



Impact of the closed fishing season policy for sardines in Zamboanga Peninsula, Philippines



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ABSTRACT

The closed fishing season policy was imposed on sardines in the Zamboanga Peninsula, Philippines for December 1 to March 1, to allow for a more productive spawning season and address the declining fish catch. Policy inputs were the resources for monitoring compliance to the policy and information campaign to elicit community and other stakeholders' support. Expected policy output was the increase in fish stock while expected policy impacts included increase in landed catch, decline in incomes of factory workers, increase in incomes of fishers and increase in societal benefits. Primary and secondary data were gathered to analyze impacts in the various sectors. Secondary data came from government sources, canneries and the bottling companies. Primary data were gathered through household surveys, key informant interviews, and focus group discussions with various stakeholders. The social welfare analysis integrated the study results. Results showed an increase in landed catch of sardines after the policy implementation. There was also increase in catch of high value non-sardine species. Incomes of fishing crew increased. Factory wages declined during the months of December to February, although working hours and days increased during open season. Factory workers found alternative livelihoods during the closed season. There was positive impact to society overall. The authors recommend that closed season policy in the Zamboanga Peninsula be continued.

1. Introduction

A canned sardine is a popular barometer of the Philippine economy. Sardines is one of the main sources of inexpensive animal protein for lower income Filipinos and is a perfect food because it is nutritious, cheap and has an intense flavor and texture that provides good counterpoint to the main Filipino staple - rice. Canned sardines are convenient for consumers. FAO [1] also cited that Filipinos consume roughly 15 million cases of canned sardines every year.

Zamboanga Peninsula (ZamPen), Philippines (Fig. 1) is the center of the country's sardine industry producing 50–60% of the country's annual total sardine production in the last 10 years. The sardine industry based mostly in Zamboanga City includes fishing companies (19), canning companies (8) and tin can manufacturers (3). The canning industry alone employs around 15,000 workers who process 1000 t of sardines daily.

While ZamPen remains as the top sardine producer in the country, its production level and production growth rates is inconsistent—

alternate positive and negative growth rates – with peak production recorded in 2009 after which production started to decline. In 2011, sardine harvest recorded a serious decline, of almost 50% from the previous year, which threatened the sardine industry in the region.

The declining fish catch called for better management of fisheries resources specifically to improve the existing fish stock in the affected areas. In 2011, the Department of Agriculture (DA) and the Department of Interior and Local Government (DILG) of the Philippines issued Joint DA-DILG Administrative Order No. 1 series of 2011 (JAO-01s2011) establishing a conservation area in ZamPen where a closed fishing season for commercial-scale harvest of sardines was to be enforced for three months every year for a period of three years starting December of 2011. The no-fishing zone has an area of 13,987 square kilometers covering East Sulu Sea, Basilan Strait, and Sibuguey Bay encompassing the western municipal/national waters of Zamboanga Del Norte, the waters bordering south and eastern waters of Zamboanga City and southern portion of Zamboanga Sibugay (Fig. 2). JAO No. 1 ended in March 2014, but the closed fishing season policy was continued

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Fig. 1. Zamboanga Peninsula (Google, 2016).

through BFAR Administrative Circular (BAC) No. 255 dated November 15, 2014. Initial reports and claims suggest positive impacts specifically on fish catch.

This closed fishing season policy is aligned with the national policy. Conservation, protection, and sustainable management of the country's fishery resources is a national policy and the establishment of closed season is one of the identified conservation measures to achieve this [2]. The 3-month sardines closed fishing season every year in ZamPen is an extension of the same policy adopted from other regions. Records showed that Bureau of Fisheries has reinforced Fisheries Administrative Order No. 167 s 1989 which established a sardine closed season in the Visayan Sea [3]. The closed fishing season policy was implemented starting 1989 from November 15 to March 15 every year for sardines, herring and mackerels. This experience was useful in the formulation of the current policy in ZamPen, where government personnel in the Visayan Sea region also guided the personnel in the ZamPen during the implementation stage. However, the one in ZamPen is more recognized due to the significant volume of sardine catch, i.e. between 70% and 80% for the total sardine production in the Philippines. As well, field interview information revealed that the closed fishing season is an indigenous practice in some parts of the ZamPen. There is a three to four day fishing ban on all species during the new moon.

Except for the impact study of the closed fishing season policy in ZamPen as reported in this article, there have been little efforts to evaluate the other community- and specie- specific initiatives.

Therefore, very limited information on the successes or failures and the reasons for these is documented. Closed fishing season in the Visayan Sea for the species cited above was successfully implemented [4,5]; others however did not have the compliance of communities such as the policy of the closed season of the live reef fish [6]. These authors however did not give reasons for the success and the low compliance, respectively.

Overfishing and overexploitation of *iganids* in Lagonoy Gulf in the Bicol Region, Philippines also prompted the formulation of the closed season policy for *iganids* in the gulf [4,7]. Five municipalities in Albay Province, Philippines surrounding the Gulf have coordinated their municipal fisheries ordinances since 1998 to establish a closed season for the *iganids* fry fishery. Concerns about the steep decrease in *iganid* harvest from the area necessitated the coordination among the municipalities to come up with the ordinance [5]. Community reaction was not described/discussed in the article.

In Palawan, live reef fish trade was observed to have negative effects on fisheries resources due to destructive fishing methods used, catching of spawning fish and overfishing. A provincial ordinance (The Palawan Live Reef Fish Ordinance of 2006) was enacted to prevent further decline of the fisheries resources especially with the red grouper [6,8]. Among the reef fishes, the red grouper (both adult fish and fry) command the highest price due to demand from Chinese restaurants especially during New Year. In addition, the market prefers wild grouper over cultured ones due to superior quality. However, there is low

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