

Innovative Policy Options for Shared Marine Fishery Resource Management: Lessons from the Nigeria-sao Tome & Principe Joint Development Zone

Aliyu H Dan'Agalan*, Jonathan Potts, Tim Goodhead and Caroline Day

Department of Geography, University of Portsmouth, Buckingham Building, Portsmouth, UK

Abstract

Offshore marine living and non-living resources straddling disputed areas of maritime boundary claims have been known to lead to the establishment of joint development zones by disputing states with a view to resolving such disputes in line with the provisions of Article 74(3) of United Nations Convention on the Law of the Sea III. Subsequently, the issue of straddling or highly migratory fish stocks led to the enactment of the 1995 United Nations Agreement for the Conservation and Management of Straddling Fish Stocks and Highly Migratory Stocks upon realization of the failure of United Nations Convention on the Law of the Sea (UNCLOS) III to address it. However, practical implementation of 'The Agreement' revealed a number of challenges that appeared to impede its success across various international regimes. These had detrimental consequences for the sustainable management of marine living resources. A new innovative approach is presented here for the resolution of the issues associated with migratory fishery stocks under a shared management arrangement. This arrangement is between Nigeria and Sao Tome & Principe based on an area of overlap observed during the delineation of their Exclusive Economic Zones (EEZ). The area of overlap has been designated as a Joint Development Zone (JDZ) and placed under a management arrangement of a Joint Development Authority (JDA). It is proposed to legitimately encroach upon each of the two nations' state EEZ such that potential issues of jurisdiction will be more effectively addressed. This will help strengthen the institutional relationships and cooperation between the two nations' institutions in line with the principles and objectives of UNCLOS III and Chapter 17, Agenda 21 respectively. The approach is expected to prove useful to other similar management arrangements.

Keywords: Transboundary; Straddling or highly migratory stocks; Marine fishery; Nigeria; Sao tome & principe

Abbreviations: EEZ: Exclusive Economic Zone; JDZ: Joint Development Zone

Introduction

The concept and practice of managing marine resources management emerged greatly from the beginning of the 14th century based on the realization of the need to apportion control over the ocean resources [1]. This was followed by the desire to integrate various emerging activities such as fishing, navigation, dumping, mining and military uses with maintaining the health of the ocean [2-4] for the common benefits of mankind. As various uses of the ocean emerged along with their associated conflicts [4-6] the need to appropriately manage the ocean resources and apportion control or designate ocean property rights by adjacent coastal nations became stronger bringing alongside the multiple challenges and disagreements that came with the advent of industrialization between the 17th and 18th centuries [1,6].

Although negotiations for some control over the sea and its resources predate even the Hague Conventions of 1899 and 1907 [7], the challenges brought about by the dominance of European power in the 18th century and the advent of industrialization in the 19th century with the introduction of steam engine strengthened nation states' ability to exploit the oceans [2,4]. This led in part to the first United Nations Conference on the Law of the Sea (UNCLOS) in 1958 [1,2,6]. The conference was convened primarily to manage the conflicting sea uses and ocean resources.

While the emergence of UNCLOS has brought about some rationality into the issue of marine environmental resource apportionment within the global oceans lately, there is however some

concern because of the nature of the seamless flow of both seawater and its living resources contained therein [8]. This is because these resources do not respect boundaries or any lines drawn in the sea for the purposes of demarcation or ascertaining control [6,8]. As such, living resources of the oceans faced significant threats to their management as a result of their transboundary nature. More so, marine environmental resources are known to be in constant movement across boundaries thereby making them fluctuate from one water body to other thereby requiring transboundary management initiatives in managing them [9].

Consequently, the transboundary nature of these marine living resources posed some threats to the stability of UNCLOS itself [6,10,11]. This is because of the issue of declining fish stocks due to overfishing and resource sharing being observed by competing adjacent states as a result of the continuous movements of resources. This brought to the fore the need to enact specific rules in order to govern such movements of fish stocks and to ultimately strengthen UNCLOS [12,13].

***Corresponding author:** Aliyu H Dan'Agalan, Department of Geography, University of Portsmouth, Buckingham Building, Portsmouth, UK, Tel: +447774286819; Fax: +44(0)2392842512; E-mail: aliyu.danagalan@port.ac.uk

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The result was the '1995 Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks' which was designed and adopted by coastal States in order to implement the principles of management inherent in the UNCLOS pertaining to these kinds of stocks. Among the most important or key issues of the agreement was the delegation of authority to manage such stocks in Regional Fisheries Organizations (RFO) of coastal states [11,14].

The agreement became necessary as a result of the ambiguity, unpredictability and the absence of explicit implementation instruments in the provisions of Article 63 of the 1982 UNCLOS which covered the issues of obligation by the coastal states regarding the rights of high seas fishing concerns on straddling and highly migratory stocks [13,14]. These uncertainties led to over-exploitation reminiscent of the open-access or common pool resource era; as such the need for the agreement to respond to the various issues and conflicts relating to the highly migratory and straddling fish stocks of areas under national jurisdiction and even the high seas [10,11,13].

Following the delineation of ocean spaces and the advent of technology [2-4,15] the ocean space came to be characterized by conflicting pressures due to activities such as shipping, dredging, mineral extraction, fishing, and offshore wind energy. These developments consequently prompted the need to comply with various national and international commitments to biodiversity conservation [16]. It also brought about the need for sea use planning so as to balance the opposing demands on the oceans and its resources without compromising its ecosystem's health [4,17,18].

Although UNCLOS is the unified framework for managing all of marine resources of areas under national jurisdiction and the high seas by apportioning the global oceans into various units and placed same under coastal states jurisdictions in form of the Exclusive Economic Zone (EEZ) and the International Seabed Authority respectively [6,19]. Interactions however between these resources (both living and non-living) may not necessarily be easily regulated due to conflicting and competing demands and uses [19,20].

This is because seabed minerals such as hydrocarbons, manganese nodules and gold may be very profitable to explore and their exploration most often come with its attendant consequences in the form of pollution and other alterations to the detriment of the other marine living resources. These include fish and fishery resources which are transboundary in nature [20,21].

Transboundary marine resources by their nature do not respect boundaries and are usually in a state of constant and often unpredictable movements whether living (over space and time) or non-living (over geological timescales) [22-25].

This is unarguably one of the reasons why early divisions of the oceans and subsequent adoption of a unified framework for managing its resources (such as UNCLOS) were convened in the first place and their deliberations accepted by parties as a solution for managing these resources [6,25].

Managing these resources therefore became of paramount importance for obtaining requisite benefit and also the sustainability of the ocean environment itself [20,21]. This is more so for shared resources under a joint development arrangement such as in the Nigeria-Sao Tome & Principe Joint Development Zone (JDZ).

Methodology

A qualitative survey comprising of a questionnaire and face to

face interviews was undertaken with a range of key stakeholders (66 in total) within the management of the board and staff of the Nigeria-Sao Tome & Principe Joint Development Authority (JDA). The theme of the survey covered issues relating to the nature of fishing within the JDZ. These include the management regime in existence, legitimate practitioners responsible for the regime, existence of licencing or quota system, contribution to ensure JDZ fisheries sustainability and other relevant stakeholders that should be involved based on their own perceptions or opinions.

The generated data was then transcribed and subsequently categorized using a relational database; which enabled the emergence of clear patterns and relationships. The data was then analyzed using 'content analysis' [26] which revealed the emerging innovative pattern being championed by the board and management of the Nigeria-Sao Tome & Principe JDA. This pattern aims managing the transboundary fishery resources of the JDZ as well as foreclosing potential areas of conflict among the two countries' institutions in terms of juridical control.

Results

The JDZ management regime in existence

Results from the analyzed data obtained indicated that the JDZ fisheries management regime is still in the process of being established and as such no fishery management regime exists currently for the JDZ. But, it is envisaged to be a licencing regime and/or joint venture partnership when it commences. This was also attested to by a key stakeholder during the interview when it was mentioned that the regime is yet to be established as they are in the process of establishing one. Another key stakeholder equally deplored the JDA's inability to develop the fishery after over a decade of the JDZ operations because all their energies have been dedicated to and geared towards the development of oil and gas. There has been observed however, a concentration of renewed attention currently being paid towards developing the fishery resources.

Legitimate practitioners responsible for the regime

Results from the JDA participants revealed that almost all the respondents are of the view that the JDA should be the only legitimate practitioner responsible for the JDZ fisheries regime when it comes into existence. A few included some international organizations such as the FAO and the Norwegian Institute of Marine Research in addition to the JDA. This rather selfish standpoint confirmed other stakeholders' perception of neglect in the overall management of the JDZ resources as revealed by almost all the stakeholders. It further indicated a conjecture as opposed to consensual proposition based on stakeholders' relevance in line with principles and requirements of marine indicated-based assessments and management [27-30].

Existence of a licencing or quota system

There is no licencing and/or quota system in place at this stage for the JDZ fisheries, but it is envisaged that the fishery regime being planned currently is expected to be made up of a licencing and quota system allocation. This was revealed both in the interviews and the administered questionnaires from the JDA. This is in line with the need to apportion to control over ocean resources upon the advent of UNCLOS III where licencing and control were earmarked as critical to marine resources management [6,31,32]. It was also revealed that the JDA will soon commence licencing of competent operators when inputted results from the preliminary survey, stakeholders' inputs

and the processes from fisheries department of the two countries are compiled and analyzed. The process was further highlighted by a key stakeholder when they mentioned that a significant amount of work geared towards establishing a licencing system has been done and it is deliberately aimed at attracting potentially competent licensees.

Contribution to ensure JDZ fisheries sustainability

Varied responses were deduced from the analysis of the data from the JDA participants on the nature and viability of contribution to ensure JDZ fisheries sustainability. While middle cadre participants believe that it is still premature to identify the JDA's contribution to ensure fisheries sustainability; the executives believe that proper monitoring, constant review of international policies and the conduct of periodic stocks assessment are relevant contributions to sustainability. This is to be in addition to conduct of Environmental Impact Assessment (EIA) of the marine environment so as to study or monitor impact of other adjoining activities such as oil and gas exploration, production and climate change. This exemplified uncoordinated inputs from across the broad range of participants devoid of integration as typified by the concept of sustainability [28,33] and framework for indicator-based assessment techniques [27,28,34].

Discussion

The revelations by executive participants from the main JDZ resource managers-the JDA-on their plan to apply for permission to encroach into each of the two nations' EEZ may have been prompted by the need to simplify the potential legal and administrative lacuna by other stakeholders in the JDZ [6,8]. While the legal status of the JDZ is explicitly clear from the treaty which vested the JDA with the sole responsibility for management, the status of other national agencies-critical stakeholders is not. Also their standpoint across the two countries in terms of rights and jurisdictions of these agencies over the administration of the JDZ and its marine fishery resources does not seem clearly defined and straightforward. This is because while marine fishery resources are known to be transboundary in nature and can freely move across maritime boundaries without recourse to any subsisting authority [8]; there exists critical stakeholders that are nationally recognized bodies and agencies from across the two countries in their respective countries' EEZs [6]. This can make it difficult for them to determine their legal and administrative limits as far as JDZ fisheries resources are concerned because their individual units of jurisdiction are not explicitly defined or appropriately delineated.

The analysis further revealed inadequate institutional frameworks in place for designating where the two nations' jurisdictions starts and ends. This is because a number of the stakeholders find it difficult to draw a line to their exact areas of jurisdiction in terms of asserting controls over the transboundary marine fishery resources. Although the 1995 agreement on straddling fish stocks and highly migratory fish stocks is expected to take care of such difficulty; it is noteworthy that some of the Regional Fisheries Management Organisations (RMFOs) around the Gulf of Guinea (GOG) do not have jurisdictions over all the GOG countries thereby making apportionment of control difficult albeit confusing. However, the coastal-marine spectrum encompasses five main zones namely; inland areas, coastal lands, coastal waters, offshore waters and high seas. This zonation, with its obvious conflicts in terms of property rights and institutional responsibilities requires several spheres of integration in order to achieve Integrated Coastal and Ocean Area management (ICM). These spheres could be inter-sectoral, inter-governmental, science-management, spatial and international [5]. An attempt to originally balance some of these issues

on ocean zonation could have been the precursor to apportionment of extensions characterized by the historical evolution of UNCLOS [6].

Subsequent extensions of the territorial seas with its attendant impacts on access to the oceans' resources led to a number of conflicts. These include disagreements arising from competing claims between and amongst adjacent coastal States as individual claims to, territories and ultimately, resources emerged as well as highly migratory or transboundary marine resources [6].

However, many of the extensions usually apply to areas within national jurisdictions of States especially in the twentieth century as more and more intensive utilization of the oceans through human activity brought to the fore several international negotiations and sometimes agreements-such as fishing agreements, military collaborations, research-peculiar to one use or the other culminating into UNCLOS [35].

It is as a result of the need to avoid such challenges that the JDZ marine fishery managers planned to apply for an extension to encroach into any of the two nation's EEZ by their licensees with a view to foreclosing any potential dispute that may arise during the course of the harvest within the JDZ [36]. This, they claimed can prove vital on issues of jurisdiction partly due to the transboundary nature of the marine fishery resources as well as a veritable impetus pending the final delimitation of the two countries' EEZ in line with the provisions of the treaty and article 74(3) of UNCLOS III.

Conclusion

Based on the analyzed survey data from the JDA (the main resource managers) it is the conclusion of this paper that such a permission that will enable the JDA management secure rights of encroachment for the licensees' may be beneficial to the JDZ licencing regime. This is due to its ability to foreclose any potential dispute that may arise as a result of issues of juridical claims. This is most especially valuable considering the fact that the provision of article 74(3) explicitly encouraged any mutually acceptable and beneficial partnership without any renunciation of claims pending the final delimitation of the disputed boundary lines. More so, as the Nigeria-Sao Tome & Principe JDZ is an interim arrangement that is subject to review in 45 years; after which all or parts of the clauses can be reviewed accordingly. This is in addition to being able to simplify the current management arrangements in place for the sustainable management and assessment of the JDZ marine fishery; as an innovative concept designed to neutralize potential areas of conflict between and among the two state parties' institutional jurisdictions.

It is therefore the conclusion of this paper that lessons learnt, when applied to the research area can simplify these difficulties and also be applied elsewhere in a similar scenario. While more explicit legal dimension and interpretations of such situations are recommended for further research with a view to identifying where legal instruments such as the 1995 agreement are optimal or sub-optimal in terms of proffering adequate solutions to such challenges. This is designed to settle the jurisdictional issues from among a variety of stakeholders in a joint development arrangement over shared marine fishery resources in addition to contributing towards developing sub-LME indicators.

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