



Overcoming complexity in illegal, unregulated and unreported fishing to achieve effective regulatory pluralism



Jade Lindley*, Erika J. Techera

The University of Western Australia and the Oceans Institute, 35 Stirling Highway, Crawley WA 6009, Australia

ABSTRACT

Globally, illegal, unregulated and unreported (IUU) fishing challenges economic development, as well as food and human security, and has done so for many years. Despite the implementation of legal responses to IUU fishing by the international community and many States, the problem continues. While political will, the vastness of oceans and limited human and financial resources hamper the effectiveness of these responses, fragmentation has also prevented effective control. IUU fishing is addressed by legal controls across fishing, shipping, labour and criminal law and existing research on IUU fishing has tended to focus on individual aspects of these, yet evidence indicates their interconnectedness. This research addresses a gap, critically analysing the range of international legal frameworks together. Within this context, this paper explores and analyses the how fragmentation of legal instruments, lack of interaction between actors and regimes, and piecemeal implementation of the law limits the control of IUU fishing drawing on the concept of regulatory pluralism to appropriately address the challenges.

1. Introduction

Demand for fish and seafood has outpaced human population growth and while capture production remains steady concerns persist about a global decline in wild fish stocks [1]. At the international level, endeavours continue to create sustainable, legitimate fisheries with the Food and Agriculture Organization of the United Nations (FAO) leading efforts to address overfishing, complemented by the work of other international organisations. The FAO's role is to preserve food security and therefore manage both legitimate and control illegitimate fishing practices; the latter preventing sustainable management, and risking food and financial security, upon which many people's livelihoods depend. Therefore, it is critical that illicit activities are addressed alongside the effort to make legitimate fisheries sustainable.

The FAO reports fishing capture but research indicates that the dataset tends to underestimate the actual catches as it excludes artisanal and subsistence fisheries, recreational fisheries, discarded bycatch, and illegal and otherwise unreported catch [2]. Illegal, unregulated and unreported (IUU) fishing represents the largest proportion of the underestimated catches as up to one third of some species are caught as illegal or unregulated harvests but is poorly quantified [3]. Understanding the extent of illegal harvest is therefore critical.

IUU fishing may involve exceeding catch limits, defying fishery

permit regulations, or fishing in the waters of another State without permission, but in other cases includes fishing in contravention of obligations under national or regional laws such as fishing for high value prohibited species, in protected waters or with banned gear and equipment [4]. As much as 25 million metric tons of seafood caught globally is illegal, valued at up to US\$23.5 billion a year [5], demonstrating the extent of lost value to national economies. In 2015, the UN General Assembly noted that IUU fishing is “one of the greatest threats to fish stock and marine ecosystems and continues to have serious and major implications for the conservation and management of ocean resources, as well as the food security and economies of many States, particularly developing States” [6]. IUU fishing undermines measures in place to ensure fair catches and sustainable use of marine living resources, and disincentives compliance. Furthermore, unmanaged and illicit fishing practices damage the marine environment and have led to the decline and in some case the entire decimation of species, highlighting the critical need for sustainable management [7]. IUU fishing therefore can contribute to an ecological crisis, impact economies, have social implications and facilitate transnational criminal activity and is therefore worthy of greater attention [8]. NGOs have for example drawn attention to this issue but integrated solutions must be identified [9].

Given the level of international intervention, it may have been expected that the issue of IUU fishing should have been brought under

* Corresponding author.

E-mail addresses: jade.lindley@uwa.edu.au (J. Lindley), erika.techera@uwa.edu.au (E.J. Techera).

control by now; but it has not. The fishing practices themselves are only one aspect of the problem [10]. Another is the link with transnational and organised crime, which supports the maintenance of IUU fishing. Fisheries crime covers a range of unlawful maritime activity including illegal fishing itself but also the use of fishing vessels in the trafficking of weapons, drugs and people. Research indicates that in some cases, fishers have been driven to criminal activity once fish stocks are depleted [11]. In other instances, people have become involved in criminal activities opportunistically, where other maritime crimes are under-regulated [12]. Unlike trafficking of weapons, drugs and people, less attention has been paid to the link between IUU fishing and organised crime. In addition, organised criminal syndicates engage in illicit harvest and trade in high value fish stocks [13]. In response, increasingly States are identifying IUU fishing as a national security threat [14]. Historically, fisheries regulation has tended not to involve criminal penalties, and although this is gradually changing, penalties are often incommensurate to offences [15]. States where fisheries crimes are most prevalent are often the ones least able to address it.

At the international level, the FAO has taken the lead in addressing IUU fishing, providing critical, albeit imperfect data and implementing a number of measures explored below. The United Nations Office on Drugs and Crime (UNODC) plays a similar lead role, working with States to deal with transnational organised crimes, such as fisheries crimes, drug trafficking, human trafficking and migrant smuggling, but historically these agencies have worked separately [16]. However, UNODC aids Interpol and recently Interpol established a Fisheries Crime Working Group to detect and combat fisheries crime [17].

IUU fishing is further complicated by illegal forced and unpaid labour. Forced labour involves coercion to work through violence or intimidation, accumulated debt, retention of identity papers, or threats to inform immigration authorities [18]. Forced and unpaid labour of IUU fishers, generally migrants, can also involve willing agreement to work aboard a vessel, however their working conditions defy international labour and human rights standards. Other times, people may be kidnapped and trafficked to work on board fishing vessels [19]. Research and measures to address forced labour have focused only on the sex trafficking; only recently has international attention turned to the fisheries sector [20]. Nevertheless, it is clear that in the Asia Pacific alone, forced labour in the fishing sector accounts for 53% of all forced labour in that region [21] and extensive global research has now provided countless examples of poor conditions for workers in the fishing industry [22]. The 2016 Global Slavery Index noted the “abuse of migrant workers on fishing vessels, often young men and boys, who have endured brutal treatment including physical abuse, excessive and inhumane working hours, sleep and food deprivation, forced use of methamphetamines, and face being thrown overboard if they become ill or injured” [23]. Evidence of workers being kept at sea for years at a time to support Southeast Asia's US\$7 billion annual exports fishing trade [24], and using low or unpaid workers ensures organised criminals make greater profits. Initially exposed by nongovernment organisations (NGOs), the International Labour Organization (ILO) is the key global body working to address it. The ILO initially investigated Indonesian fisheries in this regard, as early as 1999 [25] and later adopted international instruments in response to IUU fishing. These instruments are analysed below.

It is clear that there is a range of legal responses to IUU fishing driven by a range of issues falling into different portfolios. The number of different international actors, and the range of drivers and issues involved, has led to a range of legal responses to IUU fishing. The result is a complex legal landscape, poorly integrated across the domains. Whilst the legal frameworks in and of themselves may be appropriate, the persistence of IUU fishing requires a reassessment as to whether they are operating to provide an effective governance regime. This brings sharply into focus the need to explore and analyse the existing legal frameworks comprehensively and holistically. IUU fishing is a global problem and all States, particularly coastal States, have a role in

implementing and enforcing laws to preserve and sustainably manage fisheries; but they are challenged in doing so when the legal landscape is fragmented. Previous research has tended to explore single aspects of the problem from a criminal and criminological [26], fisheries regulation [27] or labour law perspective [28]; but none has critically analysed all of the legal frameworks across different bodies of law. To address deficiencies, it is not suggested that one unifying international law should replace these individual instruments, but rather, to achieve greater cooperation and integration between the frameworks, effective regulatory pluralism is essential. Regulatory pluralism acknowledges that in complex contexts, such as that surrounding IUU fishing, one single framework alone may be unable to achieve optimal control of the problem, and that a multifaceted and collaborative approach is more likely to achieve key objectives [29]. Emerging in the 1990s, regulatory pluralism has been applied in various settings, but not to IUU fishing [30]. The purpose of this paper is to explore and analyse the legal landscape and identify ways to address the shortcomings and fragmentation between them. Integral to addressing IUU fishing is the need to integrate laws across fishing, labour and shipping domains. This paper demonstrates the role and value of regulatory pluralism in addressing IUU fishing.

2. The concept of regulatory pluralism

A pluralistic paradigm recognises that one regulator [31] acting alone may be ineffective and provides that a collaborative approach is more likely to achieve the intended goals [32]. Regulatory pluralism stems from the idea that to control effectively, rather than a regulatory monopoly a heterogeneous mix of regulators is required, combining formal and informal approaches through bodies with either the same or varying motivations [33]. By creating interconnections and pooling these resources, tools and measures to complement rather than compete, overall effectiveness can be achieved more easily than by a single regulator [34]. The application of regulatory pluralism (also known as Smart Regulation) [35], is particularly useful in environments with many and varied legal frameworks, creating layers of complexity as is the case with IUU fishing. It also uses resources more effectively where there are a multitude of actors, operating across a wide geographical space, as is the case with IUU fishing. A pluralistic regulatory regime in response to IUU fishing can distil the regulatory complexity by harmonising multiple responses through international alignment. Regulators working in unison expose gaps, overlaps and weaknesses in laws, processes and the institutions themselves, and facilitate the identification of a more coherent and comprehensive path that reduces fragmentation in regulatory responses.

2.1. Regulatory pluralism and IUU fishing

The international legal frameworks applicable to IUU fishing are comprehensive, however the uptake and implementation is piecemeal and therefore less effective. Given the range and scope of relevant laws, one single international law instrument is unviable. Applying an institution-led regulatory pluralism regime is more appropriate by streamlining responses to address IUU fishing. Although widely adopted in a range of other areas, the concept of regulatory pluralism has not been applied to formulate the response to IUU fishing [36]. Given the blend of regulators working on suppressing IUU fishing, a collectively applied approach is needed to overcome issues that prevent existing legal frameworks from forming an effective overarching regime [37]. To create a platform from which to progress a regulatory pluralism paradigm, it is necessary to matrix the existing framework to synergise efforts; in doing so gaps and overlaps will be exposed.

The potential benefits of a pluralistic approach are many. Collaboratively, parties and institutions with vested interests could achieve more than by acting alone by reducing duplications in work plans, modelling local level regulatory frameworks, pooling resources

Table 1
International IUU fishing legal frameworks [40].

Administering Body	Instrument	Date
ILO	Convention Concerning Forced or Compulsory Labour	1930
ILO	Abolition of Forced Labour Convention	1957
IMO	International Convention for the Safety of Life at Sea	1974
IMO	Torremolinos International Convention for the Safety of Fishing Vessels	1977
UN	Convention on the Law of the Sea	1982
IMO	Torremolinos Protocol Relating to the 1977 Torremolinos International Convention for the Safety of Fishing Vessels	1993
UN	United Nations Fish Stocks Agreement	1995
IMO	Convention on Standards of Training, Certification and Watch-keeping for Fishing Vessel Personnel	1995
UN	Convention on Transnational Organised Crime and Protocols Thereto: the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children; the Protocol against the Smuggling of Migrants by Land, Sea and Air; and the Protocol against the Illicit Manufacturing of and Trafficking in Firearms, their Parts and Components and Ammunition	2000
FAO	International Plan of Action on IUU Fishing	2001
FAO	Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication	2001
ILO	Maritime Labour Convention	2006
ILO	Convention Concerning Work in the Fishing Sector (Work in Fishing Convention)	2007
FAO	Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing	2009
IMO	Cape Town Agreement on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977	2012

to more efficiently monitor and enforce, and exposing areas of focus otherwise lacking priority [38]. Given that the political will to respond to IUU fishing and related issues is inconsistent between States, using a regulatory pluralism paradigm can result in a harmonised approach benefiting all States irrespective of their level of participation [39]. A pluralistic regulatory regime may also assist States lacking political will or unwilling to ratify international laws due to implementation obligations given that goals tackled collectively are more achievable.

3. Current international IUU fishing legal frameworks

The legal frameworks for controlling fishing, shipping, maritime security and labour issues are disparate with rules and regulations contained in a number of international and regional instruments. There are four relevant legal sub-fields: criminal and labour law, as well as fisheries and shipping regulations. The resulting patchwork of responses has been driven by different organisations with various mandates. For the international community to effectively combat marine crimes an integrated approach is essential. The following analysis demonstrates, however, that there is currently more fragmentation than cooperation. Table 1 below, serves as a quick reference guide to the relevant international legal frameworks.

3.1. Law of the sea

The United Nations Convention on the Law of the Sea (UNCLOS) is the overarching legal ‘constitution for the oceans’ by setting out maritime zones and the rights that States have within them, and establishing obligations to protect and preserve the marine environment. UNCLOS includes a range of general provisions, for example, hot pursuit and interception at sea, cooperation for the repression of piracy, prohibitions on the transport of slaves, and duties to render assistance and rescue persons in distress [41], as well as specific rights of coastal States for the enforcement of laws including inspection and arrest [42]. Further, UNCLOS recognises a State's sovereignty over its Territorial Sea (from the coast to 12 nautical miles) and establishes basic rules allowing coastal States to ‘explore and exploit’ fishery resources in their Exclusive Economic Zones (EEZ) (from 12 to 200 nautical miles) [43]. Within the EEZ, coastal States must set a maximum sustainable yield, determine the total allowable catch of any species and promote the objective of optimum utilisation of those resources [44]. The high seas are beyond these national jurisdictions and all States may fish there subject to obligations to ‘protect and preserve’ the marine environment; States must also exercise control over their flagged vessels to conserve and manage living resources [45]. UNCLOS does not set out specific

rules for different oceans but envisages collaborative and/or regional approaches, either directly or through international organisations for straddling stocks and highly migratory species [46]. Further, the 1995 Fish Stocks Agreement supplements UNCLOS on highly migratory species on the high seas [47]. Both UNCLOS and the Fish Stocks Agreement place considerable emphasis on the role of regional fishery management organisations (RFMOs) that represent member States with fishing interests based either on geographic location or on the fishing activities of their nationals. These bodies cover some of the most valuable fishing regions in the world and have developed detailed regulations binding their members. Many RFMOs address IUU fishing by, for example, collecting and sharing basic information on IUU fishing vessels [48], and providing rules for inspections and enforcement [49]. However, there is a lack of uniformity between RFMO conservation management measures and they rarely address fishery crimes or impose penalties. Some RFMOs share IUU fishing vessel lists with the EU providing some consistency [50]. In such circumstances, the EU sets out a series of sanctions for serious infringements under specific regulations [51] and also has a points system to suspend activities on account of infringement [52]. The sharing and alignment of best practice models would improve consistency and enhances certainty.

3.2. Fisheries regulation

The FAO is the United Nations (UN) body that has the mandate of eliminating hunger and food insecurity as well as increasing the resilience of livelihoods. In doing so, it has taken responsibility for ensuring sustainable management and use of marine living resources and is instrumental in addressing IUU fishing. It established the Code of Conduct for Responsible Fisheries, which sets out general measures for sustainable fisheries development [53]. The FAO International Plan of Action on IUU Fishing (IPOA-IUU) is another highly relevant, but soft law, instrument [54]. The IPOA-IUU supports conservation of stocks and sustainable development of fisheries by providing States with a framework to implement domestic responses [55]. In terms of the intersection of issues analysed in this research, the IPOA-IUU requires flag States to ensure vessels are authorised to fish in waters beyond their jurisdiction, but does not specifically address living and working conditions on board vessels. The FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (2009) [56] is the first legally binding international treaty that specifically focuses on IUU fishing. While RFMO regulations largely focus on coastal and flag States, the Port State Measures Agreement centres on the point at which fish are landed: authorities can, for example, deny landings and refuse permission to

dock if they suspect IUU fishing [57]. The Agreement establishes standards to ensure compliance with conservation and fisheries regulations, harmonise port State measures, enhance regional and international cooperation, and block the flow of IUU-caught fish into national and international markets [58]. This instrument entered into force in June 2016, and its full effect has yet to be felt [59]. Importantly for the Indo-Pacific, Thailand, Indonesia and several Pacific Island States are parties to the Agreement [60].

In addition to those noted above, there are several other relevant ‘soft law’ instruments and agreements. Most notably, the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication provides recognition of the value of these fisheries [61]. Relevantly, these Guidelines also encourage States to acknowledge and eradicate migrant workers forced into fisheries labour [62].

3.3. Transnational criminal law

UNODC's mandate extends to addressing crimes including maritime, wildlife and organised crime, guided by a number of international treaties. Most relevant to this article is the UN Convention on Transnational Organized Crime (2000) [63]. The Convention recognises the seriousness of transnational organised crime and the need for international cooperation to tackle it. Signatories commit to adopt and implement criminal laws, frameworks for extradition, and to cooperate on capacity building, legal assistance and law enforcement [64]. Three Protocols accompany the Convention, dealing with trafficking in persons, migrant smuggling, and illicit manufacturing and trafficking of firearms. Potentially, all three Protocols have applicability in IUU fishing, though people smuggling and trafficking into forced labour are most commonly connected with it. Oftentimes, organised criminals use the same sea transit routes for trafficking drugs and people, and smuggling migrants aboard IUU fishing vessels [65]. These two illegal movement Protocols apply in unison as the Migrant Smuggling Protocol seeks to limit smuggling of migrants and deals with interception at sea but not forced labour; while the Trafficking in Persons Protocol criminalises forced labour but does not give powers of interception. The Convention itself has been widely ratified, however, not all States are parties to both Protocols and one without the other will be much less effective in circumstances where people are being trafficked and simultaneously coerced into the fishing industry [66]. Financial crimes are also likely to couple with maritime and fisheries crimes. A 2013 study found “Widespread vulnerabilities to tax crime in the fisheries sector, including frauds on taxes on profit or earnings, customs duties, VAT and social security” [67]. Further open registries were found to facilitate falsification of records, directly benefiting owners and companies [68]. It appears that organised criminal activities are embedded within the fisheries sector and therefore legal responses must be similarly integrated.

3.4. Labour law

Labour law is clearly relevant to the IUU fishing problem, responding directly to the forced labour issue, but not to transnational crime. The ILO Convention Concerning Forced or Compulsory Labour, known as the Forced Labour Convention [70], provides a mechanism for establishing labour regulation and control. This Convention forms one of the initial eight instruments established by the ILO and requires States to suppress the use of forced labour [69]. As with any Convention, it is only as strong as its signatories, and although it has been widely ratified, it is yet to gain support from labour powerhouses China and the United States (US), as well as small Pacific fishing nations Tuvalu, the Marshall Islands and Palau [70]. It has, however, been ratified by Thailand, Indonesia and the Philippines among other Southeast Asian nations. The later ILO Abolition of Forced Labour Convention [71] adds to the State obligations to suppress and not make

use of forced labour, including for economic development [71].

In 2006, the ILO adopted the Maritime Labour Convention to regulate working standards aboard vessels. This Convention sets out the minimum standards for shipping workers and seafarer rights to decent working conditions. It provides a framework for workers on commercial vessels but does not apply to workers on fishing vessels [72]. It came into force in August 2013 and has 78 signatories, but is not yet in force for States such as China and Thailand [73]. Adopted in 2007, the ILO Convention Concerning Work in the Fishing Sector (Work in Fishing Convention C-188) sets standards for commercial fishing industry workers [74]. In particular, States are required to implement measures including establishing a competent authority to fulfil its obligations and to report to the ILO. The key principles of the Convention place responsibilities on vessel owners, skippers and fishers. The vessel owner has ultimate responsibility and is to provide the skipper with resources and facilities, the skipper must ensure fishers' safety on board and the fishers must adhere to orders given by the skipper [75]. The Convention establishes minimum requirements to prevent abuse of workers, including crew lists, minimum ages of fishers, written work agreements, and medical examinations [76]. Detailed guidance on fishers' work agreements is set out in Annex II, and fishing vessel accommodation in Annex III. While to date, 10 States have ratified the Convention (10 are needed including eight coastal States), it is yet to enter into force [77]. Bringing the requirements of the Convention into effect would prove a larger task for some States than others, given the nature of what is often a highly dangerous and mostly unregulated industry [78]. Whilst researchers may speculate as to States' hesitation to ratify the Convention, the reality is that the international community must work to barriers are overcome, particularly in those States most inflicted by the problem.

3.5. Shipping regulation and maritime law

The International Maritime Organization (IMO) oversees all commercial shipping-related instruments and agreements. The IMO conventions extensively cover maritime security, safety for vessels, marine environments and seafarers, oceanic pollution prevention, and disaster practice and liability. The IMO International Convention on Standards of Training, Certification and Watch-keeping for Fishing Vessel Personnel (STCW-F) (1995), requires mandatory training for crews of ocean-going fishing vessels that are 24 m in length and greater [79]. This Convention is similar to the merchant shipping agreement that requires minimum standards for training, certification and watch keeping for seafarers, obligations countries must meet or exceed [80]. The Convention entered into force in 2012 but to date has only 19 parties [81]. Although important in terms of crew training and certification, it does not address the fundamental issues that surround the IUU fishing problems raised previously.

The International Convention for the Safety of Life at Sea (SOLAS) of 1974 is arguably the most important instrument dealing with maritime safety but it applies only to merchant, not fishing, vessels [82]. Instead, fishing vessels are the subject of the Torremolinos International Convention for the Safety of Fishing Vessels [83]. This Convention was an attempt to implement safety requirements for the construction and equipment of new fishing vessels 24 m in length and greater, including ships that process their catch [84]. It includes similar safety provisions to SOLAS and complements the safeguards in the STCW-F Convention. However, the Torremolinos Convention failed to attract enough signatures to come into force and was superseded (and updated) by the 1993 Torremolinos Protocol, which includes advances in fishing technology and availability of modern safety equipment. This Protocol also failed to enter into force, and the IMO sought to overcome barriers to adoption with the Cape Town Agreement on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977 [85]. Again, the provisions of the earlier instruments were updated and

the Cape Town Agreement. The Cape Town Agreement has not entered into force [85].

The above analysis indicates that despite efforts to implement new laws, fishing vessels are not as well-regulated as merchant vessels and therefore by extension, workers aboard fishing vessels are less protected. These gaps between international responses give rise to fisher exploitation and this in turn supports illicit fishing. Several merchant vessel regulations do not cover fishing vessels and if extended could be useful in detecting IUU fishing. Examples may include harmonised flag State and port State inspections to identify irregularities across the range of legal sub-fields, a uniform system for designation of ship identification numbers (compulsory for large merchant vessels), and requirements for an IMO number to be placed on a vessel's hull. Vessel identification requirements would allow for easier differentiation of registered ships seen engaging in illicit activities, and recognition of unmarked and therefore unregulated ships as well.

4. Addressing the issues

Despite the extensive legal frameworks described in the previous section, implementation among States is low. This is particularly true for States with fishing influence, such as those with large fishing fleets, open registry States and coastal States. Without uptake, these instruments cannot be fully effective, and barriers to increased ratification must be explored. However, if all of the above-mentioned instruments came into force the legal landscape would be even more complicated, as it is in other fields where commentators point to the challenges of 'treaty congestion' [86]. Many international instruments have resource intensive obligations including reporting requirements and the designation of competent authorities. These requirements place pressure on national governments, many with already limited resources. Therefore, ways must be identified to deal with the myriad issues involved in IUU fishing without further complicating the regulatory environment.

4.1. Regulatory and institutional overlaps

Expansion in the number and scope of instruments has also led to institutional overlap and this can be seen in the number of actors currently involved in addressing IUU fishing. This is an example of regulatory pluralism when several actors are working towards a collective goal through varied means, though haphazardly applied. To date, responses to IUU fishing have focused on addressing gaps in the existing legal frameworks. In doing so, the number of institutions involved has increased and the previous analysis exposed the considerable fragmentation across the four sub-fields of law. IUU fishing is a multifaceted problem and therefore benefits from a pluralistic response [87]. While increasingly cooperative arrangements are emerging, without integration, however, the current legal frameworks operate in parallel, and mechanisms must be found to enhance and improve effectiveness. In other situations, commentators have referred to ways in which institutional connection and regime interaction can be achieved [88]. Exploring the IUU fishing meaningfully applied responses through a regulatory pluralism lens may assist in overcoming these challenges in this context.

5. Areas for integration

Linking the four streams of law institutionally would facilitate integration between actors and IUU fishing responses. Within a regulatory pluralism regime, at the highest level it is useful, though not essential for actors to communicate their activities [89]. Given that motivations and objectives may align, communicating and working through opportunities and barriers together makes sense [90]. Thereafter, alignment facilitates integration and assists in clarifying and simplifying rules, rights and responsibilities of various actors [91].

5.1. Institutional alignment

Disparate agenda and activities will not have the same impact as a well-functioning collaborative vehicle to connect regulators. Due to the global spread, regional complexities of IUU fishing and efforts to address it, an international, well-functioning taskforce integrating all relevant actors and their instruments may be an effective vehicle [92]. Indeed, effective collaborations between key international bodies already exist. For example, the FAO/ILO/IMO have worked together to produce the Document for Guidance on Fishermen's Training and Certification as well as the revised Code of Safety for Fishermen and Fishing Vessels, 2005, and the Voluntary Guidelines for the Design, Construction and Equipment of Small Fishing Vessels, 2005. Similarly, there is an initiative to collate details of the IUU fishing vessels collected by each RFMO and Interpol [93], and the FAO Port State Measures Agreement seeks to harmonise efforts to prevent IUU fishing catches entering into markets.

Coupling responses to activities often co-occurring is another means to pluralistically align institution-led regulatory control. The International Labour Organization's 2015 report provides a matrix of interventions applicable to forced/illegal labour in the fishing sector [94]. This useful guide steers stakeholders and builds capacity to determine the most appropriate interventions relevant to the applicable situation. In Thailand, the prevalence of IUU fishing and illegal labour practices provide suitable opportunities to respond collectively. Well established illegal labour regimes exist in Thailand due to ongoing labour abuses, therefore leveraging the response to IUU fishing streamlines the process. Thailand was issued a 'yellow card' warning by the EU to make its fisheries practices more sustainable [95]. The EU provides legal support to States that are unable legally to prove the origin of fish exported to its members. Given that Thailand is the third largest seafood exporter to the EU, mainly staffed by poor migrant workers from Myanmar, Laos and Cambodia, the industry has been accused of rights abuses and cheap labour in its fishing fleets and many food processing factories, bringing IUU fishing and illegal labour together is sensible. Such approaches could be extended to other areas and regions facing similar problems and challenges.

At the taskforce level, actors must agree on key objectives, an overarching roadmap for action and streams of priorities and goals. Domestic, regional and international task forces have a role in establishing a road map for prevention of IUU fishing. In June 2014, the US released a Presidential initiative establishing a task force focused on combatting international IUU fishing and seafood fraud, later publishing its recommendations and action plan in March 2015 [96]. Input received from 32 countries contributed to the recommendation and while the focus of recommendations primarily benefits the US, it provides a replicable template with achievable outcomes [97].

While taskforces already exist to deal with IUU fishing in some regions, combining multiple directives by collaborating in one single taskforce is crucial; and a combined FAO/ILO/IMO/UNODC initiative would appear to be possible. Avoiding fragmentation across actors will minimise inefficiencies in the responses to IUU fishing and lead to more effective governance [98]. Between March 2004 and March 2006, the Ministerially led Task Force on Illegal, Unreported and Unregulated Fishing on the High Seas (High Seas Task Force) operated, supported by six participating countries: Australia, Canada, Chile, Namibia, New Zealand and the United Kingdom, with partners from World Wildlife Fund, International Union for Conservation of Nature and the Earth Institute [99]. This multinational Task Force set out to tackle the complex and multi-faceted issue. A major output from the High Seas Task Force was an improved governance model for RFMOs [100]. The benefit of multinational, multiagency taskforces is the opportunities for sharing knowledge and expertise, common goal and target setting, and more strategically aligned and collaborative monitoring and enforcement measures. This approach harnessed the strengths and benefits of regulatory pluralism to achieve the desired goals more efficiently and

effectively.

Collaborative working environments must employ flexibility as there is no ‘one-size-fits-all’ approach [101]. While it is not uncommon for international taskforces to disagree on elements of the response, successful task forces apply a democratic approach to finding and agreeing on solutions. RFMOs would also be valuable and necessary contributors to IUU fishing task force given their regional rather than domestic interest. To minimise the risk of agreement failure, rotational working group chairs is the most effective means of ensuring progress of each working group is not stagnated by political agendas, given that they are not always representative. The financial effect of IUU fishing may disproportionately affect some States more than others and therefore agreement may be challenging. An open and collaborative working environment provides the most suitable vehicle to achieve goals in a specific stream of priorities [102].

5.2. Forum for information and knowledge sharing

Cross-jurisdictional issues and capacity building are facilitated by knowledge sharing which can also progress set goals [103]. Institution-led approaches provide a platform for information and knowledge sharing. Equal participation is optimal, though in reality some nations cooperate more effectively than others, depending on perceived benefit and capacity to do so. Information and knowledge transfer may be achieved through fora for expert discussion, creating a clearinghouse for relevant data and reports, and technology transfer. For example, the ILO NatLex database contains domestic legislation on labour laws, social security and human rights [104]; and FAO maintains FAOLEX is a database of laws on food, agriculture and renewable natural resources [105]. Combining the two together to create resource for labour issues in the fisheries sector would be valuable. An existing example of pooled information is a database developed in partnership between the IMO and the UN Interregional Crime and Justice Research Institute of court decisions related to piracy off the coast of Somalia tried across the world [106]. This approach could be easily replicated for fisheries crime. A combined taskforce across the four relevant fields of law could provide a comprehensive resource and build legal capacity, generated by information currently hosted in disparate locations.

5.3. Monitoring and enforcement

Ineffective monitoring and enforcement no doubt enables IUU fishing, but is clearly challenging in ocean environments. Adopting a pluralistic approach would facilitate collaborative monitoring and enforcement to deliver a mutually beneficial outcome [107]. There are countless examples of the international community engaging with local law enforcement to build capacity through tools such as training, provision of equipment and use of enhanced technologies focusing on locally sustainable, long-term measures [108]. Similarly, there are international collaborative efforts that have proved effective in controlling global problems and these experiences, and the mechanisms that support them, must be scaled up more broadly. For example, the United Nations Global Initiative to Fight Human Trafficking created a collaborative taskforce combining UN agencies such as ILO and UNODC, several governments and NGOs working to combat human trafficking via the Inter-agency Coordination Group against Trafficking in Persons [109].

Bi- and multi-lateral agreements for monitoring and enforcement depend on political will and agreed outcomes. A pluralistic approach to monitoring and enforcement envisages shared goals, responsibilities and resources. Such approaches can be horizontal arrangements between States, or involve a range of actors each bringing different expertise and resources. For example, Australia and Indonesia jointly collaborate to control illegal fishing within the narrow stretch between the two States [110]. Both States contribute law enforcers and patrol vessels, therefore by pooling resources the net effect [111]. This

arrangement achieves a positive outcome as the political will is aligned, but where motivations and intended outcomes on IUU fishing responses are misaligned, effective control will not be achieved. Shiprider agreements are solution-focused (usually bi-lateral) interventions that make use of existing resources in order to benefit all involved stakeholders; they can be useful when political will aligns but resources do not. Essentially the vessel of one State carries on board an enforcement officer of a supported State. The US has shiprider agreements with several Pacific Islands, due to its interest in protecting its Pacific coastline. Through shiprider agreements, the US Coast Guard bridges the capacity and capability gap by providing patrols on US waters and nearby high seas [112] and engages in patrols approximately 70 days each year [113]. Enhanced US Coast Guard shiprider agreements negotiated with Palau and the Federated States of Micronesia enable the US to enforce local laws without local authorities being aboard the vessel [114]. Expanding enhanced bilateral shiprider agreements, to involve multiple States, could provide a layer of surveillance otherwise absent to protect against IUU fishing and other maritime crimes. Further advances to involve multiple enforcement officers authorised under different legal frameworks would also be beneficial. The framework to do so is particularly needed as new technologies emerge that can be utilised to enhance monitoring and enforcement efforts. Many of these developments, including satellite synthetic aperture radar and remote sensing technologies, require collaborations with private industry [115]. Again there are examples where such cooperative arrangements are in place, but to maximise enforcement efforts, collaborative vehicles must be identified.

As the above analysis has demonstrated potential benefits of a regulatory pluralism approach are many. Depending on how measures of success are defined, regional collaboration, increased surveillance through monitoring and enforcement, regional capacity building and improved implementation of local regulatory models are potentially long-term and regionally sustainable positive outcomes. Taking an institution-led regulatory pluralism approach through a cooperative taskforce would create greater capacity, further expose the extent of the problem, and raise global awareness of the causes of IUU fishing, the impacts and methods to resolve it through the international community, States, NGOs, industry and consumers.

6. Conclusion

It is clear that IUU fishing is a global problem that is best addressed by focusing on global solutions, recognising regional, national and local differences. The role of the international community in responding to any global issue should be to work with States to set standards, create opportunities for discussion and elaboration of solutions and to build capacity to implement those responses. The above analysis has demonstrated the extent of international responses to IUU fishing, exposing a plethora of laws and regulations as well as a number of global and regional institutions. Despite these instruments and efforts, persistent IUU fishing prevents effective oceans governance and sustainable use of marine living resources.

There is little doubt that advances have been made in addressing IUU fishing, and in order to facilitate their activities some fishers have turned to other maritime crimes including trafficking of drugs, weapons and people, and others have utilised illegal or forced labour. The vastness of the oceans certainly challenges effective surveillance, but littoral States struggling with poor governance and limited resources appropriately prioritise essential services such as education and health-care ahead of monitoring their territorial waters and EEZs [116]. Lack of policing has led to overfishing and IUU fishing, aided by technologies focused purely on increasing fishing yield. With depleting fish stocks, fishers (legitimate and otherwise) operate further from shore often in other countries’ territorial waters or on the high seas; a place relatively free from inspections and monitoring.

Whilst the analysis revealed the international community's toolkit

essential to address IUU fishing, including a range of existing international laws, institutions and resources for monitoring and enforcement, at present these are not working synergistically. The previous sections explored circumstances and examples enabling the persistence of IUU fishing, issues separately dealt with by different regulators. Drawing together these elements to create a cohesive and holistic response to IUU fishing is achievable, but requires a regulatory pluralism approach to be applied. This article draws upon a number of examples both in terms of documenting the problem and successful initiatives, indicating a larger body of research required in order to determine best practice and a toolkit of regulatory options. A collaborative global body charged with bringing the instruments and actors from the four streams of law closer together would go some way to providing an overarching regulatory regime. Thereafter, knowledge and expertise can be shared including what tools and mechanisms work in different contexts. Perhaps the area in which a collaborative approach is most needed is monitoring and enforcement. It is clear that this remains the largest barrier to addressing IUU fishing. Successful bilateral and regional experiences need to be shared and scaled up to other contexts.

There are some examples to draw from in taking steps towards a collaborative taskforce focusing on IUU fishing, crime and forced labour. No doubt gaps and weaknesses will be identified and further research will be needed to overcome them. In the meantime, a global taskforce would be a valuable step forward, and an advance on the existing fragmented legal landscape. IUU fishing appears to be a particularly persistent problem, and a synergistic regulatory regime is essential if it is to be effectively addressed.

References

- [1] Food and Agriculture Organization of the United Nations State of the World's Fisheries and Aquaculture (FAO 2006), <<http://www.fao.org/3/a-i5555e.pdf>> (accessed 31 October).
- [2] Daniel Pauly, Dirk Zeller, Catch reconstructions reveal that global marine fisheries catches are higher than reported and declining, *Nat. Commun.* 7 (2016) 10244.
- [3] Anastasia Telesetsky, 'Laundering fish in the Global Undercurrents: Illegal, unregulated and unreported fishing and Transnational Organised crime', *Ecol. Law Q.* 41 (2014) 939.
- [4] The Global Initiative Against Organized Crime and The Black Fish, *Illegal Fish. Organ. Crime. Nexus* 12 (2015) <http://theblackfish.org/Fishing_Crime.pdf> (accessed 31 October 2016).
- [5] (a) Margot L. Stiles, Ariel Kagen, Emily Shaftel and Beth Lowell Stolen Seafood: The Impact of Pirate Fishing on our Oceans, (Oceana 2013) <http://oceana.org/sites/default/files/reports/Oceana_StolenSeafood.pdf> accessed 31 October 2016; (b) United Nations Office on Drugs and Crime, Fact Sheet: Fisheries Crime, <http://www.unodc.org/documents/about-unodc/Campaigns/Fisheries/focus_sheet_PRINT.pdf> accessed 2 October 2016; (c) Food and Agricultural Organization of the United Nations, (n.d.), New era beckons with implementation of illegal fishing treaty, <<http://www.fao.org/news/story/en/item/424284/icode/>> accessed 31 October, 2016.
- [6] GA Res. 109, UN GAOR, 69th Sess., Supp. No. 49, UN Doc. A/RES/69/109 (Feb. 6, 2015) para. 56. See also US Department of State, 'Our Ocean One Future' <<http://ourocean2016.org/#event>> accessed 12 October 2016.
- [7] United Nations Office on Drugs and Crime, Fact Sheet.: Fish. Crime. (2016) <http://www.unodc.org/documents/about-unodc/Campaigns/Fisheries/focus_sheet_PRINT.pdf> (accessed 2 October).
- [8] Margaret A. Young, 'International trade law compatibility of market-related measures to combat illegal, unreported and unregulated (IUU) fishing', *Mar. Policy* 69 (2009) (2016) 209.
- [9] See for example Environmental Justice Foundation. Seafood not slavefood, accessed 16 March 2016: <<http://ejfoundation.org/campaigns/oceans/item/seafood-not-slavefood>>.
- [10] Melissa Marschke, Peter Vandergeest, 'Slavery scandals: unpacking labour challenges and policy responses within the Off-shore fisheries sector', *Mar. Policy* 68 (2016) 39.
- [11] Jade Lindley, *Somali Piracy: A Criminological Perspective* 220 Routledge, London, 2016.
- [12] Ibid.
- [13] United Nations Office on Drugs and Crime, *Transnational Organized Crime in The Fishing Industry: Focus On Trafficking In Persons, Migrant Smuggling And Illicit Drugs Trafficking*, 2011. p. 140.
- [14] Johan Bergenas and Ariella Knight, *Secure Oceans: Collaborative Policy and Technology Recommendation for the World's Largest Crime Scene* (The Stimson Centre, 2016) <<http://www.stimson.org/sites/default/files/file-attachments/SecureOceans-Sep2016.pdf>> accessed 31 October 2016.
- [15] Stiles, et al, 13-14; Patrick Love, 'Pirate Fishing', in *Fisheries: While Stocks Last?* (OECD Publishing) pp. 66–67. <<http://dx.doi.org/10.1787/9789264079915-5-en>>, 2010. (accessed 31 October 2016).
- [16] United Nations Office on Drugs and Crime, 2016. About UNODC, <<https://www.unodc.org/unodc/en/about-unodc/index.html?ref=menutop>> (accessed 2 October 2016).
- [17] (a) United Nations Office on Drugs and Crime, Fact Sheet: Fisheries Crime, <http://www.unodc.org/documents/about-unodc/Campaigns/Fisheries/focus_sheet_PRINT.pdf> accessed 2 October 2016; (b) Interpol, Environmental Compliance and Enforcement Committee: Fisheries Crime Working Group (2016) <<http://www.interpol.int/Crime-areas/Environmental-crime/Environmental-Compliance-and-Enforcement-Committee/Fisheries-Crime-Working-Group>> accessed 2 October 2016.
- [18] International Labour Organization, 'The Meanings of Forced Labour' (March) <http://www.ilo.org/global/topics/forced-labour/news/WCMS_237569/lang-en/index.htm>, 2014. (accessed 31 October 2016).
- [19] (a) Walk Free Foundation, *Global Slavery Index 2016*, (2016) <<http://assets.globallslaveryindex.org/downloads/Global+Slavery+Index+2016.pdf>> accessed 31 October 2016, 216; (b) Environmental Justice Foundation, 'Seafood not slavefood' <<http://ejfoundation.org/campaigns/oceans/item/seafood-not-slavefood>>, 2016 (accessed 16 March, 2016).
- [20] Melissa Marschke, Peter Vandergeest, 'Slavery scandals: unpacking labour challenges and policy responses within the Off-shore fisheries sector', *Mar. Policy* 68 (39) (2016) 40.
- [21] Walk Free Foundation, *Glob. Slavery Index 2016* (2016) 53 <<http://assets.globallslaveryindex.org/downloads/Global+Slavery+Index+2016.pdf>> (accessed 31 October 2016).
- [22] (a) Ibid; (b) Environmental Justice Foundation. 'Seafood not slavefood'.
- [23] Walk Free Foundation, *Glob. Slavery Index* (2016) 52.
- [24] Esther Htusan and Margie Mason, 'More than 2000 enslaved fishermen rescued in six months', *Associated Press* (online), 17 September 2015 <<http://bigstory.ap.org/article/ceecf8df237e49bf8fe59d47fa3515b0/more-2000-enslaved-fishermen-rescued-6-months>>, 2016. (accessed 31 August, 2016).
- [25] In 2013 the ILO drew attention to the issue of forced labour in the fishing industry in a detailed 100 page report: ILO, *Caught at Sea* <http://www.ilo.org/wcmsp5/groups/public/-/ed_norm/-/declaration/documents/publication/wcms_214472.pdf> accessed 31 October 2016.
- [26] (a) Gohar A. Petrossian, 'Preventing illegal, unreported and unregulated (IUU) fishing: a situational approach', *Biol. Conserv.* 189 (2015) 39–48; (b) Liddick Don, 'The dimensions of a transnational crime problem: the case of IUU fishing', *Trends Organ. Crime.* 17 (4) (2014) 290–312; (c) Denzil G.M. Miller, Natasha M. Slicer, Eugene Sabourenkov, 'An action framework to address illegal, unreported and unregulated (IUU) fishing', *Aust. J. Marit. Ocean Aff.* 6.2 (2014) 70–88.
- [27] Shih-Ming Kao, International actions Against IUU fishing and the adoption of National plans of action, *Ocean Dev. Int. Law* 46 (1) (2015) 2–16.
- [28] Melissa Marschke, Peter Vandergeest, *Slavery scandals: unpacking labour challenges and policy responses within the Off-shore fisheries sector*, *Mar. Policy* 68 (2016) 39.
- [29] Peter N. Grabosky, Using non-governmental resources to foster regulatory compliance, *Gov.: Int. J. Policy Adm.* 8 (4) (1995) 529.
- [30] Ibid.
- [31] A regulator encompasses state institutions, non-state actors, social and economic forces (e.g., markets, norms, or even language), or physical or virtual technologies. See Christine Parker, *The Pluralization of Regulation*, (2008) 9.2 Theoretical Inquiries in Law 349-69, 350-351.
- [32] (a) Julia Black, 'Critical Reflections on Regulation', *Aust. J. Leg. Philos.* 27 (1) (2002) 2; (b) Peter N. Grabosky, Using Non-governmental Resources to Foster Regulatory Compliance, *Gov.: Int. J. Policy Adm.* 8 (4) (1995) 529.
- [33] Jade Lindley, *Somali Piracy: A Criminological Perspective* 220 Routledge, London, 2016.
- [34] Margaret A. Young, *Trading Fish, Saving Fish: The Interaction between Regimes in International Law* 270 Cambridge University Press, 2011.
- [35] Neil Gunningham, Peter Grabosky, *Smart Regulation: designing Environmental Policy*, Oxford University Press, 1998.
- [36] (a) Benoit Dupont, 'Delivering security through networks: Surveying the Relational landscape of security managers in an urban setting', *Crime., Law Soc. Change* 45 (3) (2006) 169; (b) Peter N. Grabosky, 'Using Non-Governmental Resources to Foster Regulatory Compliance', *Gov.: Int. J. Policy Adm.* 8 (4) (1995) 528; (c) Peter N. Grabosky, 'Green markets: environmental regulation by the private sector', *Law Policy* 16 (4) (1994) 422.
- [37] Karen N. Scott, 'International environmental Governance: Managing fragmentation through institutional connection', *Melb. J. Int. Law* 12 (1) (2011) 8.
- [38] (a) Ibid.; (b) Victorian Government Department of Treasury and Finance Victorian Guide to Regulation Toolkit 1: Purposes and types of regulation 11 2014 Department of Treasury and Finance Melbourne.
- [39] Food and Agriculture Organization of the United Nations, *International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU)*, 2001: Chapter 8. <<http://www.fao.org/docrep/005/Y3536E/y3536e0b.htm>> (accessed 31 October 2016): para 1..
- [40] (a) United Nations Treaty Collection, accessed 14 February, <<https://treaties.un.org/Pages/ParticipationStatus.aspx?Clang=en>>; ILO Normlex, accessed 14 February 2017, <<http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:1;2>>; IMO Conventions, accessed 14 February 2017, <<http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/Default.aspx>>; (c) FAO Legal

- Office: Treaties, accessed 14 February 2017, <<http://www.fao.org/legal/treaties/treaties-under-article-xiv/en/>>, 2017.
- [41] United Nations, U. Nations Conv. Law Sea (UNCLOS) (1982) (Part VII, Section I, General Provisions).
- [42] Ibid.: Part V, Article 73.
- [43] Ibid.: Articles 3 and 57.
- [44] Ibid.: Article 62.
- [45] Ibid.: Articles 192 and 117.
- [46] Ibid.: Articles 63 and 64.
- [47] United Nations, United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (Fish Stocks Agreement), 1995: <http://www.un.org/depts/los/convention_agreements/convention_overview_fish_stocks.htm> (accessed 31 October 2016).
- [48] Trygg Mat Tracking, Combined IUU Vessel List, accessed 30 September 2016 <<http://iuu-vessels.org/iuu/>> (accessed 31 October, 2016).
- [49] Food and Agriculture Organization of the United Nations, International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU), 2001: Chapter 8. <<http://www.fao.org/docrep/005/Y3536E/y3536e0b.htm>> (accessed 31 October 2016).
- [50] Mike Beze and Roland Blomeyer. 'Illegal, Unreported and Unregulated Fishing: Sanctions in the EU'. European Parliament Directorate-General for Internal Policies, Policy Department B: Structural and Cohesion Policies – Fisheries, July 2014, 35.
- [51] Ibid.: 33.
- [52] Ibid.: 34.
- [53] Food and Agriculture Organization of the United Nations, Code Conduct Responsible Fish. (1995) <<http://www.fao.org/3/a-v9878e.pdf>> (accessed 31 October 2016).
- [54] Food and Agriculture Organization of the United Nations, International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU), 2001: Chapter 8. <<http://www.fao.org/docrep/005/Y3536E/y3536e0b.htm>> (accessed 31 October 2016).
- [55] Ibid.
- [56] Food and Agriculture Organization of the United Nations, Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, 2009: <http://www.fao.org/fileadmin/user_upload/legal/docs/037s-e.pdf> (accessed 31 October 2016).
- [57] Ibid.: Article 9 paragraph 4.
- [58] Ibid.
- [59] Sean A. Hagan 'Too big to tackle? The persistent problem of pirate fishing and the new focus on port state measures' 37(1) Suffolk Transnational Law Review, 109, 2014.
- [60] Ibid.
- [61] Food and Agriculture Organization of the United Nations, Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, 2011: <<http://www.fao.org/fishery/ssf/guidelines/en>> (accessed 31 October 2016).
- [62] Ibid.: paras 6.10 and 6.13.
- [63] United Nations, Convention against Transnational organized crime and the Protocols thereto, UNTOC (2000) <<http://www.unodc.org/documents/treaties/UNTOC/Publications/TOC%20Convention/TOCcebook-e.pdf>> (accessed 31 October 2016).
- [64] Ibid.
- [65] United Nations Office on Drugs and Crime, Transnational Organized Crime in The Fishing Industry: Focus On Trafficking In Persons, Migrant Smuggling And Illicit Drugs Trafficking, 2011, 94.
- [66] United Nations Office on Drugs and Crime, Signatories to the United Nations Convention against Transnational Crime and its Protocols. <<https://www.unodc.org/unodc/en/treaties/CTOC/signatures.html>> (accessed 31 October 2016).
- [67] Organisation for Economic Co-operation and Development (OECD), 'Evading the Net: Tax Crime in the Fisheries Sector' (2013) :43. <<http://www.oecd.org/ctp/crime/evading-the-net-tax-crime-fisheries-sector.pdf>>, (accessed 2 February 2017).
- [68] Ibid.: 32.
- [69] International Labour Organization, Convention concerning Forced or Compulsory Labour (Forced Labour Convention), 1930, Preamble: <http://www.ilo.org/dyn/normlex/en/?p=NORMLEXPUB:12100:0:NO:12100:P12100_ILO_CODE:C029> (accessed 31 October 2016).
- [70] International Labour Organization, 'Ratifications of C029 - Forced Labour Convention, 1930 (No. 29), Date of entry into force: 01 May 1932, <http://www.ilo.org/dyn/normlex/en/?p=NORMLEXPUB:11300:0:NO:11300:P11300_INSTRUMENT_ID:312174> (accessed 31 October 2016).
- [71] International Labour Organization, 'C105 - Abolition of Forced Labour Convention, 1957 (No. 105), Convention concerning the Abolition of Forced Labour (Entry into force: 17 Jan 1959)', <http://www.ilo.org/dyn/normlex/en/?p=NORMLEXPUB:12100:0:NO:12100:P12100_INSTRUMENT_ID:312250:NO> (accessed 31 October 2016).
- [72] Ibid.: Article 2(4).
- [73] International Labour Organization, Marit. Labour Conv. (2006) <<http://www.ilo.org/global/standards/maritime-labour-convention/lang-en/index.htm>> (accessed 31 October 2016).
- [74] International Labour Organization, Convention concerning work in the fishing sector (work in fishing Convention), preamble (2007) <http://www.ilo.org/dyn/normlex/en/?p=NORMLEXPUB:12100:0:NO:12100:P12100_INSTRUMENT_ID:312333:NO> (accessed 31 October 2016).
- [75] Ibid.: Article 8.
- [76] Ibid.: Articles 8-10, 14 and 16.
- [77] Ibid.: Article 48; ILO, 'Ratifications of C188 - Work in Fishing Convention, 2007 (No. 188)' <http://www.ilo.org/dyn/normlex/en/?p=NORMLEXPUB:11300:0:NO:11300:P11300_INSTRUMENT_ID:312333:NO> (accessed 31 January 2017).
- [78] International Transport Workers' Federation 'The ILO Work in Fishing Convention 2007: A guide for unions'.p. 3. <http://www.itseafarers.org/files/publications/33050/fishing_con_en.pdf>.
- [79] International Maritime Organization, International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 2012: <<http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Standards-of-Training%2c-Certification-and-Watchkeeping-for-Fishing-Vessel-Personnel-.aspx>> (accessed 31 October 2016).
- [80] Ibid.
- [81] International Maritime Organization, Status of Conventions, <<http://www.imo.org/en/About/Conventions/StatusOfConventions/Pages/Default.aspx>> accessed 31 October 2016.
- [82] International Maritime Organization, International Convention for the Safety of Life at Sea (SOLAS) 1974: <[http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-\(SOLAS\)-1974.aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS)-1974.aspx)> (accessed 31 October 2016).
- [83] International Maritime Organization, Cape Town Agreement of 2012 on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels 1977 (2012) <<http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/The-Torremolinos-International-Convention-for-the-Safety-of-Fishing-Vessels.aspx>>.
- [84] Ibid.
- [85] ILO, List of Conventions, Other Multilateral Instruments And Amendments In Respect of Which The Organization Performs Depositary And Other Functions: Cape Town Agreement of 2012 on the Implementation of the Provisions of the 1993 Protocol relating to the Torremolinos International Convention for the Safety of Fishing Vessels, 1977 (Cape Town Agreement 2012), as at 1 January 2016, 26 <<http://www.imo.org/en/About/Conventions/StatusOfConventions/Documents/List%20of%20instruments.pdf>>. (accessed 31 October, 2016).
- [86] (a) Edith Brown Weiss, 'International environmental law: contemporary issues and the emergence of a new world order', *Georget. Law J.* 81 (1995) 675; (b) Don Anton, "'Treaty Congestion" in International environmental law', in: Shawkat Alam, Jahid Hossain Bhuiyan, Tareq M.R. Chowdhury, Erika J. Techera (Eds.), *Routledge Handbook Of International Environmental Law*, Routledge, 2012.
- [87] (a) Margaret A. Young, 'International trade law compatibility of market-related measures to combat illegal, unreported and unregulated (IUU) fishing', *Mar. Policy* 69 (2016) 209–219; (b) Antonia Leroy, Florence Galletti, Christian Chaboud, 'The EU restrictive trade measures against IUU fishing', *Mar. Policy* (64) (2016) 82–90; (c) Gohar A. Petrossian, 'Preventing illegal, unreported and unregulated (IUU) fishing: A situational approach', *Biol. Conserv.* 189 (39–48) (2015) 47.
- [88] (a) Karen N. Scott, 'International environmental Governance: Managing fragmentation through institutional connection', *Melb. J. Int. Law* 12 (1) (2011) 1–40; (b) Margaret A. Young, *Trading fish, saving fish: The interaction between regimes in International law*, Cambridge University Press, 2011.
- [89] N. Peter Grabosky, 529.
- [90] Margaret A. Young, *Trading Fish, Saving Fish: The Interaction between Regimes in International Law*, 267-268.
- [91] Ibid.: 267-8.
- [92] Ibid.: 262-3.
- [93] Trygg Mat Tracking, 'Combined IUU Vessel List', 2016. <<http://iuu-vessels.org/iuu/>> (accessed 30 September).
- [94] International Labour Organization, International expert meeting on labour exploitation in the fishing sector in the Atlantic region: background paper, ILO (2015) <http://www.ilo.org/global/topics/forced-labour/publications/WCMS_429048/lang-en/index.htm>.
- [95] Royal Thai Embassy, 'Combating IUU and illegal labour practices in Thai fishing', 20 January 2016, accessed 31 January 2017: EurActiv. <<https://www.euractiv.com/section/global-europe/opinion/combating-iuu-and-illegal-labour-practices-in-thai-fishing/>>.
- [96] United States Department of Commerce, 'Recommendations of the Presidential Task Force on Combating Illegal, Unreported and Unregulated Fishing and Seafood Fraud' National Marine Fisheries Services and National Oceanic and Atmospheric Administration, Billing Code 3510 – 22-P. <<https://s3.amazonaws.com/public-inspection.federalregister.gov/2014-29628.pdf>>.
- [97] Ibid.: 6.
- [98] Dire Tladi, 'Ocean governance: a fragmented regulatory framework', in: Rajendra K. Pierre Jacquet, Laurence Tubiana Pachauri (Eds.), *Oceans: The New Frontier*, TERI Press, 2011, p. 101.
- [99] The Organisation for Economic Co-operation and Development (OECD), 'Stopping Illegal Fishing on the High Seas: High Seas Task Force'. <<https://www.oecd.org/sd-roundtable/aboutus/stoppingillegalfishingonthighseas.htm>>, (accessed 31 January, 2017).
- [100] Michael W. Lodge, David Anderson, Terje Løbach, Gordon Munro, Keith Sainsbury, Anna Willock, Recommended best practices for regional fisheries management organizations: report of an independent panel to develop a model for improved governance by Regional Fisheries Management Organizations' Chatham House, The Royal Institute of International Affairs, 2007 <<https://www.oecd.org/>>

- sd-roundtable/papersandpublications/39374297.pdf).
- [101] (a) United Nations, 'Coordination and Coherence of the Counter-Terrorism Efforts of the United Nations', <<https://www.un.org/counterterrorism/ctitf/en/about-task-force>> accessed 30 September 2016; (b) Europol, 'Violent Crimes Against Children International Task Force meets at Europol', <https://www.europol.europa.eu/latest_news/violent-crimes-against-children-international-task-force-meets-europol> accessed 30 September 2016; (c) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 'Successful operation highlights growing international cooperation to combat wildlife crime', <https://cites.org/eng/news/pr/iccwc_press_release_cobra_III>. (accessed 30 September 2016).
- [102] Margaret A. Young, *Trading Fish, Saving Fish: The Interaction between Regimes in International Law 287* Cambridge University Press, 2011.
- [103] (a) Commonwealth of Australia Department of Agriculture, Australia's Second National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, Department of Agriculture (Canberra 2014) <<http://www.fao.org/3/a-ax408e.pdf>> accessed 31 October 2016; (b) Council on Foreign Relations, *The Global Regime for Transnational Crime*, updated 25 July 2013, <<http://www.cfr.org/transnational-crime/global-regime-transnational-crime/p28656>> accessed 30 September 2016; (c) Sundram Pushpanathan, *Managing Transnational Crime in ASEAN*, (Association of Southeast Asian Nations 1999) <<http://asean.org/managing-transnational-crime-in-asean-by-s-pushpanathan/>>. (accessed 30 September 2016).
- [104] ILO, 'NatLex' (2016) <<http://www.ilo.org/dyn/natlex/>> (accessed 18 October).
- [105] Food and Agricultural Organization of the United Nations, 'FaoLex', <<http://faolex.fao.org/>>. (accessed 18 October 2016).
- [106] United Nations Interregional Crime and Justice Research Institute, 'Database on Maritime Piracy Court Cases', <<http://www.unicri.it/topics/piracy/database/>>. (accessed 18 October 2016).
- [107] Deep Sea Conservation Coalition (n.d.), A net with holes: the regional fisheries management system, <<http://www.savethehighseas.org/publicdocs/rfmo.pdf>> (accessed 2 October 2016).
- [108] (a) See for example United Nations Office on Drugs and Crime, *Transnational Organized Crime, in East Asia and the Pacific: A Threat Assessment* (UNODC 2013) <https://www.unodc.org/documents/data-and-analysis/Studies/TOCTA_EAP_web.pdf> accessed 30 September 2016, 3; (b) United Nations Office on Drugs and Crime, *Transnational Organized Crime in Eastern Africa: A Threat Assessment* (UNODC 2013), 48. <https://www.unodc.org/documents/data-and-analysis/Studies/TOC_East_Africa_2013.pdf>. (accessed 31 October, 2016).
- [109] United Nations Global Initiative to Fight Human Trafficking, Inter-Agency Coord. Group Traffick. Pers. (ICAT): What Is ICAT? (2016) <<http://www.ungift.org/knowledgehub/icat/aboutICAT.html>> (accessed 18 October).
- [110] Australian Fisheries Management Authority. 'Joint Australia/Indonesia illegal fishing patrol a success', (Media Release 23 August 2016) <http://www.afma.gov.au/joint-australiaindonesia-illegal-fishing-patrol-success/?Utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+AustralianFisheriesManagementAuthority+%28Australian+Fisheries+Management+Authority%29> (accessed 31 October, 2016).
- [111] Ibid.
- [112] James Hurdell 'The value of ship rider agreements in the Pacific' Center for Strategic and International Studies, (10 December 2014) <<http://cogitasia.com/the-value-of-ship-rider-agreements-in-the-pacific/>>. (accessed 13 March, 2016).
- [113] Ibid.
- [114] Ibid.
- [115] (a) Catapult Satellite Applications, 'Catapult and Pew Charitable Trusts launch pioneering technology to help end illegal fishing' <https://sa.catapult.org.uk/ocean_sustainability/catapult-and-pew-charitable-trusts-launch-pioneering-technology-to-help-end-illegal-fishing/> accessed 31 October 2016; (b) Vessel Finder <<https://www.vesselfinder.com/>> accessed 31 October 2016; (c) WWF, 'Satellite technology helps to provide transparency of fishing', <http://wwf.panda.org/what_we_do/footprint/smart_fishing/how_we_do_this/good_governance2/transparent_seas/satellite_tracking_via_ais/> accessed 31 October 2016; (d) Global Fishing Watch, 'Introducing Global Fishing Watch', <<http://globalfishingwatch.org/>>. (accessed 31 October 2016).
- [116] Jade Lindley, *Somali piracy: a criminological perspective*, Routledge, London, 2016.