

Socioeconomic Factors Affecting Forest Fires: A Case Study of Antalya, Turkey¹

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Abstract

The Mediterranean part of Turkey (Southern and Western Anatolia) is intensively subjected to forest fires. Within this region the Antalya province places first in terms of area burnt with an annual area of 2633 ha for the period of 2000-2009. Additionally, the biggest forest fire in the history of the Turkey Republic; with an area of about 15000 ha, occurred in Antalya in 2008. Because of the fire problem in this region special attention is given to forest fire management works in Antalya. This situation makes it necessary to observe and understand the structure of, and the reasons for, forest fire occurrence.

Socioeconomic factors are relevant in determining the root causes forest fires. For example, for the years 2000-2009 only 11% of all fires in Turkey were classified as resulting from natural causes (i.e. lightning). The rest of the fires (89%) were classified as resulting from negligence, intentional, carelessness, accidental or unknown causes. The majority of causes are strictly related to socio-economic factors.

The main goal of this work was to defining the relationships between forest fires and socio-economic factors in Antalya. The forests cover in Antalya is about one million hectares that are managed by twelve governmental forest enterprises. The socio-economic data used for the analysis in this work were obtained from those twelve enterprises. For the analysis we used a total 28 of socio-economic factors components for 3 periods: 1980-1990, 1990-2000, and 2000-2010; and fire statistics between the periods of 1980-2010. Panel Data was used for the Analyzes.

Results show a significant correlation between area burnt and socioeconomic factors like the proportion of population working in agriculture and service sectors, unemployment rate, population and illegal cutting. Similarly, number of fires is statistically significantly correlated with the proportion of working population in the service sector, population, illegal cutting and grazing. The relevance of these socioeconomic factors is important for fire

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management in the region; and highlights the need to incorporate them in any new fire management policy for the region and the country.