



**BIO-ECONOMIC EVALUATION OF SOFT SHELL
CRAB FARMING SUBJECTED TO THE REMOVAL OF
A SINGLE AND DOUBLE CHELIPEDS OF MUD
CRABS**

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Roll No.: 0117/01

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**The thesis submitted in the partial fulfillment of the requirements for the degree of
Masters of Science in Aquaculture**

**Department of Aquaculture
Faculty of Fisheries
Chittagong Veterinary and Animal Sciences University
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JUNE 2018

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This is to certify that we have examined the above Master's thesis and have found that is complete and satisfactory in all respects, and that all revisions required by the thesis examination committee have been made

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List of abbreviations

Words	Abbreviation
%	Percent
BCR	Benefit-Cost Ratio
BOBP	Bay of Bengal Programme
EPB	Export Promotion Bureau
FAO	Food and Agriculture Organization
FY	Fiscal Year
GIF	Gonad Inhibiting Hormone
gm	Gram
hr	Hour
IPCC	Intergovernmental Panel on Climate Change
kg	Kilogram
mg	Milligram
MIH	Moult Inhibiting Hormone
MT	Metric Ton
ppt	Parts Per Thousand
SGR	Specific Growth Rate

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ABSTRACTS

This study was conducted to develop a sustainable culture technique for soft-shell crab farming in Bangladesh by applying claw ablation. The present study successfully manipulated the moulting duration of crabs by declawing and the production of crabs was significantly higher than non-ablated crabs. A series of experiments were conducted where one groups of crabs remained intact (T1) and in other groups claw/claws (T2, T3 and T4) were removed/ablated. In T2 groups, only one claw was removed, both claws in T3 groups and in T4, two both claw ablated crabs were kept in one culture box. Individual crabs were then allowed for moulting for at least two moulting cycle (120 days). Results showed that, claw ablation significantly reduced the aggressiveness and cannibalistic behavior in the culture condition. Weight gain was also significantly higher ($p < 0.001$) in the both claw ablated crab than intact one in both 1st and 2nd moulting duration. Carapace length measurement also showed significant difference. Carapace length was 8.57 ± 1.47 cm after 2nd moulting in the non-ablated crabs while in the both ablated crabs it was 9.33 ± 1.46 cm. The moulting duration was also significantly reduced from average 40.28 ± 7.21 days to 29.88 ± 6.59 days by removing claws. The overall production was 2052g, 2436g, 2876g and 3942g respectively for four treatments. Though mortality was little high in the double stocking groups, it can be minimized by harvesting one crab after 1st molting. Cost-benefit analysis showed that, the net profit was almost double in the cheliped removal system which made the techniques more sustainable and profitable one. Mud crab production with claw ablation techniques in the soft-shell farming system could therefore be profitable and demanding culture techniques in Bangladesh.

Keywords: Soft-shell crab, Cannibalism, Chelipeds, Claw ablation, Moulting