

THE IMPACT OF ENVIRONMENTAL CHANGES ON THE DISTRIBUTION OF AOUADAD IN THE REGION OF TAMANRASSET (ALGERIA)

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The Aoudad (*Ammotragus lervia*) is a key mountain species in the arid and semi-arid regions of North Africa, facing increasing threats from climate change and human activities. While species are generally expected to shift their ranges up-slope in response to rising temperatures, recent studies suggest that other environmental factors may play a more significant role. This study examines the impact of climate change, vegetation cover, and human disturbances on the distribution of Aoudad in the highlands of Tamanrasset. Using occupancy analysis, camera trap data, and previous research from the region, we tested three main hypotheses: (1) whether increasing temperatures drive Aoudad populations to higher elevations, (2) whether changes in precipitation influence their distribution, and (3) whether habitat degradation due to overgrazing and resource exploitation forces Aoudad to relocate. Our findings indicate that Aoudad populations have not shifted upslope in response to warming, suggesting thermal tolerance. However, habitat degradation—particularly vegetation loss due to overgrazing and desertification—has significantly influenced their distribution. Aoudad populations were more closely associated with rocky areas with sparse shrub cover, which have been declining due to land-use changes. These results highlight that habitat changes, rather than direct climate effects, are the primary drivers of Aoudad distribution shifts. Conservation efforts should therefore focus on habitat restoration and sustainable land management to mitigate the pressures on this species and ensure its long-term survival.