Conserving threatened plant species to support community adaptation and resilience to climate change in the High Atlas, Morocco

The Mediterranean ecosystem of the High Atlas in southern Morocco is home to significant plant biodiversity – including endemic, endangered and economically important species – that has been sustained for millennia by Indigenous Amazigh communities.

High Atlas cultural landscapes, and the biodiversity they harbour, are under increasing threat from interrelated socio-ecological problems that include overharvesting of endemic useful plants, intensive grazing, inadequate water management and the erosion of cultural practices of conservation and sustainable land use management. The effects of climate change, heightened in fragile montane ecosystems, are compounding the impact of all these factors.

In April 2017, Global Diversity Foundation began implementing a three-year Darwin Initiative project entitled Mobilising useful plant conservation to enhance Atlas mountain community livelihoods. We are seeking to improve the resilience and adaptation of local communities to climate change by:

1) Establishing community seed banks to secure improved availability of locally adapted plant species, both wild and domestic. By conserving this plant genetic diversity, and especially agrobiodiversity, community seed banks can act as a form of insurance for communities, allowing them to access seeds adapted to different climatic conditions. Community seed banks are thus part of a broader strategy for climate change adaptation and resilience in communities that sustain unique High Atlas cultural landscapes.

2) Building and restoring water management infrastructure to provide more efficient irrigation of large tracts of agricultural land and community nurseries in partner communities. This contributes to climate change adaptation in partner communities whilst also ensuring that precious water resources are used wisely and can therefore continue to sustain the broader ecosystems within which these agricultural terraces are embedded. To support this work, we collaborate with diverse partners – such as the International Center for Agricultural Research in the Dry Areas (ICARDA) and the Institut Agronomique et Vétérinaire Hassan II – to provide training courses for local communities and associations on cultivating drought resilient crops and using water economically to improve resilience to climate change and increasingly arid conditions.

This Darwin Initiative project is a core component of our High Atlas Cultural Landscapes Programme, aimed at strengthening traditional practices of conservation and enhancing sustainable land-based economies and wellbeing. As part of this programme, we are carrying out research on the impact of climate change on the High Atlas flora to identify potential new climate change refugia (i.e. areas that can ensure the survival of diverse species under climate change conditions) for target endangered or endemic plant species. The results of this research will inform our ongoing conservation actions in the High Atlas.

All of these activities enrich our partnership with Amazigh people, who continually assess the impacts of climate change on their cultural landscapes and devise further strategies to lessen its effects on their socio-ecological wellbeing.

For more information on project 24-010 click here or contact Project Leader Gary Martin, gary@global-diversity.org