



Private provision of public information in tuna fisheries

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ABSTRACT

Private enumeration of landings data and traceability is an emerging phenomena in developing world tuna fisheries. The general goal of these systems is to facilitate compliance with mandatory market requirements such as the European Union's Illegal, Unreported and Unregulated fisheries regulation, as well as support aspirations for voluntary requirements such as the Marine Stewardship Council. The long-term success of these systems appears to be dependent on their ability to complement and extend government data and information systems. Developing and maintaining the credibility of these voluntary private enumeration and traceability systems requires strong market incentives as well as strong state support and assurance. If this credibility can be maintained private fisheries information systems may provide a promising basis for innovative stock assessment and management approaches relevant for complex developing world fisheries such as tuna.

1. Introduction

Ensuring the long-term sustainability of transboundary fisheries resources such as oceanic tunas starts with the availability of data and information on the status of stocks, as well as information on who catches fish, where, and how. Oceanic tuna fisheries are particularly complex given the highly diverse range of industrial to artisanal fisheries and the vast spaces and multiple jurisdictions involved. Management of these fisheries is further complicated by the lack of information on coastal tuna fisheries due to their remoteness and dispersion in regions like South and Southeast Asia, West Africa and the Caribbean [1–3]. Despite this complexity, public and private demands for information about these fisheries continues to grow. Public demands are made by states seeking to fulfil the requirements of regional fisheries management organisations (RFMOs) who in turn formulate conservation and management measures see [4,5]. Private demands are made by NGOs and buyers in export markets in response to their concerns about overfishing, fraudulent trade, and more recently, issues surrounding bonded and indentured labour [6–9]. These growing demands and poor information systems call for a new round of innovation in data collection, organisation, processing, and disclosure.

Despite the emergence of private informational demands, the state

remains the informational backbone of tuna fisheries management. Member states of many RFMOs are obligated to provide data and information on annual catches, active vessels, operational catch and effort data see [5,10]. These data and information feed into the databases of designated scientific and enforcement committees and organisations which support RFMO decisions on conservation and management measures [11]. Information required to comply with market requirements such as the European Union's illegal, unreported and unregulated (IUU) regulation is also a responsibility of export states, who have to ensure that licencing and catch certificates are coordinated through an EU-recognised competent authority [12]. Eco-certification schemes, such as the Marine Stewardship Council (MSC), also rely on various sources of information including state-coordinated information for assessing the sustainability of fish stocks and wider ecosystem health.

The willingness and capacity of states to invest in the provision of information related to oceanic and coastal tuna fisheries appears limited. Many tropical coastal states have been criticised for their weak and ineffective data management and information systems feeding into regional management [13–16]. Major tropical producing and processing countries like Indonesia, Philippines, Thailand, Papua New Guinea, Sri Lanka and Trinidad and Tobago have received warnings from the EU on failing to meet the IUU regulation with respect to poor

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transparency around fishing effort, regulation, data management, and traceability [17,18]. Although steps have been made in some of these fisheries towards compliance with the EU IUU legislation and the MSC standard, increased coverage and more accurate information remains a key point of improvement [19]. These information requirements are all the more critical in small-scale and coastal fisheries in many tropical countries where estimates on total fishery landings remain largely guesswork [15,20]. For example, in Indonesia estimates of under-reporting range from 38% of national landings to 57% of Eastern Indonesian landings [21], amounting to approximately 5% of total regional landings in the WCFC area [22].¹ The result is that regional management of tuna fisheries is undermined, as well as the capacity of fishers and other private sector actors to comply with requirements for entering export markets.

Faced with the limitations of state-based fishery information systems, the private provision of fisheries information is emerging, including the enumeration of tuna landings and investments in traceability systems. The rationale of these companies and NGOs is to improve the transparency of tuna fisheries and in doing so enable states to perform more effectively in RFMO negotiations, feed into more robust management systems, as well as meet trade related regulations such as the IUU rule of the EU, and/or compliance with MSC standards. In taking up responsibility for the private provision of public information, these groups appear to be bringing landings enumeration and traceability, as different information flows, together. But in doing so, these private initiatives may be encroaching on the role and responsibilities of states.

This short communication explores the extent to which private provision of enumeration and traceability data can complement public data to strengthen tuna fisheries management. In doing four critical areas of further research and development are identified which are likely to underpin the future application and expansion of private attempts to collect information in support of sustainable tuna fisheries and trade. The information drawn upon is 'panoptic' in scope – meaning broad observations from a range of sources to understand an emerging phenomenon are drawn upon. Primary and secondary sources include ongoing field-work conducted in Indonesia and the Philippines started in 2012, a review of secondary academic sources, and the grey literature on enumeration, traceability and Fishery Improvement Projects.

2. Private initiatives providing public information

2.1. Private enumeration

Private firms and NGOs are increasingly involved in establishing and running what might be termed 'pro-active' voluntary programmes for the enumeration of fisheries landing data, including catch composition (target and non-target species including endangered, threatened and protected species), landings number and weight, sizes of fish, and fishing effort (e.g. vessel size, gear type and fishing location). These proactive programmes differ from 'reactive' programmes in that they are established by fishing, processing and/or trading companies without any guidance from governments, i.e., they are private. They therefore differ from the fisheries that have been encouraged and guided by governments to voluntarily deliver data, most commonly in the step-wise implementation of individual quota systems, as seen in Canada and New Zealand [23]. Proactive enumeration programmes are more likely to emerge in countries where the coverage of state data collection is limited in terms of both coverage and accuracy, and where private actors are striving to meet export and/or MSC standards, or

other standards such as FairTrade [24]. Notably, these proactive programmes also still deliver data to state agencies to undertake stock assessments and management and therefore need to engage with government and inter-government agencies.

Proactive private data collection is becoming a common feature of fishery improvement projects (FIPs). FIPs are often implemented under the guidance of an NGO partner and (often but not always) with funding from philanthropic foundations and/or importers and retailers from the EU and US [25–27]. A common part of many FIPs, in line with requirements for MSC certification, is the development of data collection systems that include landings enumeration and spatially allocation through vessel monitoring [27]. In many FIPs, improved data collection focuses on improving local or national government capacity to support private interests such as MSC (Table 1). For example, the International Pole and Line Foundation (IPLNF) has established the Fisheries Information System (FIS) in the Ministry of Fisheries and Agriculture on behalf of their retail members, Marks and Spencer, Sainsburys and World Wise Foods [28]. The IPLNF system aims to ensure compliance with international catch and vessel reporting, including catch statistics, license information, catch certification, and fish purchase and transfer. In other cases, attempts are made to establish data collection systems, including on board observer programmes, with industry associations. An example of this is WWF's support to the Vietnam Tuna Association to develop an observer programme in response to private ambitions for MSC certification [29].

Other tuna buyers involved in FIPs have taken a more direct role in establishing enumeration programmes. In Indonesia and the Philippines, for instance, US and EU importers have established their own programmes for hand line tuna fisheries in response to inadequate government coverage [19]. In Indonesia Anova Foods established and partners with the now independent NGO Masyarakat dan Perikanan Indonesia (MDPI) to establish a protocol and enumeration system for tuna landing in multiple private ports and beaches across the eastern part of the country [19]. In addition, MDPI is also developing vessel monitoring systems for small hand line vessels to comply with IUU requirements and assess spatial allocation of tuna fishing effort. Data is then uploaded to the online government controlled cloud-based iFish database (www.ifish.id), designed to accept data from multiple public and private sources, and made available for Indonesian and government stock assessment scientists. MDPI is looking to expand their enumeration programme to include vessel monitoring systems that can collect real time information on the location and activities of fishing vessels. In the Philippines BlueYou (Meliomar), without the any government or NGO support, have established their own data collection system in the sites where they source fish in Mindoro and Lagonoy Gulf [30]. In both cases these enumeration programmes have developed data collection protocols that are compliant with the WCPFC data protocols, in terms of specific data collected (landings by species, size and area, effort) through sampling a specific proportion of the fishery. Data are also passed through government databases to RFMO level databases for regional stock assessment.

2.2. Traceability

While enumeration data may contribute to information needed for stock assessments and assessments of catch and effort allocation, it generally cannot address the wider range of informational needs for transparency in production and trade. For example, the fraudulent labelling of tuna species in both cans and in sushi bars [7] is not improved by monitoring tuna upon landing. The range of new provenance and credence requirements being made by tuna buyers, including country of origin or environmental and social sustainability, are also not guaranteed by enumeration alone. The verification and communication of these claims is instead facilitated through value chain traceability, defined as a system of structuring information associated with products for purposes of business management and

¹ The calculation of 5% is based on dividing 35% of an estimated volume by Indonesia based on 2009–10 data, by the total volume produced by the WCPFC area (2.4million tonnes) in that period [22].

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