

*Should sacred groves become part of protected area networks in the Middle East?*

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Many cultures of the world have set aside parts of their farming and forest landscapes for spiritual or religious reasons – for example in Ethiopia, Morocco, Italy, China, or India. So-called sacred groves cover only small plots of land, but are disproportionately rich in biodiversity and ecosystem services. Unfortunately, many of the world's sacred groves are currently degrading.

Sacred groves are common in the Middle East, but have rarely been studied. Our team of researchers developed a fascination for the botanical treasures in this global biodiversity hotspot that include a number of so far undescribed taxa. As a complement to ongoing vegetation studies in the Kurdistan province of Iran, we studied local people's views on sacred groves and the reasons why they have remained well preserved. Designing and performing a social survey is not trivial on the Iranian-Iraqi border area, where many political, social, economic, and environmental problems co-occur. Careful preparation by our University of Kurdistan team shaped trust with local communities and finally gave us access to 205 respondents in 25 villages.

We found that spiritual values, biodiversity, and cultural heritage values are key motivations for local people to preserve sacred groves. People shared taboos that restrict natural resource use (for instance, clearing of trees). Taboos thus appear as a powerful pillar of conserving sacred groves. The social values and taboos around sacred groves in Kurdistan are relatively stable compared to those in other world regions. Key holders of values and taboos are elderly people, women, rural people, and people with traditional lifestyles. Conservation programs could empower these groups to defend and revitalize their customs, values, and taboos. Local residents that are young, male, more urban, and that adopt a modern lifestyle may be targeted

by awareness-raising activities.

Our study highlights that maintaining and fostering informal conservation traditions (as expressed in the taboos associated with the sacred groves of Iran, Iraq, Syria, and Turkey) is crucial for biodiversity conservation in this region. This matters even more in areas of conflict like the Middle East where formal protected areas have failed and where pressures on natural resources are high.



*Sacred groves in Kurdistan form patches of old-growth forests that include cemeteries or individual tombs. They are recognised by local people as dwelling place of their ancestors' souls. Photo credit: Zahed Shakeri.*

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