

Zusammenfassung der Dissertation

zum Thema: „Environmental Assessment for a Biosphere Reserve in the Eastern
Region of the United Arab Emirates with help of Geoinformatics”

vorgelegt von

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Summary

Wadi Wurayah area is located in the north of Fujairah Emirate between the towns of Khor Fakkan and Bidiyah on the Oman Gulf Coastline in Fujairah Emirate, United Arab Emirates.

It lies within a priority World Wide Fund for Nature (WWF) Global 200 Ecoregion (Ecoregion 127, Arabian Highland Woodlands and Shrublands), sheltering a rich diversity of rare and endangered mountainous and freshwater habitats and species, and providing opportunities for the sustenance and revival of local livelihoods. However, as most of the United Arab Emirates and the region, the area is undergoing dramatic changes linked to economic diversification and promotion of tourism.

The United Arab Emirates approved in 1999 the programmed of work from the UN convention of Biological Diversity (CBD). This momentum must be used or it will disappear. In a first move, the United Arab Emirates established the Federal Environment Agency (FEA) that produced the Environmental Law of 1999 with the role to encourage each Emirate to assess its land and coastal/marine resources, formulate plans for establishing protected areas, upgrade those that may already exist, and help implement the environment law. In early 2006, UAE created its first Ministry of Environment and Water (MEW), which was before the Ministry of Agriculture and Fisheries. Environmental issues and a greater role of the civil society are now higher on the agenda of the United Arab Emirates government, Partner of the Emirates Wildlife Society (EWS), the World Wide Fund for Nature (WWF) - UAE Project Office, is the only international conservation NGO operating in the UAE that plays a pioneering role in partnering with local governmental institutions to establish win –win solutions.

The United Arab Emirates is making tremendous efforts in diversification is the development of tourism. Too often mass tourism, with all of its negative environmental consequences is privileged. However, the more traditional Emirates are seeking alternatives that would preserve their environment and respect the traditional lifestyles of the local communities.

This study aims to help establish a sustainable biosphere Reserve integrating local tradition and lifestyle with the conservation of inimitable biodiversity and habitat by providing a model of unique economical incentives to the region. In order to further the implementation of the Wadi Wurayah Biosphere Reserve, this study will:

- Implement a set of carefully-targeted actions in Wadi Wurayah and its hinterlands in and also Fujairah Emirate.
- Work to demonstrate the feasibility and viability of combining environmental protection in a sensitive area with the preservation of traditional activities.

- Support the capacity building of key national and local authorities and selected partners in the Fujairah Emirate and the UAE so that they have the awareness and skills to fully realize the aims of the study.

To set out and develop options for sustainable natural resource management in the proposed Wurayah Biosphere Reserve, as the one of UAE examples of marginal dry lands, building an environmental information system was the best choice using Geographic information systems (GIS) as a tool. This has been classified to there steps of work: Field Survey, Lab analysis and Office work.

As a first step, this study used to survey this area in the light of the work done by the EWS-WWF and the Fujairah Municipality, to evaluate the potential and the feasibility of the creation of a Biosphere Reserve. The traditional field survey has been carried out in three batches between January 2007 and January 2009 for sample collection using specially tailored database forms that suit the properties and nature of the variables measured, and the database design. The information obtained from the field survey included local landscape and their classification and distribution, local habitats, water catchments areas, local rangeland systems and indigenous agro- ecological zones. This information in addition to the laboratory analysis has then be transformed into GIS format, and overlaid with the base maps of the study area in order to produce a georeferenced maps. Various types of maps selected according the required works related to area of study have been used as an input data for the GIS system.

An integrated management methodology/approach has been proposed associated with the plan of work throughout the forthcoming years. The plan of work is designed to be as consistent as possible with that of the concept of the UNESCO's Man and Biosphere Program.