

# Bioeconomics of Spiny Lobster Farming in Indonesia

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## ABSTRACT

*Spiny lobster puerulus settlements have recently been found in bays in Lombok, Indonesia, leading to the development of lobster grow-out culture in adjacent areas. This research suggests that lobster farming in Indonesia is a viable alternative livelihood for Indonesian fishers. Currently, returns to investment are modest and largely dependent on the price and availability of lobster seed and credit. Farmers are harvesting the lobsters as soon as they reach marketable size (100 grams) to minimize potential mortality and generate income as soon as possible. This research suggests there are significant benefits from delaying harvest until the lobsters are larger (approximately 300 grams) to benefit from higher yields. The profitability of the industry is not expected to be significantly impacted by large increases in fuel prices, although a disease epidemic would be devastating. Feeds are dominantly low-value finfish, the majority of which is caught by the farmer. There are significant economic benefits to be realized from the use of pelleted diets (especially if they are functional feeds) and farmers indicated that they would be willing to try them if they were available. Early adoption of pellets by this nascent industry is likely to prevent significant negative environmental impacts as the industry develops.*

**Keywords:** lobster, aquaculture, indonesia, bioeconomics, industry development, grow out, *Panulirus*

**JEL Classification:** Q12, Q120

## INTRODUCTION

Spiny lobster is a highly prized crustacean, with a strong and increasing demand throughout Asia, Europe, and America (Hart 2009), mainly due to their size and excellent meat (Davidson and Jaine 2006). Almost all spiny lobster production is from capture fisheries, where

capture rates are at or over their maximum sustainable yield (Phillips 2000, 2005). Sea cage culture of spiny lobster (dominated by *Panulirus ornatus*, a tropical species) commenced in Vietnam in 1992. The industry expanded rapidly until the mid-2000s in response to strong export demand, resulting in