFICATION AND VALUATION OF ASSETS TO BE INSURED

This chapter makes an attempt to identify fisheries assets that can be covered by insurance. The type of assets that could be insured have already been identified in tables 1-3 at three levels i.e. the micro-level, the meso-level and the macro-level. As far as the micro-level assets are concerned and their main components, i.e. fishing vessels, a list of all fishing vessels in CRFM member countries is provided by the CRFM Statistics and Information Report 2014 (Masters. 2017).

The total number of fishing vessels registered in the CRFM member states in 2014 was estimated at 27 161. The largest fleets can be found in Jamaica with 6 955 vessels, Haiti with 5 630 and the Bahamas with 4 000 vessels. All other CRFM member countries have less than 2000 registered fishing vessels. Additional information can be obtained from the Fisheries and Aquaculture Country Profiles of the Food and Agriculture Organization of the United Nations[16].

[16] Available at: http://www.fao.org/fishery/countryprofiles/search/en

This chapter lists the main assets for selected countries, covered by the field mission and study, and assigns value estimates[17] for different classes of vessels, where available, taken from the questionnaire survey and earlier studies.

In the case of Grenada, information regarding the value of fisheries complexes owned by Government is also included. This is the reason, why Grenada is listed first, followed by the other countries in alphabetical order. The situation in Grenada provides a good example of the value of fisheries assets in other Eastern Caribbean countries.

5.1 Grenada

While Granada's fishery sector is artisanal and small-scale in nature, it has been transforming itself in the last decades from subsistence to fully commercial operations thereby increasing earnings and employment, contributing to food security and assisting in reducing poverty. [18]

A major area of growth has been the oceanic pelagic fishery that targets yellowfin tuna mainly for exports. Previously, this fishery was conducted by open boats up to 30 feet, using outboard motors, going out on day-trips and carrying no ice. However, in the last decades there has been significant improvement in technology resulting in the use of larger decked vessels of up to fifty feet in length with diesel inboard motors which undertaking multi-day fishing trips.

At the same time, shore infrastructure has been developed in the form of well-equipped fisheries complexes that were built with the help of development assistance. Table 22 shows Grenada's fisheries assets and their estimated value.

Table 22: Identification and valuation of Grenada's fisheries assets

Level/type of asset	Number, location, value
Macro-level	
Fish landing sites and fisheries complexes in ownership of the government and managed by the fisheries authority or fisherfolk organizations.	The main primary landing sites categorized by percentage of fish landings are the following: Grenville (25%) Fish market complex with cold storage, ice making, retail services and fish landing jetty. Gouyave (22%) Fish market complex with 2 buildings, 6 cold storage, 4 ice making machines, retail services, fish landing jetty and fish processing plant (USD 10.5 million). Carriacou and Petite Martinique (18%) Fish landing jetty, where fish trading vessels to French Martinique load catch. Grand Mal (12%) Two fish processing plants with cold storage, ice making and fish landing jetty (building and compressor valued at USD 122 000, mooring buoys

[17] Whenever information is used obtained from questionnaires, in the absence of accurate information on when assets were originally purchased, the estimated replacement value of assets, as perceived by the questionnaire respondent, is used here as indicator rather than the depreciated asset value. In the case of Antigua and Barbuda and Barbados, findings of a global cost and earnings study on marine capture fisheries, carried out by FAO (Tietze, U., Thiele, W., Lasch, R. et al. 2005) were also used as well as information provided by the Fisheries Division of Antigua and Barbuda. In these cases, actual investment costs in 2003 and 2004 were used rather than replacement values.

[18] See the FAO Fisheries and Aquaculture Country Profile for Grenada: ftp://ftp.fao.org/FI/DOCUMENT/fcp/en/FI_CP_GD.pdf

	valued at USD 75 000, patrol and research vessels valued at USD 200 000. Total Grand Mal assets to be insured: USD 397 000. Melville Street (11%) Fish market complex with 2 cold storages, 2 ice making machines, retail services and fish landing jetty (USD 4.5 million). Victoria (2%) Fish market with one cold storage and retail services (USD 400 000). Duquesne (1%) Fish market with 1 cold storage and retail services (USD 350 000). Sauteurs (1%) Fish market with 1 cold storage, retail services and landing jetty (USD 350 000). Ship-to- shore communication system (USD 1 million) **Total Value: USD 17. 5 million[19].**
Meso level	
Beach landing sites without infrastructure	37
Micro Level[20]	
9.8 – 16.8 metres decked longline vessels operating from the west coast	70 (value per unit: USD 100 000[21]; total value of fleet segment: USD 7 million)
Open boats > 9.8 metres length using longlines operating from the west coast	270 (Value per unit: USD 55 555; total value of fleet segment: USD 15 million)
5.2 to 7.3 metres trolling vessels operating on the east coast	140 (value per unit: USD 9 100; total value of fleet segment: USD 1.274 million)
7.3 to 8.5 metres open boats fishing for coastal pelagics	50 (value per unit: USD 18 500[22]; total value of fleet segment: USD 925 000)
4.9 to 7.3 open vessels fishing for crustaceans	100 (value per unit: USD 9 100; total value of fleet segment: USD 910 000)
Open boats of less than 5.5 metres using mainly handlines and pots	130 (value per unit: USD 6 500; total value of fleet segment: USD 845 000)
Total estimated replacement value of the fishing fleet	**USD 25.9 million**
Combined estimated value of fishing fleet and Government owned fisheries complexes[23]	**USD 43.5 million**

[19] When considering the value of the government owned fisheries assets, it should be taken into consideration that the values of the Grenville Fish market, which accounts for 25 percent of landings, and the value of the Carriacou and Petite Martinique fish marketing complex, which accounts for 18 percent of total landings, were not known at the time this report was written.

[20] The fishing fleet figures provided by FAO fisheries statistics refer to 2009. The CRFM figures (see table 23) from 2010 show an overall fleet increase of 15 vessels.

[21] The value of a 13 metres decked vessel (ice boat) in Barbados has been used as estimate.

[22] These and other values are estimates based on information provided by vessel owners in questionnaires or during interviews. They do not include the value of fishing gear and equipment.

[23] No information was available on the values of the Grenville Fish market, which accounts for 25 percent of landings, and the value of the Carriacou and Petite Martinique fish marketing complex, which accounts for 18 percent of total landings.

5.2 Antigua and Barbuda

The fishery sector of Antigua and Barbuda is artisanal or small-scale commercial in nature. Capture fishery production involves mainly small fishing units targeting demersal or reef-based resources. Like in other Caribbean countries, Antigua and Barbuda's marine fisheries sector has undergone significant modernisation over the past thirty years. Most of the traditional vessels (wooden sloops and dories) have been gradually replaced by modern Glass Reinforced Polyester (GRP) pirogues and launches equipped with modern fishing and navigational equipment such as global positioning system, depth/fish finders/sounders, communication equipment and trap and line haulers. Table 23 shows Antigua and Barbados' fisheries assets and their estimated value.

Table 23: Identification and valuation of Antigua and Barbuda's fisheries assets

Level of asset	Type of asset, number, location
Macro level	
Fish landing sites/ fisheries complexes in ownership of the government and managed by the fisheries authority or fisherfolk organizations.	Fisheries complex at Urlings, Antigua; Fisheries complex at Parham, Antigua; Fisheries complex at Market Wharf in Saint John's, Antigua; All 3 complexes have the following facilities: paved landing wharf for the docking of fishing vessels, a slipway for the hauling of small boats, lockers for the storage of equipment and materials, space for engine and boat repairs, a fish retail market area for scaling, gutting and vending of fish, ice machine and other cold storage facilities, offices and a meeting room. The fisheries complex at Point Wharf in Saint John, Antigua possesses additional features to the ones listed above, including: a mechanical lift for hauling out boats; a processing unit equipped with additional equipment such as blast freezer, a smoker, manual and electrical scaling implements, a laboratory for performing basic chemical and biological tests and space specifically for community use. In addition, the meeting room is equipped with audio-visual equipment for easier electronic presentation of information. The main building of the complex also houses the offices of the Fisheries Division.
Meso level	
Fish landing sites in ownership of local community/fisherfolk	There are 28 local fish landing sites in Antigua and Barbuda, located at rural beaches with limited or no infrastructure. Infrastructure available includes boat ramps and hauling equipment; slipways and wharfs, fuel pumps; local fish market infrastructure; FADs; fishery supply stores and inventories.
Micro Level	
Fishing vessels, gear and equipment	388 vessels are considered to be actively fishing, while in total there are 1 029 registered vessels. Commonly used vessels in Antigua are 6 metres open boats valued at USD 12 810[24]; 7 m cabin boats valued at USD 19 540; 10 m sloops valued at USD 43 610; 11 m launches valued at USD 61 000 and 12 m launches valued at USD 72 890. In Barbuda, 7 m open boats are commonly operated, which are valued at USD 14 830.

[24] According to information compiled by FAO in 2003 (Tietze, U., Thiele, W. Lasch, R. 2005). Based on investment costs of 2003, when FAO global study was carried out.

	Value: According to information provided by the Fisheries Division of Antigua and Barbuda in 2005 (Horsford. 2005), an average investment in a fishing vessel, gear and fishing equipment is about USD°46 667 based on the typical investment range mentioned above. Based on this number the combined value of the 388 active vessels, which could be possibly insured would be USD 18.1 million. **The total estimated replacement value of active fishing fleet: USD 18.1 million[25]**

5.3 Barbados

The fishery of Barbados is the multi-fleet, multi-species fishery mainly targeting oceanic pelagics, such as flying fish, dolphin fish and tunas. The local fishing industry comprises the fisheries for shallow shelf reef fishes, deep slope fishes, coastal pelagic, large pelagic, flyingfish, sea urchins (seasonally closed), lobsters and conch.

Fishing vessels in Barbados are classified locally according to length as follows [26]: class 1 (< 6m); class 2 (> 6m and < 12m) class 3 (>12m). Within each length class, vessels are further classified according to type based on their physical structure or the type of gear carried. Four different types of vessel are recognized in the fishing industry (Ministry of Finance and Economic Affairs. Barbados. 2013).

The smallest of these vessels is the moses (dinghies), which are open boats, 3 – 6 m long, constructed of either wood or glass reinforced plastic, powered either by oars or 10-40 HP outboard engines. There are approximately 485 of these vessels, used primarily in the reef and coastal fisheries. Gear commonly associated with these boats includes hand and trolling lines, fish traps and cast nets.

Day boats or launches are mostly decked wooden boats, 6 – 12 m in length, propelled by inboard diesel engines of 10 – 180 HP, which carry one to two fishers and land their catch daily since they carry no ice while at sea. There are approximately 250 day boats, which normally range up to 30 miles from shore and are used primarily for harvesting flyingfish and large pelagics on day trips. Day boats are normally equipped with navigational, communication and safety equipment and commonly use hand and trolling lines, gill nets and hoop nets as gear.

Ice boats are similar to day boats except for size. Iceboats are normally greater than 12 m in length, outfitted with insulated ice holds facilitating multi-day trips (5 - 10 days), powered by 180 – 200 HP inboard diesel engines and equipped with navigational, communication and safety equipment. These boats usually target the same species as day boats, using the same gear. There are an estimated 190 iceboats in the industry, which range up to 200 miles or greater from shore.

The longliner fleet consists of approximately 40 boats greater than 12m in length (12 to 24m). Longliners are outfitted in a similar fashion to the iceboats but are used primarily for fishing tunas and swordfish for export, with a bycatch of large pelagics such as shark and billfish sold locally. These boats, with a crew of 4 or 5, remain at sea from 12 to 28 days and may range more than 400 miles offshore. Pelagic longline gear is mainly used, but some longliners may also carry any of the other gear specific to iceboats. Table 24 shows Barbados' fisheries assets and their estimated value.

[25] Based on investment cost in 2003/2004, reported by Horsford.
[26] Here and in the following see ftp://ftp.fao.org/FI/DOCUMENT/fcp/en/FI_CP_BB.pdf

Table 24: Identification and valuation of Barbados' fisheries assets

Level of asset	Type of asset, number, location
Macro level	
Fish landing sites/fisheries complexes in ownership of the government and managed by the fisheries authority or fisherfolk organizations.	New fishing complexes were constructed in 2002 at Tent Bay, Saint Joseph and Payne's Bay, Saint James.
Meso level	
Fish landing sites in ownership of local community/fisherfolk	Approximately 30 fish landing sites around the island, categorized according to type of physical infrastructure and facilities as primary (markets), secondary (sheds) and tertiary (beaches). The majority of catches are landed at the primary sites and are often sold directly to consumers or fish vendors, the latter of which are predominantly women. The primary fish landing sites are at Bridgetown, Oistins, Skeetes Bay, Consett Bay, Paynes Bay, Weston and Speightstown. Physical infrastructure and equipment include wharfs slipways/boat ramps and boat hauling equipment; fuel pumps; fish market infrastructure; fishing supply stores; FADs
Micro Level	
Fishing vessels, gear and equipment	• Moses (485 vessels), valued at USD 6 000, based on data from Antigua and Barbuda. Total value of moses fleet segment: USD 2.91 million[27] • Day boats/launches (250 vessels), 8 metres day boat valued at USD 22 500 (Tietze, U., Thiele, W., Lasch, R.). Total estimated value of day boat fleet segment: USD 5.625 million[28] • Iceboats (190 vessels), 13 metres iceboat valued at USD 92 000. Total value of ice boat fleet segment: USD 17.48 million[29] • Longliners (40 vessels), valued at USD 150 000[30]. Total value of longliner fleet segment: USD 6 million **Total estimated value of Barbados fishing fleet: USD 32.0 million.**

[27] Replacement value
[28] In investment costs of 2003, when FAO global study was carried out.
[29] In investment costs of 2003, when FAO global study was carried out.
[30] Replacement value.

5.4 Saint Kitts and Nevis

Saint Kitts and Nevis has four major fisheries i.e. demersal or reef fishery, the coastal pelagic fishery, the ocean pelagic fishery and the conch fishery. Over 80 percent of registered fishing vessels are involved in the reef fishery. Vessels vary in length from 5 to 12 metres. The fishing gear used includes fish traps, handlines and spear guns.

The coastal pelagic fishery employs only 3 percent of the registered vessels. However, this fishery accounts for over 40 percent of the total landings. The major gear used is the beach seine. The vessels are between 7 and 9 metres in length and are powered by one or two outboard engines (40 to 65 HP). Additionally, gillnets are sometimes used in close proximity to beaches, rocks and reefs.

The ocean pelagic fishery operates up to 35 nautical miles from shore and is highly seasonal. The same type of vessels is used as for the reef fishery, powered by outboards ranging from 40 HP to 250 HP. Most of the vessels have twin engines. The major gear used is trolling lines. Fish Aggregating Devices are used increasingly in this fishery. The species targeted include dolphin fish, tunas and mackerel.

The conch fishery involves mostly vessels of 5 to 6 metres, powered by 40 HP to 65 HP engines. The conch is fished by divers using scuba gear in the deep areas, while free divers fish the shallower waters.[31] Table 25 shows Saint Kitts and Nevis fisheries assets and their estimated value.

Table 25: Identification and valuation of Saint Kitts and Nevis' fisheries assets

Level of asset	**Type of asset, number, location**
Macro level and meso level	
Fish landing sites/fisheries complexes in ownership of the government and managed by the fisheries authority or fisherfolk organizations.	Many of below landing sites have slipways, boat hauling equipment, fuel pumps, fish market infrastructure, fishing supply shops. **Saint Kitts** East Basseterre This is the main conch fishery centre for Saint Kitts. West Basseterre This landing site is the most active of all the landing sites in Saint Kitts because many vessels use this site as it is close to the Basseterre public market. Some fishing boats from Nevis also land and market their catch here. Old Road Seine net fishing vessel catching coastal pelagics operate from this site, landing almost 40% of the small pelagics landed on Saint Kitts. This vessel also lands close to 50% of the ocean pelagics, caught mainly by trolling. Sandy Point This area consists of a relatively small number of registered vessels, mainly using traps and hand lines.

[31] See ftp://ftp.fao.org/FI/DOCUMENT/fcp/en/FI_CP_KN.pdf

	Dieppe Bay Dieppe Bay is the most northerly of all the landing sites. It is unique in that it is the only landing site that is protected by a reef. This site handles the largest annual landings of lobsters on Saint Kitts. **Nevis** Charlestown This is the major landing site in Nevis, with landings comprising about 80% demersals, 10% ocean pelagics and 10% coastal pelagics. This site has the greatest number of boats (40) in Nevis. Jessups This is the main site for landings of conch, as 90% of the conch landed in Nevis is landed here. Some trap fishermen who target demersals also operate from this site. Cotton Ground Cotton Ground is used mainly by trap fishers. Jones Bay The bulk (95%) of the catch landed here is ocean pelagics. Newcastle Vessels based here use handlines for demersals and gillnet fishing for coastal pelagics. Long Haul and Indian Castle These sites are used for landings from trap fishing and handlining.
Micro Level	
579 fishing vessels.	97 percent of vessels are between 5 and 12 metres long and involved in demeral/reef fisheries, ocean pelagic fishers or conch fisheries. They are powered by outboard engines from 40 to 250 HP. 3 percent of vessels involved in coastal pelagic fishing are between 7 and 9 metres long, powered by one or two outboard engines (40 to 65 HP). Less than 3 percent of registered vessels. **Estimated replacement value of average fishing vessel: USD 17 963**[32] **Total replacement value of fleet: USD 10.4 million**

5.5 Saint Lucia

Like in other Caribbean states, fisheries in Saint Lucia have undergone significant changes during the past 15 years. The sector has become more commercial and professional. The fishing fleet consisted in 2015 of 618 vessels operated by 2 319 fishermen. 60 percent operate on a full-time basis. Traditional wooden canoes account for less than half of the fishing fleet. Open fiberglass pirogues now dominate the fishery industry. The majority of canoes and pirogues are powered by outboard engines. Most of these are in the range of 40-115 HP.

[32] Based on survey responses.

A further indicator of an increasing professionalization and commercialization of the fishing industry are small, locally owned and operated longlining vessels (greater than 12 m in length) that have recently entered the fleet. Longliners have inboard engines. The engine capacity is increasing to reflect changes in vessel carrying capacity[33].

Over two thirds of annual fish landings comprise offshore migratory pelagics, such as dolphinfish, wahoo, tuna and tuna-like species. Flyingfish form an important but variable component of the catch. A multitude of shallow reef and bank fish species and several coastal pelagic species are also key components of the catch. Pelagic species are captured using surface trolling by hand and, to an increasing extent, mechanized midwater longlines. Fish traps capture reef fishes and lobsters. Gillnets are also used to capture bottom fish, and coastal pelagics are brought ashore using encircling nets i.e. gillnets and seines. There is a traditional fishery for small cetaceans and a regulated conch and sea urchin fishery. Table 26 shows Saint Lucia's fisheries assets and their estimated value.

Table 26: Identification and valuation of Saint Lucia's fisheries assets

Level of asset	**Type of asset, number, location**
Macro level and meso level	
Fish landing sites/fisheries complexes in ownership of the government and managed by the fisheries authority or fisherfolk organizations.	Choiseul handles 44 percent of annual landings. Castries handles 21 percent of annual landings. Dennery handles 13 percent of annual landings. Other landing sites: Banannes, Gros Islet, Micoud, Laborie, Soufriere, Vieux Fort, [Anse la Raye, Canaries, River Doree, Savannes Bay, Marisule, Monchy, Praslin, and Roseau. The larger landing sites have slipways, boat hauling equipment, fuel pumps, fish market infrastructure, fishing supply shops.
Micro Level	
618 fishing vessels	Less than half of the larger vessels are the traditional wooden canoes. The majority of fishing vessels are open fiberglass boats. In addition, a number of small, locally owned and operated longlining vessels (greater than 12 m in length) have recently entered the fleet. **Information received from Saint Lucia is not sufficient to value Saint Lucia's fisheries assets.**

[33] ftp://ftp.fao.org/FI/DOCUMENT/fcp/en/FI_CP_LC.pdf

5.6 Saint Vincent and the Grenadines

The fleet consists of approximately 737 vessels operating from thirty landing sites. The majority of these vessels are open vessels powered by outboard engines of 14 to 200 HP. The fishing vessels exploit both oceanic and inshore pelagic species, as well as the shelf and deep slope demersal fish species. The fishing vessels are pirogues, bow and stern and double-enders, constructed from wood or fiberglass.

Fishing gears used in St Vincent and the Grenadines include trolling lines, handlines and beach seines. In many cases, trolling lines, hand lines and nets are gear types utilized by a single fishing unit[34]. Table 27 shows Saint Vincent and the Grenadines fisheries assets and their estimated value.

Table 29: Identification and valuation of Saint Vincent and the Grenadines' fisheries assets

Level of asset	**Type of asset, number, location**
Macro level	
Fish landing sites/fisheries complexes in ownership of the government and managed by the fisheries authority.	New Kingstown Fish Market, managed by National Fisheries Marketing Ltd., sale of ice, fish, diesel; fish storage; locker facilities for vendors; fish processing facilities. Union Island; managed by Govt. of SVG; sale of ice; locker facilities for fishers.
Meso level	
Fish landing sites in ownership of local community/fisherfolk.	Chateaubelair North; managed by Leeward Fisheries Development. Co-op Society Ltd.; sale of ice, cold storage; locker facilities. Barrouallie; managed by Barrouallie Fishers Development Co-op Ltd.; sale of ice; sale of fuel; cold storage; locker facilities for fishers. Calliaqua; managed by Calliaqua Fisher Folk Co-op (CALFICO); sale of ice and fish; cold storage; locker facilities for fishers. Bequia; sale of ice, fish, and bait; cold storage; locker facilities for fishers; live lobster & conch holdings; export of fish products. Canouan; managed by Canouan Sailing Club Friendship Bay; sale of fish, ice, water; locker facilities for fishers; overnight housing for fishers. In addition, there are some 33 rural landing sites with little infrastructure.
Micro Level	
737 fishing vessels[35]	59 vessels are less than 3.6 metres (without engine). Replacement value of vessel: USD 926. Estimated replacement value of fleet segment: USD 54 634. 274 vessels between 3.6 m and 6 m. Replacement value of vessel: USD 6 000. Estimated replacement value of fleet segment:

[34] See ftp://ftp.fao.org/FI/DOCUMENT/fcp/en/FI_CP_VC.pdf

[35] There is a discrepancy between the number of vessels reported by Masters (2012) and the FAO Fishery and Aquaculture Country Profile. According to FAO, the total number of vessels is only 526. The reason for the difference might be that Masters's numbers are more recent than FAO's.

	USD 1.644 million.[36] 175 vessels between 6 metres and 9 metres. Replacement value of vessel: USD 14 849. Estimated replacement value of fleet segment: USD 2.598 million. 10 vessels between 9 m and 12 m; and 8 vessels between 12 m and 20 m. Replacement value of vessel: USD 245 000. Estimated replacement value of fleet segment: USD 1.96 million. **Total estimated fishing fleet replacement cost: USD 9.4 million[37]**

6. PROPOSED ORGANIZATIONAL ARRANGEMENTS FOR A CARIBBEAN FISHERIES RISK INSURANCE FACILITY

6.1 Justification and background

Based on the discussions with fishers, leaders of fisherfolk organizations, senior executives of the ministries of agriculture, fisheries authorities, ministries of finance, emergency management authorities and private and government owned insurance companies and the findings of the risk insurance demand survey, the following organizational arrangement appeared to be the most widely accepted and suitable to promote the adoption of climate smart practices and to provide a sound risk insurance facility to fishers and the fishing industry.

The arrangement should be seen in the context of various considerations, such as the one announced by Jamaica at the CRFM Ministerial Meeting on May 2015 in Grenada and others, to make it mandatory for the fishing industry to have vessels insured in order to register fishing vessels. To be enrolled in social security schemes is already a requirement in some Caribbean countries. These considerations need further to be seen in the context of the ongoing process of professionalization and commercialization in the Caribbean fishery industry, and that government authorities do not want the fisheries sector to only rely on government payouts and tax payers for compensation after natural calamities. In addition, it has been widely acknowledged by fisheries authorities that there is a need for third party liability insurance for commercial vessels, similarly as vehicle insurance, which is mandatory throughout the Caribbean. Collisions of fishing vessels, including collisions in crowded ports, are common in most Caribbean states.

6.2 A possible organizational arrangement for a Caribbean Fisheries Risk Insurance Facility (CFRIF)

A Caribbean Fisheries Risk Insurance Fund, to be capitalized by donors with contributions from governments of participating countries, would be placed with and managed by a regional financial or global financial institution, such as the CCRIF, the Caribbean Development Bank, the Inter-American Development Bank or the World Bank. Government contributions, even if modest, are considered important to ensure full stakeholder participation and commitment. The extent of government contributions would be subject of negotiation between the CFRIF and participating governments.

The proposed arrangement would associate existing insurance companies, both private and public sector, which already offer marine policies and are willing to cooperate with the new risk insurance facility through Memorandums of Understanding and other legal instruments and agreements with the

[36] In the absence of questionnaire responses from Saint Vincent and the Grenadines in this vessel category, information from Barbados was used for moses fishing boats.

[37] To accommodate the increase in the number of fishing vessels reported by Masters (2012) as compared with the number of fishing vessels reported in FAO's Fisheries and Aquaculture Country Profiles, a raising factor of 1.4 was used to calculate the total estimated value of fishing vessels in Saint Vincent and the Grenadines.

ministries of finance and agriculture of the respective countries as well as the CFRIF. While the terms of the agreements would be subject of negotiations, a 10 - year term, with a notice period of two years to end the agreement under specified conditions might be considered reasonable.

The participating insurance companies would be eligible for payouts from the CFRIF, to be channeled through the respective ministry of finance of the participating countries or directly from the CFRIF. The payouts would be triggered by a joint assessment of the national disaster/emergency management agency, the national fisheries authority and the national federation of fisherfolk organization plus the participating insurance company that (1) a natural calamity (hurricane, severe storm, rainfall, landslides, coastal erosion etc.) has taken place, which (2) has seriously and negatively impacted the fisheries sector, the livelihoods of fisherfolk and the capacity of the sector to contribute to food security, and that (3) has caused a sudden increase in insurance claims from the fisheries sector.

The funds would be used by the insurance companies to settle claims from the fishery sector caused by the natural calamity. Thus, the payouts would be used by the participating insurance companies to settle claims in a timely manner, which are related to the natural calamity that has taken place. It is these types of claims, which place the greatest financial burden on insurers. The extent of funds to be paid out to insurance companies would have to be negotiated as a percentage of insurance claims received by the participating insurance company.

This mechanism to determine trigger events is thought to have two main advantages. Firstly, funds will be well preserved, as they will only be used when actual damage has occurred. In fact, some natural calamities might not lead to an increased number of insurance claims, particularly when climate smart practices are adhered to and when proper disaster preparedness, precaution and mitigation are applied. Secondly, the mechanism proposed to determine trigger events ensures the close cooperation and participation of all concerned stakeholders. This should certainly make the functioning of the CFRIF more robust, participatory and sustainable.

In return for the support the insurance companies will receive from the CFRIF, they would modify their marine policies for fisheries to make them more suitable and affordable for the needs of fishers and the fishery industry. This will possibly include lowering of premiums and incorporation of no-claim bonuses among others. The modification of present marine policies for insuring commercial fishing vessels should be done in negotiation/consultation between national fisheries authorities, national federations of fisherfolk associations and insurance companies, who would want to involve their reinsurers.

An advantage of this arrangement would be that it does not compete with existing insurance business in each of the countries, as local marine insurers will be able to participate in the CFRIF. A second advantage is that the fisherfolk associations can play an active role in promoting the insurance among their members and gathering interest in the services. If policy wordings (e.g. conditions and coverage) can be used for a large group of fishers this will help to bring down the premium costs as well. Thirdly, non-climate change related accidents, such as collisions between vessels and on-board accidents of crew can be included in the policies, as preferred, giving flexibility and provide coverage for a wider range of risks. Fourthly, for accidents that are not related to major natural disasters, the insurers would payout compensation as they normally do for vehicle and accident insurance, and they would not have to rely on the CFRIF. The CFRIF would only be used in case of major disasters that cannot be handled by the local insurers from their own resources; in fact, the CFRIF would function as a guarantee fund or re-insurance mechanism for part of the risks.

6.3 Climate smart practices, precaution and mitigation

With a view to promote climate smart practices as well as prevention and mitigation, insured parties/fisheries need to comply with a number of requirements that might require regulatory action by fisheries authorities and others, to make these requirements mandatory. In the case of fisheries infrastructure, it needs to be ensured or certified that the infrastructure has been built in safe/suitable

locations and is properly managed and maintained. Also, disaster preparation plans need to be in place (Jeffry, C. and W. Mykoo. 1998). In terms of fishing vessels, gear and equipment, these should have been properly built, equipped, serviced and maintained, and that they are properly operated. That also means operated in areas, for which they are certified to be suitable for, by the manufacturer. For example vessels, which are not suitable for offshore fishing, should not be operated offshore under no circumstances.

Fishing vessels, including their engines and all equipment including safety equipment, should be properly managed and regularly maintained and serviced. Fishers are already aware and fisheries authorities already inspect fishing vessels' seaworthiness and safety equipment carried on board at the annual renewal of vessel registration. Some countries also record the value of each vessel, such as Antigua and Barbuda, and it proposed here that all countries should adopt this procedure. If required, fisheries officers should receive further training in vessel inspection/surveying.

Also, owners of commercial fishing vessels need to ensure that their vessels are properly berthed/secured, when in port, and that they have a disaster preparedness plan and know where and how to haul out and store their vessel and gear should that become necessary.

In addition, it is proposed that countries, which presently not require for captains of vessels to be certified, to introduce such a requirement. There are lots of courses and tests on seamanship, navigation, safety-at-sea, legal requirements, environmental aspects etc. available (also online), which could be used for this purpose.

Another matter, which can help to reduce risks and is generally implemented as a measure against Illegal, Unreported and Unregulated (IUU) fishing, is the obligation of fishing vessels to carry proper markings to facilitate their identification. Many fishing vessels in the Caribbean are properly marked, but there are still numerous vessels that cannot easily be identified. Proper vessel marking will help the authorities, such as navy, coast guards, customs, fishery inspectors and port authorities, to easily identify a vessel and it facilitates also finding a vessel in case of distress at sea and in case it is stolen. More information on best practices for fishing vessel marking in the Caribbean can be found in the FAO- WECAFC brochure on "The marking and Identification of Fishing vessels"[38]. Moreover, it is good practice that vessel pictures are taken upon registration of a fishing vessel and that these are made available in a vessel record or registry to the various relevant authorities.

6.4 Insurance coverage and premiums

Based on discussions with fishers during the field mission and on survey responses, insurance could cover third party liability, damage and loss of infrastructure, fishing craft and gear, including damage and loss caused by natural calamities, limited medical expenses for captain and crew, provided crew are not temporary, and possibly theft. It should be left to fishers and others, whether they would like to buy all of the possible insurance coverage or only part of it.

Regarding premiums, chapter 5 shows what is presently considered affordable. However, much depends on insurance policies and what they precisely cover. Also, different types of vessels might qualify for different levels of premiums, depending on where and how they operate, anticipated risks, qualification and experience of captains and other factors, which all justify a flexibility of rates.

[38] Available at: http://www.fao.org/3/a-i7783e.pdf

However, it is suggested that all insurance policies should include no claim bonuses, and that premium payments should be annually or semi-annually, rather than monthly as is presently the case with some insurance companies. Insurance policies should clearly state what is covered and what is not covered, plus what the obligations of the insured are including deductibles. Gross negligence and what this means should also be spelled out in insurance policies. Group insurance schemes, common in health insurance in the Caribbean, should also be considered, particularly for members of fisherfolk organizations.

6.5 Role of CRFM, CNFO, CDEMA and FAO

CRFM, CNFO, CDEMA and FAO should all play a role in promoting climate smart best practices, providing training and monitoring the functioning and performance of the CFRIF and suggesting adjustments as necessary.

6.6 Making insurance mandatory for vessel registration

Taking note of considerations in Jamaica and elsewhere to make insurance mandatory for the registration of commercial fishing vessels, these considerations are fully endorsed in this report. Such efforts would greatly contribute to mitigate and spread the risks faced by the fisheries sector, enhance the resilience of the fishery industry, both economically and otherwise, and to make insurance more affordable including lowering rates of insurance premiums.

It might be advisable though to introduce mandatory vessel insurance in a phased manner in the Caribbean. The effort could start with making insurance mandatory first for relatively larger vessels, e.g. vessels of 12 metres length overall or more. Also, the mandate could be limited to third party insurance in the beginning.

6.7 Advantages of a Caribbean Fisheries Risk Insurance Facility

The proposed arrangement offers a number of advantages, which almost everyone the consultant talked to, acknowledged.

- Insurance companies already have trained/qualified staff, which can assess damage and evaluate and settle insurance claims.

- Fisheries authorities do not have such staff and would need to recruit/train them, which would be a sizable expense for countries with limited budgetary resources.

- Also, fisheries authorities are certainly not overstaffed. Involvement of their staff in insurance matters would divert human resources from other important tasks of management, regulatory, research and enforcement nature and possibly lead to conflicts with other tasks to be performed by staff. National emergency agencies are not involved in payouts, only in warning public and sourcing donors to help victims. Therefore, neither of the two agencies (fisheries and emergencies) would be capable to handle fisheries sector insurance programmes.

- If a CFRIF arrangement, operated by the public sector, would be put in place, it would compete with the private sector and not be cost- or otherwise efficient.

6.8 Steps to be taken for implementing the CFRIF

Implementation of the CFRIF at national level would benefit from the following steps:

Step 1: a dialogue would be initiated between fisheries authorities, fisherfolk organizations and insurance companies at the national level about cooperation with a Caribbean Fisheries Risk Insurance Fund (CFRIF). The dialogue would also be about making insurance policies more affordable for fishers plus adopting climate smart practices as a requirement for insurance cover. In return for receiving support from a CFRIF, insurance companies would pledge to modify their marine policies for fisheries to make them more suitable and affordable for the needs of fishers and the fishery industry. This will possibly include lowering of premiums and incorporation of no-claim bonuses among others. The outcome of these dialogues would determine which countries participate in the CFRIF.

Step 2: On signing legal agreements between participating countries and donors (possibly limited initially to a 10 year period), a CFRIF, to be capitalized by donors with contributions from governments, would be placed with a regional or global financial institution or the CCRIF.

Step 3: Insurance companies, which already offer marine policies, would be associated through legal agreements with the Ministries of Finance and Agriculture of the respective countries as well as the CFRIF.

Step 4: National fisheries authorities, fisherfolk organizations and insurance companies would combine efforts to increase the enrolment of fishers in fisheries assets insurance, including making certain types of insurance (third party liability, for example) mandatory for fishing vessel registration.

Step 5: Fishers pay insurance premiums, follow-climate smart practices and receive insurance cover, including cover in case of damages caused by natural calamities.

Step 6: Participating insurance companies would be eligible for payouts from the CFRIF, to be channeled through the respective Ministry of Finance of the participating country or directly from the CFRIF. The payouts would be triggered by a joint assessment of the national disaster/emergency management agency, the national fisheries authority and the national federation of fisherfolk organization plus the participating insurance company that (1) a natural calamity (hurricane, severe storm, rainfall, landslides, coastal erosion etc.) has taken place that (2) has seriously and negatively impacted the fisheries sector, the livelihoods of fisherfolk and the capacity of the sector to contribute to food security and (3) that has caused a sudden increase in insurance claims from the fisheries sector. The funds would be used by the insurance company to settle claims from the fishery sector caused by the natural calamity. The extent of funds to be paid out to insurance companies would have to be negotiated as a percentage of insurance claims received by the participating insurance company under step 1.

Step 7: CRFM, CNFO, CDEMA and FAO should play roles in promoting climate smart best practices, providing training and monitoring the functioning and performance of the CFRIF and suggesting adjustments as necessary.

Step 8: Taking note of considerations to make insurance mandatory for the registration of commercial fishing vessels, such efforts would greatly contribute to mitigate/spread the risks faced by the fisheries sector, enhance the resilience of the fishery industry, both economically and otherwise, and to make insurance more affordable including lowering rates of insurance premiums. It might be advisable though to introduce an insurance mandate in a phased manner. The effort could start with making insurance mandatory for larger vessels first. Also, the mandate could be limited to third party insurance in the beginning.

7. FOLLOW-UP FROM THIS STUDY

The findings of the study and the above recommendations were shared with the fisherfolk organizations and fisheries authorities that participated in the study, as well as CNFO, local insurance companies, the World Bank, the Department of State of the United States of America, TNC, CCRIF and CRFM. The results were further presented at and discussed at a CRFM Fisheries Forum meeting in Guyana in 2016 and Jamaica in 2017 and presented to their Ministerial Council in the same years. A brochure was made for fisherfolk on the findings of the survey, which was distributed by CNFO among its membership in 2017. The information was further shared at the 16th session of the Western Central Atlantic Fishery Commission in Guadeloupe, France, in June 2016, as well as at the 8th session of the WECAFC Scientific Advisory Group (SAG) held in Merida, Mexico, in November 2017.

The information was well-received and many stakeholders considered the proposed arrangement suitable and that it would meet the needs of the fisheries sector in the Caribbean.

Fisheries insurance awareness raising activities in several Caribbean countries are currently being supported by the GEF Special Climate Change Fund (SCCF) financed Climate Change Adaptation in the Eastern Caribbean Fisheries Sector (CC4Fish) project, which also promotes the access of fishers to social protection programmes at national level. The CC4Fish project uses the outcomes of the survey in its awareness raising and capacity building materials.

The survey outcomes were further used in the design of the United States of America' Department of State supported Caribbean Ocean Assets Sustainability (COAST) initiative. The proposed follow-up from the survey, as presented in chapter 7 of this circular, is currently (2018) receiving attention from various stakeholders active in the insurance and fisheries sectors.

8. CONCLUSIONS

The assessment of insurance needs and opportunities in the Caribbean fisheries sector showed that there is an expressed need for insurance, particularly third party liability, coverage of damage and loss of infrastructure, fishing craft and gear, including damage and loss caused by natural calamities, coverage of medical expenses for captain and crew in case of accidents, provided crew are not temporary, and possibly theft.

The assessment further showed that the establishment of insurance services for the fisheries sector in the Caribbean would benefit from a dedicated insurance facility that could support the sector's insurance providers in case of natural disasters that impact the sector at a large scale.

The fisheries insurance arrangement preferred by most of the stakeholders would be based on the existing locally available insurance systems, where fishers can buy marine insurance services from local marine insures and brokers. Through introduction of climate-smart practices, which would include preventive measures as well as best practices, the risks of damages and losses would be reduced. This, together with the insurance facility (called CFRIF in this study), would make it possible to reduce the current insurance premiums with about 50 percent, according to the local insurers.

A reduced premium would be more in line with the risk levels assessed by the fishers and fisheries authorities, and combined with slight adjustments to the policy wordings and payment methods this would result in sector-wide acceptance and an increased demand for insurance services.

Further benefits of the proposed arrangement would include that similar as for vehicle insurance the insurance companies can directly pay the compensation to the fishers, using their own loss and damage adjusters. Fisherfolk organizations could negotiate on behalf of their members with the insurers on the insurance conditions and policy wordings, and fisheries authorities as well as regional organizations would be able to promote the introduction of climate smart investments in the sector and monitor their application. Fisheries and marine authorities would gradually introduce vessel insurance as mandatory, starting with the larger vessels, through introduction of regulations related to vessel registration and fishing licenses. Ministries of Finance would oversee the whole system and monitor

the functioning of the dedicated insurance facility. This means that all relevant stakeholders involved would carry out those tasks that they are good at and have professional and competent staff for at hand.

The 2017 hurricane season in the Caribbean, with devastation caused by Hurricanes Irma, José and Maria to many islands (e.g. Barbuda, Cuba, Dominica, Puerto Rico and Saint Maarten), and the fishing communities on these islands, once again provided evidence that insurance services are essential for mitigating the impact of these natural disasters. Insurance is key for rebuilding and repairing the fishing fleets and restarting fishing activities, so income of fishers, food security and livelihoods in the fishing communities can be restored rapidly after these natural disasters.

The Caribbean fisheries sector urgently needs affordable and accessible insurance services. The authors hope that this circular will contribute to the availability and accessibility of these services for fishers and fisheries authorities in the region.

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ANNEXES

Annex 1 Questionnaire for fisheries authorities

Survey on the demand for fisheries insurance services in the Caribbean

Survey questionnaire for fisheries authorities

1. What is the name and address of your fisheries authority?

Name of authority	
Postal address	
Phone number	
E-mail address	
Name of contact person for follow-up	

2. Ownership and value of fisheries assets

What fishery assets such as fishery complexes, fish landing sites and fish marketing infrastructure and other infrastructure, as well as fisheries research and patrol vessels, mooring buoys, are owned by your authority, when were they acquired and what is their value? Please only list those assets, which you might want to insure.

Please complete below table.

Type of asset	**Technical specifications**	**Year of acquisition of asset**	**Cost/price of asset when first purchased/ constructed by you (estimated in USD)**	**In case, when asset was not new when purchased, age of asset when purchased**	**Estimated replacement value of asset[39]**
1.					
2.					
3.					
4.					

3. Past loss/serious damage to assets

4.a During the last 20 years, has your authority ever incurred any loss or serious damage of any of your fisheries assets? Yes/No

4.b If yes, which year did the damage/loss occur, what was the damage, cause and financial loss

[39] This is the money needed if you have to replace your fishery asset today with an asset of similar quality.

Year of damage/loss	Type of damage	Cause of damage	Financial loss in USD

5. Perceived risks of loss/serious damage to assets

What do you perceive as the greatest risk and underlying cause of damage and loss to your fishery assets?

Risk	Underlying cause
1.	
2.	
3.	
4.	

6. Perceived mitigation measures

What do you think you and others could do to lower and mitigate above risks?

Risk	Mitigation measures	You or other party that could implement mitigation measures
1.		
2.		
3.		
4.		

7. Climate smart alternative practices

Could you think of any climate change smart practices that you could adopt to reduce the risk of damage/loss to/of your fishery assets and prevent harm to your livelihood/occupation?

Climate smart practices are for example reduction of carbon emissions by changing to the use of renewable energy/fuel; preparation for natural calamities; sustainable use of fisheries resources; conservation, restauration and sustainable management of coastal habitats etc.

If yes, please list them in the order of their significance.

Order of significance	**Climate smart practice**
1.	
2.	
3.	

8. Which of the fishery assets owned by your authority are presently insured and by whom?

Fishery assets presently insured	Insurance agency/broker	Replacement/present value of asset	Insurance premium as percentage of replacement/present value of asset

9. Future insurance and premiums

What do you think would be reasonable annual insurance premiums, which you could afford to pay for items that you might want to insure?

Fishery assets to be insured	Replacement value (in USD)	Maximum annual insurance premium the authority/government would be willing to pay

10. Has fishery infrastructure owned by your authority ever benefited from Caribbean Catastrophic Risk Insurance Fund (CCRIF) payouts?

Yes/no.

If yes please specify

Asset	Cause and type of damage	CRIFF payout (in USD)	Year

11. Events that should trigger insurance cover

What are the events (such as hurricanes, floods, heavy rains, landslides, etc.), which you think, should trigger the insurance cover/ payouts?

1.
2.
3.
4.

12. Do you think that the availability of fisheries assets insurance will allow you to make investments in climate smart food security measures, such as:

Investment objectives	yes	maybe	no	don't know
Reduced fuel/energy consumption				
Reduced fishing pressure on coastal/reef ecosystems				
Improved hygiene/food safety practices				
Increased quality maintenance of and fisheries products				
Increased safety-at-sea				
Use of more sustainable fishing practices and methods				
Mitigation of/reduced damage to infrastructure				
More secure income/livelihoods shortly after disasters				
Others				

13. What is your view about the level of participation of fisherfolk in your country in life and health insurance schemes and social security programmes?

Level of participation of fisherfolk in	High	Medium	Low
Life/health insurance schemes			
Social security schemes			

If you consider the level of participation as low, what are your views on how that level can be improved?.....

14. Who is presently providing credit for fisheries assets in your country?

Name of credit/microfinance provider/source	Assets for which credit is being provided

15. If the fisheries assets are insured and fisherfolk have life and health insurance in your country, do you think that this would give them a better access to credit and micro-finance services?

Type of insurance	Yes	No	I don't know
Life insurance			
Health/accident insurance			
Fisheries assets insurance			

16.a Do you think men and women in the fisheries sector in your country have different needs for insurance? Yes/No

16.b If yes, please indicate what you think these different needs are:

17. Would your authority be willing to work with the finance ministry at the national level on the implementation of the insurance scheme and to make jointly an initial request later this year? Yes/no.

18. What do you think could be the possible role of your authority, in case we manage to get the insurance scheme operated later this year? Would you be willing to assist in asset valuation of fishers assets and/or monitoring implementation of climate change measures, damage assessment, collection of premiums and/or payout arrangements after disasters?

Please indicate how you might be able to assist:…….

19. Do you have any comments or suggestions regarding the topic of insurance, which you would like to share with us?

Thank you very much for your cooperation!

Annex 2 Questionnaire for fishermen/women, fish processors, vendors

Survey on the demand for fisheries insurance services in the Caribbean

Survey questionnaire for fishermen/women

1.a What is your current profession (such as skipper, vessel owner, crew member, fish retailer, fish trader, fish processor etc.): …….

1.b Which year did you start working in your current profession? .....

2.a What is your gender: male/female.

2.b What is your age:

3. Educational background. Please list your highest educational achievement (such as years of high school completed, vocational school, college etc.):

4. Vocational training.

4.a Did you receive any formal training related to your profession? Yes/No yes

4.b If yes, what training and for how long?

4.c Did you receive any informal training such as working on other boats or fishery enterprises and learning things on the job? Yes/no

4.d If yes, how many years:

5. How much of your total income is earned from your fisheries occupation?

More than half, between one third and half, less than one third?

Please check one of the choices.

More than half	
Less than half	

6. Ownership and value of fisheries assets

Type of asset	**Technical specifications** Please specify:	**Year of acquisition of asset**	**Cost/price of asset when first purchased by you**	**In case, when asset was not new when purchased, age of asset when purchased**	**Estimated replacement value of asset[40]**
Fishing vessel Please mention type of vessel: Displacement (in tonnes) … Length (in meter): HP:					
Fishing gear. Type of gear, length, depth, number of hooks, pots/traps, etc					
Navigational and fish finding equipment such as radar, GPS/chartplotter, autopilot, compass, others.					
Communication equipment such as VHF/SSB radio, satellite phone, VMS equipment, others					

[40] This is the money needed if you have to replace your fishery asset today with an asset of similar quality (in USD)

Type of asset	**Technical specifications** Please specify:	**Year of acquisition of asset**	**Cost/price of asset when first purchased by you**	**In case, when asset was not new when purchased, age of asset when purchased**	**Estimated replacement value of asset[41]**
Safety equipment such as dinghy, life vests, flares, others.					
Other equipment					
Fish marketing equipment					
Fish processing equipment					

7. Past loss/serious damage to assets

7.a During the last 20 years, have you ever incurred any loss or serious damage of any of your fisheries assets? Yes/No

7.b If yes, which year did the damage/loss occur, what was the damage, cause and financial loss

Year of damage/loss	**Type of damage**	**Cause of damage**	**Estimated Financial loss (USD)**

8. Perceived risks of loss/serious damage to assets

What do you perceive as the greatest risk and underlying cause of damage and loss to your fishery assets?

Risk	**Underlying cause**
1.	
2.	
3.	
4.	

[41] This is the money needed if you have to replace your fishery asset today with an asset of similar quality (in USD)

9. Perceived mitigation measures

What do you think you and others could do to lower and mitigate above risks?

Risk	**Mitigation measures**	**You or other party that could implement mitigation measures**
1.		
2.		
3.		
4.		

10. Climate smart alternative practices

Could you think of any climate smart practices that you could adopt to reduce the risk of damage/loss to/of your fishery assets and prevent harm to your livelihood/occupation?

Climate smart practices are for example reduction of carbon emissions and use of renewable energy/fuel; preparation for natural calamities; sustainable use of fisheries resources; conservation, restauration and sustainable management of coastal habitats etc.

If yes, please list them in the order of their significance.

Order of significance	**Climate smart practice**
1.	
2.	
3.	

11.a Are insurance services for fishing vessel and engines available in your country at present?

Please check option that applies.

Yes	
No	
I do not know	

11.b If yes, which insurance company or broker is involved:

12. If insurance services for fisheries assets will become available in future, would you be interested to insure any of your fisheries assets? Please check option that applies.

Yes	
May be	
No	
I do not know	

13. Items to be insured and insurance premiums

If you answered yes or may be to question 12, which of your fisheries assets you might want to insure and which maximum insurance premiums would you find acceptable.

Please let us know what do you think would be reasonable annual insurance premiums, which you could afford to pay for items that you might want to insure?

Fishery assets you might want to insure	Replacement value (in USD)	Maximum annual insurance premium you would be willing to pay

14. Events that should trigger insurance cover

What are the events (such as hurricanes, surges, heavy rains, floods, landslides, oil spills, sargassum etc.), which you think, should trigger the insurance cover/ payouts?

1.
2.
3.
4.

15. Life and health/accident insurance

15 a Do you have life insurance? Yes/No

If yes, what is the annual premium you are paying?

If no, why do you not purchase life insurance? Please check option that applies.

Not available	
Too expensive	
Not needed	
Have not thought about it	

15b. Do you have health/accident insurance? Yes/No

If yes, what is the annual premium for this insurance (please mention currency)? .....

If no, why do you not purchase health insurance?

Not available	
Too expensive	
Not needed	
Have not thought about it	

15.c If you do not have life insurance, would you possibly be interested in getting a life insurance? Yes/No.

If yes, how much could you afford to pay as annual insurance premium?.....

15.d If you do not have health/accident insurance, would you possibly be interested in getting a life insurance? Yes/No

If yes, how much could you afford to pay as annual insurance premium?

15.e Do you require a social security number, health and/or accident insurance for obtaining a fishing license in your country?

Requirement for obtaining a license	Yes	No
Social security number required		
Health/accident insurance required		

16. Are you entitled to a pension, social security payments or other retirement benefits once you stop working? Yes/No

If yes, what will be approximately your annual benefit?

17. Do you think that if your fisheries assets are insured, this would give you a better access to credit and micro-finance services?

Type of insurance	Yes	No	I don't know
Life insurance			
Health/accident insurance			
Fisheries assets insurance			

18. Do you think that the availability of insurance for your fisheries assets will allow you to make investments in climate smart food security measures, such as:

Possible effects of insurance availability:	yes	maybe	no	don't know
Reduced fuel/energy consumption				
Reduced fishing pressure on coastal/reef ecosystems				
Improved hygiene/food safety practices				
Increased quality maintenance of and fisheries products				
Increased safety-at-sea				
Use of more sustainable fishing practices and methods				
Mitigation of/reduced damage to infrastructure				
More secure income/livelihoods shortly after disasters				
Others				

19. Do you have any comments or suggestions regarding the topic of insurance, which you would like to share with us?

If you like us to contact you when the insurance products will become available, please provide your name and e-mail or telephone contact details below.

Thank you very much for your cooperation!

Annex 3 Statement on initiative to create a Caribbean Fisheries Risk Insurance Fund, adopted by the 9th CRFM Ministerial Council Meeting, held in Grenada, 15 May 2015

The meeting

Noted the initiative announced by the Government of the United States during the Caribbean Energy Summit on climate risk insurance for the Caribbean Fisheries sector, which is part of the Climate Smart Food Security (CSFS) efforts using a Risk Insurance Facility (RIF) approach;

Noted that the objective of this initiative is to incentivize the uptake of climate smart food security best practices within the fisheries and aquaculture sector in Caribbean nations to simultaneously improve food security as well as coastal resilience in the face of a changing climate;

Noted also the discussion and recommendations of the Forum on the initiative to establish a risk insurance facility for fishers;

Noted that the initiative is a work in progress and welcome the opportunity for Member States and stakeholders to provide input in the elaboration of the arrangements for the RIF;

Noted also the need to support the full involvement of Member States and institutions in the further development of this initiative;

Noted further the mobilization of the experts who would be visiting the region to consult with member states and regional stakeholders and called upon member states to cooperate in providing the necessary information;

Agreed that the CRFM and FAO collaborate on the promotion of climate smart adaptation practices in fisheries that could be insured;

Agreed that the Chair and Vice Chair of the Ministerial Council should participate in the upcoming meetings - the World Ocean Summit in Portugal on 3–5 June 2015, and the Oceans Conference in Chile on 5-6 October 2015, to represent the CARICOM / CRFM Member States; and

Welcomed and endorsed the initiative in principle to provide risk insurance facility to fishers and entities operating in the fisheries sector in the region.

Climate change related natural disasters pose serious threats and risks to livelihoods of fishermen and women as well as to food security in the Caribbean. To respond to these threats and risks, the FAO, the Department of State of the United States of America and the World Bank introduced an initiative on climate risk insurance for the Caribbean Fisheries sector as part of a global initiative on Blue Growth.

In support of this initiative a survey was conducted to identify fisheries assets that could be insured, value these assets, identify climate smart fisheries investments and practices and carry out an insurance needs and demand survey.

This Circular presents the findings of an assessment of insurance needs and opportunities in the Caribbean fisheries sector and includes information from Antigua and Barbuda, Barbados, Grenada, St Lucia, St Kitts and Nevis and St Vincent and the Grenadines. Some of the key findings are that: 97 percent of the fishing vessels and fishing assets were not insured, while in each of the CARICOM countries there is at least one local insurer offering marine insurance; 83 percent of the fishers would purchase insurance coverage for their vessels if it would be more affordable; only 17 percent of the fishers had a health insurance and 20 percent had an life insurance policy. Moreover, more than one-third of the fishers would be interested to invest in safe harbor, anchorage, haul out and vessel storage facilities, such as installation of bumper rails on piers and the use of fenders on boats and piers, if this would reduce insurance premiums.

Based on the findings of the insurance demand survey, an organizational arrangement for a Caribbean Fisheries Risk Insurance Facility (CFRIF) was developed, presented at various regional fora and shared with interested stakeholders.

THE WORLD BANK

CRFM Caribbean Regional Fisheries Mechanism

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