

## Mangrove clam (*Pegophysema philippiana*) fishery status in Davao region

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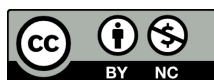
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**ABSTRACT.** The mangrove clam (*Pegophysema philippiana*) commonly called imbao in Davao region is ubiquitous in coastal areas and one of the most sought-after seafood delicacies in the Philippines. The gleaning of imbao supports the livelihood of coastal communities in Davao region. In 2010, assessment of mangrove clam was conducted in Davao region to determine its fishery status and was found out to be over-exploited. As a result, a policy was instituted to regulate the harvest of imbao. Recent reports of unsustainable harvest of imbao in Davao region led to a new assessment to determine its status. Results revealed that mangrove clam was abundant in all study areas which would imply that gleaners were still able to collect clams to sustain their livelihood, but smaller mangrove clams were collected in Davao del Sur (3.2 cm) compared to Davao Oriental (4 cm) and Davao Occidental (4.2 cm). These findings imply that gleaners in Davao del Sur were not strictly following the size regulation policy. If left unchecked, this can lead to severe decline of mangrove clams in Davao del Sur based on our investigation. The establishment of a policy is for the sustainable management of its wild stock which could directly impact the fishers' livelihood. However increased education and awareness of gleaners could facilitate their acceptance of a fishery management policy.

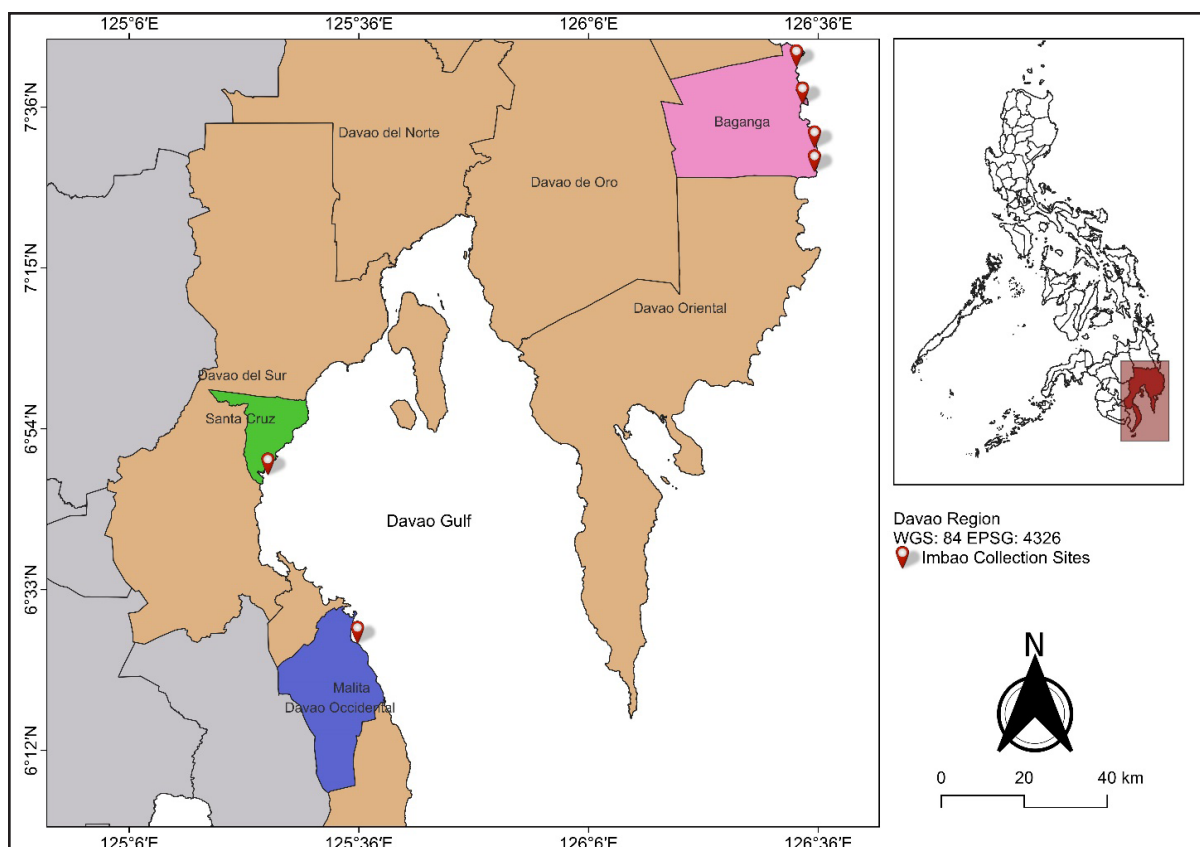
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## INTRODUCTION

The mangrove clam (*Pegophysema philippiana*) commonly called *imbao* in Davao region is ubiquitous in coastal areas and one of the most sought-after seafood delicacies in the Philippines. *Imbao* as it is locally known is highly valuable bivalve in the region because of its flavor, size, and demand as local favorite shellfish. The gleaning of *imbao* supports the livelihood of coastal communities where these resources are present. In 2010, assessment of mangrove clam was conducted in Davao region to determine its fishery status and was found out to be over-exploited. As a

result, a policy was instituted to regulate the harvest of *imbao*. Recently, reports of unsustainable harvest of *imbao* in Davao had been recorded and continuous gleaning for small clams were investigated. If the collection of immature mangrove clams is not given attention, this could decline and affect the economic condition of gleaners. The mangrove clam project assessed the status of mangrove clam (*Pegophysema philippiana*) fishery in Davao to determine whether policies protecting or regulating this fishery was effective or not.



**Figure 1.** Major Collection sites of mangrove clam (*Pegophysema philippiana*) in Davao Region.

## APPROACH AND RESULTS

The used a transect quadrat method where a total of 1,632 mangrove clams were collected inside a 1 m x 1 m quadrat (n=405) in Malita, Davao Occidental, Sta. Cruz, Davao del Sur and Baganga, Davao Oriental (Figure 1). Mangrove clams were

measured using a vernier caliper (0.1 mm) and digital weighting scale (0.1 g). The mangrove clams measuring 3.5 cm shell length or above was considered a mature individual.

Results revealed that mangrove clam was abundant in all study areas

which would imply that gleaners were still able to adequately collect clams to sustain their livelihood as shown in Table 1. However, it was very important to note that smaller mangrove clams were collected in Davao del Sur (3.2 cm) compared to Davao Oriental (4 cm) and Davao Occidental (4.2 cm), these findings imply that gleaners in Davao del Sur

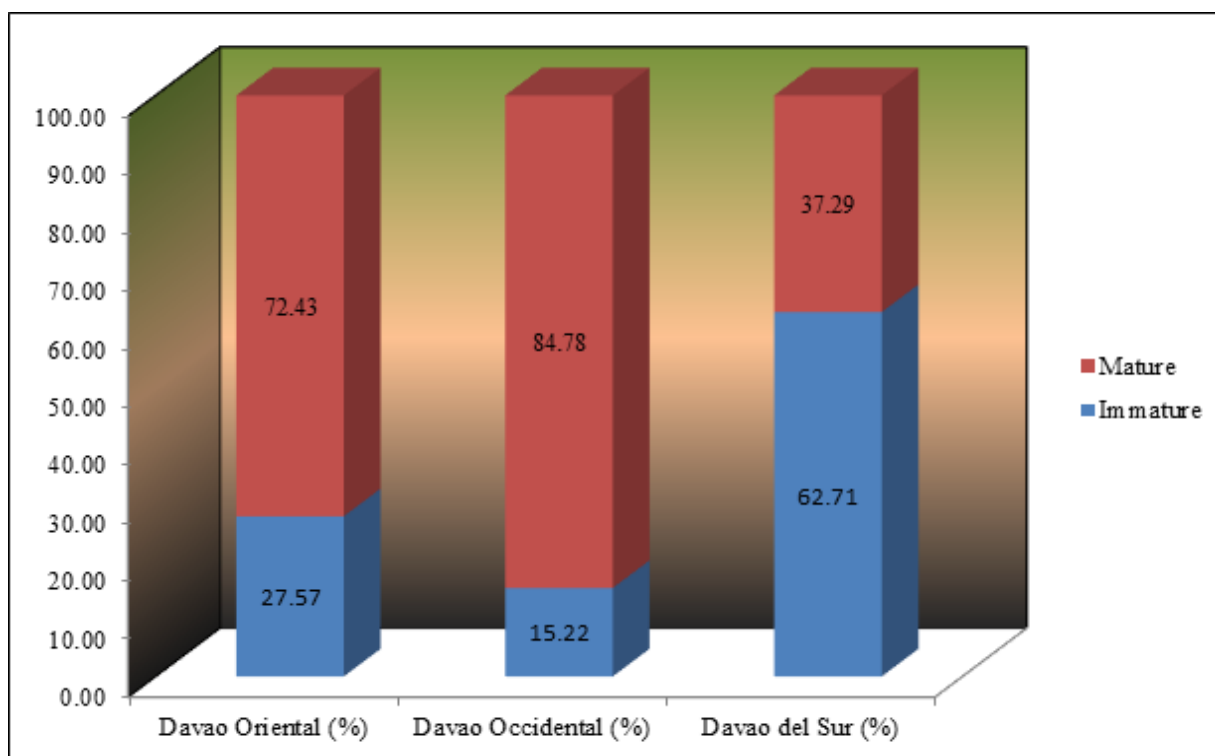
were not strictly following the size regulation policy of the government as majority of their gleaned clams were immature (Table 2). Recruitment exploitation is evident in Davao del Sur, as clams collected in this area were dominated by immature samples compared to clams gleaned from Davao Oriental and Davao Occidental (Figure 2).

**Table 1.** The density of mangrove clam (*Pegophysema philippiana*) from different sampling areas.

	Davao Oriental	Davao Occidental	Davao del Sur
Mature	557	117	270
Immature	212	21	454
Total Samples	769	138	724
Density/m <sup>2</sup>	17.08	3.07	16.09

**Table 2.** Mean length (mm) and weight (g) of samples in the study areas.

	Davao Oriental	Davao Occidental	Davao del Sur
Total Length (mm)	3049.1	573.4	2349.4
Mean Length (mm)	4	4.2	3.2
Total Weight (g)	25411.5	5870.1	14830
Mean Weight (g)	33.01	42.57	20.45



**Figure 2.** The maturity classification of mangrove clam (*Pegophysema philippiana*) based on total length of the samples.

## CONCLUSION

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Based on the findings of the study, the regulation of mangrove clam (*Pegophysema philippiana*) at harvestable size were not followed in Davao del Sur compared to Davao Oriental and Davao Occidental. A recruitment overfishing is observed and was one of the causes in the

decline of harvested clams in Davao del Sur. If continued, mangrove clams could disappear in Davao del Sur and only collected in Davao Oriental and Davao Occidental as these two provinces were strictly abiding in the policy to conserve the mangrove clam in the region.

## IMPLICATION AND RECOMMENDATION

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The policy on the regulation of harvestable size of mangrove clam (*Pegophysema philippiana*) is not openly and widely accepted by the gleaners as they perceive it as a hindrance to gaining profitable income to sustain their family's needs. However, based on our investigation, such policy protects and regulates the size harvesting of the imbao

fishery in the region as reflected in bigger clams gleaned in Davao Oriental and Davao Occidental. The establishment of policy regarding a fishery to manage and sustain its wild stock could directly affect fishers' livelihood. However, educating and equipping them with knowledge leads to their acceptance of a fishery management policy.