



Tropentag, October 6-8, 2009, Hamburg

“Biophysical and Socio-economic Frame Conditions  
for the Sustainable Management  
of Natural Resources”

## The Consequences of Ground-water Level Lowering on the Socio-economic Conditions of the Population at the Darab Central Plain, Iran

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### Abstract

Many arid and semi-arid countries in the world are experiencing serious ground-water lowering, with far-reaching consequences for the population. As the related problems seem to be far in the future, taking care of them is a generally neglected issue. Future generations seem to be those who at the end will have to bear the negative consequences due to lower access to water. However, the problems are increasingly affecting the present population in an increasing part of the world. One of the regions which is confronted with such a problem is the Darab central Plain.

The Darab central plain is located in the southeastern of Fars province in Iran (684.4 km<sup>2</sup>). It includes 126 villages (about 63.236 inhabitants). About 90% of the income in the region is due to agricultural activities. The annual average precipitation of about 248 mm makes farming dependent on ground-water resources which are provided by the Darab watershed (700 km<sup>2</sup>). Due to the ground-water overuse, the ground-water table of the Darab watershed has decreased, on average, by 1.18 m annual between 1993 and 2006. The pressure on ground water resources led to an annual negative water budget of 41.47 million m<sup>3</sup> in the Darab watershed. The dependency on agriculture, the lack of alternative employment possibilities, and the population growth imply high priority on present irrigation farming, yet at the expense of future generation in term of water availability. However, the consequences of increasing water scarcity can already be observed in some villages. So, due to ground-water level lowering, drinking and irrigation water shortage has occurred in the region.

The research focuses on the consequences of ground-water level lowering by investigating the socio-economic conditions of the inhabitants of 45 villages in the Darab central plain. For that purpose the link between water depletion, migration and unemployment will be investigated. The socio-economic conditions of different groups are studied and compared based on migration figures, cultivated area, income and ground-water level data. Secondary data, collected from governmental organisations of Iran, Fars province and Darab, are used. The results demonstrate the sensibility of the villages to the ground-water level lowering.

**Keywords:** Arid and semi-arid regions, ground-water depletion, Iran, migration, socio-economic development

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