

**THE EVALUATION OF THE EFFECTS OF LAND USE CHANGES ON DRINKING  
WATER BASINS: CASE OF ELMALI DAM BASIN**

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**EXPERTISE THESIS ABSTRACT**

In this study, it is purposed to evaluate the effects of land-use decisions on drinking water basins and to determine planning and management principles for protecting these basins. In accordance with this purpose, firstly the probable effects of the land use on the water quality in the basins are investigated. Secondly, the national legislation on the drinking water resources management and spatial planning is examined and the relationship between basin planning and spatial planning is assessed in legal and institutional terms. In order to determine the local reflection of the legal and institutional structure in our country, management practices in drinking water basins of Istanbul are searched and the problems caused by these practices are revealed. Elmalı Basin, one of the drinking resources of Istanbul Province, is chosen as pilot region. The historical changes in land-use of the basin are examined and the effects of these changes on water quality are assessed. In addition, the problems arising from land-use in Elmalı Basin are analyzed from socio-economic, administrative, legal and technical aspects, and general policies are determined to solve these problems. On the basis of analyzes and evaluations carried out from the national scale to the basin scale, it is recognized that there is a need to concentrate powers and responsibilities regarding drinking water basins in a single authority; to prepare protection plans specific to each drinking water basins; to integrate spatial plans and drinking water protection plans; to adopt innovative approaches while preparing plans; and to make legal arrangements in a such a way to include all these aspects. In this framework, legal, administrative and spatial proposals are developed regarding the solution for the problems of the drinking water basins in our country.

**Keywords:** Integrated Basin Management, Drinking Water Basin, Land-use, Spatial Plans, Basin Protection Plans