

THE BIOSPHERE RESERVE OF THE ISLAND OF GRAN CANARIA: THE LINK BETWEEN ENVIRONMENTAL PRESERVATION AND SUSTAINABLE DEVELOPMENT

**Silvia Sobral García, Alejandro González Morales, Matilde Armengol Martín
and José Ángel Hernández Luis**

Departamento de Geografía. Universidad Las Palmas de Gran Canaria

The Biosphere Reserve of the island of Gran Canaria is the only one of the Canarian Archipelago that does not affect the insular territory in its entirety but only its western half. This is a space of great value in terms of nature and landscape and it is juxtaposed to the other half of the island which is characterized by a strong urban and demographic expansion that has given rise to a territorial model tilting between conservation and development.

Indeed, the occupation model of the island of Gran Canaria is characterized by the existence of two big clearly differentiated areas:

— The area that spreads to the north, the east and the south of the island which integrates most of the economic activities and most of the demographic potential of the island, with a population of 813.570 inhabitants in the year 2008. This extremely anthropized form of territorial occupation is leading to a disorganized and dense space characterized by a strong environmental deterioration.

— The area that lies to the west and the *medianías*, an area of cultures above a height of 300 m, as well as the summits, which altogether (west area, *medianías* and summits) constitute the Reserve area, are a much less developed part of this island, from an economic and demographic point of view, but which represent an exceptional value in connection with the natural landscape.

From this point of view, and taking into account this double perspective of the island, one of the big challenges of the declaration of the Biosphere Reserve of the island of Gran Canaria is to focus on a development pattern in accordance with the possibilities and resources of this space:

— Promoting the natural environment and the rural areas.

— Testing new economic strategies leading to the rise of an area capable of generating a new territorial organization.

— Correcting imbalances, both those originated as a consequence of negative economic impacts as well as those that have resulted from particular forms of occupation.

To address these issues and to study in depth the characteristics of this space and its related problems, we have divided our analysis into the following four different sections:

1. The territorial organization of the island of Gran Canaria and the natural, geological, climatic and economic factors that have contributed to shaping a differential as well as a contrastive use of the insular space.

2. Zoning the Biosphere Reserve of the island of Gran Canaria specifying features, dimension and functions of three basic areas:

— The Core Area with an extension of 6.840 hectares constituted by important natural ecosystems protected by the Canarian Law of Natural Spaces. This area must fulfill functions directed at the conservation of its natural values.

— The Buffer Area with a surface of 39.640 hectares, also included in the Canarian Network of Natural Protected Spaces. This area has to devote itself to functions linked to the economic and social development in connection with the needs of its inhabitants.

— The Transition Area formed by the most humanized areas with a surface of 25.364 hectares. This area must carry out logistic activities aimed at providing support to research, training and raising awareness of its inhabitants

3. Analysis of the demographic and socioeconomic variables of the population in the Reserve area whose main characteristics are the following:

— Weak demographic development as a consequence of the migrations towards the capital and the touristic south, which are the main poles of labor attraction. These migrations having begun in the sixties.

Table 1

GROWTH OF THE POPULATION OF THE BIOSPHERE RESERVE OF THE ISLAND OF GRAN CANARIA. 1991-2008

1991	2008	Increment
14.801	16.027	8,2%

Source: ISTAC. (Statistical Institute of The Canary Islands). Made up for authors.

— A population organization characterized by the small size of its settlements, the marked spatial dispersion and morphology of linear plots relying on communication routes and rural paths.

Table 2

DISTRIBUTION OF THE POPULATION FOR VILLAGES. 2008

N° of Villages	Average size
84	190

Source: ISTAC. (Statistical Institute of The Canary Islands). Made up for authors.

— An aged age structure as a consequence of an absence of labor opportunities linked to other more dynamic sectors which has hindered the implementation of development programs.

Table 3
STRUCTURE OF THE POPULATION ACCORDING TO AGE IN BIG GROUPS, 2008

0-19 %	20-64 %	+ 65 %	Total
2.755 17,2	10.388 64,8	2.884 18,0	16.027

Source: ISTAC. (Statistical Institute of The Canary Islands). Made up for authors.

4. Assessment of the Reserve Area natural resources; their current situation and use:

— In the past the forest resources constituted an important source of wealth. These resources were used for obtaining coal, wood and combustion. This exploitation of the forest reduced the surface and number of trees, though later reforestation policies have allowed the recovery of an important part of the arboreal mass.

— Agriculture of the traditional type has lost both in economic importance and in dimension. Indeed in the period 1982-2008 a decrease of 48 % of the agrarian usable surface has been recorded. An important part of the abandoned areas stay as uncultivated or waste lands but there are also reforested areas which has helped to increase the forest surface and use restructuring.

Table 4
LAND SURFACE IN HECTARES. 1982-2008

1982	1999	2008
5.474	2.584	2.860

Source: Land Census in different years.

— Stockbreeding, another traditional activity, has experienced a positive progression since it has experienced an increase in the number of heads of cattle in the last 10 years which has lead to an increase in dairy production and especially cheese manufacture.

Table 5
NUMBER OF HEADS OF LIVESTOCK. 1999-2008

Goats 1999 2008	Sheeps 1999 2008	Porks 1999 2008
31.111 50.226	3.051 5.818	1.714 3.102

Source: Land Census in different years.

— The leisure offer consists of recreational areas provided with different facilities, most of which are state owned. These facilities include a *Parador Nacional*, which is a state

owned hotel located in an area of special environmental interest, as well as small hotels and rural inns with an important market demand.

5. Taking into account the contents of the different actions raised for each of the Reserve areas; comparing these with other projects in progress; incorporating those projects in progress in other areas in case of interest in order to avoid doubling efforts. In this respect we suggest a number of actions in accordance with the analyzed current situation aimed at correcting the territorial imbalances such as degradation processes and backwardness in certain activities, and stimulating more dynamic sectors based on differential uses.

Once the starting situation has been fully assessed and bearing in mind the commitment undertaken by the island of Gran Canaria as a Biosphere Reserve to preserve and stimulate the resources by means of a sustainable development, the measures that are proposed are the following:

A. In order to create and promote rural employment that would help reverse the population loss in the area and improve labour opportunities, the formula would be to set up a Center for the Training and Promotion of the Rural Environment centred on the development of activities that would allow to combine rural tourism with sports or natural tourism. This would involve:

- Environmental and landscape restoration
- Recovering and updating the ethnographic and cultural heritage
- Producing thematic routes and paths networks.

B. To combat the abandonment of traditional agriculture, which is a fundamental sector to balance the economic activity of the area and to recover the value of the rural landscape, we propose the following measures:

- Reusing those plots where still agricultural structures exist and introducing profitable cultures, such as biological ones.
- Increasing the amount of privately owned quality productions such as dry farming fruit trees and fodder which enjoy an interesting local market.
- Marketing organization in the form of agricultural cooperatives so as to reduce final prices and increase farmers profits.

C. To take advantage of forest resources, both as landscape and environmental elements and also as an economic source, we have opted for stimulating a rational exploitation of the forest whilst at the same time maintaining its recreational and leisure functions. Both activities play an important role in the model of sustainable development since these activities encourage economic diversification and population stay.

As our main conclusions we would like to emphasize the following:

1° The designation of the island of Gran Canaria as Biosphere Reserve in an island territory characterized by the economic and demographic development of a sector opposed to the conservation and the landscape value of another represents an opportunity to reverse territorial negative processes, encouraging a sustainable exploitation of the resources while at the same time creating employment and well-being.

2º To implement these actions the different governments (local, insular, regional, national and European) need to be in coordination to avoid unnecessary duplications and thus obtain greater returns on investments. An effective fund planning and implementation would contribute to the rationalization of expenses and to generating both economic and environmental wealth.

