

## Design of the Green Coastal Tourist Resorts Case Study: Sharm El-Sheikh

### Introduction:

With the expectancy of the Central Agency for Mobilization and statistics that the Egypt's population will reach 90 million people by 2012 in addition to the increasing demand for food, water, shelter, education, transport, electricity, energy and other services especially after the Arab recovery. Therefore, using the environmental administration to control consuming resources will be an urgent demand to achieve development.

Through this aspect, this research tries to set up a Guide Line based on the principles and concepts of Green architecture to be the main introduction for designing resorts and to reduce the environmental problems and improving man's health. Moreover, it will have a positive effect on the rates of using energy and natural resources that will help to achieve sustainable development in Egypt and upholding local economy.

### Chapter 1: Green Architecture:

This chapter deals with sustainability and sustainable development then the concept of green architectural and its conceptual development, goals, benefits then the general principles for designing green buildings which represent the theoretical background and the general outline of the international rating systems. The chapter refers to the necessity of having green rating systems. As an effective method to achieve and develop green architecture coping with the goals sustainable development.

### Chapter 2: Rating systems. Green buildings:

It's a study to achieve green architecture which can be done through:

Studying and analyzing the international rating systems and showing the elements that build each system in addition to studying each one and its percentage to the whole system that forms theoretical background for analyzing and comparing among them paving the way to reach a local rating system. Systems have been chosen concerning its goal, technical content and its ability for being applied and developed. The systems are: LEED - BREEAM - GS TOOL - CASBEE - GREEN GLOBES. Each system was studied through its own properties, criteria and classifications, an application model, a discussion about the system and finally its advantages and disadvantages

Studying the regional experiments to set up local systems with the purpose of setting a model for extracting a local system from the world ones. These experiments were chosen because they had been tried and applied in the local market in SANS "South Africa", LEED "Emirates", Estedama "Emirates", QSAS "Qatar", and Each system was studied through its own properties, criteria and classifications, an application model, a discussion about the system, its advantages and disadvantages and finally working out the results of these regional experiments.

Studying the Egyptian experiment through studying and analyzing the system of the Egyptian Pyramid for green buildings.

The chapter concludes that most countries have developed the international rating systems with the purpose of extracting a local system which is concerned with each country's privacy, that assures the necessity of including the local dimension of the study area with the international rating systems to have the ability of launching a local Guide Line for classifying coastal tourist resorts, in addition to considering solving the global environmental problems like global warming in addition to local problems.

### **Chapter 3: The environmental conditions of Sharm El sheikh region and its relation with resorts:**

The chapter briefly introduces the Egyptian environmental conditions then studies the climatic and environmental factors affecting in creating the natural and urban environment in Sharm Elsheikh which is an introduction to the analytic study in the following chapter and a theoretical background to launching the Guide Line according to the following criteria:

Studying the region's properties (the properties that affect creating the elements forming the green classification systems)

It starts showing the importance of the study region, place fundamentals, geographic properties, type of people, climatic characteristics, natural resources and building and constructing materials, energy sources and water availability in the region and environmental problems.

Studying the methods of constructing tourist resorts in Sharm Elsheikh in which a theoretical background about resorts is introduced, its importance, formation, elements and components, classification attitudes, then review the building methods and construction ways used in the region through: the architectural characteristic, urban formation, the building methods and construction ways, finishing materials, the outer coating, orientation, supporting systems, air system and air conditioning, power system, electrical and mechanical systems, water supply system, drainage system, waste disposal system then using water and plants.

The chapter concludes that constructing and managing buildings are of the factors that lead to increasing environmental problems in the region that refers to the necessity of using the concepts of green architecture in designing, constructing and managing tourist resorts in particular and all buildings in general

### **Chapter 4: The Guide Line for designing green coastal tourist resorts:**

A guide Line has been set up to evaluate green resorts through Integrating the local dimension of the study area, which has been studied in the third chapter, with the results of analyzing the international rating systems to evaluate the green building, which has been studied in the second chapter, and in accordance with the Egyptian Law for protecting the environment No. 4 of 1994, and its executive, and recommendations of the Environmental Affairs Agency, and the Egyptian Code to improve the efficiency of using energy released by the Ministry of Housing

The chapter refers to launching a Guide Line for evaluating green coastal tourist resorts.

## **Chapter 5: Evaluating green coastal tourist resorts in Sharm Elsheikh:**

The goal of the case study has been defined, and its selection criteria, then analyzing and evaluating Baron Resort as a model of green tourist resorts in Sharm El Sheikh in two ways:

1. Evaluating the resort and according to the international system "LEED", which has been chosen because it is the most internationally renowned and widely used in Egypt, and the simplest to use.
2. The same resort was evaluated according to the suggested Guide line which was reached in the previous chapter.

Through comparing the results of the two evaluations, the effectiveness of the Guide Line has been proved, and it is more appropriate and suitable for the local circumstances and more expressive about the reality of green tourist resorts in Sharm El Sheikh.

The chapter concludes to confirm the hypothesis of the thesis that the integration of the local dimension in the green building rating systems used in the world leads to obtaining a local guide Line for tourist resorts in Sharm el-Sheikh and thus achieve the goal of the thesis.

## **The Conclusions and recommendations.**