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Detrimental Effect of protection on deterioration of Plant Coverage in the Kingdom of Saudi Arabia

**(A comparative study between Mahazat Alsaïd
Protected area and neighboring areas)**

**Thesis submitted to Department of Geography in
fulfillment of the requirements for PhD**

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Thesis Abstract

Desert environmental system is characterized by limited resources and non-stability due to harsh climatic conditions surrounding it. It is the most ecological system influenced by emergent outcomes despite adaptations of living creatures there. Drastic changes may appear which may negatively affect system reproductive ability.

Reasons for ecological deterioration of natural resources can be seen in excessive exploitation, procedures of economic and social development cannot balance with natural available resources, which now suffer scarcity and distinction, Therefore, several protective procedure should be followed. Most important of which is imposing natural protection on several locations characterized by natural diversification.

The study aims to evaluate protective role in preserving plant coverage in mahazat Al-Said protected area through study of plant coverage in mahazat Al Said and neighboring areas before protection, determination of ecological factors (natural and human) surrounding plant coverage, outlining of ecological outcomes affecting plant varieties and follow-up changes in plant coverage for the period of prior and post protection, and follow-up of changes in plant coverage for both fenced and unfenced areas.

To achieve the aims of study the researcher followed non-subjective approach in the first stage of study the idea of which is based on studying plant coverage as it is without speculating expected results. The researcher also utilized the subjective approach defining field measurement points randomly after defining plant varieties in the region. The researcher finally used statistical approach for analysis of variations.

The study comprise seven chapters: first chapter identifies subject of study. Second chapter includes theoretical outlines of study and previous studies. The third chapter evolves research approach and study procedures, forth chapter discusses plant coverage in Mahazt Al Said protected area and neighboring regions. 5th chapter discusses ecological aspects affecting plant coverage in Mahazat Al Said protected area and neighboring areas. The 6th chapter discusses evaluation of natural protection role in development and nourishment of plant coverage. The 7th chapter discusses results and recommendations of study.

The study reached various results as follows:

- 1- The plant coverage in Mahazat Al Said protected area and neighboring areas can be classified within Saharo-sindian region which is characterized with a number of Flore features.
- 2- Mahazt Al Said protected area and neighboring areas represent since long time ago a natural ecology with diversified plant coverage in which perennial plants reach a ratio of 58.4%.
- 3- The plant coverage in Mahazat Al-Said protected area belongs to almost 27 plant families. The grass family is the most important in terms of quantity.
- 4- The plant coverage in Mahazt Al Said protected area and neighboring areas represent a total natural assembly of ecological natural adjustment.
- 5- Climatic factors (temperature and rain) represent the most significant adjusting factors affecting plant coverage in Mahazt Al Said protected area.
- 6- Transformation of dwellers life from nomadic movement to settlement due to economic and social development represents a human factor adversely affecting plant coverage in the area.
- 7- Imposing natural protection on Mahazat Al Said protected area and fencing resulted in nourishment of plant coverage within protected area and meantime plant coverage outside protected area was deteriorated.