Restoring the Biodiversity of the Roggeveld-Renosterveld: Evaluation, Multiplication and Establishment of Indigenous Plant Species on Old Agricultural Fields

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Introduction The Hantam-Roggeveld in the Northern Cape Province of South Africa , which stretches over 300 km^2 was identified by Succulent Karoo Ecosystem Programme (SKEP) as a priority area for conservation . Priorities include multiplication of seed indigenous to the Roggeveld to improve and restore biodiversity . The botanical biodiversity of the area has in the past been negatively impacted by crop production resulting in huge areas which now lay fallow and exposed to erosion due to poor vegetation cover . The objectives of this project are to increase our understanding and knowledge of six key plant species found in the Roggeveld and their use in rangeland restoration , as well as to create awareness among the local farmers on the necessity to actively restore and manage old agricultural fields . Wild rye (*Secale africanum*) is a very palatable forage plant and endemic to the Hantam-Roggeveld . It has become critically endangered due to poor livestock management practices . It now occurs in very small populations on only two farms within the area and is the flagship species for this project .

Materials and methods Farms representing three different areas in the Tanqua-Roggeveld area where wild rye grass was common in earlier years , namely the Hantam , Roggeveld and Klein-Roggeveld , were selected as study sites . Seed of six key species *Secale africanum* (grass) , *Eriocephalus africanus* (dwarf shrub) , *Felicia filifolia* (dwarf shrub) , *Ehrharta calycina* (grass) , *Chaetobromus dregeanus* (grass) and *Polhillia involucratum* (dwarf shrub) underwent germination trials to determine viability and potential for restoration projects . Survival of these species was tested on old agricultural fields with a spilt-plot design with three block replications . The treatments are broadcasting of seeds , planting of seeds and the use of plugs .

Results and discussion *Not yet available*

Conclusions Preliminary results from the six-monthly counts on *Secale africanum* have indicated that seeding on ripped old fields is the most successful and cost effective way of re-introducing this species .