

Effects of changes in natural environment on livelihoods dependent on
harvesting

!Nara plants in the Namib Desert

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!Nara (*Acanthosicyos horridus*) is a *Cucurbitaceae* species endemic in the central Namib Desert in Namibia. The Topnaar people living in the areas along the Kuiseb river have been dependent on harvesting !Nara fruits for their livelihoods. However, recent changes in the natural environmental, as well as socioeconomic factors have affected various aspects of !Nara harvesting. These changes are evident in tools, harvesting periods, and harvesting rights. A flood prevention dam, which was built in 1962 to protect the town of Walvis Bay from flooding, has affected the vegetation and topography along the old branch of the Kuiseb River. The Topnaar people currently make use of two !Nara harvesting areas and a former watershed, each with a different natural environment.

The aim of this study was to determine the differences between the two harvesting areas, with a particular focus on vegetation. In addition, the influence of these differences on harvesting activities was examined.

Namibia experienced record rainfall in 2011, resulting in serious flooding of the Kuiseb River. This flood affected people's lives in several ways, and damaged vegetation on the riverbed, including !Nara plants. Both the positive and negative effects of the flood on this area in terms of the relationship between the flood and !Nara

plants are discussed.

Local residents were interviewed and the vegetation in this area investigated. I also had access to meteorological data from the Gobabeb Research and Training Centre, the cooperating research institution of this study.

Results:

The current watershed contained abundant !Nara plant vegetation of various ages. By contrast, the former watershed was deserted and covered by !Nara plants above 20 years old. The Topnaar people use both areas depending on time, expense, and niche.

In 2011, the local people were unable to harvest enough !Nara fruits, and they lost numerous livestock with the flooding of the Kuiseb River. Although the livelihoods of the local residents were affected by the flood, it also had a positive effect on the !Nara fruit yield the following year.

The value of !Nara plants has changed among the Topnaar people. In the past, !Nara fruit was the staple food for local residents. However, the frequency of eating !Nara fruit has decreased. !Nara fruit seeds are currently a valuable source of income. The price of !Nara seeds has increased, and people are increasingly affected by a cash economy.

I aim to examine the social and environmental dynamics of this area based on diverse factors in my future research.



