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# Research Needs and Data on Production of Portunid Crabs in the Philippines

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## Introduction

Crabs are among the important aquatic resources of Philippine marine waters. Among the commercially important species are the blue crab *Portunus pelagicus* and the mud crabs, *Scylla serrata* and *Scylla olivacea*. In 1997, the total production of blue crabs was 59,144 metric tons valued at PhP 974,137, while mud crabs totaled 4,576 metric tons valued at PhP 697,756. Crabs are either consumed locally or exported mainly to Taiwan, Hongkong, Japan and USA either in the live state or as processed products. Total exports during the year amounted to 3,377 metric tons valued at PhP392,704 for both commodities. The total exports during the past nine years (1989 to 1997) consisted of live, frozen and processed mud crabs.

Blue crabs are usually collected by commercial and municipal fishermen in deeper areas, while mud crabs are presently caught in municipal waters in mangroves and since 1992 from brackishwater ponds. Among the highly productive fishing areas for blue crabs are the waters in Western Visayas, Manila Bay, Southern Luzon and Mindanao. Mud crabs are sourced in Western Visayas particularly in the Bohol Sea, Western Mindanao, Southern Luzon and Central Luzon for culture. Crabs are caught using trawls and lift nets and crab baskets with baits.

This paper provides data on the production and research and development needs of the mud crab.

## Status of the Industry

### *Overall production*

The Bureau of Agricultural Statistics (BAS) reported that mud crab production during the past nine years did not show dramatic annual increase

except in 1992 and 1993. From only 1,583 metric tons in 1991, production rose to 10,397 metric tons in 1992 and 11,000 in 1993. From 1993, however, production continuously declined annually (Table 1) by 13 to 28%. The decrease in production occurred not only in the wild catch but also in the aquaculture sector.

Table 1. Blue crab and mud crab total production (metric tons) from 1989 to 1997

| Year | Blue crab | Mud crab |
|---|---|---|
| 1989 | 14,145 | 2,541 |
| 1991 | 29,727 | 2,639 |
| 1992 | 41,287 | 10,397 |
| 1993 | 26,151 | 11,733 |
| 1994 | 26,128 | 9,569 |
| 1995 | 29,536 | 7,265 |
| 1996 | 53,908 | 6,316 |
| 1997 | 59,144 | 4,576 |

The diminishing catch of mud crabs from marine areas can be attributed to several factors: 1) collection of gravid females by the fishermen that command better price in the market; 2) collection of juvenile mud crabs for stocking in fishpond and cages; 3) environmental degradation such as cutting of mangroves, siltation due to deforestation, illegal fishing and pollution causing deterioration of water quality. On the other hand, the decline of production in ponds is caused by insufficient supply of juvenile crabs for stocking.

## *Research needs*

Success in maintaining broodstock and in hatching of fertilized eggs has been attained but the bottleneck is in larval rearing. Concerted efforts should focus on the following research areas some of which are also in agreement with the recommendations during the Bay of Bengal Seminar on November 5-9, 1991 in Thailand.

### SURVEY OF NATURAL RESOURCES

The extent of the mud crab fishery and the degree of exploitation are key elements in the management of the resource.

### TAXONOMIC CLASSIFICATION

To date, four species of *Scylla* spp. are known yet taxonomic classifications are still misunderstood by some authors. Regional classifications should still be checked by experts.

### DATA ON SEED COLLECTION

For management purposes it is necessary to determine the months of the year in which crablets are most abundant so as to calendar collection.

### SEED SUPPLY

- Environmental and nutritional requirements of larval stages. This study will provide basic information for mud crab larval rearing in

the hatcheries to increase survival
- Morphological, behavioral and growth rate differences at various stages and among species of mud crabs

CULTURE

- Investigation on the major causes of mortality: poor nutrition and water quality, diseases and cannibalism
- Development of low-cost feed from locally available ingredients as a supplement or substitute to trash fish
- Development of appropriate culture technology for marginal fisherfolk
- Evaluation of polyculture systems with finfish or seaweeds
- Improvement of pond management techniques using uniform-sized crabs and control of environmental conditions to synchronize molting

POST HARVEST

- Reduction of mortality during transport
- Development of value-added products

### *Studies on the feeding of crabs in the natural habitat*

Food items utilized by crabs in the natural habitat should be studied for possible adoption in hatcheries.

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