

# **Assessing the Implications of Implementing a Plan to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing in Belize**

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## ABSTRACT

The fisheries sector contributes significantly towards the economic and social advancement of many developing countries. Fisheries resources are often mobile, migratory and straddle maritime boundaries. These factors, combined with the challenge of determining their population size and sustainable yield, dictate the creation and implementation of integrated transboundary fisheries management policies. Any threat to the sustainability of fisheries resources, such as illegal, unreported and unregulated (IUU) fishing is a threat to the economic and social stability of fisheries dependent nations. Cognizant of the severity of this global issue, the Food and Agriculture Organisation (FAO) led the development of the International Plan of Action (IPOA) to Prevent, Deter and Eliminate IUU fishing. Building on this, the Agreement on Port State Measures to Prevent, Deter and Eliminate IUU fishing was recently developed. Necessary for the implementation of these instruments, is their regional and national integration within the fisheries policies of party states. In 2005, with the assistance of the Sistema de la Integración Centroamericano/Central American Integration System (SICA) and the FAO, Belize began drafting a National Plan of Action (NPOA) for IUU fishing. The Fisheries Department of Belize plans to revise and complete this now outdated NPOA for IUU fishing. This research report reviews the draft NPOA to determine gaps and deficiencies in comparison to current thinking on IUU fishing. Stakeholder policy evaluation workshops were conducted separately for resource managers and resource users to enable a participatory review of the document. Stakeholder interviews were conducted with representatives from key fishing cooperatives to ascertain the background to the problem in various locations, and the roles fishers can play in addressing the problem from their perspective. The content of the draft NPOA was evaluated by the researcher using an attribute-based rating scale. An analysis of all the collected information facilitated the creation of a list of recommendations focussed on filling the gaps and reducing the weaknesses identified.

**Keywords:** Belize; Illegal, Unreported and Unregulated (IUU) Fishing; National Plan of Action; policy evaluation

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## **LIST OF ACRONYMS**

AQUIF	Aquaculture and Inland Fisheries Unit (Fisheries Department of Belize)
BAHA	Belize Agricultural Health Authority
BDF MW	Belize Defence Force Maritime Wing
BFCA	Belize Fishermen Cooperative Association Limited
BPA	Belize Port Authority
CaMPAM	Caribbean Marine Protected Areas Managers Network and Forum
CARICOM	Caribbean Community
CCU	Conservation Compliance Unit (Fisheries Department of Belize)
CFRAMP	CARICOM Fisheries Resource Assessment and Management Programme
CFU	Capture Fisheries Unit (Fisheries Department of Belize)
CPUE	Catch per Unit Effort
CRFM	Caribbean Regional Fisheries Mechanism
CZMAI	Coastal Zone Management Authority Institute
EDF	Environmental Defense Fund
EEZs	Exclusive Economic Zones
EMU	Ecosystems Management Unit (Fisheries Department of Belize)
EU	European Union
FAO	Food and Agriculture Organisation
FFP	Fish and Fishery Products Unit (Belize Agricultural Health Authority)
FOC	Flags of Convenience
HACCP	Hazard Analysis Critical Control Point
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ILO	International Labour Organisation
IMMARBE	International Merchant Marine Registry of Belize
IMO	International Maritime Organisation
IOTC	Indian Ocean Tuna Commission
IPOA	International Plan of Action
IUU	Illegal, Unreported and Unregulated (Fishing)
MCS	Monitoring, Control and Surveillance
MOU	Memorandum of Understanding

MPAs	Marine Protected Areas
NEAFC	North East Atlantic Fisheries Commission
NGOs	Non-Governmental Organisations
NPOA	National Plan of Action
OSPESCA	Organizacion del Sector Pesquero y Acuicola del Istmo Centroamericano
RFMO	Regional Fisheries Management Organisation
SEA	Southern Environmental Association
SICA	Sistema de la Integracion Centroamericano/Central American Integration System
SPRFMO	South Pacific Regional Fisheries Management Organisation
TIDE	Toledo Institute for Development and Environment
UN	United Nations
WCPFC	Western and Central Pacific Fisheries Commission
WCS	World Conservation Society
WWF	World Wildlife Fund



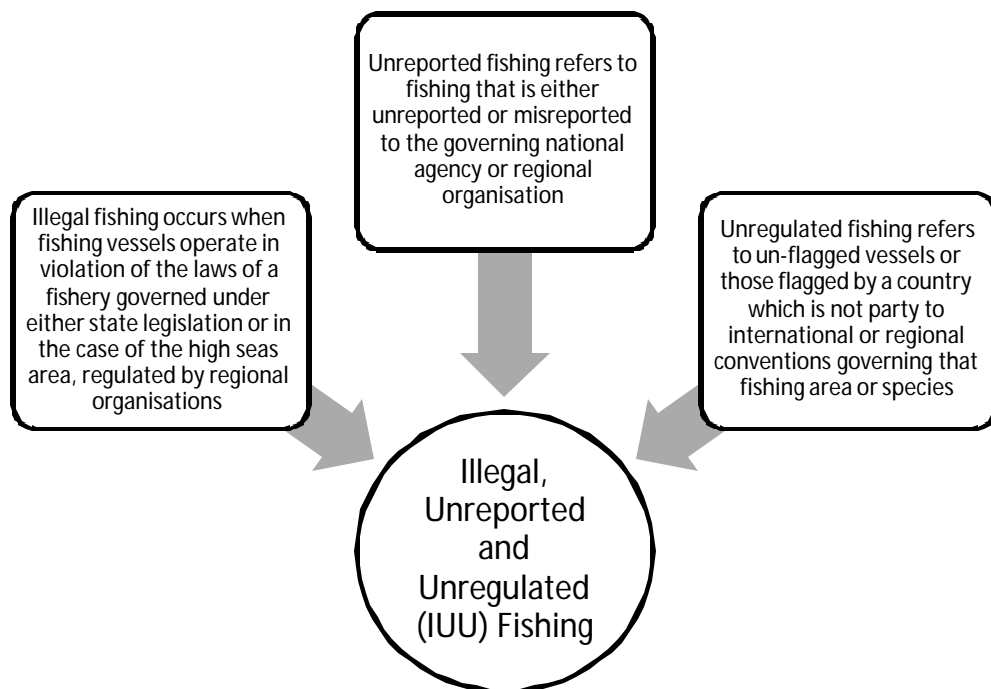
# 1. INTRODUCTION

## 1.1 Illegal, Unreported and Unregulated (IUU) fishing

In most Caribbean countries, the fishing sector is characterised as being open access, allowing fishers to pursue common pool resources that are both rival and non-excludable in nature. When a fisher extracts from the resource pool this reduces the number of available fish for other fishers. However, one cannot be restricted from the area since it is open for use by all.

This traditional characterisation of fishing makes fisheries resources vulnerable to over-exploitation by both national and international fishing vessels. The need to protect fish and other resources from over-exploitation urged countries to legally demarcate their Exclusive Economic Zones (EEZs) under the Convention on the Law of the Sea (Blake and Campbell, 2007). The establishment of EEZs legally empowered individual countries to regulate and monitor the use of resources within the former common property area beyond territorial waters that was open for use by both national and international fishing vessels (Blake and Campbell, 2007). However, the financial incentive to continue fishing everywhere in an unregulated manner has propelled the growth of one of the greatest global threats to marine ecosystems and fishing communities: illegal, unreported and unregulated (IUU) fishing. This report examines IUU fishing in Belize.

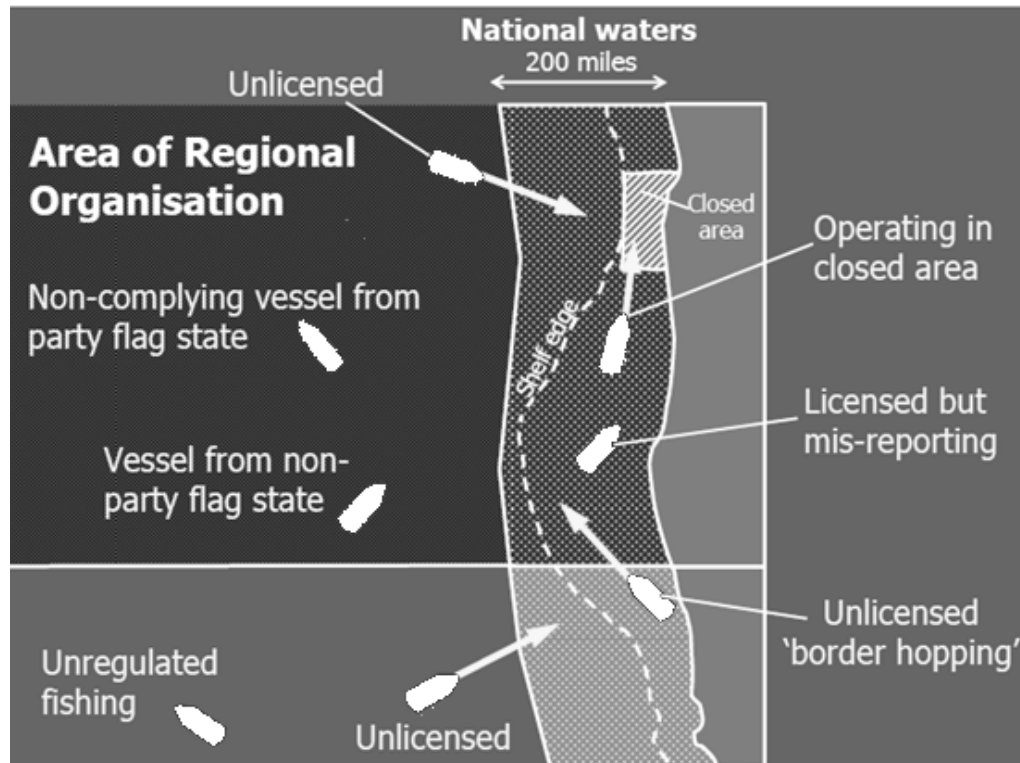
IUU fishing undermines any management effort employed by governments and resource managers to rebuild or conserve fish populations (Gallic and Cox, 2005). It encompasses three distinct but often related activities: illegal fishing; unreported fishing; and unregulated fishing. The Food and Agriculture Organisation (FAO) International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA for IUU fishing) defines these activities as shown in Figure 1.



**Figure 1 The three components of IUU fishing**

(Adapted from FAO (2001))

IUU fishing is an issue of global concern. As illustrated in Figure 2, the occurrence of IUU fishing is not geographically or spatially limited. It is widespread, affecting both coastal and high seas areas. Global fishing issues are generated by national fishing problems, whether they are insufficient monitoring; uncoordinated management; and/or a lack of both political and community impetus to address the problem.



**Figure 2 Various forms of IUU**

(Source: MRAG, 2009)

Figure 2 illustrates the various forms of IUU fishing. Illegal fishing can occur within a country's EEZ by unlicensed fishing vessels and by licensed vessels which fail to abide by the applicable national laws and conservation measures. Non-complying vessels from a party flag state can conduct illegal fishing within an area managed by a Regional Fisheries Management Organisation (RFMO). Unreported fishing can occur within both territorial waters and areas under the management of an RFMO due to the mis-reporting or failure to report fish catch data by fishing vessels. Unregulated fishing can occur in areas under the management of an RFMO by vessels from a non-party flag state. It can also occur on the high seas where there is no applicable conservation or management measures governing the area. Careful examination of these criteria dispels the myth that IUU fishing concerns only large-scale industrial fisheries.

## 1.2 The impacts of IUU fishing

IUU fishing is not a new phenomenon. Agnew et al. (2009) and Gallic and Cox (2005), underscore the cumulative range of impacts this global phenomenon has had and is currently having on the world's fish stocks, fishing grounds and the socioeconomic welfare of nations reliant upon fishing industries.

Given the often clandestine nature of IUU fishing, fishers involved in the practise may disregard other national, regional and international legislation, treaties, agreements and RFMOs governing the fishing area or species. For example, they may also fail to adhere to regulations restricting:

- (i.) fishing during closed seasons and in closed and protected areas;
- (ii.) the capture of juvenile and undersized fish; and
- (iii.) the use of gears which facilitate by-catch and the destruction of habitats

The destructive IUU fishing practices listed above, combined with other factors such as: the targeting of high value species; overfishing; by-catch; and overcapacity in the fishing sector could ultimately result in a reduction of the available catch for law abiding fishermen (Andrews-Chouicha and Gray, 2005). A reduction of the catch per unit effort (CPUE) or total catch could jeopardize the livelihoods of law abiding fishermen, fishing communities and nations dependent upon their fishing sector as a source of income and animal protein. A reduction of available fish can propagate conflicts among national vessels and between foreign fleets over fishing grounds.

Agnew et al. (2009) noted that IUU fishing results in a loss of resource rent to illegal fishermen that should be captured by legitimate fishermen and management authorities. Loss of income results in a loss of multiplier effect within the fishing community (ACP, 2009). Given the secretive nature of IUU fishing, there is a dearth of precise data indicating the extent and magnitude of the economic loss it has generated. Agnew et al. (2009) estimate the annual worldwide economic loss due to IUU fishing to be within the range of US\$10 billion to US\$23.5 billion which is equivalent to 11.06 to 25.91 million tons of fish (ACP, 2009). “The upper limit represents about 30% of the value of fish entering the international fish market and 30% of the annual official global marine capture harvest” (ACP, 2009: pp.2).

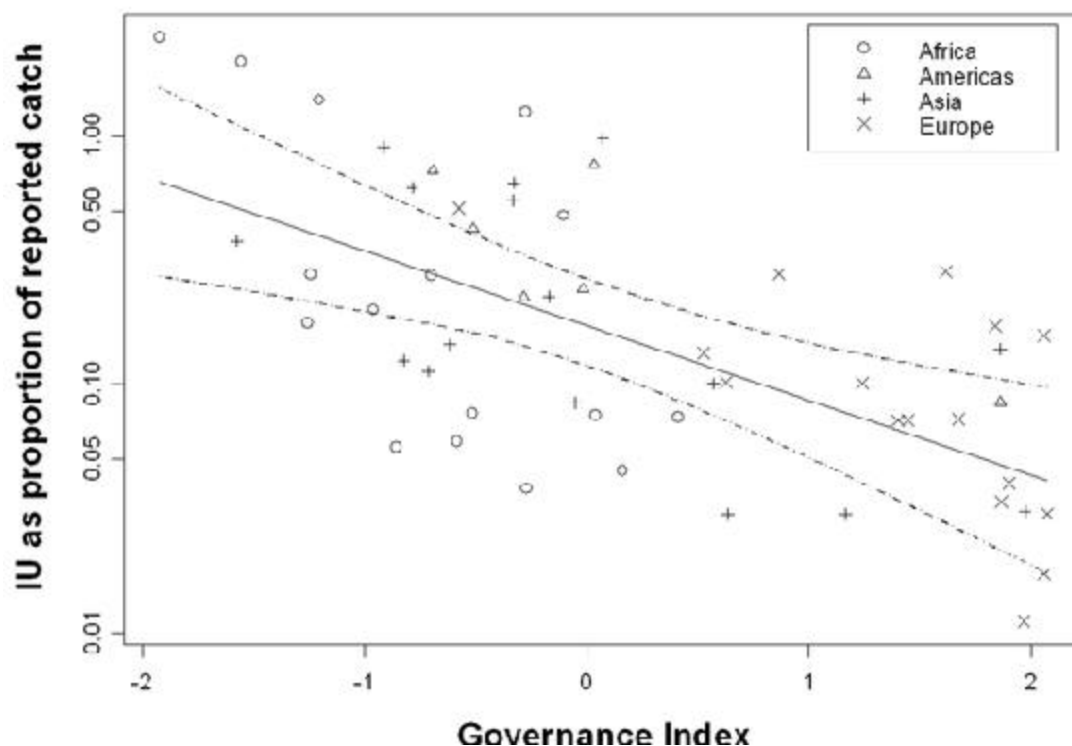
Furthermore, the risky nature of IUU fishing can jeopardise the lives of seafarers. Vessels engaging in IUU fishing practises often provide sub-standard working and living conditions, low wages and inhumane treatment of crew members (Higginbottom, 2006; Schmidt, 2004). Individuals seeking a better life from poor nations willingly work on IUU fishing vessels that provide poor working conditions.

### **1.3 The drivers and facilitators of IUU fishing**

Based on the above figures of economic loss, it is well recognised that the main driver of IUU fishing is financial profit. However, it is enabled by factors such as weak and poor governance (ACP, 2009). Poor developing countries suffer the greatest economic loss as a result of IUU fishing since they often lack:

- (i) the resources to effectively monitor and control fishing activities within their EEZs; and
- (ii) the necessary legislation and policies to govern the management of their fishing sector.

Studies (MRAG, 2005; MRAG and FERR, 2008) revealed that IUU fishing is predominant in poor developing countries with poor governance. As illustrated in Figure.3, the study found that countries which demonstrated low scores in 2003 for the four World Bank indices of governance - government effectiveness; regulatory quality; rule of law; and control of corruption - were the most susceptible to IUU fishing “by both their own fishers and vessels from distant water fishing nations” (Agnew et al., 2009, p.4).



**Figure 3 Relationship between the World Bank Indices of governance (government effectiveness, regulatory quality, rule of law and control of corruption) and illegal and unreported (IU) catch represented as a percentage of the global reported catch**

(Source: MRAG, 2009)

#### **1.4 International measures taken to address IUU fishing**

Recognised as an issue requiring global action, the international community has sought to conduct numerous national, regional and international fora focused on combating IUU fishing. This led to the formation of many national, regional and international managing organisations, agreements and treaties such as:

- (i) The United Nations Convention on Law of the Sea was opened for signature in 1982, but entered into force in 1994. The convention prescribes a system of law and order in the world's oceans and seas by establishing a suite of rules governing the use of the oceans and associated resources.
- (ii) The Code of Conduct for Responsible Fisheries was initiated in 1991 and entered into force in 1995. This voluntary instrument aims to facilitate the long-term sustainable management of the world's fisheries.
- (iii) The United Nations Agreement Relating to the Conservation and Management of Straddling and Highly Migratory Fish Stocks was opened for signature in 1995, but entered into force in 2001. The instrument focuses on engendering cooperation between states to ensure that the management of straddling and highly migratory fish stocks within jurisdictional waters and adjacent high seas are compatible.
- (iv) The FAO IPOA to Prevent, Deter and Eliminate IUU Fishing was adopted in March 2001 and subsequently endorsed in June 2001. This voluntary instrument provides the

guidelines for facilitating effective fisheries management. Integral to the success of the IPOA for IUU fishing is the adoption of these principles regionally and nationally. The UN FAO IPOA aims to prevent, deter and eliminate IUU fishing by garnering the commitment of party states to implement their own NPOA for IUU fishing.

- (v) The High Seas Task Force was launched in 2003 and consists of a group of fisheries ministers from countries such as Australia, Chile, Canada and international organisations such as the World Wildlife Fund (WWF) and the IUCN-World Conservation Union. The aim of this organisation was to develop a plan to combat IUU fishing in the high seas which it completed in 2006.
- (vi) The FAO Agreement to Promote Compliance of Fishing Vessels with Conservation Measures on the High Seas was adopted in 1993, integrated as part of the Code of Conduct for Responsible Fisheries in 1995 and entered into force in 2003. The agreement is mandatory. Its aim is to prevent the 'reflagging' of vessels under the flags of nations that are unable to monitor and supervise their fishing activities.
- (vii) The Agreement on Port State Measures to Prevent, Deter and Eliminate IUU Fishing was approved by the FAO Conference at its Thirty-sixth Session in November 2009. Its aim is to prevent vessels suspected of illegal fishing from using the ports of party States to off-load their catch and accessing their port services. Its objective is to prevent illegal fish from entering the marketplace by denying IUU fishing vessels and transshipment vessels carrying IUU-caught fish access to ports for the purpose of landing, transshipment and in some cases resupply and refuelling (Gianni, 2008).

## **1.5 Regional fisheries organisations**

Belize is an English speaking Central American country located in the Wider Caribbean Basin (Figure 4). It is a member country of the Caribbean Community (CARICOM) and Sistema de la Integración Centroamericana (SICA) as well as, their respective fisheries organisations, the Caribbean Regional Fisheries Mechanism (CRFM) and the Organización del Sector Pesquero y Acuicola del Istmo Centroamericano (OSPESCA). The inability of Caribbean countries to sufficiently monitor their fisheries sectors makes them particularly vulnerable to IUU fishing by both local and foreign fishers. In many instances the fisheries resources for these countries can be classed as shared, migratory or straddling their maritime borders. Member countries of both fisheries organisation possess, often disjointed, fisheries management policies. Faced with this reality, both the CRFM and OSPESCA have sought to develop policies which focus on establishing collaborative action by their member countries through the formation of regional policies and agreements.

### **1.5.1 The Caribbean Situation**

Given their geographical location, Caribbean countries are either partially or completely surrounded by coastal waters and resources. A lack of financial, human and technical resources poses a great challenge in enabling these countries to sustainably manage the marine resources present within their vast EEZs and the fishing activities of their flagged high seas fishing vessels.

IUU fishing is an ongoing problem faced by all of CARICOM and beyond. Countries tackling this issue include Antigua and Barbuda, Belize, The Bahamas, Guyana, Jamaica, St. Lucia, St. Vincent and the Grenadines, Suriname, Turks and Caicos Islands and Trinidad and Tobago (Haughton, 2003). Poor management and monitoring of coastal resources facilitate IUU fishing,

over-fishing and the degradation of coastal habitats and ecosystems by both nationals and foreigners in the Caribbean (Haughton, undated). However, a lack of human, technical and financial capacity has prevented CARICOM from determining the full extent of IUU fishing impacts on its member states' fisheries (Franklin, 2006).

The illegal harvesting of fisheries resources by fishers from neighbouring Caribbean countries is the basis for numerous fishing disputes and controversies within the region (Franklin, 2006). The commercially important fish stocks in the region often straddle or migrate across the national boundaries of several Caribbean states (Haughton et al., 2004). In an attempt to harvest shared fish stocks, fishers often cross the borders of neighbouring countries. For example, the lucrative Caribbean spiny lobster (*Panulirus argus*) and queen conch (*Strombus gigas*) form the primary fisheries for many Caribbean countries such as The Bahamas, Turks and Caicos, Jamaica and Belize (Franklin, 2006). The Bahamas is a major exporter of lobster and conch in the Caribbean (Theile, 2005).

Repeated poaching of fishing grounds, the use of prohibited fishing gears, and fishing during closed seasons by fishers from neighbouring countries such as Cuba, Honduras and the Dominican Republic threatens the fishing sector of The Bahamas (Franklin, 2006). It is reported that The Bahamas loses approximately US\$22 million per year due to the removal of fisheries resources by illegal fishers from countries such as the Dominican Republic (Robards, 2010). The illegally harvested fish products are often taken back to the fishers' home country and sold within their local markets and/or possibly exported to international fish markets. This highlights the need for countries to conduct greater in-house scrutiny when comparing catch estimates with the level of trade so as to identify possible IUU fishing activity by its nationals.



Figure 4 The geographical location of Belize

There have been limited reports regarding the occurrence of IUU fishing in the EEZs of CARICOM countries by distant water fishing vessels. This can be attributed to a lack of continuous monitoring of the area which has prevented reporting on the issue. Fishers from St. Vincent and the Grenadines have recorded sightings of distant water fishing vessels fishing in the

island's EEZ and the subsequent transshipment of the fish catch to mother vessels (Franklin, 2006). Records indicate that four US longline vessels were arrested by the St. Vincent Coast Guard for the illegal harvesting of tuna and swordfish during the period of 1985 to 1998 (Franklin, 2006).

Admittedly, IUU fishing within the EEZs of CARICOM countries is perpetrated to a great extent by national commercial artisanal fishers. Authorities in Guyana estimate that IUU fishing by artisanal fishers is a greater threat to their fishing sector than distant water fleets (Franklin, 2006). However, a distinction between foreign artisanal fishers and national artisanal fishers was not established. Table 1 illustrates that more Belizean fishers were arrested in Belizean waters for activities related to IUU fishing for the years 2004, 2005 and 2006 when compared to the number of foreign fishers arrested. However, these records represent data collected during a short time span. Sustained data collection covering a large expanse of the EEZ during the day and night time is required to create an accurate profile of the perpetrators of IUU fishing in the national waters of CARICOM countries.

**Table 1 Percentage of fisheries arrests in Belize from 2004 to 2005 according to nationality**

Nationality	Percentage of Arrests by Year		
	2004	2005	2006
Belizean	87	75	44
Honduran	9	13	2
Guatemalan	0	12	23
Other	4	0	0

(Source: GOB, 2004; GOB, 2005 and GOB, 2006)

The escalation of IUU fishing is facilitated by outdated legislation and lax penalties and fines governing the management of fisheries for many countries (OECD, 2004). CARICOM countries are not exempt from this situation. With the exception of a few CARICOM nations, fisheries legislation, policies and regulations require updating and revision in order to comply with the international standards set forth to combat IUU fishing (Franklin, 2006). The fines and penalties levied on individuals apprehended for IUU fishing are often too low to serve as a deterrent. Often times fines are simply regarded as the cost of doing business since the illegal vessels invariably return to the fishing grounds to carry on business as usual (OECD, 2004). This is exemplified quite often in CARICOM countries where repeated poaching is commonplace since the monies gained from the sale of the illegal fish products far outweighs the fines levied for fisheries infractions.

Likewise, the management of high seas fishing vessels flagged by countries in CARICOM requires better management. The inability of member countries to sufficiently manage their re-flagged vessels has resulted in many countries being marked as open registries offering flags of convenience (FOC) and the black listing of numerous high seas fishing vessels flagged in the Caribbean (Gianni and Simpson, 2005).

In 1991, with the support of the Canadian Government, CARICOM developed the CARICOM

Fisheries Resource Assessment and Management Programme (CFRAMP). The objectives of the programme were to facilitate the sustainable use and conservation of fisheries resources of CARICOM Member States and to establish a regional fisheries mechanism (Haughton et al., 2004).

Developing from CFRAMP was the CRFM in 2003. Borrowing from CFRAMP, its objective is to promote and facilitate the sustainable use of the region's fisheries and other aquatic resources through regional cooperation in the management of these shared resources (Haughton et al., 2004).

Fundamental to achieving this objective is the formation of a common fisheries policy for CARICOM member states. In 2003, CARICOM Heads of Government mandated the preparation of a common fisheries policy that would improve the contribution of fisheries to the region's economic development as well as the conservation and management of the region's fish stocks and marine ecosystems. To date, the common fisheries policy has not been completed and CARICOM Heads of Government and other stakeholders are still in the process of reviewing and revising the draft document. However, emerging from this draft document was the need to establish a regional fisheries management authority that would enable cooperation and harmonisation of efforts in the monitoring, control and surveillance (MCS) of the region's waters and marine resources. This stems from the realisation and acknowledgment by CARICOM Heads of Government that IUU fishing, practised by both local and foreign vessels, threatens the sustainability of member countries' fisheries and thus must be adequately addressed.

This led to the Castries (St. Lucia) Declaration on IUU Fishing by the Ministerial Council of the CRFM in July, 2010. Building upon the call of action by the UN FAO IPOA for IUU fishing, the Castries (St. Lucia) Declaration on IUU Fishing provides a holistic and integrative approach for addressing IUU fishing in the region. The result has been a resounding pledge of support to CARICOM by organisations such as the Caribbean Marine Protected Areas Managers Network and Forum (CaMPAM). The Castries (St. Lucia) Declaration on IUU Fishing establishes the following guidelines for its member states:

- their duties and responsibilities as a flag, port and coastal state;
- the need to become signatory to applicable international agreements;
- establishing laws and regulations that promote integrative and transboundary management, control and surveillance of fish resources in the region and information sharing; and
- the need to create and implement their NPOA for IUU.

CRFM is aware of the negative impacts IUU fishing is having on its member countries' fish stocks, marine environments and the socioeconomic welfare of their fishing communities. Since the perpetrators are both local and foreign, CRFM acknowledges that global, regional and most importantly, national cooperation is required to prevent, deter and eliminate IUU fishing.

#### 1.5.2 The Central American Situation

Approximately 300 metric tons of wild caught and aquaculture fish products having an estimated value of US\$850 million are sold locally, regionally and internationally by the Central American Isthmus countries (SICA/OSPESCA, 2005). The fishing sector of the region employs about 90,000 small scale fishers (SICA/OSPESCA, 2005). Dwindling fish stocks combined with the



threat of IUU fishing in the region places the fishing sector in a dire situation. The regional director of OSPESCA, Mario Gonzalez, reports that IUU fishing is an ever present threat in the region with an estimated 50% of the fish products in the region being undeclared or is mis-reported by both independent fishes and large scale processors (physorg.com, 2010). An estimated 20% to 30% of the total fish products delivered to processing plants are presumed to be illegal (physorg.com, 2010). Numerous countries in the region operate international maritime registries. Central American flagged high seas fishing vessels have been accused of unscrupulous fishing activities on numerous occasions.

In 1995 the Central American Isthmus, through the San Salvador Act, endorsed the formation of the Fisheries and Aquaculture Sector of the Central American Isthmus Organisation (OSPESCA). The objective of OSPESCA is to promote the sustainable development of fisheries and aquaculture for the region through an integrated, participatory manner.

Recognizing that: (1) fisheries resources in the area are common, migratory or highly migratory (SICA/OSPESCA, 2005); (2) similar fisheries management problems occur in member countries; (3) member countries have signed on to similar international agreements; and (4) member countries lack the necessary resources to fully comply with signed international agreements; in 2005 the OSPESCA Council of Ministers endorsed the implementation of the Integration Policy of Fisheries and Aquaculture in Central America. The main objective of the policy is to promote the establishment of a common regional system which would focus on harmonising fisheries management for Central American countries. The strategies coming forth from the policy are the strengthening of the region's fisheries management agencies, coordinating fisheries regulations and integrating the MCS systems of the region.

Building on these strategies, OSPESCA facilitated the creation of the NPOA for IUU Fishing and the NPOA for the Conservation and Management of Sharks for several member countries. In 2010, OSPESCA sought to regularise the 2009 to 2010 closed seasons for the lucrative lobster fishery in the Central American Isthmus. This resulted in a more closely matched closed season for Belize (February 15 - June 14) and its neighbouring countries of Honduras (March 15 - June 30) and Guatemala (March 15 - June 14).

OSPESCA's resounding message has been one of coordinated fisheries management for the region. When countries seek to create fisheries management policies, they must strive to coordinate their efforts with those of their neighbouring countries in order to maximise their effectiveness (Palma et al., 2010). If not, this significantly reduces the chances for developing a sustainable national and regional fishery. In essence, one's effort is only as good as what his neighbour is doing.

## **1.6 Belize's National Plan of Action to deter, prevent and eliminate IUU Fishing**

The Fisheries Department of Belize in conjunction with OSPESCA, and through the financial support of the FAO, sought to create the NPOA for IUU fishing. The Department conducted numerous workshops with representatives from the Belize Coast Guard and the various fishing cooperatives. The result was the creation of an incomplete and now outdated document which focussed primarily on Belize's responsibility as a coastal port and flag state to prevent, deter and eliminate IUU fishing. The Department plans to revise and complete the document in the near future in order to meet international compliance standards for addressing IUU fishing. This research plans to build on the past efforts of the Department. It seeks to evaluate the document using a participatory approach. It is envisaged that the end product will be the creation of

recommendations that will guide the Department in the creation of a revised document.

### **1.7 Project rationale and objectives**

The revenue collected from the local fishing sector and the International Merchant Marine Registry of Belize (IMMARBE) from Belizean flagged high seas fishing vessels contribute significantly towards the socioeconomic development of the country. If Belize is to suitably address the issue of IUU fishing it must first evaluate the management of both its flagged high seas fishing vessels and the national fishing sector.

The management of its flagged high seas fishing vessels has been recognised internationally on numerous occasions by organisations such as the International Maritime Organisation (IMO) for its continued improvement. This bears witness to the efforts made by IMMARBE; a registry once cited as unsatisfactorily monitoring its high seas fishing vessels. Maintaining and improving upon the current standard, is thought to require an increase in human resources and collaborative management between IMMARBE and the Belize Fisheries Department.

IUU fishing is a reality for the local fishing sector of Belize. A report on, Fisheries Our Common Wealth, by the Commonwealth Fisheries Programme (2009) estimates that Belize loses approximately US\$10 million a year due to the occurrence of this ruthless activity on its territorial waters. IUU fishing by both local and foreign fishermen on Belize's territorial waters is a common occurrence. The deterrence of this practice requires integrated inter-sectoral management by local agencies and collaborative transboundary management.

Tackling IUU fishing calls for national commitment with support from the political level through the provision of legislation, human, financial and technical resources. Adhering to the national fishing legislation and regulation is required at the community level. The typical initial step for countries committed to combating IUU fishing entails creating and implementing a NPOA for IUU fishing. Formulating a valid NPOA for IUU fishing requires conducting a comprehensive gap analysis which involves: analysing the national fishing sector; the current IUU problems encountered, the current national response; and the weaknesses and failures in the current MCS framework (ACP, 2009).

The objectives of this research paper are to:

- Review the existing incomplete NPOA for IUU to determine the gaps and deficiencies of the policy document in the context of recent multi-level IUU instruments, namely, the Castries (St. Lucia) Declaration on IUU Fishing and the Port State Measures to Prevent, Deter and Eliminate IUU fishing.
- Produce recommendations which can be used by the Belize Fisheries Department as a guide when constructing the new NPOA for IUU fishing.

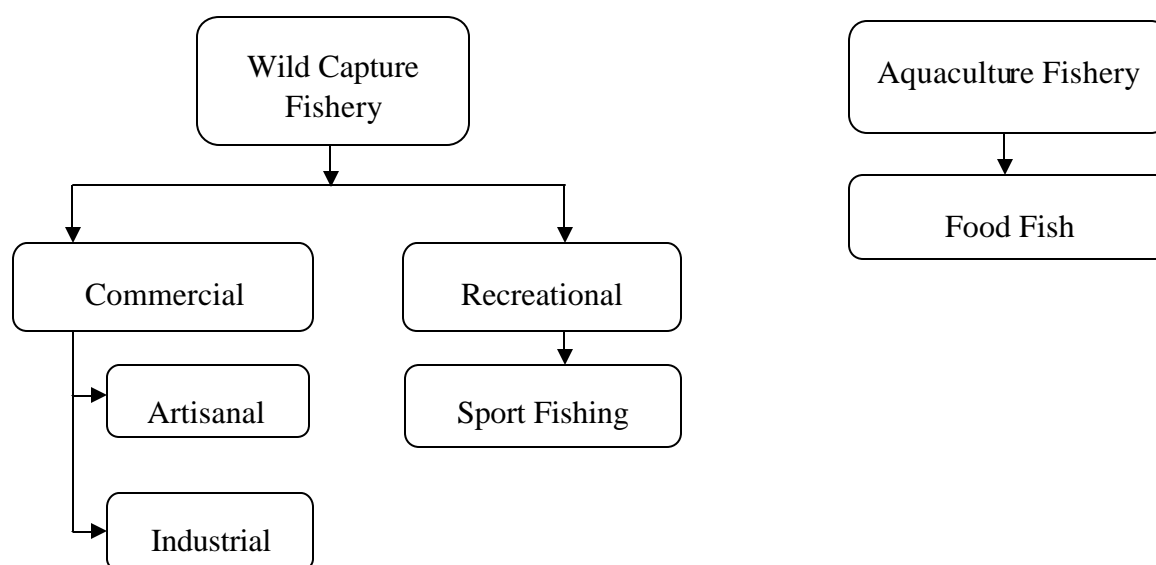
### **1.8 Arrangement of the Report**

The following sections of the document consist of a background which explains the structure and management of the national fishing sector and the Belizean flagged high seas fishing vessels, the current fisheries legislation and IUU fishing in the Belizean setting. This is followed with a description of the methods used to evaluate the NPOA for IUU fishing in order to identify gaps and weaknesses and create recommendations for the proposed revised policy document. The results and discussion follow, which provide a complete review and analysis of the data gathered. Recommendations and conclusion follow. The report concludes with references and appendices.

## 2. BACKGROUND

### 2.1 Description of the Belize fishing sector

In 2006, the fishing sector contributed 5% to the nation's GDP (FAO, 2005), a figure not fully representative of the true value of the sector since it contributes considerably towards the development of Belize. It provides foreign exchange, employment, food security, improved socioeconomic welfare for local fishing communities, and helps to sustain the local culture and the tourism industry. In 2006, the sector directly employed 1,672 licensed fishers and supplied 15 kg of fish per person on the local market (Wade, 2010). Figure 5, illustrates the schematics of the fishing sector which is composed of a capture fishery and aquaculture fishery. Given that the report focuses on the management of wild capture fisheries, a detailed description is provided for the capture fishery component.



**Figure 5 The components of the national fishing sector of Belize**  
(Source: Adapted from Villanueva, 2009)

### 2.2 Components of the Belize capture fishery

#### 2.2.1 Commercial artisanal fishery

This is an open access multi-species fishery. The lucrative Caribbean spiny lobster (*Panulirus argus*) fishery forms the foundation of the capture fishery sector, followed by the queen conch (*Strombus gigas*). Through the assistance of the Environmental Defense Fund (EDF) and the Wildlife Conservation Society (WCS), the Fisheries Department is currently designing a pilot catch shares lobster fishery programme for Glover's Reef and the Port Honduras Marine Reserve. The programme aims to control fishing effort by developing a managed access lobster fishery in Belize (M. Gongora pers. comm.)<sup>1</sup>.

A large proportion of the Caribbean spiny lobster and queen conch caught are exported to international markets such as the European Union (EU) and the United States of America (FAO,

<sup>1</sup> (M. Gongora, Capture Fisheries Unit Coordinator, Fisheries Department of Belize, September 6 2010, pers. comm.).

2005). Local markets and exports to regional markets concentrate mostly on high value finfish such as groupers of the genera *Epinephelus* and *Mycteroperca*; snappers of the genera *Lutjanus* and *Ocyurus*, the hogfish (*Lachnolaimus maximus*); the king mackerel (*Scomeromorus cavalla*); the great barracuda (*Syhyraena barracuda*); and jacks of the genera *Alectis*, *Caranx* and *Trachinotus* (Wade, 2010).

Belize has an EEZ of approximately 170, 000 km<sup>2</sup> (searounds.org). The total fished area is estimated at 4700 km<sup>2</sup> within a depth range of 1.5 to 10 m<sup>2</sup> (FAO, 2005). As illustrated in Figure 6, Belize's coastal waters are separated into central, northern and southern provinces. Located within these provinces are a total of six established fishing areas. Shallow waters surrounding the Meso-American Barrier Reef, Turneffe Islands, Lighthouse Reef and Glovers Reef are utilised extensively by fishers. Local fishers utilize vessels such as small open boats with outboard engine, sailing sloops and canoes which are not suitable for fishing beyond the reef. Fishers utilising small open boats fish for only the day (6 hours); while the sailboat fishers fish for periods of 6 to 12 days depending on their ice supply (Villanueva, 2009). Local fishers free dive, utilise hand lines, hook sticks, trolling, fish and lobster traps and gill nets.

The industry is composed of both independent fishers and those belonging to the five local fishing cooperatives. More than 50% of the licensed fishers involved in the commercial artisanal fishery are members of one of the five fishing cooperatives: Caribena Fishermen Cooperative, Northern Fishermen Cooperative, National Fishermen Cooperative, Placencia Fishermen Cooperative and the Rio Grande Fishermen Cooperative (FAO, 2005). Cooperative members sell their products to their respective cooperative where they are processed and packaged for sale on local and/or international markets. The cooperatives maintain records of the catch profile which is then submitted to the Fisheries Department for data management purposes. Most of the fishers belonging to these cooperatives are residents of established fishing communities such as Sarteneja Village, Placencia Village and Punta Gorda Town.

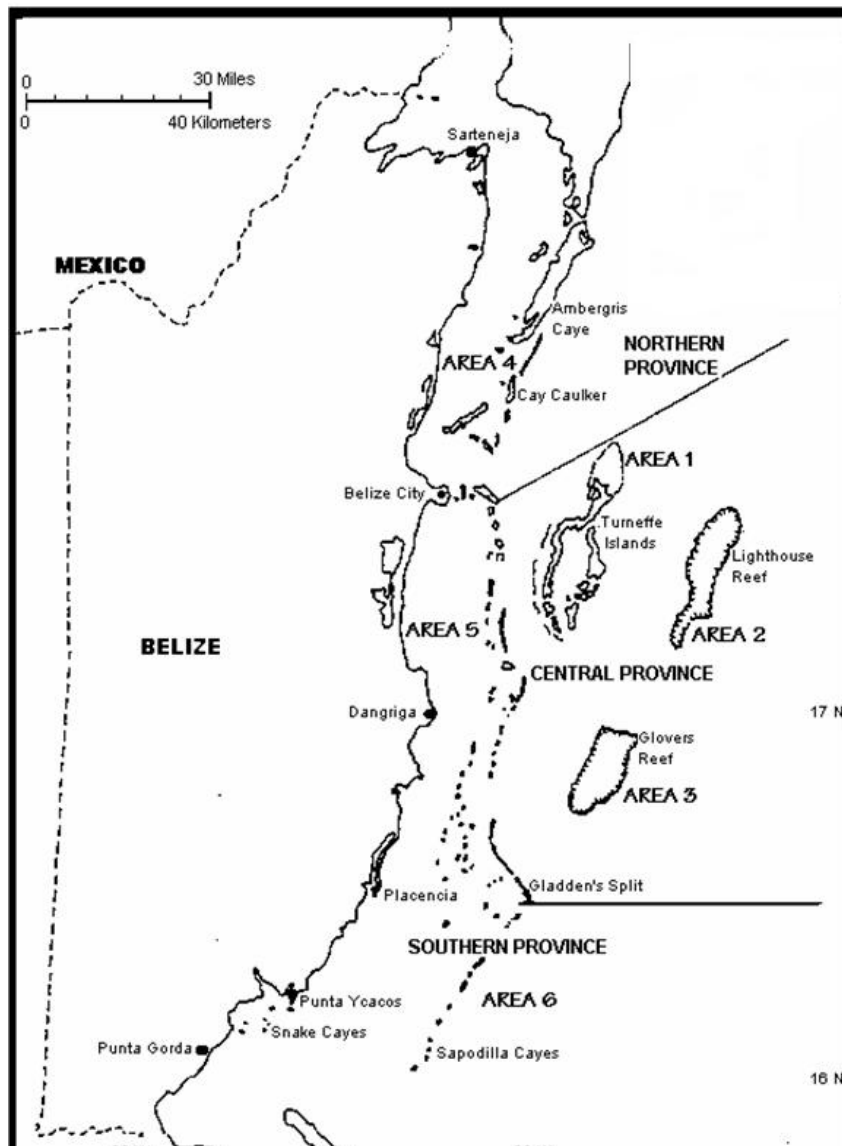
Independent fishers either: (1) land their fish at one of the four main fish markets in Belize: the Vernon Street Fish Market in Belize City; the Corozal Market; the Dangriga Market; or the Punta Gorda Market; and/or (2) sell their fish products directly to local restaurants, hotels and community members. A portion of fisheries data is lost as a result of the minimally monitored, recorded or regulated commercial trading arrangements.

### 2.2.2 Industrial fishing

This is an open access fishery which targets the pink shrimp (*Penaeus dourarum*). Once a lucrative fishery, industrial shrimp trawling has reduced significantly in capacity due to a reduction in catch numbers. To date the fishery is composed of two locally owned shrimp trawlers which operate in the Victoria and Inner Channels of Southern Belize (Villanueva, 2009).

### 2.2.3 Sport/recreational fishing

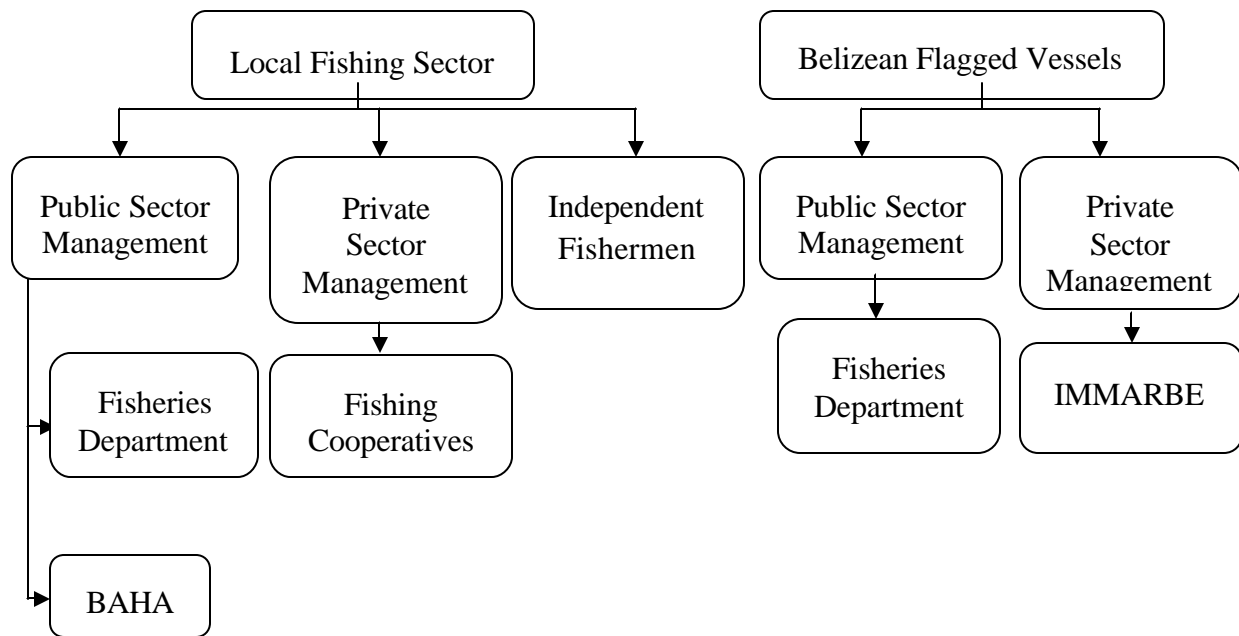
This is an emerging fishery which targets numerous species such as the tarpon (*Megalopus atlanticus*), common snook (*Centropomus undecimalis*) and the bonefish (*Albula vulpes*) (Villanueva, 2009). The fishery is currently being regulated by the Coastal Zone Authority.



**Figure 6 The six fishing areas of Belize**  
(Source: Fisheries Department, undated)

### 2.3 Description of fisheries management in Belize

The Fisheries Department of Belize is the principal body responsible for regulating the fishing sector. The Belize Agricultural Health Authority (BAHA) ensures that sanitary control measures are in place at the relevant fishing cooperatives and on Belizean flagged high seas fishing vessels. Ensuring that sanitary control measures exist at export facilities and onboard high seas fishing vessels is necessary for the exportation of fish products to international markets. The local fishing cooperatives regulate the production component of the sector whereas the registration and monitoring of Belizean flagged high seas fishing vessels is done by IMMARBEL. Figure 7 below illustrates the schematics of fisheries management in Belize.



**Figure 7 The management of the local and high seas fishing sectors of Belize**  
(Source: Adapted from Wade, 2010)

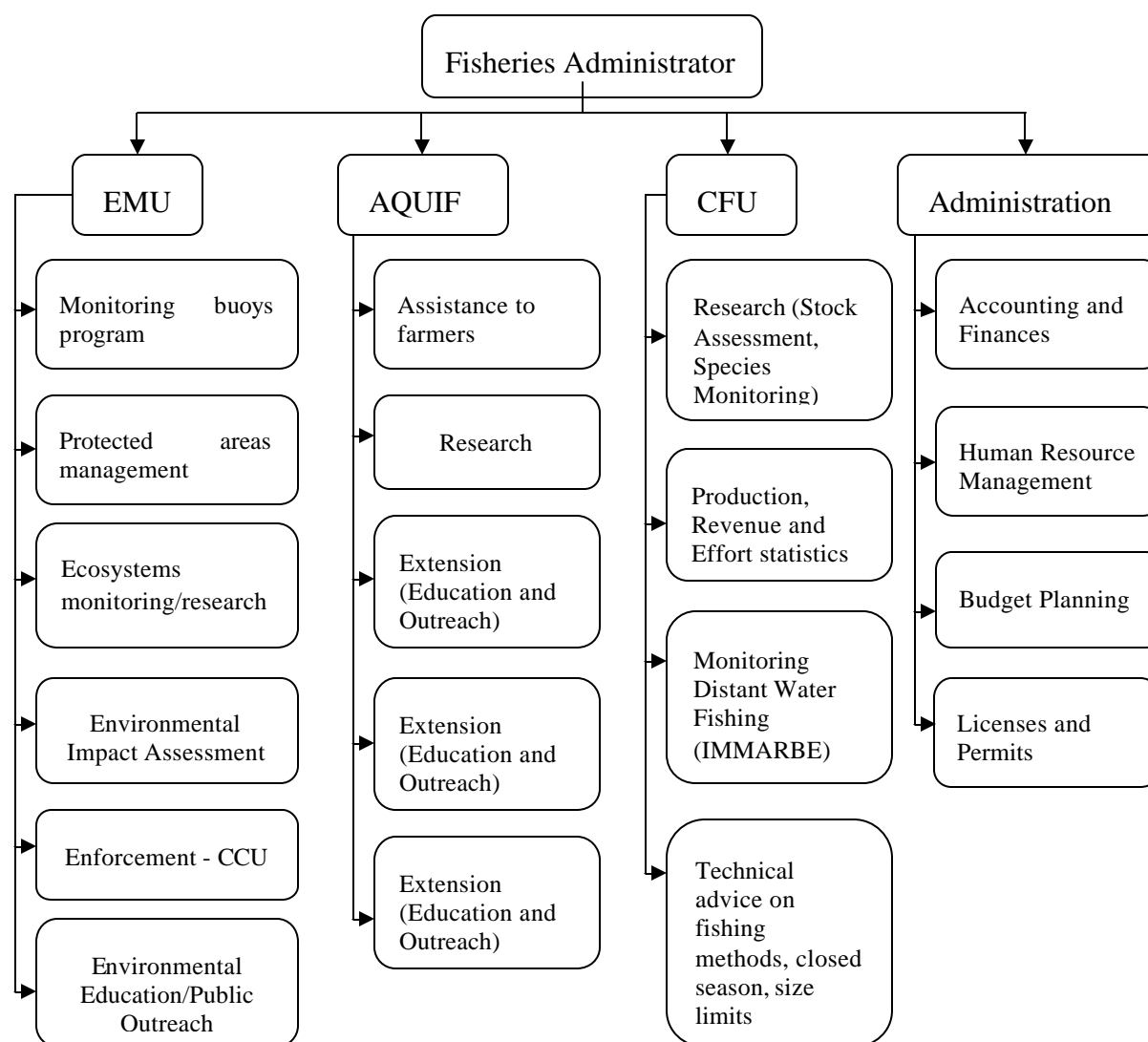
### 2.3.1 Belize Fisheries Department

The Ministry of Agriculture and Fisheries is the governing body of the Fisheries Department. The Department was established in 1965 and its primary focus is to efficiently and sustainably manage the fishing industry of Belize. This is done through the enforcement of the Fisheries Act last amended in 1989 (but under review) and the Fisheries Regulations revised January 2010.

As illustrated in Figure 8, the principal actors in the Department are the Fisheries Administrator who functions as the Head of the Department; and the 4 Unit Coordinators who oversee the Aquaculture and Inland Fisheries Unit (AQUIF); the Capture Fisheries Unit (CFU); the Ecosystems Management Unit (EMU); and the Conservation Compliance Unit (CCU). Figure 8 illustrates the basic roles of each unit. Working alongside the units are the administrative staff who assist in the processing and issuing of export permits and fishing licenses.

For the purpose of this report, the functions of the CCU, EMU and CFU are of particular concern. The CCU works in conjunction with all units in the capacity of enforcement. Their chief roles are to patrol the coastal and inland waters of Belize, monitor fishing activities, enforce the governing legislation and regulations and apprehend individuals violating them.

The EMU oversees the management of marine reserves within the country of Belize. The unit assists in the demarcation of the zones within marine reserves; encourages and facilitates scientific research to identify the effectiveness of established fishing regulations; and educates the public about the benefits of marine reserves (Wade, 2010).



**Figure 8 The functional organogram of the Fisheries Department of Belize**

(Source: Adapted from Wade, 2010)

The CFU directly oversees the operation of Belize's capture fisheries sector. The CFU works with private sector entities such as the local fishing cooperatives and associations to ensure accurate production data and revenues are recorded. Based on stock assessment data collected, the CFU offer recommendations regarding the necessary command and control regulation measures. The CFU also works with IMMARBE through the High Seas Fisheries Officer to review applications for fishing vessels wishing to be flagged by Belize and assist in the monitoring and surveillance of high seas fishing vessels.

### 2.3.2 Belize Agricultural Health Authority (BAHA)

BAHA is mandated by the Food Safety Regulation 2001, and the Fish and Fishery Products Inspection Regulation 2001, to inspect food production facilities such as the fishing cooperatives. The Fish and Fishery Product Regulation (2001) also instructs BAHA to construct a Fish and Fishery Product (FFP) Unit to oversee and inspect the sanitation management of fish producing facilities. The Hazard Analysis Critical Control Point (HACCP) system is the certification

programme employed to assure the sanitation level of these facilities. The production facility is charged to create its own HACCP plan which is then reviewed, revised and authorized by BAHA. Upon approval, BAHA issues a sanitary certificate to the facility which allows it to sell its products both locally and internationally. The facility self-regulates and monitors the programme and BAHA inspectors regulate the sanitation management of the facility.

Belizean flagged fishing vessels also must seek sanitation certification by BAHA. BAHA is mandated to conduct port inspections to ensure that the vessels are meeting HACCP sanitation measures in order to ensure safety of the product. This is usually carried out by the Director of BAHA and another EU trained BAHA inspector. The vessel seeking certification is required to pay processing fees and submit all necessary documentation to IMMARBE for a 1 year sanitation certification. BAHA works along with IMMARBE who assists with the onsite port inspections. The costs of these inspections are incurred by the fishing vessels. BAHA can also establish Memoranda of Understanding (MOU) with port countries that possess competent qualified inspectors to carry out on site inspection of fishing vessels.

### 2.3.3 Belize fishing cooperatives and association

The Belize Fishermen Cooperative Association Limited (BFCA) serves as the umbrella association for the local fishing cooperatives. There are five registered fishing cooperatives in the country of Belize which includes the Northern Fishermen Cooperative, National Fishermen Producers Cooperative, Placencia Producers Cooperative, Caribena Producers Cooperative and the Rio Grande Fishermen Producers Cooperative. The local fishers were the driving force behind the development of these cooperatives. They were born out of the need to establish better representation for local fishers' rights on international markets. This led to the creation of fisher owned cooperatives which process, package and market the marine products. The cooperatives assist members in securing loans from their establishments for the purchasing of fishing equipments and the like. These cooperatives along with the BFCA have assisted considerably in the organization of Belize capture fisheries sector (IICA, 1995). The catch and economic data gathered from these cooperatives assist the Fisheries Department significantly in creating catch profiles and estimating the financial yield of the sector.

### 2.3.4 International Merchant Marine Registry of Belize (IMMARBE)

The Registration of Merchant Ship Act 1989, amended in 1996, governs the establishment of IMMARB, its registrar and deputy registrar and their duties. The legislation also regulates the registration of vessels, the transfer and transmission of ownership of vessels, the role of shipping agents in the registration process, conducting dual registration of vessels and maritime liens. Under this legislation, the Ministry of Finance serves as the governing institution for the registry.

The High Seas Fishing Act, Cap. 210:10, 2003 regulates the fishing activities of Belizean flagged high seas fishing vessels. The legislation covers the licensing of fishing vessels on the high seas, international obligations and enforcement by the Fisheries Department. It also discusses prohibitions, offences and penalties. Licenses are granted by the Fisheries Department based on recommendation from the Director General and the Senior Deputy Registrar of IMMARB. Licenses are approved based on the fishing area, type of fish to be caught and period of the year (Wade, 2010).

Belize, being a member of the International Maritime Organisation (IMO) as well as the International Labour Organisation (ILO), has ratified several international conventions which



directly impact the: (1) the treatment of seafarers onboard high seas fishing vessels; and (2) the operation of high seas fishing vessels. These include, but are not limited to: Safety of Life at Sea (1974); Marine Pollution (MARPOL) Protocol (1997); Accommodation of Crews Convention (1949); and Prevention of Accidents (Seafarers) Convention (1970).

The main office of the registry is located in Belize with a network of representatives worldwide. IMMARBE is a contracting or cooperating non-contracting party for six major RFMOs. These are the International Commission for the Conservation of Atlantic Tunas (ICCAT), the Inter-American Tropical Tuna Commission (IATTC), the Indian Ocean Tuna Commission (IOTC), the Western and Central Pacific Fisheries Commission (WCPFC), the North East Atlantic Fisheries Commission (NEAFC) and the South Pacific Regional Fisheries Management Organisation (SPRFMO).

## **2.4 Current fishing legislation**

The Fisheries Act, Cap. 210, serves as the current legislation that governs the fishing sector of Belize. The Fisheries Department is the body responsible for implementing and enforcing all fisheries legislations and regulations. It regulates the establishment of fisheries officers and their duties and responsibilities. The legislation regulates the extraction of fisheries resources, the processing, commercialisation and exportation of fisheries products. It also governs the licensing of fishers, fishing vessels, the fines and sanction for fishing offences, the management of aquaculture products and the establishment of marine protected areas (MPAs).

Complimentary to the 2000 Revised Edition of the Fisheries Act are the High Seas Fishing Act (2003) and the Fisheries Regulations (1977) which has been amended several times, the most recent being the Fisheries (Amendment) Regulations (2009). As noted previously, the High Seas Fishing Act regulates the high seas fishery of Belize.

The Fisheries Regulations regulate the fishery sector through the use of closed areas, prohibited methods and gear, species type, size, closed season and the granting of fishing licenses (Wade, 2010). Specific management measures are applied for corals, the bone fish (*Albula vulpes*), shrimp (*Peneaus spp*), the queen conch (*Strombus gigas*), the Caribbean spiny lobster (*Panulirus argus*), hicatee (*Dermatemys mawii*), nassau grouper (*Epinephelus striatus*), sea cucumber (*Parastichopus californicus*) and sea turtles. The regulations either prohibit their extraction or employ closed seasons, closed areas, and minimum size limits to manage their population size. The above command and control measures are utilised to ensure the long-term production of a sustainable fishing yield.

The Department is currently in the process of revising the various governing legislations in order to create a comprehensive Fisheries Act to govern the sector. This revised Fisheries Act will cover:

- fisheries conservation, management and development;
- protected areas management;
- administration;
- licenses and authorizations;
- international obligations and high seas fishing
- MCS;

- jurisdiction and evidence; and
- the sale, release and forfeiture of retained property (Ramos, 2010).

## 2.5 IUU fishing in the Belizean setting

Illegal fishing is rampant along the southern coastal waters of Belize where unlicensed foreign fishers, primarily from Honduras and Guatemala illegally cross Belize's maritime borders to harvest multi-species fish (Perez, 2009). This occurs predominantly at night in order to avoid detection by enforcement officers. The product is taken back to the fishers' country of origin where they are sold at coastal communities such as Puerto Barrios and Livingston (G. Ramirez pers. comm.)<sup>2</sup>. These fishers strategically avoid established borders of entry and exit in either countries in order to escape detection and legal penalties.

Both licensed and unlicensed local and foreign fishers carry out illegal fishing by failing to abide by the fishing regulations stipulated by the Fisheries Department (Government of Belize, 2006). This includes fishing in no-take zones, using restricted gears, practising destructive fishing habits and catching undersize fish.

Unreported fishing occurs in Belize's local capture fishery. As noted earlier the fishing sector is comprised of both cooperative member fishers and independent fishers. The former is managed and regulated to a greater extent by the local fishing cooperatives who regularly submit catch data and statistics to the Fisheries Department. However, the latter is an unmanaged sector of the industry whose catch data is not reported to the Fisheries Department due to a lack of accountability. These fishers sell their catch to local hotels, restaurants and residents at local fish markets. The Fisheries Department has sought to collect the data from hotels and restaurants. This venture has scaled back significantly due to a shortage in resources (M. Gongora pers. comm.)<sup>3</sup>. This represents a portion of catch data which goes unreported.

Being a flag state country, Belize has the responsibility of monitoring its flagged fishing vessels activities on the high seas. Reports from organisations such as the WWF (2004) entitled 'Flags of Convenience, Transshipment, Resupply and At-Sea Infrastructure in Relation to IUU Fishing' and 'Ocean Issue Briefs: Fishing under flags of convenience' posted on websites such as of SeaWeb ([http://www.seaweb.org/resources/briefings/flags\\_convenience.php](http://www.seaweb.org/resources/briefings/flags_convenience.php)) have labelled Belize as being a flag state that is unable to manage its flagged high seas vessels. The main issue of contention is that flag states such as Belize fail to ensure that their flagged vessels operate under the regulations, legislations, international agreements and regional fisheries organisations governing the fishing area and/or species. In recent years, IMMARBE has increased its monitoring efforts by requiring that all vessels registered and licensed by the registry be equipped with an onboard satellite transmitter. This enables the registry to track the geographical location at near real time of the vessel. This also applies to fishing vessels utilizing the Belizean Ports. This among other improvements has resulted in IMMARBE being awarded the prestigious Coastguard QUALSHIP 21 Certification.

However, there are still inefficiencies within Belize's local and high seas fishing vessels MCS framework. In order to combat these and thus IUU fishing, the country of Belize must construct and implement a solid NPOA for IUU fishing policy. Currently, there are renewed efforts to construct and implement a revised NPOA for IUU fishing. However, frequent in the Caribbean

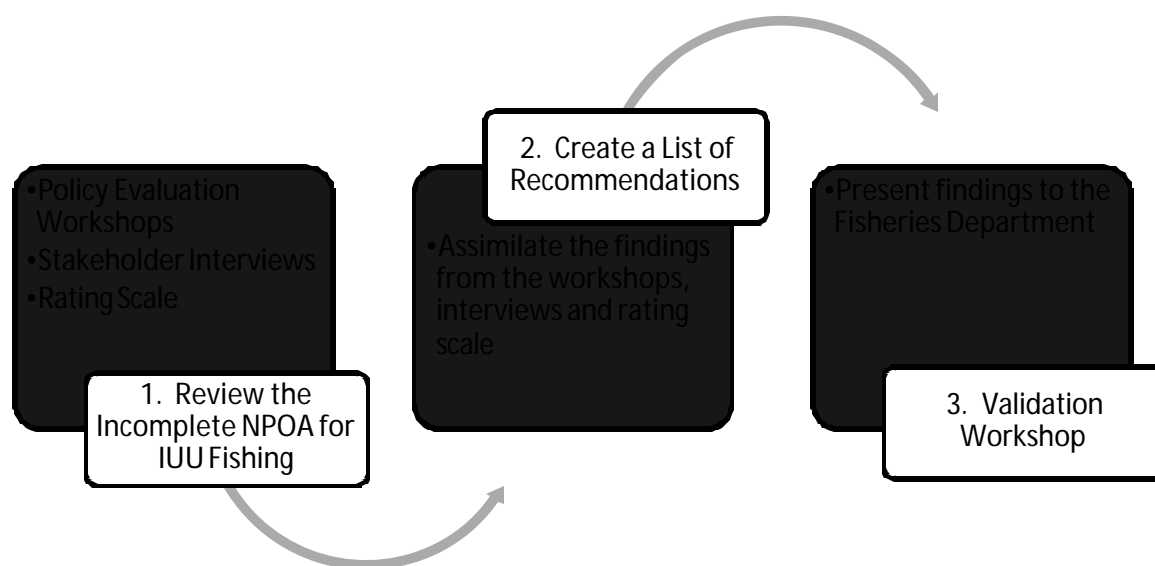
<sup>2</sup> (G. Ramirez, Chairman of the Rio Grande Fishermen Producers Cooperative, 17 August 2010, pers. comm.)

<sup>3</sup> (M. Gongors. Captur Fisheries Unit Coordinator, Fisheries Department of Belize. September 6 2010, pers. comm.)

and other developing countries is the creation of an implementation gap between the stated policy goals and the actualization of such goals leading to failure of achieving the desired outcome (Makinde, 2005). To ensure the successful implementation of an IUU fishing policy, it is essential to first assess the implications of implementing such a policy. The aim of this research is to evaluate the existing incomplete and now outdated draft NPOA for IUU fishing; determine the gaps and inefficiencies in the policy in the context of recent multi-level IUU instruments, namely, the Castries (St. Lucia) Declaration on IUU Fishing and the Port State Measures to Prevent, Deter and Eliminate IUU fishing; and offer recommendations for guiding the creation of the new NPOA for IUU fishing.

### 3. METHODS

The incomplete NPOA for IUU fishing drafted by the Fisheries Department in 2005 with the assistance of SICA, OPESCA and technical support from the FAO is in Appendix 1. Since the document is now outdated, the Fisheries Department plans to create and complete a revised NPOA for IUU fishing in the near future. By the means shown in Figure 9, this research sought to evaluate the incomplete draft document and provide recommendations for guiding the creation of the proposed revised NPOA for IUU fishing.



**Figure 9 Methods used to evaluate the current NPOA for IUU fishing and create recommendations**

#### 3.1 Evaluation of the current NPOA for IUU fishing

In order to assess the implications of implementing an IUU fishing policy in Belize the current NPOA for IUU fishing was evaluated so as to:

- identify the gaps and deficiencies of the document in the context of recent multi-level IUU instruments, namely, the Castries (St. Lucia) Declaration on IUU Fishing and the Port State Measures to Prevent, Deter and Eliminate IUU Fishing; and
- provide a list of recommendations to guide the development of a revised NPOA for IUU

fishing for Belize.

The evaluation of the document was facilitated through the use of: (i) two stakeholder policy evaluation workshops; (ii) stakeholder interviews; and (iii) a rating scale.

### 3.2 Rationale for the selection of methods

As illustrated in Figure 10, two stakeholder policy evaluation workshops, stakeholder interviews and an attribute based rating scale were selected as the most appropriate means to gather the necessary information.

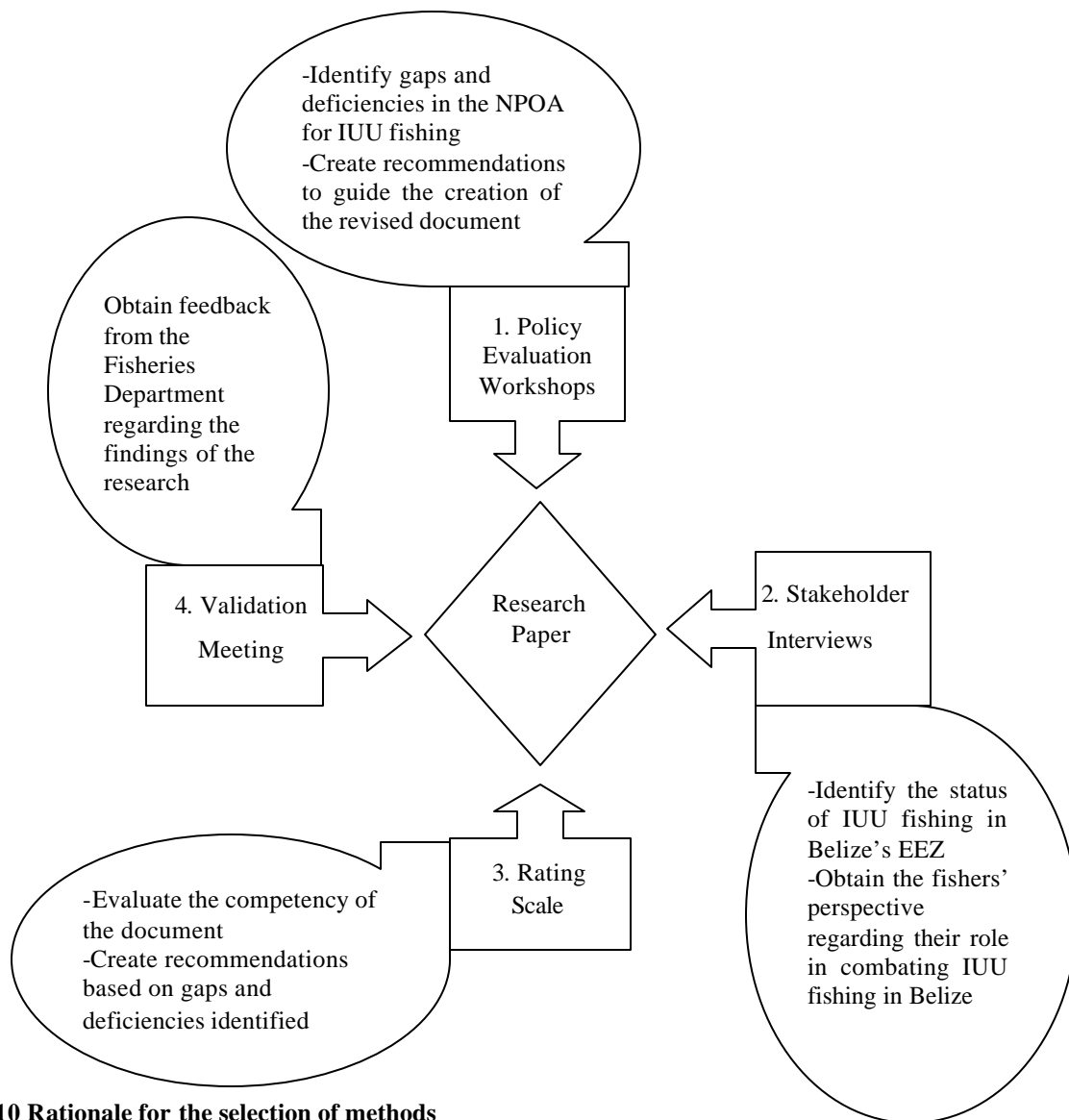


Figure 10 Rationale for the selection of methods

### 3.3 Policy Evaluation Workshops

The policy evaluation workshops were designed to facilitate attaining the following research objectives in a participatory manner:

- identify the gaps and deficiencies of the document in the context of recent multi-level IUU instruments, namely the Castries (St. Lucia) Declaration on IUU Fishing and the Port State Measures to Prevent, Deter and Eliminate IUU Fishing; and
- generate a list of recommendations to guide the creation of a revised NPOA for IUU fishing for Belize.

The workshops focussed on assessing sections 1 to 8 of the NPOA for IUU fishing. Sections 1 and 2 discussed the development, objectives and principles of the document. Section 3 discussed the dissemination of the policy. Sections 4 to 8 discussed the obligations the country must live up to as a flag state, coastal state and a port state.

Based on the content of the NPOA for IUU fishing and dialogue with the Fisheries Department CFU Coordinator, stakeholders were identified. The stakeholders were divided into two main groups: (i) resource managers; and (ii) resource users. The resource managers included the following government departments and private entities: the Belize Coast Guard; the Coastal Zone Management Authority and Institute (CZMAI); IMMARBE; the Fisheries Department of Belize; the Department of Environment; the Belize Port Authority; the Magistracy and the Labour Department. These stakeholders were identified as key individuals that should be involved in the MCS system governing the resource. The resource users included the following fishing organisations: the National Fishermen Cooperative; the Northern Fishermen Cooperative; the Placencia Producers Cooperative; the Rio Grande Fishermen Producers Cooperative; the Belize Fishermen Cooperative Association; and the Sarteneja Fishermen Association. These stakeholders were identified as key persons who could offer information regarding the status of IUU fishing in Belize and be incorporated in the monitoring and surveillance efforts.

Two weeks prior to the policy evaluation workshops, identified stakeholders were contacted via email and telephone to inform them about the workshop and confirm their attendance. A copy of their invitation letter was also faxed to their respective offices (see Appendix 2 for a sample letter). Two separate workshops were conducted, a resource managers' workshop and a resource users' workshop.

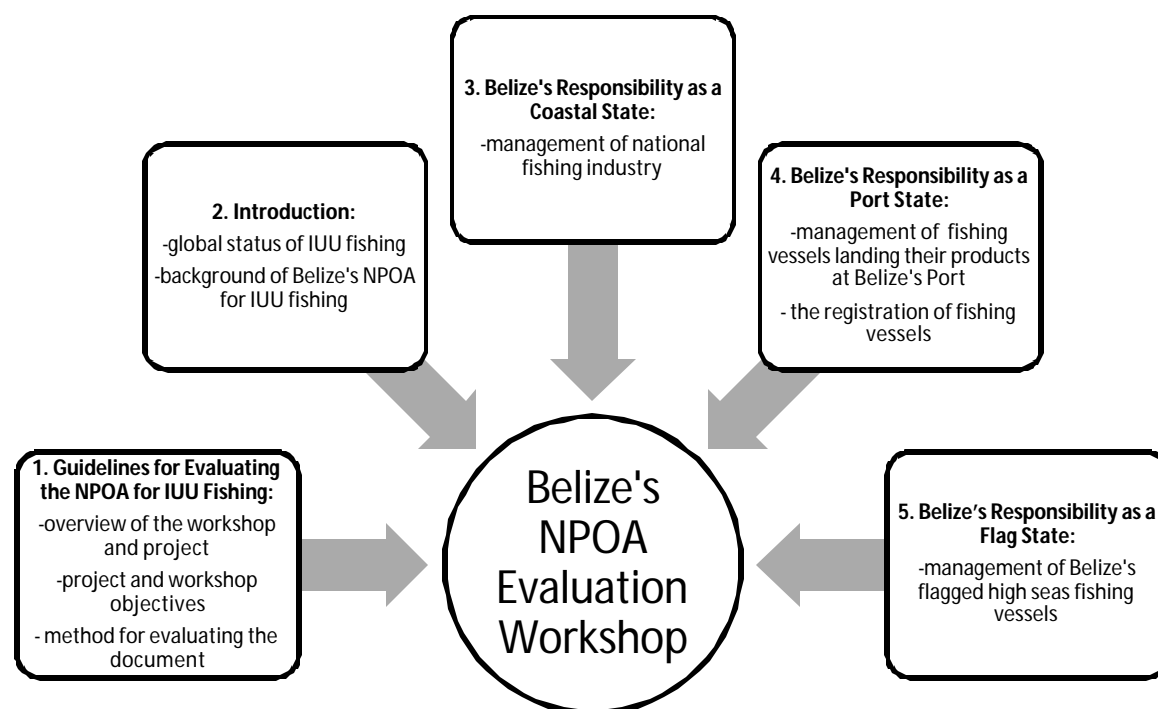
From the eight agencies invited to the resource managers' workshop there was representation from 4 of them. A total of nine individuals attended the workshop (see Appendix 3 for a list of attendees). This included representatives from both the CCU and CFU of the Fisheries Department; the Belize Coast Guard, the CZMAI and IMMARBE. Further efforts were made to conduct interviews with representatives from the absent institutions; however this was unsuccessful.

There was poor participant turn out at the resource users' policy evaluation workshop. From the invited six institutions only one representative from the National Fishermen Cooperative attended the workshop. In order to facilitate the inclusion of the absent stakeholders in the research, they were contacted via telephone to see if they would be willing to participate in interviews. A description of the stakeholder interviews is provided in the following section.

Both workshops consisted of five mini-PowerPoint presentations entitled 'Guidelines for Evaluating the NPOA for IUU Fishing', 'An Introduction to IUU fishing and Belize's NPOA for IUU Fishing', 'Belize's Responsibility as a Coastal State', 'Belize's Responsibility as a Port State', and 'Belize's Responsibility as a Flag State' (see Appendices 4 and 5). The content of the presentations consisted of a synthesis of sections 1 to 8 of the current NPOA for IUU fishing.

The presentations were conducted by the researcher and members of the Fisheries Department Capture Fisheries Unit. Figure 11 illustrates the information which was discussed for each topic.

At the culmination of the presentations, the participants were encouraged to share their comments regarding the section of the document presented. The comment period was limited to fifteen minutes. Participants were asked to comment based on: (1) the relevance of the content, (2) the capacity of the governing institution, the Fisheries Department, to implement the NPOA; and (3) the expected outcome of the implementation. The participants were also asked to offer recommendations for the areas of weakness they identified in the document. Audio recordings of the workshops were made in order for the researcher to review the comments when compiling and analysing the data.



**Figure 11** The content of the presentations given at the stakeholder policy evaluation workshops

### 3.4 Stakeholder interviews

In response to the low attendance at the resource users' policy evaluation workshop, it was determined that stakeholder interviews would be necessary. The stakeholder interviews were conducted with representatives from the Northern Fishermen Cooperative, the Placencia Producers Cooperative and the Rio Grande Fishermen Producers Cooperative managing boards. Representatives from the Belize Fishermen Cooperative Association and the Sarteneja Fishermen Association were unable to make themselves available for interviews.

Interviewees had noted that they would only be able to make available 30 to 45 minutes to conduct the interviews given their busy schedules. Based on this, it was decided that presenting the five PowerPoint presentations planned for the resource users' policy evaluation workshop would not be appropriate.

Instead, semi-structured interviews utilising standardised open-ended questions were thought to

be most feasible (see Appendix 6 for interview guidelines). This format would allow interviewees to choose how they wish to answer the questions, enable faster interviews and provide data that would be easier to analyse and compare. At the commencement of the interview, the interviewer introduced the concept of the project and its purpose. A layman definition of the terms: illegal; unreported; and unregulated fishing was given. This was done so as to ensure all interviewees had an understanding of what IUU fishing encompasses.

The questions asked were as follows: (1) Is there cause for concern for IUU fishing in Belize? (2) If yes, why is IUU fishing and issue of concern in the country of Belize? (3) What measures do you believe can be taken by the local fishers and national cooperatives to help deter IUU fishing in Belize? Based on the questions asked during the interviews, the information collected was used to attain a background of IUU fishing in Belize's EEZ. Also, the fishers' perspectives were gathered regarding the following research objective:

- Create a list of recommendations to guide the creation of a revised NPOA for IUU fishing for Belize.

With the permission of the interviewees, audio recordings were made for each stakeholder interview so that the researcher could review the interviews when compiling and analysing the data.

### **3.5 Rating scale**

In order to determine the effectiveness of the NPOA for IUU fishing and ensure that its implementation will be successful it is essential to evaluate the policy document. The stakeholders' policy evaluation workshops enabled a participatory evaluation of the document by individuals that play a key role in the management and use of the resource. The use of an attribute based rating scale as illustrated in Table 2 along with the policy evaluation workshops enabled a more detailed evaluation of the document by the researcher.

The implementation of the NPOA for IUU fishing will undoubtedly have a range of impacts on the resource users, the environment, the fisheries resources, the communities dependent on the fishing sector and the economy of the country among others. Policies that may appear acceptable or suitable to one group can be unacceptable or unsuitable to another group (Patton and Sawicki, 1993). Hence the utilisation of a range of criteria or attributes is an effective tool for determining the effectiveness of a policy document based on its clarity; congruence, flexibility; effectiveness and efficiency (Patton and Sawicki, 1993).

As illustrated in Table 2, each of the above stated attributes are explained and further broken down into several criteria selected by the researcher based on readings that appeared most pertinent. The presence or absence of each of these criteria were then determined based on the content of the document. A score was then assigned to each criterion using a scale from 0 to 2, based on its degree of presence or absence in the document. A score of 0 indicated that the document did not possess that criterion and requires further development, a score of 1 indicated that the criterion was adequately present but improvements were required, whereas a score of 2 indicated that the attribute was fully present. The scores were then averaged to obtain an overall score for the attribute; the closest whole number to the average was used.

**Table 2 Illustrated rating scale used to evaluate the current NPOA-IUU Fishing**

Attribute	Explanatory Notes	Criterion	Present/ Absent	Overall Score
<b>Clarity</b>	Clearly identifies how the objectives of the NPOA will be accomplished.	Well-defined problem and objectives		
		Stakeholders identified and their roles are established		
		Barriers to implementation and the methods for overcoming them are identified		
		NPOA implementing agency and scheme are identified		
		Includes the expected outcomes of implementation		
		Guidelines provided for accessing the success of implementation and the progress of achieving the stated goals		
<b>Congruence</b>	Establishes a relationship with existing IUU related policies, national fishing legislations and regulations	Objectives related to the goals of cooperating agencies eg. IMMARBE, Fishing Cooperatives		
		National legislations and regulations in place to enable the implementation and application of the NPOA		
		Content related to the requirements stated in the:		
		(i) Castries (St. Lucia) Declaration on IUU Fishing		
		(ii) Fisheries and Aquaculture Integration Policy for the Central American Isthmus		
		(iii) FAO IPOA for IUU fishing		
<b>Legitimacy and Equity</b>	The NPOA for IUU fishing is created and evaluated through a valid and transparent process	(iv) Port State Measures to Prevent, Deter and Eliminate IUU Fishing		
		Linked to other international fishing agreements Belize is signatory to		
		Transparent creation and implementation		
		The NPOA facilitates establishing a sustainable fisheries sector for Belize		
		Participatory approach used for the creation, evaluation and future revision of the NPOA		
<b>Efficient and Effective</b>	Makes the best use of available resources to ensure successful implementation.	Provides means to facilitate stakeholder and community understanding of the NPOA eg. workshops, community meetings etc.		
		Resources available to facilitate:		
		(i) implementation;		
		(ii) full application; and continuity of the NPOA		
<b>Adaptability</b>	Makes provision for adjustments and revisions based on lessons learnt.	Promotes inter-sectoral linkage		
		Content is valid/accurate		
		Adjustments made based on lessons learnt during the implementation and application of the NPOA		
		Provide guidelines for future evaluation/revisions of the NPOA		

This allows the researcher to easily identify areas of weakness and strengths in the document



thereby facilitating the creation of recommendations. This overall score roughly reflects the degree to which the document possesses or fails to possess that particular attribute. Based on the scores obtained, recommendations were then created to address identified gaps and deficiencies in the document. Since the evaluation was done after conducting the policy evaluation workshops and the stakeholder interviews, the researcher may be influenced by comments generated from participants when evaluating the document. Some attributes such as clarity were evaluated using six criteria whereas others such as adaptability were evaluated using two criteria. The number of criteria used to determine the presence or absence of the attribute influences the overall score obtained for each attribute.

### **3.6 Analysis of the Results**

The data gathered from the stakeholder policy evaluation workshops, stakeholder interviews and the rating scale are all reported on and analysed separately in the results and discussion sections. The electronic recordings of the stakeholder interviews were transcribed into notes. These notes were summarized and grouped into two headings: (i) The Occurrence of IUU fishing in Belize and; (ii) The Role of Fishers in Addressing the Issue of IUU Fishing in Belize. Direct quotations were referred to in the results and discussion sections in order to substantiate claims made.

The electronic recordings of the stakeholder policy evaluation workshops were transcribed into notes. These notes were then summarized and grouped into sections based on commonly recurring and emerging themes. The themed grouping of the data enabled better identification of the gaps and deficiencies in the document and assisted in the creation of a list of recommendations which could guide the creation of the proposed revised NPOA for IUU fishing.

The result of the completed rating scale is included in the results and discussion section of the document. Based on the overall score obtained for each criterion, a discussion is provided that details the strengths and weaknesses identified.

### **3.7 Validation Meeting**

The major findings of the research were presented to representatives from the Fisheries Department, the implementing agency for the NPOA for IUU fishing. The aim of the meeting was to relay the findings of the research, highlight areas of strengths and weaknesses in the incomplete draft NPOA for IUU fishing, and provide recommendations which could be used to assist in creating a revised NPOA for IUU fishing. At the end of the presentation the representatives from the Fisheries Department were asked to provide feedback regarding the presentation. Valuable information was given which focused on works currently in the pipeline that would greatly assist in overcoming some of the deficiencies identified in the current document.

### **3.8 Limitations**

In conducting this research there were limitations encountered by the researcher which may have impacted the results obtained. These include:

1. The policy evaluation workshops were chosen to facilitate a comprehensive evaluation of the document by the various identified stakeholders. Their professional and academic background in various fields would have enabled an across-the-board evaluation. However, poor attendance at both workshops allowed only a limited evaluation of the document. This may have been caused by short notice, combined with busy schedules and the dreaded “another workshop again” attitude. To compensate for this, stakeholder

interviews were conducted but this failed to capture all the information that would have been obtained from the planned workshops.

2. After conducting the research it was evident that other relevant stakeholders should have been included in the policy domain, namely the Belize Police Department, the Belize Defence Force Maritime Wing (BDF MW), the Customs and Excise Department; the Immigration and Nationality Department and NGOs such as the Southern Environmental Association (SEA) and the Toledo Institute for Development and Environment (TIDE). Their involvement in the research would have enabled a more integrated evaluation of the document.
3. There was poor attendance at the validation meeting. A total of two individuals from the Fisheries Department were present at the meeting. The involvement of other key personnel would have resulted in garnering more feedback which could have been used in constructing the research paper.
4. The design of the rating scale may have facilitated subjectivity. The researcher may have been swayed by comments given during the workshops and interviews when conducting the evaluation.

The attribute based rating scale used a range of criteria to evaluate the document. However, the inclusion of other attributes may have enabled a more comprehensive evaluation of the document. Since the attributes used for the evaluation were selected by the researcher, other attributes deemed important by other interest groups may not have been included.

## **4. RESULTS AND DISCUSSION**

### **4.1 Stakeholder Interviews**

The content of the information collected from the stakeholder interviews focussed on two topics: (i) IUU Fishing in Belize's Exclusive Economic Zone; and (ii) The Role Fishers Can Play in Combating IUU Fishing in Belize.

#### **4.1.1 IUU fishing in Belize's Exclusive Economic Zone**

Fishers confirmed that illegal and unreported (IU) fishing occurs in Belize's EEZ by both national and foreign fishers. The waters off the coast of the Toledo District, primarily those surrounding the Sapodilla Cayes Marine Reserve (SCMR) and the Port of Honduras Marine Reserve, are the most vulnerable to IUU fishing (G. Ramirez pers. comm.)<sup>4</sup>. Both reserves are located near the maritime borders of Belize, Guatemala and Honduras. The waters surrounding these mangrove cayes contain coral reefs and seagrass beds which form ideal habitats for reef fish. The area is utilized heavily by fishers from all three neighbouring countries (Perez, 2009). Limited monitoring of the area combined with uncoordinated fisheries regulations by the three countries has resulted in resource user conflicts (Perez, 2009) and IUU fishing.

#### **Illegal fishing in the Belize's Exclusive Economic Zone**

The information provided by the three interviewees suggests that there are two forms of illegal fishing which occur in Belize's EEZ, border hopping by unlicensed foreign fishers and failure to comply with the national fisheries regulations. The three interviewees claimed that the incursion of Guatemalan and Honduran fishers in the southern waters of Belize is a common occurrence.

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<sup>4</sup> (G. Ramirez, Chairman of the Rio Grande Fishermen Producers Cooperative, 17 August 2010, pers. comm.)

This situation may be exacerbated by an ongoing Guatemalan territorial claim for Belize. For decades Guatemalan fishers have illegally encroached in Belize's EEZ since there is little regard for the maritime borders and Fisheries Regulations of Belize (Perez, 2009).

The Chairman of the Rio Grande Fishermen Producers Cooperative claimed that illegal foreign fishers are sighted near dusk at sites adjoining the marine reserves in groups of five or more. There is often one valid licensed nationalised Belizean fisher onboard the boat. The illegal fishers then proceed to fish illegally within the no-take and conservation zones of the marine reserves and adjoining areas under the shadow of darkness to avoid detection and reduce the chances of interception by local authorities. All interviewees claimed that the illegally harvested fish products are transported to Livingston and Puerto Barrios, neighbouring coastal communities of Guatemala.

One comment stated by all three interviewees was their discontentment with the "everything must go" attitude portrayed by the ravenous and destructive fishing practices of the foreign fishers. Interviewees noted that their catch usually includes sea cucumber, black coral, undersize and out of season conch and lobster and juvenile fish. Interviewees from the Placencia Producers Cooperative and the Rio Grande Fishermen Producers Cooperative claim that in many instances the fishers from the neighbouring countries of Honduras and Guatemala fish during the day harvesting illegal fish products then leave them anchored under the sea. The location is then marked using GPS equipment and revisited at night to collect the product.

Controversy surrounds the nationalisation of these foreign fishers. Politics is believed to play a major role in the granting of Belizean nationality to these individuals. Politicians seeking re-election often nationalise foreigners to garner votes (Perez, 2009). In January 2010, Statutory Instrument No. 1 of 2010, an amendment to the Fisheries Regulations was enacted into law. It seeks to reduce the ease with which foreigners are able to acquire and keep fishing licenses.

Respondents from the Northern Fishermen Cooperative and the Placencia Producers Cooperative noted that the sustainability of the fishery sector was also threatened by rogue Belizean born licensed fishers who fail to comply with the Fisheries Regulations of Belize. Table 1 showed the number of arrests for IUU related fishing activities for the period 2004 to 2006 in Belize's EEZ. As noted by Franklin (2006), a reliable indicator of IUU fishing is the number of sightings of such activity and/or arrests. The data reveals that during this period a larger number of Belizean fishers were found committing illegal fishing activities when compared to the number of fishers apprehended from the neighbouring countries of Guatemala and Honduras.

A quick overview of these data might suggest that illegal fishing within Belize's EEZ is committed to a larger extent by nationals. However, closer inspection of the data reveals inconsistencies. The data failed to reveal what time of day the inspections were carried out that resulted in the arrests of these individuals. As noted earlier by all interviewees, the foreign fishers harvest during the night when patrolling of the area is done, is greatly reduced. Furthermore, fishing carried out by these foreign fishers is site specific, occurring primarily in the southern waters of Belize. If patrols are conducted more frequently in areas other than the south this might result in the arrests of less foreign fishers. A uniform distribution of patrolling throughout the country's EEZ is required to substantiate claims the data might be suggesting. The data also failed to indicate if the apprehended individuals were Belizean by birth or nationalised foreigners. As noted earlier, the nationalisation of foreign fishers is a common occurrence in Belize.

The interviewees also noted that the illegal harvesting of fish products in closed areas such as the no-take and conservation zones of marine reserves also occurs in Belize's EEZ. The Fisheries Department reports that this is the most common offence committed by both local and foreign fishers (Government of Belize, 2005). The representative from the Rio Grande Fishermen Producers Cooperative argued that in many instances there is a lack of buoys present in the area to demarcate restricted harvesting areas. In most instances these areas are patrolled heavily during the daytime by marine reserve rangers which may account for the high arrests rates by rangers (Government of Belize, 2006). However, as noted earlier, problems arise at night time when there is insufficient patrolling of the reserves. Dishonest fishers utilised this lax time to illegally harvest in protected areas.

### Unreported fishing in Belize

Interviewees noted that mis-reporting and failure to report fish catch data is a common practise of local fishers. As illustrated previously, Belize's local fishing sector is comprised of two forms of fishers, those belonging to fishing cooperatives and independent fishers. In most instances the former sells the catch to their member cooperative where the catch data for all members are compiled and submitted to the Fisheries Department. However, members who wish to evade past due bills for gasoline, ice and loans avoid the cooperatives and take their products elsewhere. The chairman of the Placencia Producers Cooperative claims that some of their members fail to sell their catch to their cooperative since they are able to procure higher prices at local restaurants and hotels. He noted that members receive BZ\$14.00 for a pound of lobster tail at the cooperative compared to the BZ\$25.00 they are able to acquire at restaurants and hotels. The selling of products to private entities results in a loss of reported catch data to the Fisheries Department. This loss of data is expected to worsen as all interviewees reported a decline in membership. All interviewees alleged that a large portion of these fish products sold in the restaurant business do not comply with the size limits set for conch and lobster by the Fisheries Regulations, rendering them illegal.

All interviewees noted that a large proportion of fish catch data is not reported due to unregulated independent fishers. Independent fishers sell their products at established fish markets in the country, to private businesses and individuals. However, the Fisheries Department is mandated to collect the fish inventory data from these establishments. They conduct visits to established restaurants and hotels that are known to sell fish products on a regular basis in order to capture the catch data. These establishments are spread throughout the country of Belize thereby requiring an ample supply of vehicles, gasoline and personnel to collect the data on a regular basis. A shortage in technical and human resources at the Fisheries Department has greatly impacted the frequency with which the data is collected (M. Gongora pers. comm.<sup>5</sup>). However, the Fisheries Department conducts weekly visits to established fish landing markets to capture the catch profile data.

Also, the three interviewees claimed that the movement of illegal fish products by nationalised and illegal foreign fishers into the neighbouring coastal communities of Livingston and Puerto Barrios accounts for a portion of unreported fish data. The illegal fish products are harvested and transported during the night time to avoid detection. To address the issue of the illegal exportation of fish products to neighbouring countries, Statutory Instrument No. 1 of 2010, an amendment to the Fisheries Regulations, was enacted. It is envisaged that by limiting the number

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<sup>5</sup> (M. Gongora. Capture Fisheries Coordinator, Fisheries Department of Belize. September 6 2010, pers. comm.)

of nationalised fishers this would reduce the illegal exportation of fish products from Belize. However, the enactment of new laws, accompanied with the same restricted human and technical resources results in continued inadequate monitoring and surveillance, perpetuating ‘business as usual’ in the area. This illustrates the futility of laws when unaccompanied with the required investment in the human and technical resources needed to satisfactorily execute the law.

#### 4.1.2 Stakeholder cooperation in deterring IUU fishing in Belize

All interviewees believe that they have a critical role to play in deterring IUU fishing in Belize, but felt they were not afforded the opportunity by the Fisheries Department. They recognise that the Fisheries Department lacks both the human and technical resources to monitor the area to the extent required. Fishers felt that since they have a vested interest in the sustainability of the resource and are knowledgeable of the areas that are most vulnerable they could assist the Fisheries Department and NGOs in monitoring.

The representative from the Placencia Producers Cooperative noted that if gasoline was provided the cooperative members would carry out patrols in the area on a regular basis especially during the night time. However, they noted that this would require the assistance of law enforcement officers to accompany them and conduct arrests and seizure of the products and offenders.

The responsible attitude displayed by the members of the cooperative may be the result of continuous partnerships between them and local NGOs such as SEA. SEA has sought to invest in the capacity building of their local fishers by providing tour guiding and dive certification programmes in an attempt to provide complimentary tourism-based livelihoods. Fishermen from Placencia engage in tour guiding during the tourism season and fishing during the tourism off season. These fishers are concerned with conducting responsible fisheries practices that will ensure sustainability of the resource for continued fishing and tourism livelihoods.

All the interviewees were well aware of the fact that combating IUU fishing in Belize was not limited to only the Fisheries Department. In their view, the deterrence of this problem would encompass a comprehensive effort by several agencies such as the Customs and Excise Department, the Police Department, the Immigration and Nationality Department and fishers.

## 4.2 Stakeholder policy evaluation workshops

Based on the content of the summaries generated from the stakeholder policy evaluation workshops the researcher was able to identify common emerging and recurring themes. In this section the data collected will be presented around the central themes of: (1) the policy making domain; (2) the monitoring, control and surveillance capacity of the Fisheries Department; (3) transboundary management for Belize’s national fishery; and (3) the clarity of the NPOA for IUU fishing.

### 4.2.1 The policy-making domain

For the purpose of this paper, the policy-making domain simply illustrates a sphere of influence that should be involved in the development of the NPOA for IUU fishing. The resource managers’ workshop participants agreed that the actors within the sphere of influence should be selected based on: (1) their role within fisheries management; and (2) the guiding policies and principles of their organisation. The policy-making domain does not reflect, or in anyway determine the level of influence held by any individual, organisation, institution or government department involved in the policy development process.

Based on the content of the presentations, the resource managers' workshop participants identified the organisations that were involved in the creation of the incomplete and now outdated NPOA for IUU fishing. These organisations formulated the policy-making domain utilised for developing the document. The participants communicated that based on the scope of activities involved in IUU fishing and the various impacts and threats it poses, the policy-making domain was incomplete. Furthermore, since combating IUU fishing would entail regulating both: (1) flagged high seas fishing vessels; and (2) the national fishery sector, effective regulation of these separate and different fisheries from a national perspective would require the creation of two separate policy-making domains:

- a high seas fishing policy-making domain; and
- a national fishing sector policy-making domain.

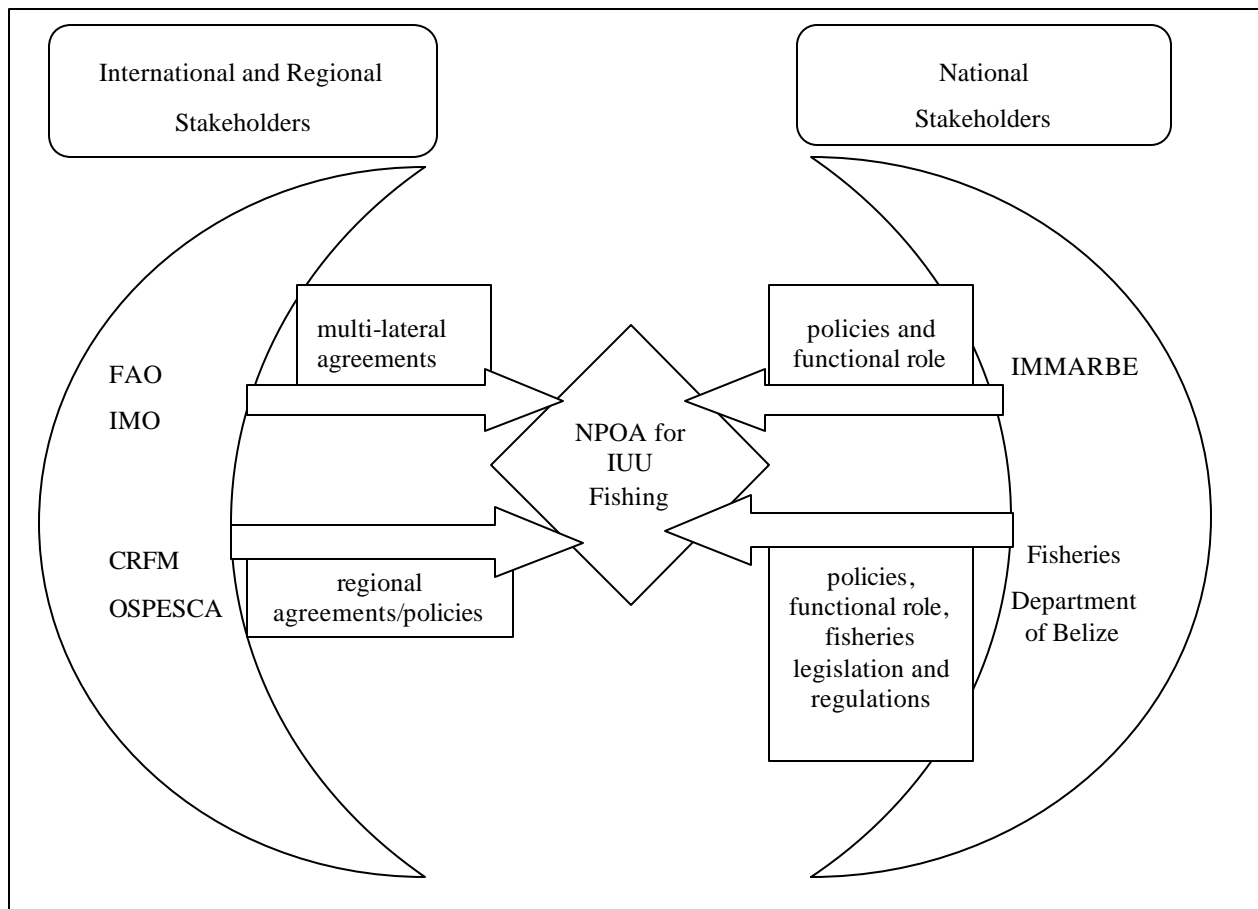
#### The High Seas fishing sector policy-making domain

The resource managers' workshop participants identified two groups of organisations that were involved in constructing the sections of the document entitled "Belize's Responsibility as a Flag State" and "Belize's Responsibility as a Port State." As illustrated in Figure 12 this policy-making domain consisted of an international and regional group of stakeholders and a group of national stakeholders. The international and regional group of stakeholders consisted of the FAO, the IMO, the CRFM and OSPESCA. The national group of stakeholders consisted of the Fisheries Department of Belize and IMMARBE.

The FAO and IMO are international organisations that aid in the management and sustainability of the world's fishery and fishing grounds. This is accomplished through the development of policies and multi-lateral agreements pertaining to fisheries management, shipping safety, shipping security and the prevention of marine pollution by ships. By becoming signatory to these multi-lateral agreements, countries such as Belize are expected to meet the stipulated requirements through the enactment of legislation, fisheries regulations and the implementation of harmonized fisheries management policies.

The CRFM and OSPESCA focus on the regional management of fisheries belonging to the CARICOM and Central American region respectively. This is done through the development and adoption of regional policies and declarations. Being a member of OSPESCA and the CRFM, Belize is signatory to regional fisheries agreements such as the Integration Policy of Fisheries and Aquaculture in Central America and the recent Castries (St. Lucia) Declaration on IUU Fishing. Both agreements seek to regularise the management of high seas fishing vessels for the Central American and CARICOM region respectively.

These multi-lateral agreements and regional policies and declarations stipulate the duties and responsibilities of Belize as a flag state. They also guide the management approach used to regulate the Country's high seas fishery and influence the legislation developed to manage the fishery. Based on this, these agreements, policies and declarations developed by these organisations help to determine the content of the Country's NPOA for IUU fishing; hence they were included in the policy making domain.



**Figure 12 The composition of the high seas fishery policy making domain utilised for creating the incomplete and now outdated NPOA for IUU fishing**

The resource managers' workshop participants noted that the national stakeholders that were involved in the development of the sections of the NPOA for IUU fishing entitled "Belize's Responsibility as a Flag State" and "Belize's Responsibility as a Port State" included IMMARBE and the Fisheries Department. IMMARBE functions as the registrar for vessels desiring to fish in the high seas under the Belizean flag. Applications submitted to IMMARBE are forwarded to the Belize Fisheries Department. The High Seas Fisheries Officer along with the Fisheries Administrator evaluates applications submitted based on criteria such as: (1) fishing area; (2) species type; and (3) period of the year. The High Seas Fisheries Officer along with IMMARBE are responsible for monitoring the fishing activities of the flagged fishing vessels. The Belize Fisheries Department along with IMMARBE ensures that vessels adhere to the 2003 High Seas Fishing Act and multi-lateral agreements. Vessels are required to be fitted with a VMS system which allows the Fisheries Department and the IMMARBE to track the near real time location of the vessels. The Fisheries Department collects all catch data from vessels and submits to the FAO database.

Furthermore, the Fisheries Officers within the Fisheries Department function as the country's fisheries managers and are responsible for enforcing fisheries legislation and regulations. In an effort to maintain international standards for being a reputable ship registry, IMMARBE conducts port visits and enforces applicable legislation. Based on the role they have as high seas

fisheries managers and the policies which guide their organisations, both the Fisheries Department and IMMARBE were included in the original high seas policy making domain.

However, the resource managers' workshop participants agreed that other relevant international and national organisations should have been included in the policy making domain in order to adequately manage the flagged high seas fishing vessels of Belize. Participants noted that the effective management of the high seas fishery requires proper identification of the stakeholders which impact the fishery. As illustrated in Figure 13, the workshop participants agreed that the creation of a revised NPOA for IUU fishing should entail the involvement of local representatives from international agencies such as the International Labour Organisation (ILO) and local agencies such as BAHA and the BPA.

The workshop participants noted that Belize is signatory to several IMO and ILO conventions which pertain to the quality of life at sea, medical and economic benefits of seafarers and the safety of seafarers at sea. Furthermore, since the IPOA for IUU fishing calls for compliance with signed conventions in relation to maritime safety, by extension the ILO Desk Officer should be included in the policy making domain. Participants felt that this would ensure the incorporation of these agreements within the NPOA for IUU fishing as a requirement of the flag state.

Participants agreed that given the integral role BAHA plays in ensuring product quality they should also be included the policy making domain. The fish products harvested by the flagged vessels are destined primarily for European markets (J. Gongora, pers. comm.)<sup>6</sup>. The EU mandates that BAHA, the agency responsible for granting sanitary certificates and conducting on site port inspection for the high seas vessels, employ the HACCP sanitation system.

The workshop participants agreed that the Agreement on Port State Measures to Prevent, Deter and Eliminate IUU fishing necessitates the inclusion of the BPA in the policy domain. The objective of the Agreement is to prevent illegal fish from entering the marketplace by denying IUU fishing vessels and transshipment vessels carrying IUU caught fish, access to ports for the purpose of landing, transshipment and in some cases resupply and refuelling (Gianni, 2008).

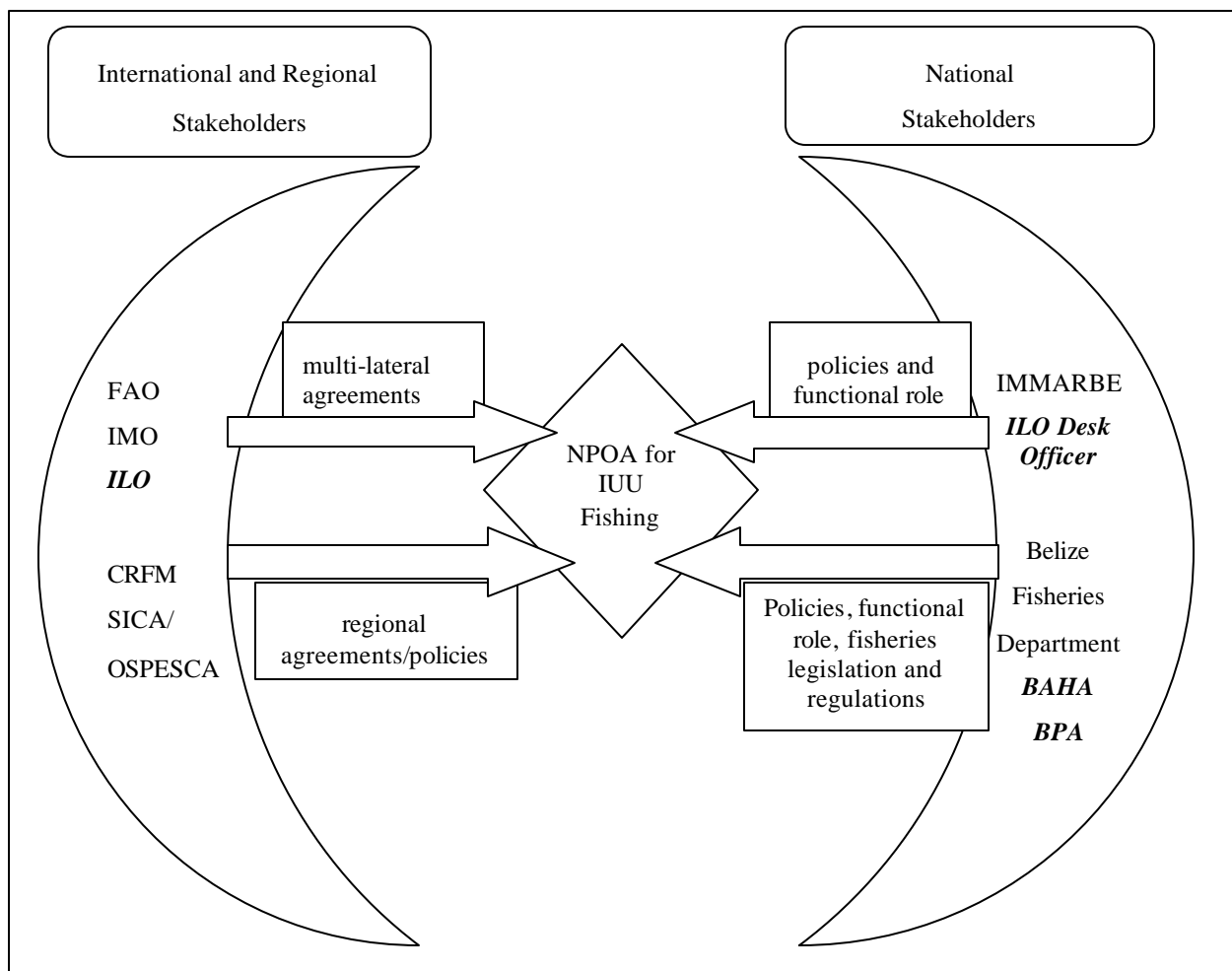
The workshop participants felt that the BPA would play an integral role in ensuring that the ports of Belize are not involved in facilitating the propagation of IUU fishing. The BPA is a critical agent in combating IUU fishing. Although the ports located in the country of Belize cannot normally facilitate the landing of fish products harvested on the high seas, it is obliged to assist in times of vessel distress. Thereby, participants felt that the involvement of the BPA in the policy making domain is necessary in order for Belize to fulfil its requirements as a port state.

As illustrated in Figure 13, the resource managers workshop participants felt that the creation of a revised NPOA for IUU fishing should involve the FAO, IMO, ILO, OSPESCA, CRFM, the Fisheries Department, BAHA, IMMARBE, the BPA and the ILO Desk Officer in order to produce a comprehensive and competent plan of action. The elimination of IUU fishing from the high seas fishery mandates the involvement of all the above stated organisations within the policy making domain. Each organisation plays a pivotal role in ensuring Belize fulfils its requirement as a flag and port state.

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<sup>6</sup> (J. Gongora, BAHA Inspector, 5 August 2010, pers. comm.)



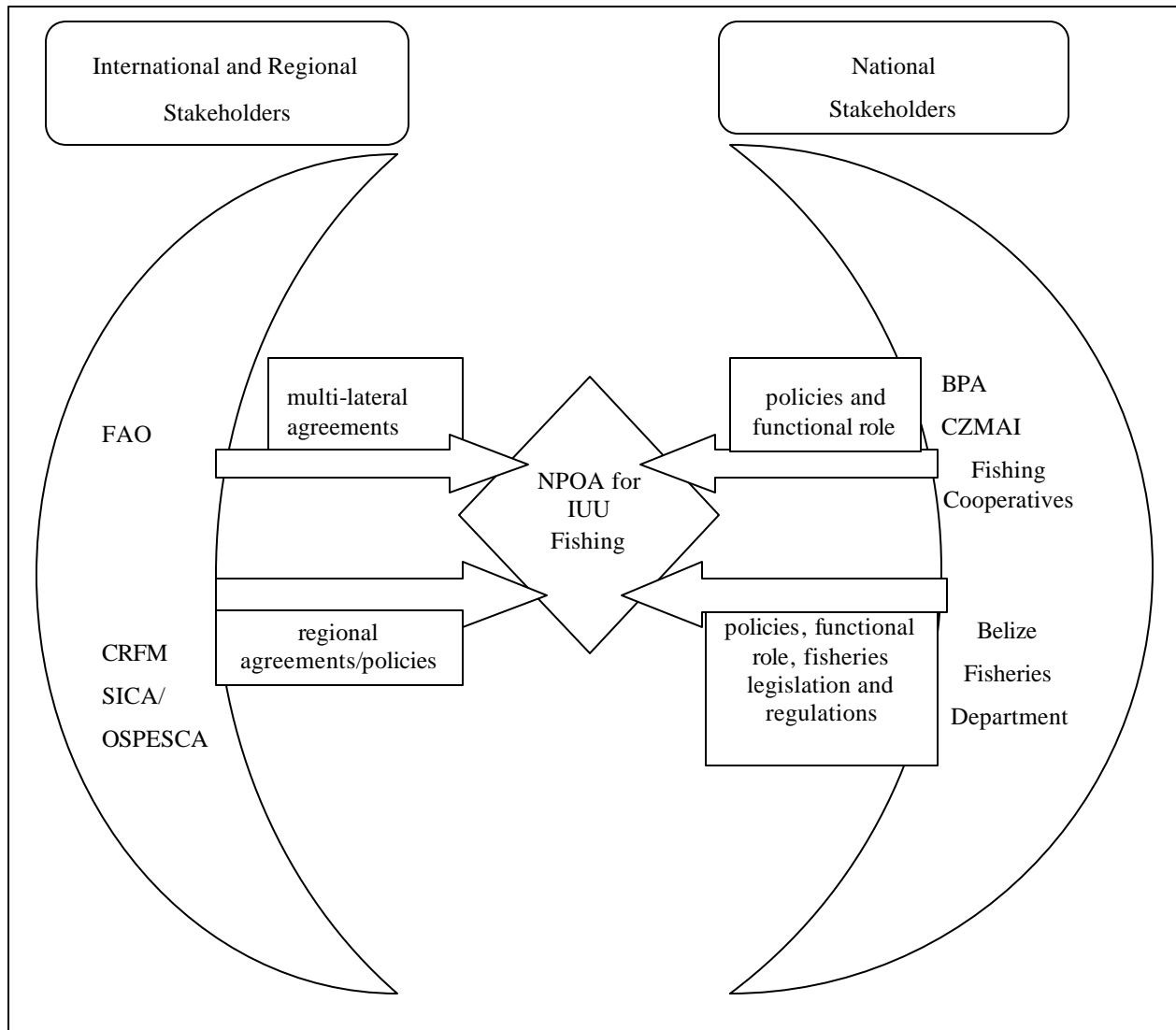


**Figure 13 The proposed integrated policy domain for the high seas fishery of Belize**  
(Proposed additions to the policy domain are in ***bold italics***)

#### National fishing sector policy making domain

Based on the content of the presentations, the resource managers' workshop participants noted that the policy making domain utilised for developing the section of the NPOA for IUU fishing entitled "Belize's Responsibility as a Coastal State" involved two groups of stakeholders. As illustrated in Figure 14, the policy making domain consisted of an international and regional group of stakeholders which was comprised of the FAO, OSPESCA and CRFM and a group of national stakeholders including the fishing cooperatives, the BPA, the Fisheries Department and the CZMAI.

The country of Belize is signatory to several multi-lateral agreements developed by the FAO which impacts its national fishing sector through legislation, fisheries regulations, implemented policies and selected management approach. Participants noted that since the NPOA for IUU fishing was being developed as a result of the IPOA for IUU fishing by the FAO, this reinforced their involvement within the national fishing sector policy making domain.



**Figure 14 Policy domain for the local fishery of Belize utilized in creating the incomplete and now outdated NPOA for IUU fishing**

Being a member of both OSPESCA and the CRFM, Belize has signed on to regional agreements which strive to establish a coordinated approach to fisheries management. These regional agreements have moulded national fisheries legislation and regulations which were incorporated within the NPOA for IUU fishing.

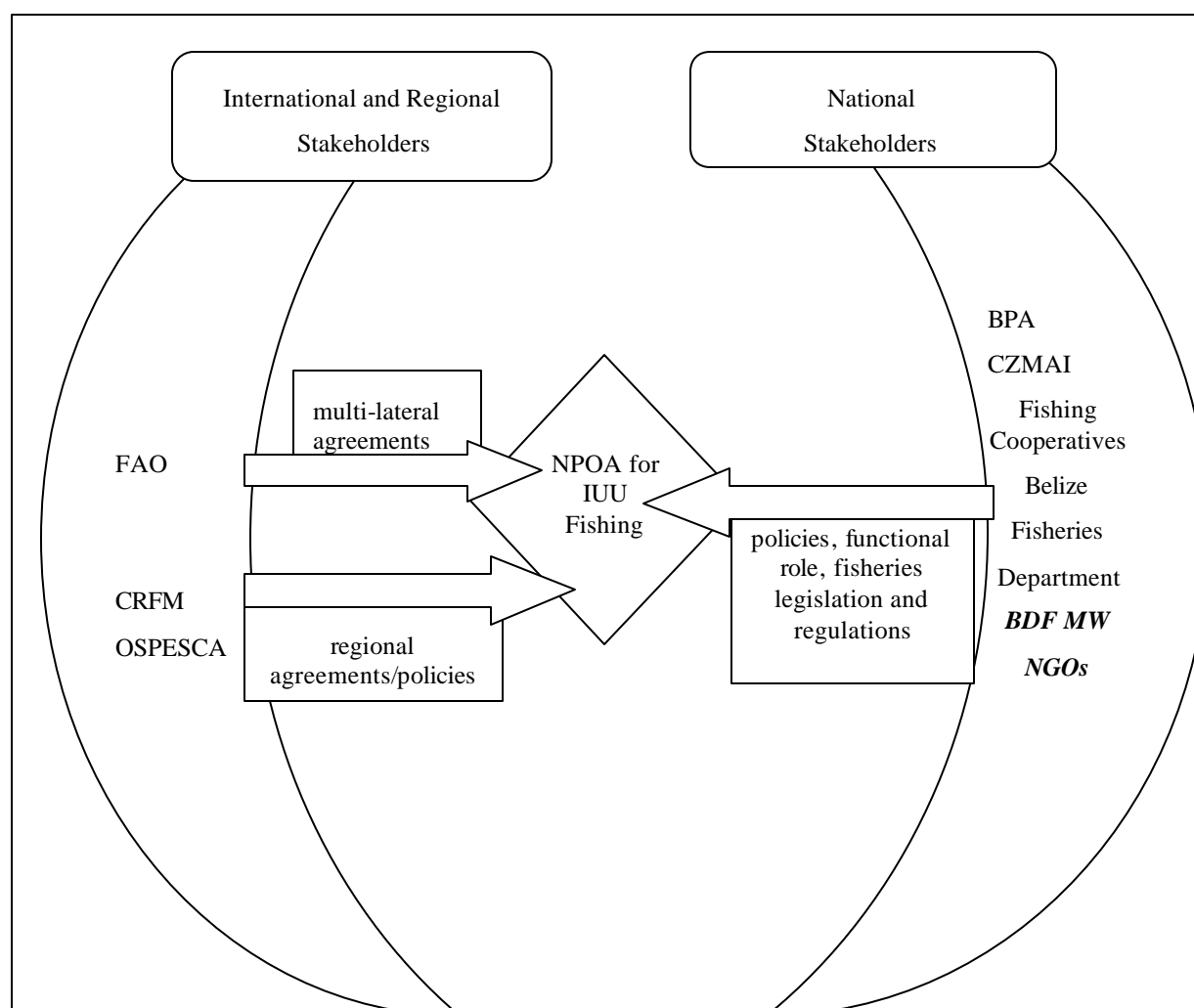
The fishing cooperatives of Belize represent the interest of their members which consists of licensed fishers and private investors. Fisheries policies, legislation and regulation directly impact the livelihoods of the cooperative members. The fishing cooperatives play an integral role in the management and regulation of the national fishing sector through the collection and submission of catch profile data to the Fisheries Department.

The BPA along with the Belize Fisheries Department is involved in the licensing of fishing vessels utilised to conduct commercial fishing in Belize's EEZ. The BPA verifies the authenticity of fishing licenses and the nationality of the fishers and boat owners before issuing boat licenses.

The Fisheries Department is charged with managing the national fisheries sector of Belize through the enforcement of legislation and regulations. The Department is responsible for maintaining catch profile data, implementing and evaluating fisheries management policies and ensuring the sustainability of the resource through cooperative management.

The CZMAI is charged with managing the coastal zone in Belize. This is accomplished through the implementation of legislation and policies which govern the management of Belize's coastal zone area. The CZMAI is also the body responsible for managing sports fisheries in Belize.

Participants agreed that based on the roles the organisations have in managing the national fishery of Belize they were included in the policy making domain utilised to develop the original NPOA for IUU fishing. However, as illustrated in Figure 15, the workshop participants felt that representatives from the Belize Defence Force Maritime Wing (BDF MW), SEA and TIDE should also be included in the policy making domain for the proposed revised NPOA for IUU fishing.



**Figure 15 Showing the proposed policy domain for the national fishery**  
(Proposed additions to the policy domain are in ***bold italics***)

The workshop participants noted that since the BDF MW, SEA and TIDE actively patrol the southern waters of Belize, they should be incorporated within the policy making domain. The

BDF MW commands a station in the Sapodilla Cayes where it monitors vessel activities within Belize's EEZ primarily to combat drug trafficking. NGO's, SEA and TIDE which are located in the southern region of Belize, co-manage the Sapodilla Cayes Marine Park and Port Honduras marine reserves respectively. Reports indicate that park rangers are responsible for the apprehension of a large portion of individuals arrested for IUU related fishing activities. In 2003, they made 44% of the arrests (Government of Belize, 2004), whereas in 2004, 55% (Government of Belize, 2005) of the arrests were made by patrolling park rangers.

These two protected areas are particularly prone to IUU fishing by foreign fishers due to their location near the tri-national maritime borders of Belize, Guatemala and Honduras (Perez, 2009). Given the roles these agencies play in monitoring Belize's EEZ and marine resources, the workshop participants felt they should be included in the creation of the NPOA for IUU fishing. Participants stated that they can assist in providing a background of the problem and relay the experiences and challenges they have in monitoring the area. The integration of these agencies along with those already identified in the policy domain would substantially improve the coastal security of the country.

#### 4.2.2 The monitoring, control and surveillance capacity of the fisheries department

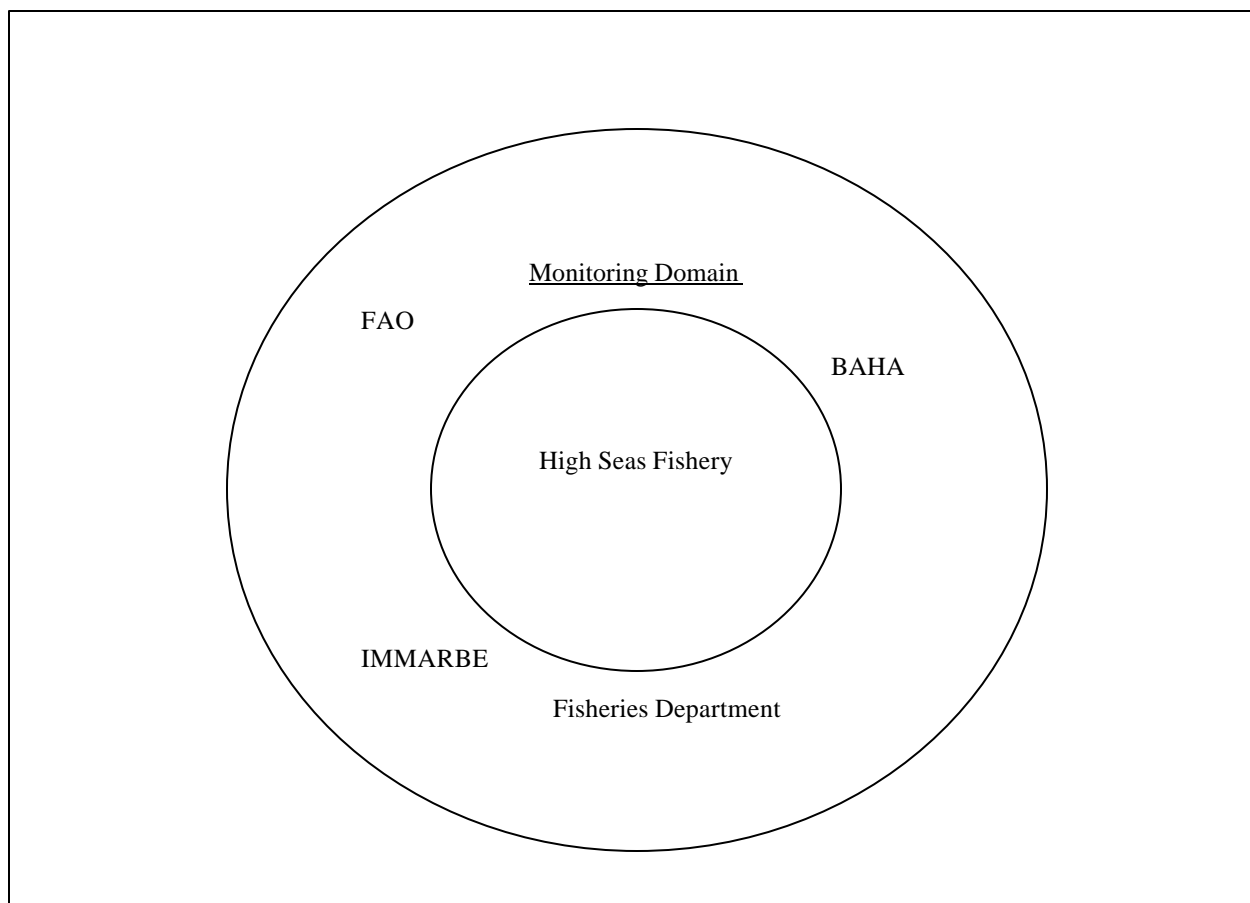
The monitoring domain illustrates the actors involved in the monitoring of Belize's fishing sector. Based on the content of the presentations, workshop participants were able to identify the agencies that the NPOA for IUU fishing had sighted as players within the monitoring domain. The workshop participants noted that the monitoring domain for both fisheries, the high seas fishery and the national fishery, were incomplete.

Furthermore, workshop participants agreed that the current NPOA for IUU fishing provided little information regarding how the NPOA would be disseminated and the resources that would be made available for its implementation. Participants agreed that since the components of the fishing sector, a high seas fishery and a national commercial artisanal fishery, are structured differently, discrete monitoring resources are required. It necessitates the creation of two separate monitoring domains.

##### The high seas fishery monitoring domain

As illustrated in Figure 16, participants noted that the current NPOA for IUU fishing identified IMMARB, the Fisheries Department, BAHA and the FAO within the high seas fishery monitoring arena.

Currently there is a High Seas Fisheries Officer who works along with IMMARB to monitor Belizean flagged high seas fishing vessels. The VMS installed on high seas fishing vessels allows the officer along with IMMARB to monitor the near real time geographical position of the vessels. This data along with catch data submitted by the vessels is used as the primary means to monitor the activities of the vessels on the high seas. The High Seas Fishing Act allows for the use of onboard observers, but due to the high cost and risk involved, this is not currently employed (F. Cruz pers. comm.). Also, the Fisheries Department works with the FAO in ensuring that Belizean flagged high seas vessels adhere to the agreed multi-lateral agreements and management guidelines stipulated by the respective RFMO.



**Figure 16 The monitoring domain for the high seas fishery of Belize in the incomplete and now outdated NPOA for IUU fishing**

The resource managers' workshop participants agreed that the VMS provides valuable data regarding the route of the vessel and the location of the area being fished. However, the use of onboard observers would be valuable in verifying the catch data submitted by vessel operators.

To facilitate this, they suggested that the number of personnel at the High Seas Fisheries Officer desk should increase. Also, officers should be trained regarding how to board vessels, collect and verify data. The registration fee for the vessels should reflect the cost of facilitating onboard observers in order to ensure yearly onboard visits by high seas fisheries officers are carried out.

Participants felt that the adoption of the Port State Measures to Prevent, Deter and Eliminate IUU fishing would be critical in enabling the country of Belize to monitor its flagged high seas fishing vessels. For example, Belizean flagged high seas fishing vessels utilize the Port State of Trinidad and Tobago to offload their fish products. The regional adoption of the Port State Measures to Prevent, Deter and Eliminate IUU fishing would facilitate the establishment of MOUs with regional fisheries institutions. MOUs would enable port States to conduct onboard inspection of vessels at their ports in order to verify catch data submitted to flag countries and detect IUU fishing.

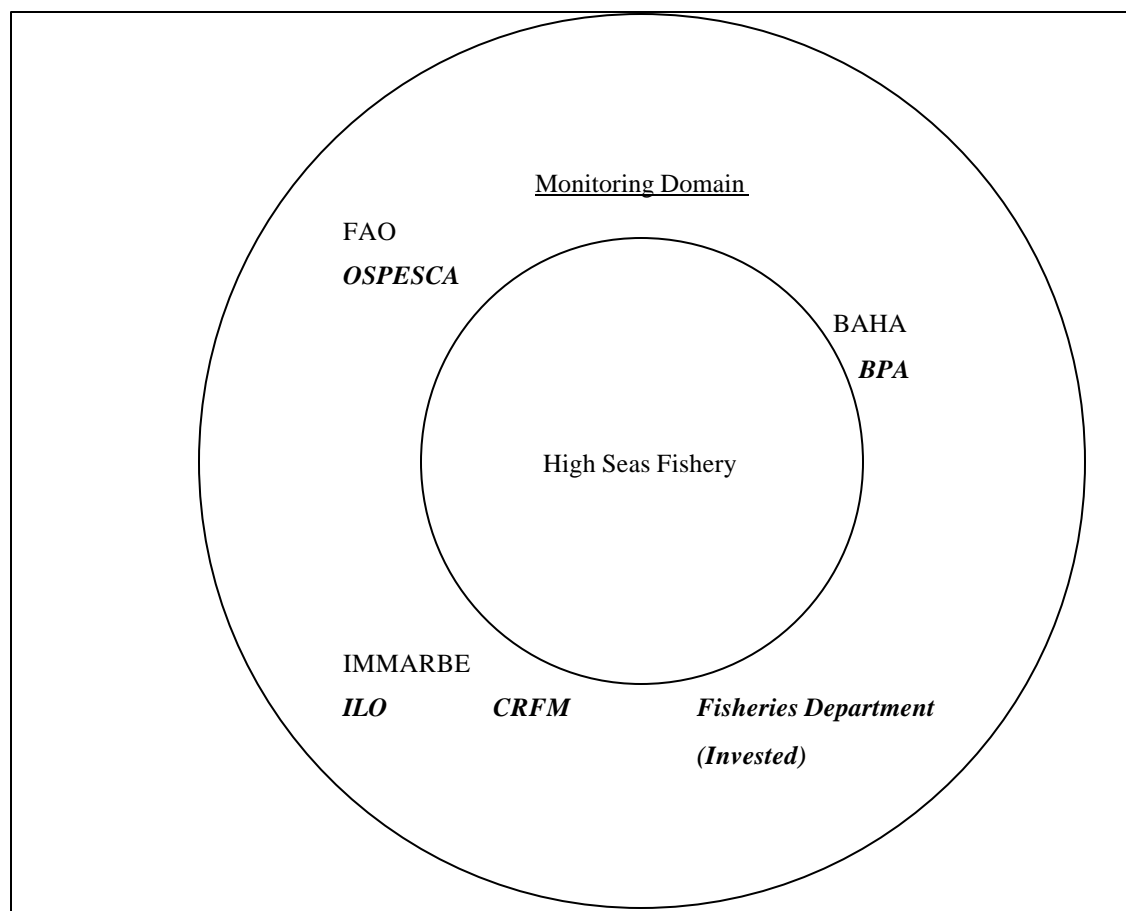
Also, the workshop participants agreed that the integration of the Castries (St. Lucia) Declaration on IUU Fishing within the NPOA for IUU fishing would be integral in managing Belizean flagged high seas fishing vessels. The Castries (St. Lucia) Declaration on IUU Fishing, calls for

the establishment of an integrated MCS system which focuses on utilising technologies such as the VMS, corporate partners such as NGOs and capable human resources to manage flagged vessels. A regional vessel monitoring registry would enable better monitoring of CARICOM member countries' flagged vessels in distant waters.

The above agreement and declaration thereby requires the involvement of the BPA within the high seas fishery monitoring arena. Under the responsibility of a port State, the BPA would be involved in conducting inspection of high seas vessels at Belizean ports. Also, they would work along with port authorities from CARICOM member countries to monitor the movement of distant water vessels utilising the member states' EEZs.

The workshop participants noted that involving the ILO Desk Officer in the monitoring domain is required so as to ensure that the flagged vessels are fulfilling the requirements stipulated in the signed ILO conventions. It was recommended that the ILO Desk Officer should work along with the Fisheries Department to conduct onboard visits in order to observe the crew accommodation and occupational safety.

As illustrated in Figure 17, the high seas fishery monitoring domain of Belize requires the involvement of the regional fisheries organisation, CRFM, representatives from the BPA and the ILO Desk Officer. This should be accompanied with an investment in the human and technical resources of the Fisheries Department High Seas Fisheries Officer Desk.

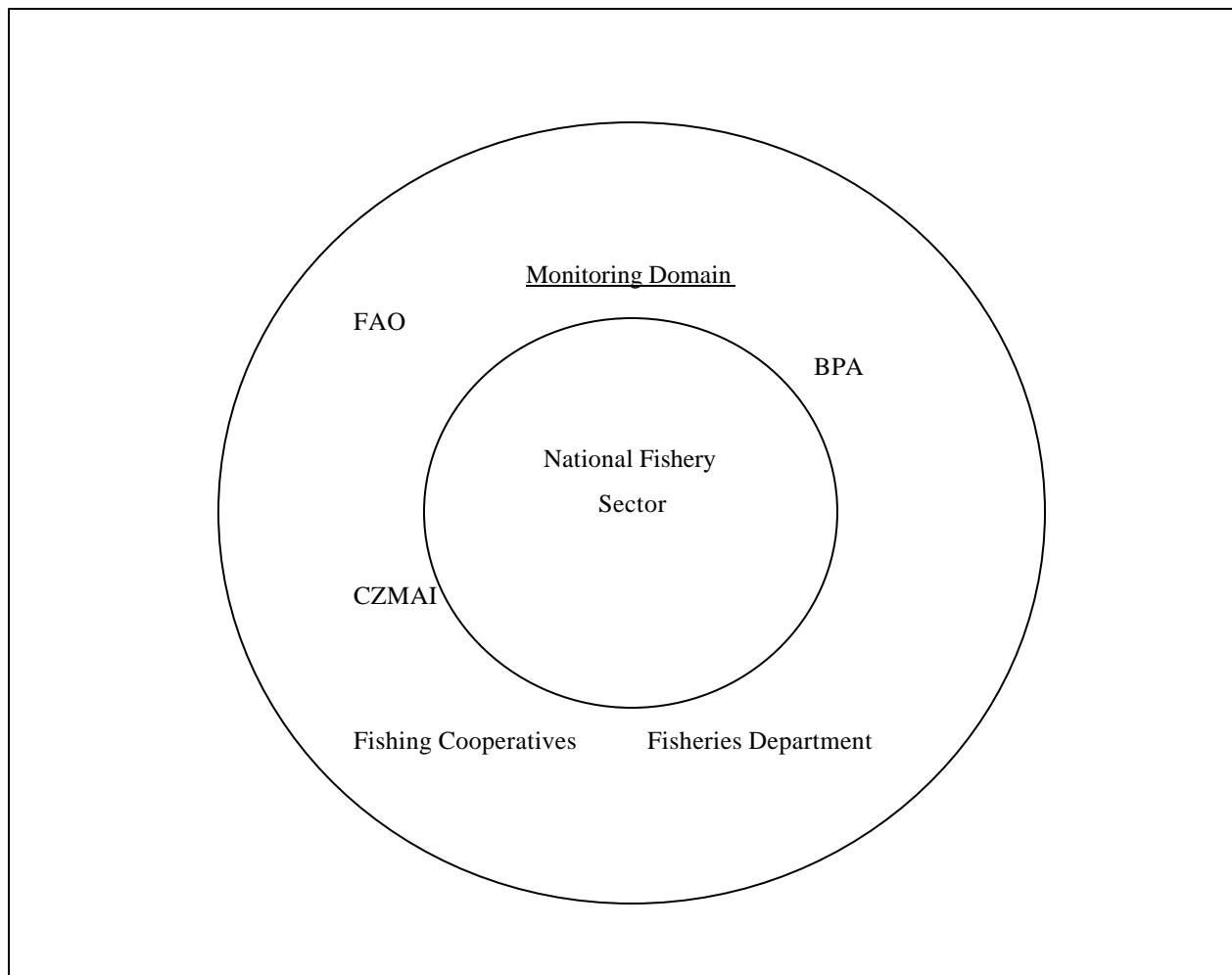


**Figure 17 The proposed monitoring domain for the high seas fishery of Belize**  
(Proposed additions to the policy domain are in *bold italics*)

### The Local Fishing Sector Monitoring Domain

As illustrated in Figure 18, The Belize Coast Guard, the BPA, the CZMAI, the Fisheries Department and the FAO were included in the national fishery monitoring arena. The resource managers' workshop participants felt that the probability of successful implementation would be greatly reduced if only those identified partners were involved in monitoring the fishery. Linkages with other agencies were needed in order to maximize the monitoring and surveillance of the fishery.

The resource managers' workshop participants noted that two factors inhibit the proper monitoring and surveillance of this fishery. First, as noted by the NPOA for IUU fishing, the implementing agency lacks the technical and human resources needed to monitor the fishery as required. Second, all the relevant agencies that could assist in monitoring the fishery were not identified.



**Figure 18 The monitoring domain for the national fishery of Belize in the incomplete and now outdated NPOA for IUU fishing**

The current NPOA for IUU fishing acknowledged that the implementing agency lacked the

technical and human resources to monitor Belize's fished area as well as the marine reserves. A total area of approximately 4700 km<sup>2</sup> within a depth range of 15 to 10 m<sup>2</sup> is utilized by fishers within Belize (FAO, 2005). The country also has a total of seven marine reserves which are either privately managed or co-managed along with the Fisheries Department and the Forestry Department. The workshop participants remarked that the effective management of Belize's EEZ requires a large resource pool, concerted inter-sector linkages and transboundary assistance.

Addressing the monitoring challenges identified by the workshop participants requires a holistic approach to monitoring, one which seeks to build the capacity of the Fisheries Department and develop linkages with relevant stakeholders who can assist in monitoring and surveillance. Participants felt that an investment in both the technical and human resources of the Fisheries Department would greatly increase the capacity of the institution to manage the fishery.

Investment in land and sea transportation would: (1) increase the monitoring of Belize's territorial waters; and (2) facilitate increased regulation of the independent fishers by enabling more site visits and greater collection of data from the local fish markets, hotels and restaurants. Improvements in the tracking of vessels utilising Belize's EEZ can be made through the provision of radar equipment. However, an improvement in technology requires an equal investment in the capacity of the fisheries officers. Capacity building in the form of radar technology training, vessel operation, policy creation, policy implementation and strategic management is needed.

Participants noted that additional stakeholders who could assist in the monitoring and surveillance of the local fishery were excluded in the NPOA for IUU fishing. They believed that a national policy requires involvement from both the government agencies that possess the technical expertise, as well as, the community.

Workshop participants noted that stakeholders from government departments such as the Belize Police Department, Customs Department, the Immigration and Nationality Department and the BDF MW should be included in monitoring and surveillance of the fishery. The Belize Police Department functions to deter illegal activity; apprehend individuals in pursuant of such illegal activity; and to provide a safe community for the Belizean populace. The Customs Department and the Immigration and Nationality Department are the Country's major border enforcement agencies. A suite of legislation, namely the Customs and Duty Act, Customs Regulation Act and the Produce Export Duties Act, enables the former to combat the illegal smuggling of goods in and out of Belize's points of entry. The Immigration and Nationality Department function as the focal point for nationals and non-nationals entering and leaving Belize's borders. The Department also processes and approves applications for nationalisation. The BDF MW comprises trained officers who patrol Belize's EEZ using a variety of skilled crafts, primarily to defend the country and deter illegal activities such as drug trafficking. The BDF MW commands a 24-hour command base at the Sapodilla Cayes which is located near the national borders of Belize, Honduras and Guatemala.

Participants felt that these four agencies could provide immeasurable assistance in the monitoring and surveillance of the national fishery sector. As identified by the participants, each department has a strategic role to play whether it is: (1) assisting in patrolling and monitoring of Belize's EEZ (BDF MW); (2) the monitoring of borders (BDF, Customs and Immigration Department); (3) conducting search of persons and vessels (BDF MW, Customs Department); and (4) confiscating illegal fish products, apprehending individuals suspected of conducting IUU



fishing and/or detaining individuals fishing without a valid fishers' license (Customs, Immigration and the Belize Police Department).

The legislation governing these agencies endows them with the legal capacity to carry out these actions. Utilising these agencies in the monitoring domain of the local fishery would entail conducting capacity building of personnel within these agencies. Training personnel regarding the current fisheries legislation and regulations in Belize is essential. Their involvement would greatly assist the Fisheries Department by increasing monitoring and patrolling of the vulnerable areas and possibly deterring individuals from conducting IUU fishing in Belize. This is not a daunting task; it requires the participation of individuals that are committed to the cause.

The resource manager's workshop participants noted that community involvement is crucial in combating IUU fishing in Belize. Participants identified that the Belizean community function as both resource users and resource consumers. Thereby community buy-in of the NPOA for IUU fishing can assist in two ways: (1) it can motivate local fishers to view themselves as co-owners who have a vested interest in the resource; and (2) it can enable the community to become aware of their responsibility for ensuring sustainability of resources by demanding and buying legal fish products.

Table 1 (page 7) illustrated that within Belize's EEZ, IUU fishing is committed to a much larger extent by local fishers who fail to abide by the national fishing legislations and regulations. Again, these statistics may be biased and may not offer a true profile of the perpetrators of IUU fishing in the territorial waters of Belize. Nonetheless, they do indicate that IUU related fishing activities are being committed by national fishers. Participants noted that fishers buy-in of the NPOA for IUU fishing is critical in determining its effectiveness.

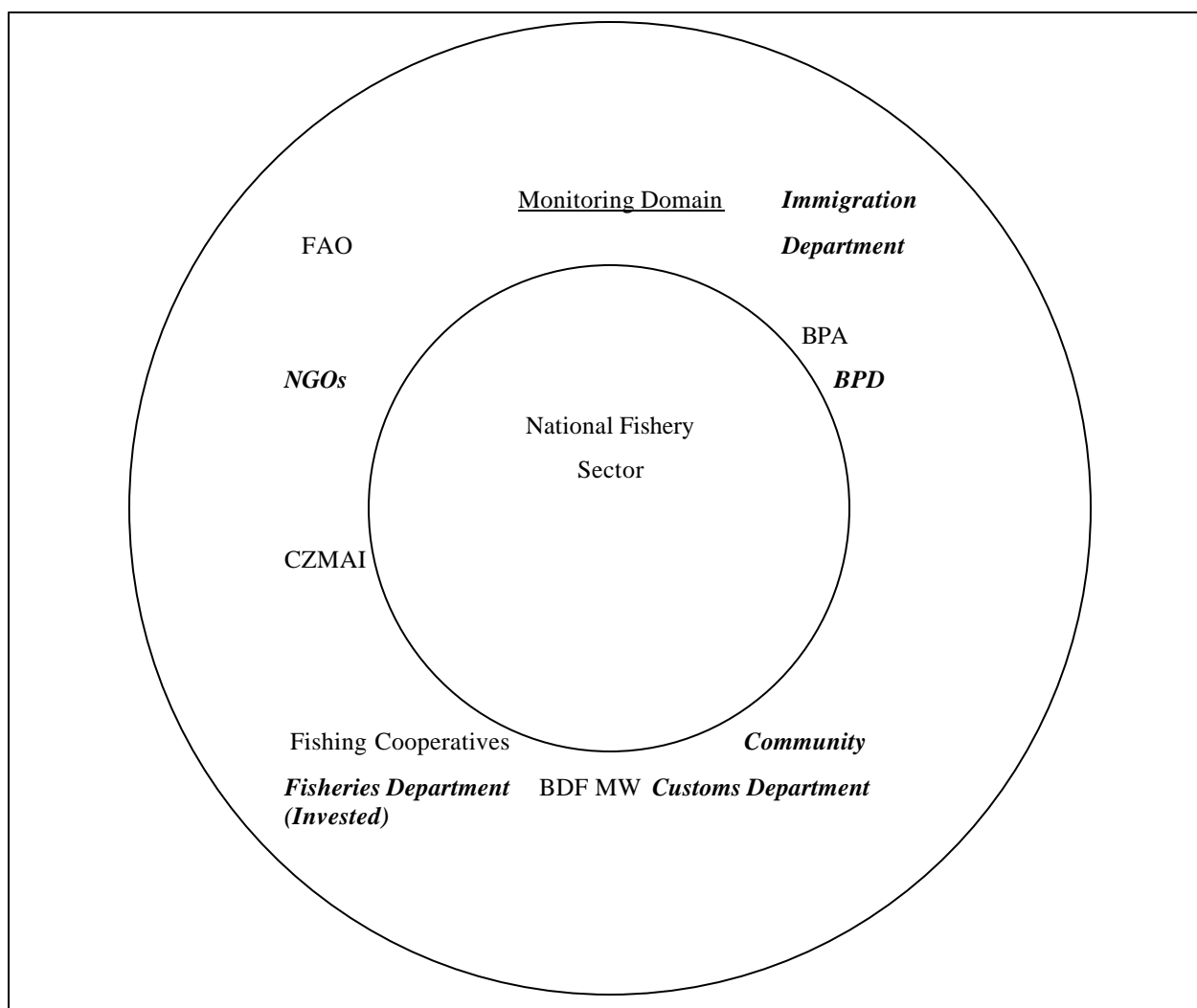
The illegal extraction of the fisheries resources jeopardises the sustainability of the resource, the local fishing sector and thus the livelihoods of fishers. Fishers can serve as critical 'watch-dogs' and agents of change. This necessitates a relationship of mutual respect and trust between the fishers and the Fisheries Department. They fish daily, observe the fishing activities of fellow fishers on a regular basis and form relationships with cooperative members. Interviewees from the Placencia Producers Cooperative and the Rio Grande Fishermen Producers Cooperative said that they would be willing to assist the Fisheries Department in this venture by reporting any suspected illegal activity witnessed. Others offered to use their vessels to assist in patrolling the waters if fuel was supplied. As noted by the workshop participants, the inclusion of the fishers as monitoring agents in the NPOA would provide a form of daily surveillance in Belize's EEZ.

As noted by the resource managers' workshop participants, the community plays a pivotal role as resource consumers. They directly influence the quality of product sold on the market. The seizure of over a thousand pieces of undersize lobster tail and out-of-season conch in Belize City shows that there is a local market for illegal fish products (Crawford, 2010). Participants felt that deterring such bad practices involves actively seeking out the community and educating them about the benefits of supporting responsible fishing practices. By engaging the community through poster and flyer competitions, television and radio announcements, morning talk show segments and community meetings; the Fisheries Department can promote compliance to the fisheries laws and possibly attain community buy-in of the NPOA for IUU fishing. A country-wide education campaign which targets both youths and the household could assist in creating informed and environmentally aware consumers. Such consumers can demand that the market provides sustainable products by refusing to purchase illegal fish products. Inevitably, such

changes can promote better practices by fishers.

Participants felt that incorporating NGOs within the monitoring domain would provide a more comprehensive management of Belize's marine resources. Community-based NGOs are charged with voicing the environmental concerns of the people. In southern Belize, SEA and TIDE along with the Fisheries Department co-manage the Sapodilla Cayes Marine Park and Port Honduras marine reserves respectively. A major role performed by these NGOs is monitoring the protected areas to prevent the illegal harvesting of fish products within the no-take zones; hence their involvement in the monitoring domain is required.

As illustrated in Figure 19, the workshop participants noted that the inclusion of additional agencies such as the Immigration and Nationality Department, the Belize Police Department, and the Customs and Excise Department within the monitoring domain is required. This should be accompanied by the forging of stronger relationships between the Fisheries Department, the community and fishers. An investment in the Fisheries Department in terms of capacity building, technology and resource availability is also required.



**Figure 19 The proposed monitoring domain for the national fishery**  
(Proposed additions to the policy domain are in ***bold italics***)

#### 4.2.3 Transboundary management for Belize's national fishery

Participants agreed that since a portion of the illegally harvested product is sold in neighbouring countries the above measures would be incomplete if fisheries management agencies from neighbouring countries were not included in the management of the local fishery. Illegal and unreported fishing in the southern waters of Belize by Honduran and Guatemalan fishers is an ongoing problem (Perez, 2009). The workshop participants noted that when fisheries resources are common, shared and/or migrating between the borders of neighbouring countries, transboundary management is necessary. This form of management focuses on harmonising the differing legislations and regulations governing the varied fisheries sectors. The aim is to foster an integrated regional approach to manage the resources.

An integrated approach to regional fisheries management requires commitment from all member countries. Participants agreed that the first step towards accomplishing this goal entails strengthening the national fisheries institutions. Strengthening of these institutions requires investing in the human and technical resources of the institutions. This involves facilitating capacity building of personnel through trainings, workshop and study leave as well as, providing advanced technologies to facilitate vessel monitoring in national waters. Developing inter-agency linkages with key stakeholders is fundamental in developing an effective national monitoring system. Incorporating sister agencies in the MCS framework enables a broad-scale surveillance of EEZs and marine resources. Developing a national monitoring system mandates providing resources such as land and sea transportation; involvement of national education institutions to assist in developing strategies to sustain the fishing sector; providing a central communication system that can process information regarding illegal intrusion to enable a quick response; and personnel trained in strategic planning and management. Community buy-in is essential in strengthening the national response to combat IUU fishing. An informed community can play an integral role in developing a sustainable fishing sector. This is done by: (1) demanding sustainable products; (2) reporting illegal fishing activity; and (3) committing to practising sustainable fishing methods.

Participants noted that the second step towards integrated transboundary management is amalgamating the national fisheries institutions and sister agencies within the region. The regional integration process encompasses integrating agencies beyond the national fisheries institutions. The partnering of border control agencies, law enforcement officers, military personnel, the coast guard, port management agencies, NGOs and national universities from the region is necessary to enable maximum effectiveness for combating IUU fishing within the region.

Participants remarked that beyond the integration of the agencies is the need for harmonising national fishing legislation and regulations within the region. For example, the key fisheries products harvested by nations within the affected area of Belize are similar to those in Honduras and Guatemala; however, the fisheries legislations differ considerably (Perez, 2009). In 2010, OSPESCA sought to regularise the 2009 to 2010 closed seasons for the lucrative lobster fishery in the Central American Isthmus. This resulted in a more closely matched closed season for Belize (February 15 - June 14) and its neighbouring countries of Honduras (March 15 - June 30) and Guatemala (March 15 - June 14). Participants felt that the harmonisation of legislations would function to regularise fisheries in the Central American region and CARICOM member countries.

Participants felt that the final step should involve the periodic evaluation of the integration process. This would assist in determining the effectiveness of the integration process. A lesson learnt approach facilitates continuous evaluation and revision of the process. This prevents stagnation and encourages evolution of the process.

#### 4.2.4 Clarity of the document

The resource managers' workshop participants noted that the content of the document required: (1) updating in order to incorporate additional regional commitments and international agreements such as the Castries (St. Lucia) Declaration on IUU Fishing and the Port State Measures to Prevent, Deter and Eliminate IUU Fishing; (2) restructuring of the layout; and (3) clarification of statements. Belize has recently signed on to the Castries (St. Lucia) Declaration on IUU fishing. Participants noted that this agreement has implications on Belize's regional commitments and should be incorporated into the revised NPOA for IUU fishing. The Agreement on Port State Measures to Prevent, Deter and Eliminate IUU fishing has serious implications for Belize as a port state. Its adoption is expected to become a necessary requirement in the near future for countries exporting fish products to the EU and US markets. The incorporation of these agreements within the NPOA for IUU Fishing is necessary.

Participants felt that the layout of the document required restructuring in order to facilitate better understanding of the content of the document. Being a draft document it is expected that revisions will be made to improve the flow of the content.

There were statements which participants felt needed to be clarified. Namely, as it relates to the labelling of vessels. Both the BPA and Fisheries Department issue license numbers to registered vessels. Participants felt that the issuing of one number would reduce confusion amongst fishers and allow for better vessel identification by enforcement officers.

### 4.3 Rating scale

Table 3 illustrates the results of the rating scale evaluation conducted solely by the researcher and elaborated upon below.

#### 4.3.1 Clarity of the NPOA-IUU fishing

This attribute evaluated the degree to which the NPOA for IUU fishing identified how the intended objectives of the policy would be accomplished. Establishing a link between the outcome of the implementation and the means for attaining that outcome is a basic requirement for any policy. This greatly determines the level of success or failure of the implementation strategy.

Identifying the problem and setting forth objectives to combat these problems sets the pace for the progressive components of a policy. The current NPOA for IUU fishing did not establish that IUU fishing is a problem for the national and high seas fishing sector of Belize. In so doing, it was unsuccessful at establishing the need for creating and implementing the NPOA for IUU fishing in Belize. However, it provided a single objective and a well articulated list of principles, replicates to those included in the IPOA for IUU fishing.

Identifying the implementation agency and the implementation strategy establishes ownership of the NPOA for IUU fishing. Based on the function of the Fisheries Department within the Ministry of Agriculture and Fisheries, it was identified as the implementing agency for the NPOA for IUU fishing. However, no plan was provided to guide the process of implementation.

**Table 3 Results of the attribute-based rating scale evaluation of the NPOA for IUU fishing**

(Scale: present=2; partial=1; absent=0)

Attribute	Explanatory Notes	Criterion	Present to Absent	General Score
<b>Clear</b>	Clearly identifies how the objectives of the NPOA will be accomplished.	Well-defined problem and objectives	2	1
		NPOA implementing agency and scheme are identified	1	
		Barriers to implementation and the methods for overcoming them are identified	1	
		Stakeholders identified and their roles are established	1	
		Includes the expected outcomes of implementation	0	
		Guidelines provided for accessing the success of implementation and the progress of achieving the stated goals	0	
<b>Congruent</b>	Establishes a relationship with existing IUU related policies, national fishing legislations and regulations	Objectives related to the goals of cooperating agencies eg. IMMARBE, Fishermen Cooperatives	1	1
		National legislations and regulations in place to enable the implementation and application of the NPOA	2	
		Content related to the requirements stated in the: <ul style="list-style-type: none"> <li>The Castries (St. Lucia) Declaration on IUU Fishing</li> <li>Fisheries and Aquaculture Integration Policy for the Central American Isthmus</li> <li>FAO IPOA-IUU fishing</li> <li>Port State Measures to Prevent, Deter and Eliminate IUU fishing</li> </ul>	1	
			1	
			2	
			0	
		Linked to international fishing agreements Belize is signatory to	2	
<b>Legitimate and Equitable</b>	The NPOA-IUU Fishing is created and evaluated through a valid and transparent process	Transparent creation and implementation	1	1
		The NPOA facilitates establishing a sustainable fisheries sector for Belize	2	
		Participatory approach used for the creation, evaluation and future revision of the NPOA	1	
		Provides means to facilitate stakeholder and community understanding of the NPOA eg. workshops, community meetings etc.	1	
<b>Efficient and Effective</b>	Makes the best use of available resources to ensure successful implementation.	Resources available to facilitate: <ul style="list-style-type: none"> <li>implementation;</li> <li>full application; and continuity of the NPOA</li> </ul>	1	1
			1	
		Promotes inter-sectoral linkage	1	
		Content is valid/accurate	1	
<b>Adaptable</b>	Makes provision for adjustments and revisions based on lessons learnt.	Adjustments made based on lessons learnt during the implementation and application of the NPOA	1	2
		Provide guidelines for future evaluation/revisions of the NPOA	2	

A systematic plan detailing the steps needed to achieve milestone goals at each juncture of the process would be a valued addition to the NPOA for IUU fishing. It would allow the policy

implementers to assess the lessons learnt at each step of the process and provide guidance for the way forward.

Acknowledging the barriers to implementation is necessary so as to determine the means to overcome them. A lack of human and technical resources and capacity building of the staff at the Fisheries Department were identified as the barriers to implementation. The document identified that capacity building in the form of training of the Fisheries Department personnel would assist in overcoming some of these barriers. It failed to identify key stakeholders that could also assist in the monitoring and surveillance of the local fishery such as SEA, TIDE, BDF MW and the fishing cooperatives.

Stating the expected outcome of a policy implementation provides the basis for evaluating the success or failure of the implementation strategy. The document did not include the expected outcomes of implementation. Thereby identifying the goals and being able to acknowledge when the goals had been attained would prove difficult. In so doing the document failed to identify how to evaluate the success of the policy implementation.

Based on the above, the document attained a score of 1 for document clarity. The document provided a clear objective and list of principles. However, it failed to identify how these objectives would be accomplished and how to determine the success of attaining these objectives. The document did not identify a concrete relationship between achieving the ends (desired goals) and the means.

#### 4.3.2 Congruence

This attribute evaluated how well the current NPOA for IUU fishing was linked with existing national legislation and multi-lateral and regional agreements. It is envisaged that a well planned policy document should focus on complimenting previous and current policies. This increases linkages between policies thereby facilitating its successful implementation.

The objective of the NPOA for IUU fishing is to garner all relevant management efforts available at the national and high seas fishing sector level in order to prevent, deter and eliminate IUU fishing. The underlining principle of the above objective is to protect both the national and high seas fishing sector of Belize in order to provide a sustainable fishery. This principle falls in line with the management principles of the Fisheries Department, IMMARBE and the fishing cooperatives. The national fishing sector and high seas fishing sector contributes significantly towards the development of the country and the above private entities. In order to ensure the continued financial contribution from the two fishing sectors, the agencies are motivated to conduct practises that will enable the sustainability of the resource they are dependent upon.

Implementing a policy requires legislation which facilitates its implementation as well as the enactment of its guiding principles. Belize has in place valid legislations such as the Fisheries Act, the Fisheries Regulations, the Merchant Ship Registry Act, the Merchant Ship Safety Regulations, the High Seas Fishing Act and the Food Safety Regulation which permit the implementation of the NPOA for IUU fishing. The proposed comprehensive fisheries legislation is expected to cover the issues addressed in the various legislation and regulations currently being enforced.

Belize is signatory to several regional and international agreements which are directly related to the deterrence of IUU fishing. These include the Fisheries and Aquaculture Integration Policy for the Central American Isthmus, the FAO IPOA for IUU Fishing and the Code of Conduct for

Responsible Fisheries. The NPOA for IUU fishing has built-in provisions to enable Belize to meet the requirements of the agreements. However, provisions must be made in the revised document to incorporate the Castries (St. Lucia) Declaration on IUU Fishing and the Port State Measures to Prevent, Deter and Eliminate IUU Fishing.

The integration of the Port State Measures to Prevent, Deter and Eliminate IUU Fishing in the NPOA for IUU fishing is needed in order to satisfactorily meet the international standards set for addressing IUU fishing. Collective international actions to exclude IUU high seas fishing vessels from port States have been shown to improve global efforts at combating IUU fishing (DeSombre, 2005). The ability of party States to deny port access to suspected IUU high seas fishing vessels and detain suspected IUU fishing vessels could possibly serve as a deterrent to IUU fishing.

Based on the above, the document received a score of 1 for congruence. The document seeks to establish a relationship with existing IUU related national legislation and regional and international agreements. However, since the document is outdated it failed to incorporate new agreements which address IUU fishing.

#### 4.3.3 Legitimate and equitable

Transparency in the creation and the assessment of a policy document is essential in order to attain community buy-in. The community should be involved in the creation and the implementation of the NPOA for IUU in order to attest to the legitimacy of the content and the implementation strategy.

Furthermore, it is necessary to assess if the document enables the fair treatment of resource users. The country of Belize, particularly its coastal communities such as Sarteneja, Placencia, Punta Gorda Town, Dangriga and San Pedro, are highly dependent upon their fisheries resources for their economic development. Also, the country benefits considerably from the registration of high seas fishing vessels. The inequitable treatment of resource users, from both the national fishing sector and high seas fishing sector jeopardises the stability of both fisheries.

In order for the community and stakeholders to assess that the content of the policy is reasonable and fair, the Fisheries Department must provide workshops and community meetings where they are afforded the opportunity to evaluate the document. Since the document was not completed this did not occur. However, it would be beneficial if the NPOA for IUU fishing provided information regarding how the Fisheries Department would facilitate stakeholder and community evaluation of the document.

The creation of the NPOA for IUU fishing involved key stakeholders such as representatives from the local fishing cooperatives and IMMARBE in the creation process. These agencies represent the interest of the resource users. It would have been beneficial if the Labour Department of Belize, particularly the ILO Desk Officer was involved in the creation process. The ILO Desk Officer represents the interest of the seafarers, ensuring their fair treatment and safety onboard high seas fishing vessels.

As noted previously, the NPOA for IUU fishing did not include an implementation plan. Therefore it failed to discuss which agencies would be involved in the implementation of the NPOA for IUU fishing. The involvement of agencies such as: (1) the fishing cooperatives; and (2) IMMARBE in the implementation plan would assist in attaining buy-in from the resource users. It could also facilitate in the monitoring and surveillance of the fisheries sectors.

The evaluation of the outcome of the implementation should be focused on the impact it has on the environment, community and resource users. The NPOA for IUU fishing sets forth a list of factors that would be evaluated when assessing the outcome of the implementation of the policy. These included assessing: (1) the impacts on the fisheries resources; (2) the socio-economic effect on the fishing sectors and the country; (3) the environmental impacts; and (4) the general perception of the fishers and other stakeholders regarding the NPOA for IUU fishing. However, as relayed by personnel from the Fisheries Department, this would involve training the staff of the Fisheries Department in conducting and analysing socio-economic studies.

After conducting an evaluation of the outcome of the implementation strategy the document may require revision. The revision should involve the above mentioned stakeholders that were included in the creation as well as the community. Conducting stakeholder workshops and community meetings would facilitate greater understanding of the policy. The document did not identify if stakeholders would be involved in the revision process.

Based on the above, the document attained a score of 1 for legitimacy and equity. The creation of the document facilitated some stakeholder involvement. However, it failed to discuss if these stakeholders would be involved during the evaluation and revision of the document.

#### 4.3.4 Efficient and effective

The ability of a policy to utilize resources already available greatly increases its effectiveness. The Fisheries Department was identified as the implementing agency for the NPOA for IUU fishing. Thereby, the resources of the Fisheries Department, both technical and human, would be involved in the implementation, evaluation, revision and application of the policy. The document also calls for the assistance of partner agencies such as the Coast Guard and IMMARBE in the MCS framework.

However, as mentioned earlier in order to increase the efficiency and maximise the effectiveness of implementing the NPOA for IUU fishing two monitoring domains are required. Each fishing sector requires a separate monitoring arena. The high seas fishing sector requires the involvement of other agencies such as the Labour Department and BAHA within its monitoring domain. The local fishing sector would greatly benefit from the involvement of government agencies such as the BDF MW, BPA, Belize Police Department, Immigration and Nationality Department, the Customs Department, local NGOs and the community within its domain.

The involvement of these stakeholders would ensure the full application and continuity of the policy. Frequent in countries is the creation and implementation of projects that are short lived due to a lack of resource and local involvement in the project.

Based on the above, the document received a score of 1 for its efficiency and proposed effectiveness. The document relies heavily on the Fisheries Department to enable its continuation. It fails to identify key stakeholders who can assist in the project and thus increase the probability of the continuity of the policy.

#### 4.3.5 Adaptability of the NPOA for IUU fishing

Adaptability and flexibility are key components of a policy document. Built-in adaptability in a document enables assessment of the implementation strategy and continuous evaluation of the performance of the policy. It facilitates a lesson learnt approach, allowing policy implementers to evaluate the outcome of the process based on the stated objectives. This assessment provides the mechanism to alter the policy based on what is learnt.



The document provided a list of criteria for conducting the periodic evaluation of the effect of the implementation of the NPOA for IUU fishing on the society, the environment and the fisheries resources. Periodic evaluation would enable the continual revision of the document. The document noted that any revision of the document would entail the same process that was involved in its creation.

Based on this the document received a score of 2 for adaptability. Built-in provisions were made to facilitate the evaluation and revision of the document.

## **5. RECOMMENDATIONS**

A national fishery and a high seas fishery constitute the fishing sector of Belize. Although the structures of these fisheries differ considerably, the challenges the fisheries face in combating IUU fishing lies in a shortage of capacity - the capacity to regulate and monitor the fisheries by the relevant agencies. The fisheries sector of Belize contributes considerably towards the economic and social advancement of the nation. Failing to address the MCS challenges, inevitably poses a threat to the economic and social stability of the country. The following recommendations can be used to address the gaps and deficiencies identified in the NPOA for IUU fishing.

### **5.1 Scientific and socio-economic research**

IUU fishing has well been established as a global peril. The majority of studies conducted by organisations such as the FAO and MRAG focus on the economic and social damages IUU fishing causes to Asian Pacific and African countries. Belize's NPOA for IUU Fishing starts off by indicating that IUU fishing is a threat to the sustainability of the country's fishing sector and requires immediate action. However, failure to quantify the range of impacts brought about by IUU fishing discounts the severity of the problem. In order for the problem to be accepted and dealt with, the severity of the problem must be substantiated with scientific data and local knowledge. The Government of Belize, through the Fisheries Department, is encouraged to conduct a range of studies which serves to gather information regarding:

- a. the occurrence of IUU fishing in Belize's EEZ and a profile of the perpetrators committing the act;
- b. the social and economic benefits generated from the high seas fishery and the national fishery; and
- c. the social and economic impacts of IUU fishing on Belize's national fishing sector with relevance to fishing communities.

The above requires an investment in the human and technical resources.

### **5.2 Capacity building and investment in technology**

The document acknowledges that the Fisheries Department lacks the human and technical resources required to effectively monitor the fishing sector. A shortage of capacity decreases the effectiveness of the NPOA for IUU fishing. If the NPOA for IUU fishing is implemented and the resources, be it human and/or technical is lacking, the implementation will be not be effective, as the stated objectives will not be accomplished. In order to address the shortage in capacity, the Government of Belize must invest in the Department. The granting of partial-pay study leaves and the provision of staff development trainings and workshops relating to policy creation, natural resource management, fisheries management, conducting socioeconomic studies and

utilising radar and tracking equipment is necessary. Staff development must be accompanied with an investment in technology and equipment. The provision of more land and sea transportation should result in increased monitoring and patrolling of Belize's EEZ as well as, the collection of data from fishing cooperatives, fish markets, hotels and restaurants. These investments function to: (1) improve the capacity of the Department; (2) improve the management of the fisheries resources; and (3) increase the effectiveness of fisheries policies being implemented in Belize.

### **5.3 Integration of Multi-lateral Agreements**

As identified by the workshop participants and the researcher, the NPOA for IUU fishing should seek to establish closer linkages with recent multi-lateral agreements such as the Castries (St. Lucia) Declaration on IUU Fishing and the Port State Measures to Prevent, Deter and Eliminate IUU Fishing. Belize has already signed onto the Castries (St. Lucia) Declaration on IUU Fishing and will become party to the Port State Measures to Prevent, Deter and Eliminate IUU Fishing in the near future. These agreements seek to improve global and regional port management and increase the monitoring and surveillance capacities of the coastal and flag fisheries. Incorporating the requirements stipulated in these agreements within the revised NPOA for IUU fishing would increase the effectiveness and efficiency of the policy. These agreements aim to develop partnerships and enable the effective transboundary management of resources within the region and the world. The integration of national MCS systems requires the harmonisation of policies, legislation and national fisheries institutions. This can significantly increase the effectiveness of the national MCS frameworks for member countries. Such efforts serve to improve the national and regional capacity for deterring IUU fishing.

### **5.4 Policy making and monitoring domains**

As identified by the workshop participants, all the relevant stakeholders that should have been involved in the creation of the NPOA for IUU fishing and in the monitoring of the high seas and national fisheries were not identified. The incorporation of additional representatives from the ILO, CRFM, BDF MW, SEA, TIDE, BPA, fishermen cooperatives and BAHA are required to establish a comprehensive integrated approach to fisheries management. Integration creates a pooling of resources, both human and technical, that can be used to better monitor the fishing activities of the high seas fishing vessels and Belize's EEZ. The Fisheries Department must ensure the all relevant stakeholders are equally represented in the policy making domain and the monitoring domain. Failure to do so could result in the unfair treatment of stakeholders, reduced community buy-in and the creation of another ineffective implemented policy.

### **5.5 Stakeholder revision of the NPOA for IUU fishing**

The implementation of the NPOA for IUU fishing functions to regulate and manage the high seas and the national fishery sector; thereby it inevitably will affect stakeholders such as national fishers, IMMARB and the owners of high seas fishing vessels. In order to ensure that the policy is fair and reasonable to all stakeholders, the stakeholders must be involved in the creation, implementation, evaluation and revision of the document. Involvement of stakeholders in these processes strengthens relationships between the implementing agency and the stakeholders, thereby maximising buy-in.

### **5.6 Adaptability of the NPOA for IUU fishing**

A policy that fails to incorporate periodic evaluation so as to analyse lessons learnt, quickly

becomes outdated and loses its effectiveness. The NPOA for IUU fishing sought to incorporate periodic evaluation but failed to establish how and when it would be done. Continuous evaluation increases the adaptability of the policy, making it suitable for the 'now' rather than the 'then'. The inclusion of an implementation cycle which also incorporates an evaluation scheme would greatly improve the efficiency and effectiveness of the policy.

## **6. CONCLUSION**

Belize's fishing sector contributes significantly towards the country's economic and social advancement. This fishing sector consists of a high seas fishery and a local fishery. The former is highly regulated, unlike the latter. The management of these fisheries differ considerably.

Belize's draft NPOA for IUU fishing was designed with the objective of integrating all relevant agencies within the MCS system in order to prevent, deter and eliminate IUU fishing both nationally and within the flagged high seas fishing vessel fishery. Therefore, failure to identify the relevant stakeholders within the fisheries' policy making and monitoring domains would greatly undermine the effectiveness and efficiency of the NPOA for IUU fishing.

The current NPOA for IUU fishing provides a working document, which after careful evaluation and subsequent revision can be used to create a comprehensive approach for the management of the high seas and national fisheries. The current draft document possesses the elements of a satisfactory policy document. However, its effectiveness and efficiency is challenged by:

- the capacity of the Fisheries Department to successfully monitor the high seas and national fisheries;
- failure to incorporate recent international and regional agreements within the document; and
- failure to incorporate all relevant stakeholders within the policy making and policy monitoring domain.

Addressing the gaps and deficiencies identified in the NPOA for IUU fishing involves:

- conducting capacity building of the personnel within the Fisheries Department;
- incorporating new and emerging national, regional and international legislation and agreements in the document;
- building partnerships with regional agencies to facilitate the transboundary management of resources;
- incorporating adaptability within the document to ensure its continued effectiveness;
- ensuring the document clearly articulates the problem faced by the nation's fisheries as a result of IUU fishing and how best to overcome this problem; and
- incorporating all relevant stakeholders in the creation, implementation, evaluation and revision of the new NPOA for IUU fishing.

The identification and incorporation of all relevant national stakeholders and regional agencies within the policy and monitoring domains is essential in combating IUU fishing. Garnering the support and assistance from these stakeholders and agencies can greatly increase the success of attaining the stated objective within the NPOA for IUU fishing.

Given that IUU fishing is a national, regional and international fishing problem; combating it

requires the commitment and involvement of all relevant agencies present at the national, regional and international level. As noted by the workshop participants and interviewees, an integrated approach to fisheries management provides the best means of preventing, deterring and combating IUU fishing.

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## 8. APPENDICES

### Appendix 1: Belize's National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing

# Draft Document Belize

## National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing

This document was prepared with the assistance of SICA/OSPESCA  
and technical support of FAO

14 December 2005

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**Appendix 2: A sample of the stakeholders' policy evaluation invitation letter**

**BELIZE FISHERIES DEPARTMENT**

**MINISTRY OF AGRICULTURE & FISHERIES**

PRINCESS MARGARET DRIVE \* P.O. BOX 148 \* BELIZE CITY, BELIZE C.A.

PHONE: (501) 224-44552/223-2623 \* FAX: (501) 223-32983

Email: [species@btl.net](mailto:species@btl.net)

Website: [www.caricom-fisheries.com/belize-fisheries](http://www.caricom-fisheries.com/belize-fisheries)

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Ref: Gen/Fis/1/01/2010 (52) Vol V11

July 5, 2010

**Mr. Jorge Ramirez**  
**Chairman**  
**Rio Grande Fishermen Cooperative Society Limited**  
**Front Street**  
**Punta Gorda Town**  
**Toledo District,**  
**Belize.**

Dear Mr. Ramirez,

The Fisheries Department is pleased to invite you to a workshop entitled "Building Partnerships to Deter, Prevent and Eliminate Illegal, Unreported and Unregulated (IUU) fishing."

The workshop will be held on July 14, 2010 at 9:00 a.m. at the Caribbean Regional Fisheries Mechanism (CRFM) Conference Room located on the compound of the Fisheries Department in Belize City. The objective of the workshop is to facilitate the participation of stakeholders in a review of the draft National Plan of Action to Prevent, Deter and Eliminate IUU Fishing (NPOA-IUU). The NPOA-IUU will assist to improve Belize's Monitoring, Control and Surveillance (MCS) capacity.

Please see the attached workshop flyer for information. We look forward to your participation in this workshop.

Respectfully,

---

BEVERLY WADE

FISHERIES ADMINISTRATOR

### **Appendix 3: List of attendees for the resource managers' policy evaluation workshop**

<b>No.</b>	<b>Name</b>	<b>Agency</b>
1	Robert Robinson	IMMARBE
2	Valarie Lanza	IMMARBE
3	Colin Gillet	CZMAI
4	LTTG. Greg Soberanis	Belize Coast Guard
5.	Lyndon M. Rodney	Fisheries Department (CCU, Department Head of Punta Gorda Fisheries Office)
6.	Joel Cruz	Fisheries Department (CCU)
7.	Felicia Cruz	Fisheries Department (High Seas Fisheries Officer)
8.	Wilfrido Pott	Fisheries Department
9.	Mauro Gongora	Fisheries Department (CFU Coordinator)

## **Appendix 4: Stakeholder policy evaluation workshop PowerPoint presentations**

### **Ministry of Agriculture and Fisheries Belize Fisheries Department**

#### **First Draft**

### **National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (NPOA-IUU) Fishing**

### **Document Prepared with the Assistance of SICA/OSPESCA and the Technical Support of the FAO**

#### **Presentation One: Guidelines for Evaluating the NPOA for IUU Fishing**

**Done By: Ralna Lamb**

#### **Purpose of the Evaluation**

- ▶ Common in developing countries is the creation of an implementation gap between the stated policy goals and the actualization of such goals (Makinde, 2005).
- ▶ To ensure the successful implementation of an IUU fishing policy it is essential to first assess what are the implications of implementing such a policy.
- ▶ Currently conducting a MSc. research entitled “Assessing the implications of implementing an IUU Fishing Policy in Belize.”

#### **Objectives of the Evaluation Exercise**

- ▶ To review the existing incomplete NPOA-IUU fishing policy to determine the gaps and deficiencies of the document.
- ▶ To produce recommendations to guide the construction of a new NPOA-IUU fishing policy for Belize.

#### **Methods**

- ▶ The presentations will cover three topics:
  - ▶ Belize as a Coastal State;
  - ▶ Belize as a Flag State; and
  - ▶ Belize as a Port State.
- ▶ There will be a 15 minutes comment period after each mini-presentation.
- ▶ Participants are encouraged to share their views regarding the:
  - ▶ the relevance of the current policy document;
  - ▶ capacity for its implementation;
  - ▶ gaps and deficiencies in the document; and
  - ▶ the outcome of the policy implementation.
- ▶ At the end of the 3 mini presentations the recorded comments will be presented to the participants to ensure that the recorded statements are accurate.

## **Presentation Two: An Overview of the NPOA for IUU Fishing**

**Done By: Mauro Gongora, Coordinator of the Capture Fisheries Unit (CFU)**

### **Introduction**

- ▶ IUU fishing is a growing concern within the international fishing community.
- ▶ Its estimated annual worldwide economic loss is between US \$10 bn. to US \$23.5 bn. (Agnew et al. 2009).
- ▶ This is equivalent to 11.06 to 25.91 million tons of fish (ACP, 2009).

### **IUU contributes significantly to:**

- ▶ overfishing;
- ▶ the degradation of the marine resources and habitats;
- ▶ a reduction in catch per unit effort (CPUE);and
- ▶ a loss of captured resource rent by legitimate fishermen and management authorities.

### **Drivers and Facilitators of IUU Fishing**

- ▶ The main driver of IUU fishing is financial profit.
- ▶ IUU fishing is facilitated by weak and poor governance.
- ▶ Poor developing countries suffer the greatest economic loss as a result of IUU fishing since they often lack:
  - ▶ the resources to monitor and control fishing activities within their EEZ; and
  - ▶ the necessary legislation and policies to govern the management of their fishing sector.

### **Measures Taken to Address IUU Fishing:**

- ▶ UNCLOS (1994): consists of a suite of rules governing the use of the oceans and all of its' resources.
- ▶ The Food and Agriculture Organisation (FAO) Code of Conduct for Responsible Fisheries (1995).
- ▶ UN Conservation and Management of Straddling and Highly Migratory Fish Stocks (2001).
- ▶ The FAO Agreement to Promote Compliance of Fishing Vessels with Conservation Measures on the High Seas (2003).
- ▶ The FAO International Plan of Action (IPAO) to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing (2001).

Integral to the success of the IPOA is the adoption of these principles regionally and nationally through the creation of a NPOA-IUU Fishing

### **Belize's NPOA for IUU Fishing**

- ▶ Fishing is of great social and economic importance for Belize.

- ▶ Belize along with Central American countries developed an IPOA-IUU.
- ▶ In 2005 the BFD with the assistance of SICA/OPESCA and the FAO drafted an incomplete NPOA-IUU fishing.

The incomplete document is now outdated.

### **Objectives of the NPOA for IUU Fishing**

- ▶ To gather all the management measures in Belize, both at national and at the high seas, that have been established to prevent, deter and eliminate IUU Fishing.

### **Principles of the NPOA for IUU Fishing**

- ▶ To establish principles that is compatible with the IPOA (legislation, NPOA).
- ▶ To promote fisheries as a source of protein.
- ▶ Promote the protection and the sustainable use of the marine system and its resources.
- ▶ Promote the commercialization of fish and fish products at national and international levels.
- ▶ Design, implement and develop an NPOA that will prevent IUU fishing.

### **Definition of the Terms**

- ▶ Illegal fishing occurs when fishing vessels operate in violation of the laws of a fishery governed under either state legislation or in the case of high seas area, regulated by regional organizations.
- ▶ Unreported fishing refers to fishing that is either unreported or misreported to the governing national agency or regional organization
- ▶ Unregulated fishing refers to un-flagged vessels or those flagged by a country which is not party to international or regional conventions governing that fishing area or species

### **Responsible Authority**

- ▶ Belize Fisheries Department- is responsible for the application, enforcement and national compliance of the NPOA.
- ▶ International aspects of the NPOA should be consulted with IMMARBEL.

### **National Legislation**

- ▶ Chapter 210 is the Fisheries Act, Chapter 210's is the enabling regulations of the Act and Chapter 210-1 is the High Seas fishing Act. The law has been revised in 2000, 2003, 2004 and is currently undergoing a complete revision.

The Fisheries Management Measures are currently in place for fisheries such as conch, lobster, turtles, shrimp, Nassau groupers, and bony fish among others species.

### **Monitoring, Control and Surveillance (MCS) System**

- ▶ The monitoring, control and surveillance (MCS) system is enforced by Fisheries Officer.
- ▶ The MSC is designed in accordance to the fishing industry.
- ▶ It monitors the:

- ▶ extraction activities;
- ▶ processing;
- ▶ transport; and
- ▶ commercialization of the resources and its derivatives.

### **MCS Tools**

- ▶ Fishing License
  - ▶ Nationals and foreigners must be properly licensed.
  - ▶ The license is registered automatically into a database management system by the FD.
  - ▶ Before issuing a fishing license the fisher and his/her vessel/s is/are checked to ensure that they have not been conducting IUU fishing.
- ▶ Vessels Registry
- ▶ Vessel Monitoring System (VMS)
- ▶ Observers Onboard
- ▶ Statistical Database Management

### **Planning**

- ▶ The Central Government assumes the responsibility of:
  - ▶ financing the MSC activities on a yearly basis.

The FD utilizes revolving funds to comply with its obligations

### **Inter-Agency Cooperation**

- ▶ In order to strengthen the MCS the Department:
  - ▶ the FD will cooperate with other government departments that are able to contribute to battling IUU fishing

### **Cooperation between States**

- ▶ The FD worked with Central American countries to create the NPOA for Fishing Capacity and Sharks.
- ▶ Belize participates also in the International Information Network established in 2000 with the sponsorship of FAO.
- ▶ Information of all vessels is submitted to FAO.

### **Dissemination of the NPOA for IUU Fishing**

- ▶ The NPOA is to be sent to all the stakeholders of the fishing industry for their input and revision.
- ▶ The FD will distribute the NPOA in both electronic and hard copies.

### **Continuation of the NPOA for IUU Fishing**

- ▶ The management measures adopted in the NPOA will be subjected to:
  - ▶ periodic revisions and adjustments every two years; and
  - ▶ continuous implementation evaluation with regards to:
    - ▶ the fishing resources;
    - ▶ the socio-economic effects;
    - ▶ environmental impacts; and
    - ▶ the general perception of the fishers and other stakeholders.
- ▶ Any changes to the management regulations will be subjected to the same sequence of events that resulted in its adoption as mentioned earlier.

### **Presentation Three: Belize's Responsibility as a Coastal State**

**Done By: Mauro Gongora, Coordinator of the Capture Fisheries Unit (CFU)**

#### **Measures Take to Prevent Deter and Eliminate IUU Fishing in Belize's Coastal Waters**

- ▶ Only authorized nationals are allowed to carry out fishing activities in Belize's EEZ.
- ▶ All industrial or artisanal fishing vessels must be registered and licensed by BFD prior to fishing.
- ▶ All catches of industrial, national or foreign vessels that unload their products or derivatives total or partial in Belizean ports must be reported as prescribed by the law.
- ▶ The transshipment of marine products or its derivatives are to be authorized prior to transshipment.
- ▶ Industrial fishing vessels are not allowed to fish in Belize's national waters.

#### **National Legislation**

- ▶ Chapter 210 is the Fisheries Act, Chapter 210's is the enabling regulations of the Act and Chapter 210-1 is the High Seas fishing Act. The law has been revised in 2000, 2003, 2004 and is currently undergoing a complete revision.
- ▶ The Fisheries Management Measures are currently in place for fisheries such as conch, lobster, turtles, shrimp, Nassau groupers, and bony fish among others species.

#### **Control over Nationals**

- ▶ The national fisheries' law of Belize applies to all levels of fishing from the extraction to the commercialization of the resource.
- ▶ All captains and crew members are responsible for obtaining a fishing license issued by the BFD.
- ▶ An individual found in contravention of the Fisheries' Laws may be arrested and charged by a fisheries inspector.
- ▶ The fine will be determined by a magistrate.

#### **Sanctions and Fines**

- ▶ Monetary sanctions, incarceration and the suspension of licenses may be applied in case

of an infraction.

- ▶ A court determines the monetary fine based on:
  - ? the volume of the illegal product; and
  - ? damage to the ecosystem and the environment.
- ▶ Belize does not have any form of economic incentive at any level of the fishing activity.

### **Presentation Three: Belize's Responsibility as a Port State**

**Done By: Ralna Lamb**

#### **Port State Control**

- ▶ The captain or operator of the foreign fishing vessel or its authorized agent are to:
  - ▶ notify the Fisheries Administrator 24 hours prior to the use of the port; and are
  - ▶ follow the requirements of the port authority.
- ▶ All foreign vessels authorized to come to port will be able to:
  - ▶ change crew;
  - ▶ refuel; and
  - ▶ buy provisions and equipment.
- ▶ All foreign fishing vessels in compliance to national or international management measures for the resource onboard will be able to:
  - ▶ conduct transshipment; or
  - ▶ land its catches or derived products.
- ▶ Vessels wishing to transship, land catches or derived products must fulfill the following requirements :
  - ▶ Provide the information established by the form in regards to: method of fishing, area of fishing, catch on board by species and type of product.
  - ▶ Attach photocopy of fishing license and authorization to fish.
  - ▶ Declare area of operation by means of VMS verified by the flag state.
  - ▶ Keep all fishing equipment properly stored ensuring that they are not easily accessible for fishing in national waters.

### **Presentation Four: Belize's Responsibility as a Flag State**

**Done By: Felicia Cruz, High Seas Fisheries Officer**

#### **Fishing License**

- ▶ Any persons that wish to carry out fishing activities and any vessels used for fishing whether national or foreign must be properly licensed by the Belize Fisheries Department. These licenses are valid for one year only.
- ▶ All issued license are entered automatically into a data base managed by the Department. Before issuing a fishing license the fisher and its vessels are checked to ensure that they



have not been conducting Illegal Unreported Unregulated (IUU) Fishing.

### **The contents of a High Seas Fishing License**

- Issue and Expiry date
- Cost of License
- Name of Ship owner or charterer
- Address of owner
- Name of vessels
- Type of vessel
- Call Sign
- IMO number
- Net and gross tonnage
- Length and breadth
- Year of construction
- Name of builder
- Engine Capacity
- Fishing area and coordinates
- Fishing methods
- Authorized species
- Type of processing
- Landing Ports
- Special conditions of the license
- Authority stamp and signature

### **Vessel Registry**

- ▶ Port Authority

All Vessels are to be properly registered with the Port Authority which issues a registration number and registration sticker which should be placed on the vessels.

- ▶ **Fisheries Department**

All vessels that wish to carry out fishing activities are required to obtain a fishing vessel license from the Belize Fisheries Department. The vessel has to be clearly marked with the number provided upon licensing on the bow of the vessel.

- ▶ **International Registry**

All fishing vessel that wish to fish under the Belizean flag are to be registered by IMMARBEL. This organization has ship registrar in various countries all over the world to help facilitate the registration process.

## **Belize Flag**

- ▶ IMMARBE conducts a thorough investigation on the vessels history to ensure that the vessel has not participated in IUU fishing.

## **High Seas Fishing Act**

The High Seas Fishing Act was approved in February of 2003 and came into effect on August of that same year. This act contains all the regulations governing the High Seas Fishing Fleet. Some of the regulations include the submission of catch data and the use of VMS. This act also states offences, prohibitions and sanctions.

## **Vessel Monitoring System (VMS)**

- ▶ All foreign fishing vessels registered and licensed under the Belize flag are to have a satellite transmitter on board with the purpose of tracking the vessel's geographical location on a real time basis. This requirement also applies to those fishing vessels utilizing Belizean Ports.
- ▶ The equipment used by Belize is the Immarsat C, Immarsat mini-C and Immarsat D+. The information is managed by Stratos/Pole Star Application Limited. The use of this technology has allowed the authorities in Belize to better combat IUU Fishing and other illegal activities in the High Seas such as drug trafficking.

## **Captain and Crew Responsibility**

### **▶ Catch Report**

The foreign vessels owners fishing in the high seas under the Belizean flag are to submitted catch data in the prescribed form used by IMMARBE. There are sanctions for those owners that knowingly submit false or inaccurate data.

### **▶ Transshipment Reporting**

Belize authorizes transshipment both in the high seas and on port, The following information is required:

Date of Transshipment, Name of participating vessels, Species on Board and to be transshipped, quantity in number and weight and species, and Transshipment Area (to be verified via VMS)

### **▶ Catch Statistical Report**

In compliance to the requirements of FAO, ICCAT, CRFM, IATTC, OSPESCA and OLDEPESCA, Belize submits annually or as required its fisheries statistics of landing, production, and aquaculture. Belize also submits to FAO the complete information of all the High Seas Fishing Vessels.

## **Appendix 5: Workshop agenda**

### **BELIZE FISHERIES DEPARTMENT**

NPOA-IUU Fishing

Building Partnerships to Deter, Prevent and Eliminate Illegal, Unreported and Unregulated  
(IUU) Fishing Workshop

Belize City, Belize

### **Agenda**

Master of Ceremony: Mr. Wilfrido Pott, Fisheries Officer

Presenters: Ms. Felicia Cruz, Mr. Mauro Gongora and Ms. Ralna Lamb

9:30 a.m. National Anthem

9:35 a.m. Prayer

9:40 a.m. Welcome Address - Ms. Beverly Wade Fisheries Administrator

10:00 a.m. Introduction: Belize's NPOA-IUU Fishing – Mauro Gongora, Fisheries Officer

10:30 a.m. Snacks and refreshments

10:45 a.m. Guidelines for Evaluating the NPOA-IUU Fishing - Ms. Ralna Lamb, UWI Student

11:00 a.m. Belize's Responsibility as a Coastal State - Mr. Mauro Gongora, Fisheries Officer

11:15 a.m. Comments Period

11:30 a.m. Belize's Responsibility as a Port State - Ms. Ralna Lamb, UWI Student

11:45 a.m. Comments Period

12:00 p.m. Lunch Break

1:00 p.m. Belize's Responsibility as a Flag State by Ms. Felicia Cruz

1:15 p.m. Discussion Session – Wilfrido Pott, Fisheries Officer

2:00 p.m. Summary of Workshop Comments – Ms. Ralna Lamb, UWI Student

2:15 p.m. Closing Remarks

Snacks and refreshments

## **Appendix 6: Stakeholder interview guidelines**

### **Stakeholder Interview**

**Date:**

**Time:**

**Name of Interviewee:**

**Location:**

My name is Ralna Lamb and I am currently attending the University of West Indies, Cave Hill Campus. I am presently conducting an MSc. Research entitled “Assessing the Implications of Implementing a Fishing Policy to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated (IUU) Fishing in Belize.”

Before starting this interview I would like to ask your permission to audio record the interview. This is to assist me when compiling and analysing my data.

The purpose of this interview is to identify based on your response, the status of IUU fishing in Belize’s territorial waters and how the occurrence of IUU fishing could be addressed through the involvement of fishermen.

IUU fishing entail three activities- illegal fishing, unreported fishing and unregulated fishing.

What are these?

Illegal fishing- occurs when fishermen fail to abide by the legislations governing the management of the fisheries resources eg. unlicensed fishers, fishing in no-take zones, fishing in closed seasons

Unreported fishing- involves failing to report catch data to the Fisheries Department or providing false catch information to the Fisheries Department.

Unregulated fishing- occurs when flagged high seas fishing vessels fishing in Belize’s waters but fail to abide by the national regulations

Based on the definitions given and your personal experiences kindly answer the following questions:

1. Is there cause for concern for IUU fishing in Belize?
  
  
  
  
  
  
  
  
  
  
2. If yes, why is IUU fishing and issue of concern in the country of Belize?
  
  
  
  
  
  
  
  
  
  
3. What measures do you believe can be taken by the local fishermen and national cooperatives to help deter IUU fishing in Belize?