



Exploitation of plants from upstream of the Sebou-wadi watershed (province of Taounate, North of Morocco)

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Abstract

Plants have a crucial role in the economy of subsistence of the farming and semi-urban areas of Morocco (food, traditional medicine, handicraft, etc.). In other respects, the integrated management of water resources interferes with the phyto-diversity conservation (soil fixation, bio-indicators of water quality, etc.). One of the approaches to highlight the "phyto-diversity/water management" comprises an assessment of plants exploitation by the riparian population. Based on land studies and prospecting in upstream of the Sebou-wadi watershed (province of Taounate, North of Morocco), we have identified more of 129 plant species and subspecies used in food (60%) and/or in traditional medicine (52%). The financial income of the marketed plants is very variable [667 MAD.ha⁻¹.year⁻¹ (*Pisum sativum*) – 114,133 MAD.ha⁻¹.year⁻¹ (*Capparis spinosa*); MAD = Moroccan Dirham], with a total average of 16,464.80 MAD.ha⁻¹.year⁻¹. *Capparis spinosa* and *Olea europaea* have casually a significant economic importance. The current plants exploitation would have negative repercussions on superficial waters.

Key words: Northern Morocco, Flora, Exploitation, Water Management

1. Introduction

Morocco is considered among the five Mediterranean countries having a richly flora. According to biogeographical data, the Moroccan flora comes largely of autochthonous stock, and supplied with holarctic and tropical elements or Saharain, Iran-Turanian and Macaronesian ones (Fennane, 2004). The wealth of Moroccan vascular flora is estimated to c. 4500 indigenous or naturalized species and subspecies, belonging to 920 genus and 130 botanical families, with an endemic flora corresponding to c. 60 botanical families (in Fennane, 2004).

Previous works achieved in the Northwest of Morocco showed that the vascular plants (spontaneous or cultivated) could have a primordial interest for subsistence economy of the farming and semi-urban zones of Morocco, because of their food, medicinal and toxic virtues, etc. (e.g. Ennabili *et al.*, 2000b, 2006).

Otherwise, water management is a main concern of Local Authorities of Morocco (Anonymous, 2010c). Among the main problems of water management in the Sebou-wadi watershed are surface water pollution, steep decline of wetland ecosystems and their functions... (Anonymous, 2010d). Vegetation can fight against water erosion (Snoussi *et al.*, 1990; Rey *et al.*, 2004); as regulating factor of water flood (Galea *et al.*, 1995).

This work aims to inventory the exploited plants from upstream of the Sebou-wadi watershed (North of Morocco) on basis of socioeconomic inquiries and land prospecting (flora, plants sampling, etc.). Plant-species exploitation and its interference with water management are also approached.

2. Materials and methods

2.1. Study area

The study area (Figure 1) depends on the Taza-Al Hoceima-Taounate region and appertains to the Pre-Rif zone (Anonymous, 2003), spanning 5600 Km² (Anonymous, 2008e), and the relief altitudes vary between 80 m and 1600 m (Bahraoui and Oved, 1970).

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