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EVALUATION OF MARKETING SYSTEM FOR POLE-AND-LINE TUNA FISHER-IES IN LARANTUKA, FLORES, INDONESIA

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KeyWords

Flores, marketing system, pole-and-line, tuna fisheries,

ABSTRACT

This research was conducted at the Larantuka, Flores, Indonesia in 2015. The location chosen as being representative fishing bases for pole-and-line tuna fisheries in Eastern Indonesia. Data collected related to their tuna pole-and-line, marketing system and data from companies. The market supply lines and selling data for the study were gathered from landing site managers; government fisheries offices; tuna processing companies at the three sites; a desk study; and a field survey. Information on the supply and marketing system was obtained by questionnaires to local tuna processing company staff, fishery office staff, landing site staff, fishers' group leaders, captains, community leaders, scientists, and policy makers from local and national levels and their responses to the interviewer generated mainly qualitative data. The result showed that majority of the respondents from both the policy makers and public-sector workers (62.5%; n= 20) stated that they were aware of the overall tuna supply chain. The traceability process in the supply of tuna pole-andline products consists of several processes declared that they were aware of the tuna traceability process. In Larantuka, tuna supply lines from both the processing and frozen companies showed that the traceability system was applied in their marketing strategy for both export and national markets. The pole-and-line fishers have a limited choice between sending their fish directly to the local market or selling it to the tuna processing companies. The marketing system for small-scale pole-and-line tuna fisheries in Larantuka, Indonesia controlled by middlemen and processors, who provide financial and other operational help to fishers to enable them to continue fishing, in return for which fishers are required to deliver their fish at prices set by the middlemen and/or processors.

INTRODUCTION

In 2004, Indonesia had become the principal producer of tuna worldwide (Sunoko and Huang, 2014). The global tuna market is supplied with a range of products, including canned tuna, fresh and frozen sashimi, other fresh and frozen value-added products and *kat-suobushi* (Hamilton et al., 2011). Globally, 84% of total world fisheries catch is derived from small-scale fisheries (de Graaf et al., 2015). Market demand from developed countries for tuna products has risen due to their increasing human populations. At the same time, markets in developed countries have increasingly required responsibly operated and sustainably maintained sources of tuna to meet their current and future needs. Certification of tuna sources and their traceability from fishing ground to final consumers is convincing evidence that tuna products have come from sustainable and responsible sources (Stratoudakis et al., 2016, Stemle et al., 2016, Parenreng et al., 2016, Hadjimichael and Hegland, 2016).

Indonesia, as one of the largest tuna producers in the world, has been striving to fulfil the requirements of the international community in relation to tuna certification and the traceability process (Duggan and Kochen, 2016, Adhuri et al., 2016). The certification scheme required by developed countries intended for fish products entering their market could also influence the price of tuna, even at the fishing port dockside level (Stemle et al., 2016, Stratoudakis et al., 2016, Adolf et al., 2016).

There is a distinction drawn between two strategies In fisheries resilience theory there are transformation and adaptation (Chandler, 2014, Chandler and Reid, 2016, Boyd and Folke, 2012). Transformation means changing the external parameters of the circumstances in which the fishery works. For example, in the case of the Indonesian pole-and-line fishery, the moratorium imposed by the government in 2014 was transformative in that it was a change in the external parameters within which the pole-and-line fishery worked, protecting it from illegal competition by foreign fishing vessels. Adaptation means changing the internal workings of a fishery to respond to the external situation in which it finds itself. In the case of the Indonesian pole-and-line fishery, attempts by the fishery to respond to its external situation are examples of adaptation, and they include marketing strategies of various kinds. In chapter 2, the transformative strategy of resilience in the shape of the moratorium was elaborated, while this chapter is focused rather on the adaptive strategy of resilience in the shape of marketing techniques. Pole and line using live bait is one of the most important gear for tuna fishery (Vinay et. al 2017). Pole-andline that locally known as *huhate* has been used as a fishing gear by Indonesian fishers since long time ago to capture mainly skipjack (Widodo et. al. 2016).

MATERIALS AND METHODS

This research was conducted at Larantuka, Flores, Indonesia between July–September 2015. Locations were chosen as being representative fishing bases for small-scale tuna pole-and-line operations and markets in eastern Indonesia. Data collected related to their tuna pole-and-line, marketing system and data from companies. The market supply lines and selling data for the study were gathered from landing site managers; government fisheries offices; tuna processing companies at the three sites; a desk study; and a field survey. Information on the supply and marketing system was obtained by questionnaires to local tuna processing company staff, fishery office staff, landing site staff, fishers' group leaders, captains, community leaders, scientists, and policy makers from local and national levels and their responses to the interviewer generated mainly qualitative data. Tuna pole-and-line landings activity beginning with fishers transferring fish to market and subsequently to the processing company was observed during the field survey. The researcher joined typical fishing trips undertaken by the pole-and-line vessels from their fishing bases to the fishing ground and back, and observed the unloading of the catches. From the fishing base, the catches were transported to market and then to the tuna processing company and occasionally outside the fishing base. This entire market process was observed in order to better understand the flows of the catches.

The information obtained from the KI questionnaires on respondents' perceptions of the supply lines and market chains was collected, interpreted, and analysed descriptively. Descriptive analysis was used to obtain relevant information regarding the current conditions of the tuna pole-and-line supply lines and marketing system to describe the existing supply lines and market chain situations.

RESULT AND DISCUSSION

During the field survey, there was only one processing company (*Katsuobushi*) and two frozen tuna companies operating in Larantuka. The *Katsuobushi* processing company was directly exporting to markets in Japan, whereas products such as frozen tuna were going to both national and international markets. The tuna pole-and-line fishers were also directly marketing their catches to the market in Larantuka (Fig. 1). A staff member at the processing company in Larantuka, KI-10, confirmed that: "our market orientations are for export and national markets with destinations predominantly in Japan, which is our international market and to a tuna canning company in Pasuruan, East Java, as the destination for our national market."



Figure 1. Pole-and-line tuna distribution supply lines in Larantuka. The arrows display the market flow with regards to the tuna.

In Larantuka, tuna supply lines from both the processing and frozen companies showed that the traceability system was applied in their marketing strategy for both export and national markets. The traceability system found at Larantuka was confirmed by a tuna processing company worker (KI-11) who stated that: "our product using our own internal production code as the product traceability system."

The traditional tuna supply activities can still be found in several places in developing countries, including Indonesia, where, as Alimina et al. (2015) notes, the small-scale tuna pole-and-line supply line in Southeast Sulawesi, eastern Indonesia consists mainly of fishers to middleman or to retailers and subsequently into some form of processing or cold storage, and finally it is sold on to consumers locally. In all three study sites, the range of choice of marketing strategies is constrained by either or both contractual or traditional arrangements. In Sorong, the pole-and-line fishers are constrained by the fact that they must land their whole fresh tuna catches in the cooperative unit which is initiated by the processing companies.

The marketing choices in Larantuka are clearly contrary to the FAO's Blue Growth Initiative, which supports fair access to market by the small-scale fisheries (FAO, 2016). Furthermore a study undertaken by Watson et al. (2017) revealed that open market access between developed and developing countries may lead to poverty reduction, greater food security and strengthened small-scale fisheries resilience. For example, open market access for tuna products from Regional Fisheries Management Organisations (RFMOs) members such as Indonesia to markets in Europe, USA, Japan and other developed countries led to more fairness in setting tuna prices (Yongil et al., 2008, Huang and Leung, 2011, Fernández-Polanco, 2016).

The profits from tuna fishing go mostly to processors and middlemen rather than fishers. The fishers have very limited direct interface with retailers and are therefore price-takers rather than price-makers. Washington and Ababouch (2011) reported that since 1973 the food control authorities in the USA have imposed on imported tuna products the code of good manufacturing practices (GMP) and incorporated both hazard analysis and critical control point (HACCP) systems as a condition of entering their markets. An observer might think that these certification requirements would benefit local fishers by sharing in the high prices obtained for their high quality products (Adolf et al., 2016). But in fact, most of the added value goes to processors not local fishers; Stratoudakis et al. (2016) found that fisheries certification has potentially negative socio-economics consequences particularly for small-scale fishers.

Moreover, this situation is unlikely to change in the future. In mid-2017 one of the tuna processing companies in Sorong which is supplied by local pole-and-line fishers committed to apply for internationally recognised MSC certification for its fishing practice in eastern Indonesia (White, 2017). This certification process is one of the adaptation processes mentioned by Boyd and Folke (2012) to deal with the complexity and uncertainty of globalisation of fish markets, especially for small-scale fisheries such as tuna pole-and-line which are vital to food security, livelihoods and economic development of local communities (Longo et al., 2017). But while MSC accreditation might help to maintain demand for Sorong pole-and-line tuna fish and therefore safeguard jobs, it is unlikely to make the fishers richer, because most of the premium for MSC tuna will be absorbed by processors.

It is true that in Larantuka, fishers can sell their fish direct to local markets, but local consumers cannot afford to pay high prices, since there is a strong correlation between tuna quality and price in local markets (Suhana et al., 2016). Tuna processing companies supplied by small-scale pole-and-line fishers can adopt international private sector certification and government certification schemes (Gulbrandsen,

2014). An example of the latter is in Greenland, where the implementation of a Securing Sustainable Small-scale Fisheries (SFF) Guidelines increased the bargaining power of small-scale fishers and large scale buyers (Jentoft et al., 2017). Furthermore, many governments consider eco-labelling certification schemes as a helpful additional tool for fisheries management (Gulbrandsen, 2014).

Problems with traceability schemes

Traceability can be defined as being able to track a product through every stage of the overall production and handling process from fishing ground to plate (Popper, 2007). The traceability scheme of tuna pole-and-line in this study consists of two types: manual and electronic schemes. These findings are consistent with a study undertaken by (Leal et al., 2015) which reported that tuna traceability may consist of manually or electronic recordings. In Larantuka, the tuna processing companies use manual and electronic schemes to track their tuna products as part of their product traceability. Other studies found that in Bitung, Indonesia, a manual traceability scheme has been adopted by tuna processing companies (Parenreng et al., 2016). Three lesson can be learned from these traceability schemes. The first lesson is that the active involvement of all stakeholders including fishers, processing companies government retailers and end-consumers, is crucial to their success (Bush et al., 2017). The basis of the traceability process was food safety (Leal et al., 2015).

CONCLUSIONS

In Larantuka, tuna supply lines from both the processing and frozen companies showed that the traceability system was applied in their marketing strategy for both export and national markets. The pole-and-line fishers have a limited choice between sending their fish directly to the local market or selling it to the tuna processing companies. The marketing system for small-scale pole-and-line tuna fisheries in Larantuka, Indonesia controlled by middlemen and processors, who provide financial and other operational help to fishers to enable them to continue fishing, in return for which fishers are required to deliver their fish at prices set by the middlemen and/or processors.

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