



Available online at www.sciencedirect.com



IERI Procedia 8 (2014) 77 - 82



www.elsevier.com/locate/procedia

### 2014 International Conference on Agricultural and Biosystem Engineering

## Identification of Degraded Land in the Canary Islands; Tests and Reviews

Juan C. Santamarta<sup>a\*</sup>, Jesica Rodríguez-Martín<sup>b</sup>, Cristina Merino<sup>c</sup>, M. Paz Arraiza<sup>d</sup>, J. V. López<sup>d</sup>

<sup>a</sup> Área de Ingeniería Agroforestal, Universidad de La Laguna, Ctra. Geneto, 2, La Laguna, 38200 Tenerife (Canary Islands), Spain <sup>b</sup> Ingeniera de Caminos CyP.Urb. Jardines de Guajara, 1,La Laguna 38296, Tenerife, Canary Islands, Spain

<sup>c</sup> Ingeniera de Montes. Lomo El Diviso nº 43, 35018, Las Palmas de Gran Canaria, Canary Islands, Spain

<sup>d</sup> Escuela Técnica Superior de Ingeniería de Montes, Universidad Politécnica de Madrid (UPM), Spain

#### Abstract

Degraded Land is an area that either by natural causes (fires, floods, storms or volcanic eruptions) or more by direct or indirect causes of human action, has been altered or modified from its natural state. Restoration is an activity that initiates or accelerates the recovery of an ecosystem. It can be defined as the set of actions taken in order to reverse or reduce the damage caused in the territory. In the case of the Canary Islands there is a high possibility for the territory to suffer processes that degrade the environment, given that the islands are very fragile ecosystems. Added to this they are territories isolated from the continent, which complicates the process of restoring them. In this paper, the different types of common degraded areas in the Canary Islands are identified, as well as the proposed solutions for remediation, such as afforestation of agricultural land or landfill closure and restoration.

© 2014 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/3.0/). Selection and peer review under responsibility of Information Engineering Research Institute

Keywords: Canary Islands; Restoration; Land degradation; Reforestation

\* Corresponding author name. Tel.: +3-492-231-8550 *E-mail address*: jcsanta@ull.es

#### 1. Introduction

The restoration of degraded areas created as one of the possible solutions to the impacts made by human activity, these activities carry the deterioration of the natural environment. Soils, forests, canyons and in general all kinds of ecosystems and the plants and animals that inhabit them, suffer daily degradation caused by all kinds of works such as roads, power lines, dams, quarries, landfills, etc.

The use of restoration means having a scientific and technical knowledge needed for proper monitoring and implementation of the actions of plant restoration or decontamination and environmental integration, aimed at solving the problems of watershed restoration mines, public works, monitoring desertification and biodiversity conservation (Gómez-Orea, 2004).

In island systems, degradation of natural areas is a major environmental problem, mainly due to the fragility of ecosystems, which in some cases, such as the Canary Islands involve breaking the balance of relict plant communities.

In addition to this impact is compounded by the fact that one of the peculiarities of the Canary Islands for tourism is the environmental values of the islands, especially the non-capital that makes much quality tourism attracted to these values.

#### 2. Types of degraded land in the islands.

The diversity of landscapes and spaces that we provide the Canary Islands, are not always desired, from the ecological point of view, not the prettiest, from a visual point of view. Unfortunately within the insular landscape we find a number of areas that suffer degradation comprehensive treatment so your situation changes necessary. The following are the most representative.

#### 2.1. Abandoned marginal agricultural areas

The Canary Islands are characterized by rough terrain, which means that the canary had to backport farmer to cultivate it: flatten the floor of the badlands, land transport points etc. but is the creation of terraces used to enlarge the agricultural land art. This involves making field terraces of small size which is supported by wall or slope, whose production is normally to be marketed, especially potatoes, vegetables and some fruit. Because it costs to create arable land are very high, although this soil has the great advantage of being very productive provided that you do not miss the water and the wind does not act.

On islands with more relief we can distinguish two areas, according to the slope; the north, moist and agricultural; the south, dry, barren and poor. In the latter area there are a number of changes: conversion of irrigated areas, greenhouse gases etc., which have led to an excellent yield.

The order of importance of the crop is established according to the following variables: its surface area, production and value of that production on the market. According to the different products obtained crop in the Canary Islands we can distinguish two types of agriculture:

Productive or commercial agriculture:

Located in coastal areas and the products obtained are for export. The disadvantage that occurs in this type of agriculture is that the marketed product is expensive, due to the import of fertilizers, seeds, water shortages and transportation. Typical products obtained from this agriculture are: banana and tomato.

#### Subsistence:

Located in areas of mediocrity and it is a traditional and family agriculture. Low profitability is due to lack of mechanization, the small size with the land is cultivated and import of such products, which are on the market at lower prices. The typical product obtained in this agriculture is the potato. Download English Version:

# https://daneshyari.com/en/article/555378

Download Persian Version:

https://daneshyari.com/article/555378

Daneshyari.com