

IMPACT OF RECLAMATION ACTIVITIES TO THE ENVIRONMENT  
(CASE STUDY : RECLAMATION IN NORTHERN COAST OF BATAM)

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## ABSTRACT

This study analyzed the environmental change by comparing the condition before and after reclamation in area study, so that will know the effects that were produced from reclamation activities at the northern coast of Batam Island. The objective of this research is to study the effects of reclamation activities to the environment specifically the changes in: physical-chemical, biological, and including *the socio-economy of fishermen in the form of fisheries productivity and income level*. The survey method was used in this study, as well as field observation and qualitative descriptive analysis with explorative and comparative approaching. The study area is at the coastal area of the Sub-District of Bengkong Laut, Sadai and Tanjung Buntung. Data collected by requested from formal institution and a set of questionnaires responses from 89 respondents, which were purposively sampled. Data analyses have done with simple tabulations for the change in fish's life, fisheries productivity, and income levels of fishermen. The results showed that *reclamation activities changed the environment such as coastal morphology, hydro-oceanography, mangrove and coral reefs deterioration*. Other effects are the hill-cutting and tree-cutting above the hills around area study to get extra materials for reclamation. These might cause floods, abrasions, erosions, sedimentations, and influence the seawater quality, sea biota, extinction of several kinds of fishes such as Snapper, Grouper, and Shrimp. It might also decrease the productivity of the anglers. Due to the decrease of the income, some of the fishermen switched their professions to tradesmen, laborers, and farmers.

## ABSTRAK

Kajian ini menganalisis perubahan sekitaran dengan membandingkan keadaan sebelum dan selepas penambakan laut di kawasan kajian, supaya dapat mengetahui kesan-kesan yang terhasil daripada aktiviti-aktiviti penambakan laut di pantai utara Pulau Batam. Objektif kajian ini untuk mengkaji kesan-kesan aktiviti penambakan laut kepada alam sekitar khususnya ke atas perubahan dalam: fizikal-kimia, biologi, dan termasuk sosio-ekonomi nelayan iaitu hasil tangkapan ikan dan tahap pendapatan mereka. Kaedah bancian telah digunakan dalam kajian ini, dan juga dengan pemerhatian dan analisis deskriptif secara kualitatif dengan kaedah siasatan dan perbandingan. Kawasan kajian adalah di kawasan pantai daerah Bengkong Laut, Sadai dan Tanjung Buntung. Data diperolehi melalui permintaan ke institusi rasmi dan set soalan hasil tindak balas daripada 89 responden yang telah disampel secara rawak. Data dianalisis menggunakan *simple tabulation* pada perubahan kehidupan ikan, hasil tangkapan ikan dan tahap pendapatan para nelayan. Hasil kajian menunjukkan aktiviti-aktiviti penambakan laut telah mengubah alam sekitar seperti morfologi pantai, hidro-oseanografi, pokok paya bakau dan pengurangan terumbu karang. Lain-lain kesan adalah penggondolan bukit dan penebangan pokok di atas bukit sekitar kawasan kajian untuk mendapatkan bahan tambahan penambakan laut tersebut. Kesan tersebut telah menyebabkan berlakunya banjir, hakisan, proses sedimentasi, dan memberi kesan kepada kualiti air laut, biota lautan, kepupusan sesetengah jenis ikan seperti Siakap, Kerapu dan Udang, pengurangan pada hasil tangkapan nelayan dan tahap pendapatan mereka. Dikarenakan pengurangan pada tahap pendapatan nelayan, sesetengah daripada mereka telah bertukar pekerjaan kepada para pedagang, buruh dan petani.