

## Executive Summary

Sustainable Management of !Nara by the Topnaar Community of the Lower Kuiseb Valley:  
A baseline study of !Nara resource management and its potential for development.

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The rural Topnaars (#Aonin) of the Lower Kuiseb Valley in the Central Namib Desert are a community of some 270-330 pastoralists and gatherers. The !Nara cucurbit plant (*Acanthosicyos horridus*) plays a key role for the Topnaars, who have been using it for many centuries. This large, long-lived plant bears tens to hundreds of melons each year. !Nara fruit are harvested as food and the seeds are extracted for sale as a source of income by rural villagers. Based on a long tradition of gathering, the !Nara has fundamental cultural value to the Topnaars, and enables them to maintain a degree of self-sufficiency in a seemingly depauperate desert environment. The relationship of Topnaars with the nara is simultaneously based on the plant's natural, cultural and economic features, a relationship Topnaars endeavour to sustain.

Recent changes in the socio-economy of the Topnaars have led to a situation where higher income is required to meet basic needs and better education, while the !Nara yield and market is threatening to decline. In response, the NARA programme (NAtural Resource management of the #Aonin) was formed as a collaborative Community-Based Natural Resource Management initiative between the Topnaar Community Foundation and the Desert Research Foundation of Namibia. !Nara is one of the features that NARA focuses on, and the Topnaar community requested that four questions are addressed:

1. Has !Nara fruit production changed, and if yes for what reasons?
2. Can harvesting be managed in such a way that it benefits or at least does not diminish !Nara fruit productivity?
3. Can the !Nara plant be cultivated without destroying the equilibrium of the desert ecosystem and without depleting other natural resources?
4. Can a higher commercial value of sustainably managed !Nara be achieved to enable the rural Topnaar community to obtain an appropriate and predictable income?

The objective of this baseline study is to ascertain if changes in !Nara harvesting and marketing will in the long run benefit the Topnaar community. It addresses the fourth question posed by the Topnaars. Underlying questions concern the continued availability of biophysical, human and financial resources. Simultaneously, ecological studies have been initiated focusing on biological and ecophysiological conditions and requirements of the !Nara, including water relations, pollination and fruit development, seed dispersal, and seedling development. The current report forms the background for planning of further project activities following the guidelines of the Strategy and Action Plan for Promoting Indigenous Fruit in Namibia.

In the current study, we exchanged information in the form of individual questionnaires with 29 rural Topnaars, including 18 harvesters. We also investigated the sales volume along several principal market routes from producers, via wholesalers, to secondary distributors and retailers. Further information was obtained from documents, literature, and discussion with various stakeholders.

The sales volume could be traced from several sources. Of the total harvest, some 6% is consumed by the rural Topnaars community and 94% is marketed, with the main wholesaler, Flamingo Furnishers, trading about 50% of the sales volume during the past 50 years. The main bulk of the trade is to Cape Town, South Africa, where !nara seeds are sold mainly to consumers of low to middle income levels. All sources agree that there has been a decline in the total sales volume of !nara seeds: during the 1950s to 1970s, the average annual seed harvest was around 26 tons, while it has changed to around 15 tons in the 1990s. Several reasons for the decline include changes in flooding by the Kuiseb River in the Delta region, changes in the harvesting rights among Topnaars, as well as changes in harvesting methods and patterns. The latter have led to conflicts between professional and occasional harvesters.

Professional !nara harvesting requires a group of two to three strong, healthy, dedicated people who are able to endure the strain of collecting !nara fruits through hot temperatures, long walks and four months of 11-hour workdays in the !nara fields away from the home village. Harvesting is very labour-intensive, requiring 2-4 man-hours per kilogram of seeds, and earning about N\$6.50/kg. Nevertheless, professionals obtain about half of their annual income from !nara sales. A total of 70-80 thousand man-hours are required to bring in the seasonal harvest. We calculated that this requires 54-93 people harvesting during the four-month season; currently, there are only 40 professional harvesters, while 300 people harvest on an occasional basis. Young people (<30 years old) constitute less than one-quarter of the professional harvesters, reflecting a disinclination of the youth to continue the traditional harvesters' way of life under prevailing conditions. Nevertheless, the rural Topnaars are in a relatively more favourable situation than the urban Topnaars. Compared to the average rural Namibians, rural Topnaars show nearly double the economic activity. !Nara management currently represents the key to the rural Topnaars' success.

The major constraints are that there are too few professional harvesters and too little recruitment into their ranks. Despite relatively high economic activity and hard work by harvesters, their income barely suffices to meet basic needs and increasing demands on other expenses, such as school fees for their children. Furthermore, the recent closure of the main and only reliable wholesaler has caused instability in the market with no basic assured returns for the harvesters.

Interviewed Topnaars suggested that higher returns for effort would improve the situation and would provide incentives for young people to enter the !nara business. It is recommended that capacity building should improve the business ability of the harvesters in terms of knowledge about the market, calculation ability, initiative and innovative spirit. This would enable the rural community to become more self-reliant and more independent of foreign participants in the market, who cut the revenue of the limited resource and prevent the Topnaars from exploiting the high potential of their !nara monopoly. Effective marketing mix by the Topnaars should incorporate a diverse product strategy, a reorganised distribution system, an appropriate price policy and promotion by effective market communication.

There are various possibilities for the rural Topnaars to continue !nara business in the present circumstances. One possibility of again becoming *subsistence farmers* is not viable under present social and economic circumstances. Similarly, supply to low-income consumers in Walvis Bay and Swakopmund does not generate enough money to enable the rural Topnaars to effectively function as *market-oriented communal farmers*,

or as *rural entrepreneurs*. As *suppliers of raw or pre-processed material* to market intermediaries, the Topnaars are currently satisfying a steady demand in South Africa, but this market may not develop much, even if the Topnaars become direct suppliers without intermediaries. This is because the market is demand-driven rather than supply-driven and the capacity for large scale production (cash crop economy) would be required to compete in the market of daily food products where high price elasticity is required. Furthermore, this type of marketing is prone to uncontrollable risks, especially in case of a restricted and highly variable !nara production, as it lacks diversity, and there is no communication between the producers and remote consumers with poor buying power.

This constraint can be overcome if the Topnaars operate as *small-scale manufacturers* marketing !nara for middle-to-high income consumers in Namibia. In this scenario, !nara seeds can be marketed as a special delicacy under bold images such as "*romantic cultural tradition*", "*clean, healthy plant and environment*", "*genuine indigenous Namibian product*", or "*supporting rural people in harsh desert conditions*". This market would especially benefit from product diversification and value-addition, e.g. shelling seeds, producing oil, liquor, jam, and special packaging in small quantities. Such !nara business would involve the entire household, providing work and higher income to all concerned. The market could target luxury retailers and tour operators in Namibia, and initial indications are that such enterprises would be interested to promote such attractive !nara products. As small-scale manufacturers, harvesters would not need to increase the harvest volume to increase income, but can rather add better value to the product and improve its marketing. This would, in turn, increase sustainability of this natural resource, and thereby simultaneously promote the "green environment" image of such !nara business.

How do the Topnaars want to get from being suppliers of raw materials to being self-sufficient small-scale manufacturers? Most community members suggested that a Topnaar co-operative should be formed by the harvesters, and that this should be overseen by an independent board elected by the stakeholders. The first step would be for the co-operative to obtain financial assistance to enable it to take over the existing seed trade with distributors in South Africa. At the same time product diversification and alternative markets should be investigated in Namibia. Training should focus on community members improving product processing and business skills. Simultaneously, Topnaars participate in research that endeavours to increase knowledge about the !nara plant. This is required to ascertain natural sustainability and to address questions posed by the Topnaar community concerning the perceived decline of !nara fruit yield.

The Namibian Indigenous Fruit Task Team should oversee the project and facilitate the timely achievement of the aim of sustainable development in the Lower Kuiseb Valley through Topnaar-controlled !nara business.