

**Kingdom of Saudi Arabia  
Ministry of Higher Education  
Al-Imam Muhammad ibn Saud Islamic University  
Faculty of Social Sciences  
Department of Geography**



**Eastern Coast of Red Sea from Sharam  
Abhar to Ras Mastura  
(study in applied Geo-morphology)**

**A Thesis submitted to the Department of Geography,  
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the PhD Degree**

**By  
Samia bint Awaad Mahmoud Abdul-Gahfar**

**Supervised By  
Dr. Abdullah bin Hamad Al-Khalaf  
Assistant Professor, geomorphology and environmental studies**

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**Thesis Abstract**  
**Eastern Coast of Red Sea from Sharm Abhur to Ras Mastura**  
**( A study in applied Geomorphology)**

Location of study on a land strip adjacent to red sea and extending from Sharm Abhur (south) to Ras Mastura between altitudes 21 45 to 23 15 Northward with approx. length of 166 Km.

The study is concerned with two main dimensions first: determination of geomorphological phenomena and their composite and formative characteristics and their distribution along the coastal line. The study figured out that the most important geo-morphological phenomena related with the coastal domain are: sand barriers, terrains, islands, coral reef, sand coasts, sand tongues, steep slopes. The most important geomorphological phenomena related with the coastal level lands or mountainous background in isolated cliffs, gravel landscapes, water drainage slopes (valleys), marshes and swamps and flood fans. Geo-morphological maps for such phenomena for the area were drawn.

The second dimension is concerned with identifying sensitivity and response of such geo-morphological phenomena to human activities such as coral explosion, drying of marshes and swamps, refilling of bays and so on. The research studied consequent changes in natural factors self-practised on shore. The human activities are represented in dwelling activity extended all along the coastal land in the form of towns and villages like: Mastura, Rabig, Subar, Thowal and Thahban. Industrial and mineral activities can also be noticed such as cement industries, oil refineries, power generation plants in addition to other industries such as gypsum industry and pre-cast concret. The agricultural activities prevail in Thahban & Rabig. The recreational activity can be noticed in various establishments of touristic cities and

recreational facilities such as Durrat Al Arous city, Al-Buhairat city and the area around Sharm Abhur.

The study is also concerned with discussing factors that affect formulation of geo-morphological phenomena such as continental factors, sea factors, coast characteristics. It also discusses the most important procedures that could limit negative outcomes of human activities like preservation of sea environment and protection of its resources, protection of shore and avoidance coastal natural hazards. To achieve aims of study, the researcher has utilized topographic maps, air photos, satellite pictures and suitable quantitative procedures.

The researcher reached the following recommendations:

- A comprehensive study should be carried out for coastal regions having grand developmental schemes in the area of study. This will help determining highly significant areas and sensitive local areas connected with shore issues and resources.
- Put forth a strategy for coastal regions subject to natural hazards due to overlapping of human activities and coastal operations. Hence hazards could be identified and avoided before occurrence.
- Understand coastal operations and prevalent natural system through obtaining available scientific material before taking decision for coastal protection.
- Non-issuance of construction licences unless environmental effect is evaluated for such construction. It should not incur in coast deterioration or refilling of bays or destruction of coral reef.
- Carry out applied researches in the field of environmental issues that affect natural factors incurred by human interference of different kinds like dwelling activities, industrial operations, agricultural activities, recreation and tourism, road networks, tunnels and to which extent such activities affect geo-morphological phenomena at the coastal region.