

Necessity of Ecosystem-Based View to Zagros Forests of Iran

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Introduction

The Zagros forests with an area of about 6 million hectares are complex and unique ecosystems that are distributed in 11 provinces in west and south of Iran (Figure 1). The length of these forests is more than 1,200 kilometers and their width in some places reach more than 200 kilometers. The age of these forests' dates to 5500 years ago. There are currently 180 tree and shrubs species identified in these forests. *Quercus* is the dominant genus of tree species and Brant's oak (*Quercus brantii* Lindl) is the dominant tree species of these forests which is mainly seen in coppice form, so the general appearance of these forests is coppice.

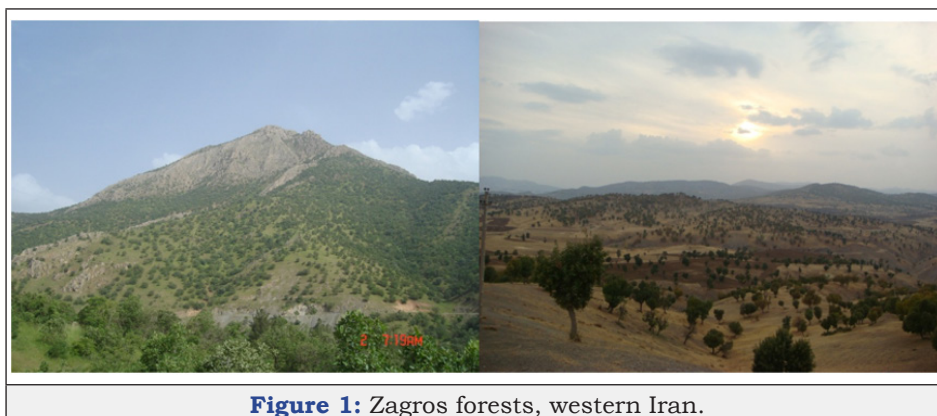


Figure 1: Zagros forests, western Iran.

Zagros forests have been interfered with different utilizations for centuries. Although the tree elements of the Zagros forests do not have commercial value in terms of timber production, a wide range of traditional uses are observed in these forests. The use of oak tree branches as fodder for livestock, the use of oak branches and woods for fuel, the use of wood of various species for traditional purposes, the exploitation of various galls and mannas, the harvesting of turpentine from wild pitachio (*Pistacia atlantica* Desf), the use of acorns for livestock as well as food supply to local communities, harvesting fruit trees such as *Amygdalus spp*, *Crataegus spp*, and *Pyrus spp*, and charcoal from oak trees are among the most important human interventions in this valuable ecosystem [1-8].

Although, during the past decades and along with the above activities, Forests, Range and Watershed Management Organization (RIFR) of Iran has been trying to manage these forests, but in practice this has not happened. The present conditions of these forests are deteriorating, and the quality and quality of these forests are diminishing day by day. Along with various exploitations and pressures on these forests, severe climate changes, frequent droughts and shortage of rainfall, conversion of forest lands to agriculture, overgrazing and rainfed under forest also add to the cause and has contributed to the weakening of this ecosystem. The

occurrence of oak decline phenomenon during the last decade is a testament to this claim. This phenomenon has affected more than one million hectares of Zagros forests, resulting in varying dryness or mortality in a significant number of different trees, especially oaks Pourhashemi [9].

The current unstable structure of Zagros forests and the continuing destruction of these forests have raised concerns among foresters. Why, despite the tremendous importance and value of these forests, does it continue to destroy it? A question that can change the managerial view about these forests. The answer is very clear: "no attention to forest ecosystem services". What has existed so far in these forests has been just productive (largely traditional) view. Now is the time to take a more comprehensive view of these forests.

Unfortunately, either the services of these forests are ignored or paid very little attention at the present time, so these services are neglected and their value to policy makers and managers is unclear. Although, in the fourth and fifth national development plans of Iran, the government is required, in cooperation with the Department of Environment, RIFR and other relevant organization, to estimate the economic value and costs of environmental pollution and degradation in the natural ecosystem development process, but the steps taken in this regard are very small. So far, the economic valuation of forests has been limited to some studies in some forest habitats, such as Arasbaran, Golestan, Lar and Bamu National Parks, and has not been fully carried out in the forests of Iran. The Zagros forests have many ecosystem values due to their special conditions. For example, Zagros forests account for 40 percent of Iran's fresh water, which directly benefits the 10 million people.

One thing that can make these forests the most important natural ecosystems in Iran. The occurrences of floods in recent years in these forests indicate a disregard to this valuable function of the Zagros forests. Other functions must be add to this role of Zagros forests such as the conservation value of these forests from water and soil resources, the value of these forests in carbon sequestration, significant biodiversity and the existence of numerous endemic and endangered species, non-wood goods and products, natural landscapes such as lakes, waterfalls, different natural habitats and different ethnic cultures such as different tribes (50% of Iranian tribes are present in Zagros). If the monetary value of each of the above functions is estimated, then the true position of the Zagros forests in national programs and policies will be identified [10-14].

Conclusion

It is the author's opinion that comprehensive view to Zagros forests and ecosystem-based management can be a way out of the current critical situation in these forests and lead it to improved conditions.

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