



Succulents and Cycads

Working Group Summary

The working group compiled and reviewed seven case studies, four on cycad taxa (*Encephalartos* species, *Cycas circinalis*, *Ceratozamia mirandae*, *Dioon edule*) and three succulent taxa (*Hoodia gordonii*, *Aloe spp.*, *Carnegiea gigantea*). Two of the case studies dealt with Appendix I taxa and the remainder dealt with species in Appendix II. The case studies dealt with several different products in trade (whole plants, seeds, leaves, bark, roots, and processed material) and different harvest and production systems including artificial propagation, *in situ* nurseries, and offtake of living and dead specimens or parts from wild populations.

Although cycads and succulents have quite different life histories, the case studies focused exclusively on long-lived species of succulents, which resulted in greater convergence between the cycad and succulent case studies. There was a remarkable consistency regarding several risk factors relating to harvest and trade between the cycad and succulent species and this suggests that the grouping of cycads and succulents was not entirely artificial.

Main outcomes

- The risk assessment approach to non-detriment findings was useful to help focus the assessment on specific risk factors. The NDF process requires an assessment of risk at three levels, i.e. impact on the species from the trade event, the impact of harvest on the species in trade, and the impact on the ecosystem.
- It seemed to be possible to identify several factors that could be classified as low, medium, or high risk. This was based on several different elements relating to the biology of the species (identity, life history stage, population size), the source of material (artificial propagation, wild, dead) and the nature of the harvest (volumes, intensity, frequency).
- The level of confidence in the NDF involves an interaction between the availability of information and level of risk. If relatively little information is available, it may still be possible to make an NDF if the trade involves a low risk activity. However, more information is required for an NDF relating to high risk activities. A list of information required for low, medium and high risk activities was compiled.
- There was considerable consistency between cycads and long-lived succulents regarding the vulnerability of the adult stage to lethal harvest. Lethal harvest should only be considered in very abundant species or where demographic studies provide indications of offtake levels.
- Many species of cycads and succulents are threatened and listed on the IUCN Red List and this means that it is very important to apply the precautionary approach when making an NDF.
- Two of the case studies dealt with *in situ* nurseries in which seeds are extracted from the wild but contribute to habitat conservation and restoration and management of wild populations because of benefits to local communities. Such potential benefits need to be considered when making an NDF.
- Illegal trade is a significant problem with many cycads and succulent. As a result, the NDF will be affected by the level of certainty regarding the identity and source of the specimens in trade.
- An assessment of sustainable harvest may require information on both population recovery/ resilience (for lethal harvest) as well as individual recovery (for leaves, fruits, stems)