Chapter 1

Introduction

1. Introduction

The environment and natural resources have always had fundamental importance for human development. However, it is only in recent decades that have they become one of the first priorities and preoccupations of the global society (Briassoulis, 1989). The high degradation level of the natural resources, their progressive scarcity and consequently, the latent threats to the wellbeing of the current and future mankind generations have demolished the old myth about the inexhaustibility of natural resources (Abakerli, 2001; Ball, 2007; Blanco, 2007).

In the last 50 years governments, scientists and public opinion in many countries have alerted about the environmental problems and their negative effects on human life. Thus, according to the recommendations of the global summits of Stockholm (1972), Rio de Janeiro (1992) and Johannesburg (2002), most countries have created institutions and legal frameworks to attend to the environmental problems. But also science and technology have made important advances in environmental issues. However, in spite of many environmental problems having been avoided and many others improved, there is still a great breach between the attained results and the desired environmental goals (Goodland, 1995; Espinosa et at., 2008).

In this context, Sustainable Development is one of the most known and accepted approaches that supports the framework of environmental questions (Kelly, 1998; Sneddon et al., 2006; Yong, 2006; Zidansek, 2007). Thus, nowadays it is considered that all actions within environmental management should be embedded in the sustainable development framework in order to reach, in sustainable conditions, the recuperation and maintenance of natural resources while welfare and quality of life are improved (Sullivan, 2003; Cordonier, 2004; Zidansek, 2007).

Moreover, it is recognised that one of the first steps for environmental management is related to land-use planning. This implies the establishment of mechanisms to evaluate the territorial characteristics of land units in order to know their possibilities and restrictions and, consequently, to establish and recommend the most efficient land-use type (Baldwin, 1985; Cordy, 2002).

In this work, based on a concept of sustainable environmental planning, a methodology for land-use planning in rural areas is formulated. In order to validate the proposed methodology, it was applied in two rural areas of Venezuela.

1.1 Objectives

Currently there is a wide and sound agreement about the important contribution of land-use planning and environmental planning to sustainable development (Owens, 1994; FAO, 1995; Daniels and Daniels, 2003; Vognimary, 2005; Fang, 2008). However, there is still much uncertainty about how environmental sustainability should be implemented (Goodland, 1995) or even how land-use systems should be measure with respect to sustainability (Peterseil et al., 2007).

In this sense, this research work is addressed to the following objectives:

1. To conceptualize and to propose the general terms of a methodological process for the sustainable environmental planning of rural areas.

2. To design a model of spatial analysis in order to achieve and formulate an environmental zonation in which a process of Sustainable Environmental Planning of Rural Areas (SEPRA) could be supported.

3. To apply the model of spatial analysis (SEPRA) in two rural areas of Venezuela: Rivas Dávila Municipality (Mérida state) and Quíbor Valley (Lara state) and formulate a consequent environmental zonation.

1.2 Phases of the work

The work is developed through of seven main phases. After the introduction, the state of the art and the general methodology for sustainable environmental planning are tackled. Subsequently, the study sites are described and the model of spatial analysis, SEPRA, is formulated. The work continues with the practical application of the proposed model, the results of which are discussed and presented as a basis of environmental planning. Finally, conclusions and recommendations are presented (Figure 1.1).

1	**Introduction**
	Introduction, objective, scheme of the work

2	**State of the art**
Background of environmental planning	Sustainable development of rural areas
Venezuelan environmental legal framework	Concept of sustainable environmental planning

3	**Study sites**
Rivas Dávila Municipality	Quíbor Valley
Physics and socio-economics characteristics	

4	**Model of Spatial Analysis**
Sustainable environmental planning of rural areas (SEPRA)	
Principles, Model: structure, input, output	

5	**Results**
Application and validation	
Data input - Processing - Results Environmental limitations and possibilities	

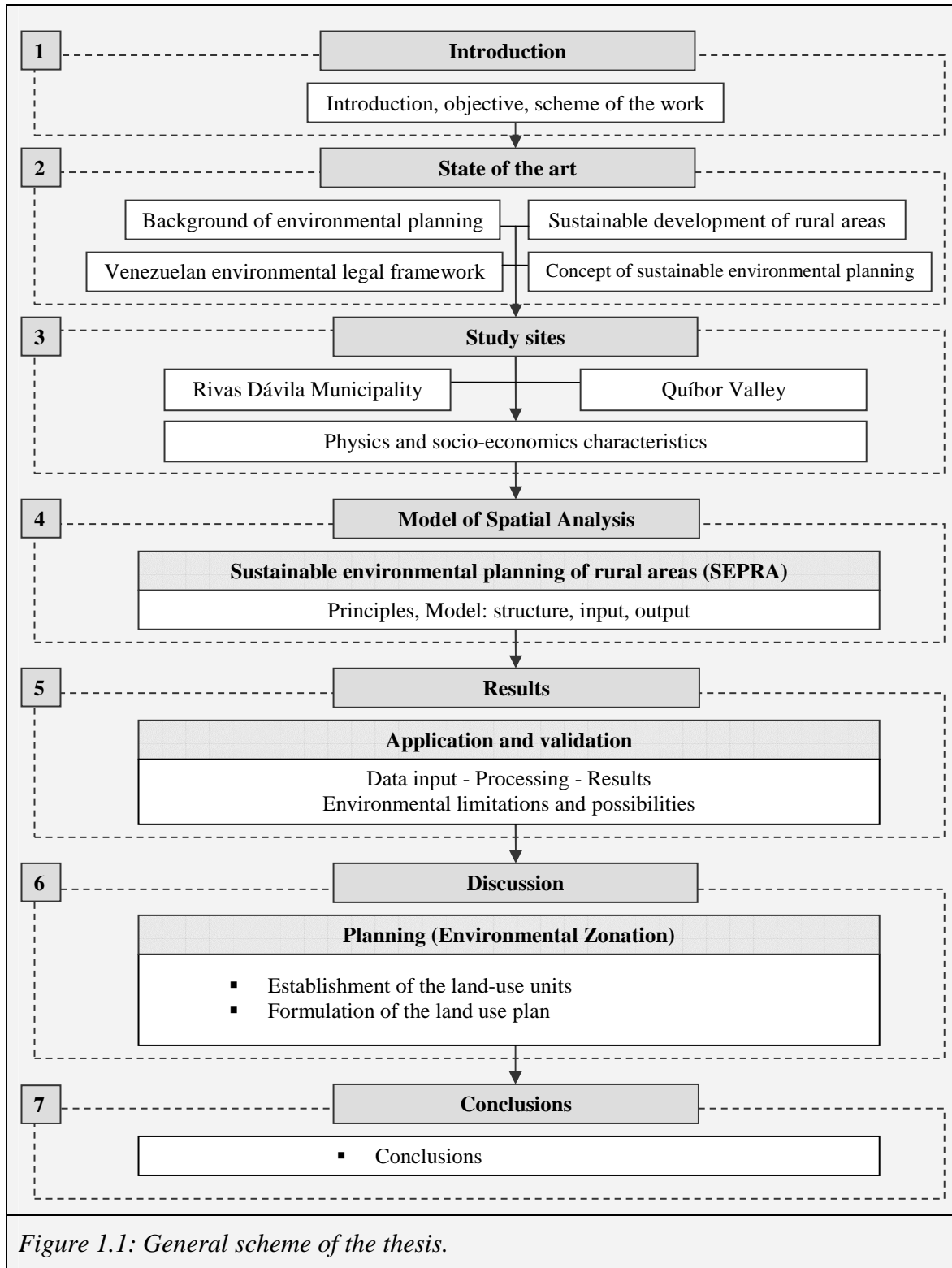| 6	**Discussion**
Planning (Environmental Zonation)	
▪ Establishment of the land-use units ▪ Formulation of the land use plan	

7	**Conclusions**
▪ Conclusions	

Figure 1.1: General scheme of the thesis.