

# Conceptualizing the human use of wild edible herbs for conservation in South African communal areas

Delali B.K. Dovie<sup>a,b,\*</sup>, Charlie M. Shackleton<sup>c</sup>, E.T.F. Witkowski<sup>d</sup>

<sup>a</sup>*The Pan African Network for Environment and Development, P.O. Box 566, Wits 2050, South Africa*

<sup>b</sup>*The Community Resources Periscope (Environment and Development NGO), P.O. Box HP 980, Ho Volta Region, Ghana*

<sup>c</sup>*Department of Environmental Science, Rhodes University, Grahamstown 6140, South Africa*

<sup>d</sup>*School of Animal, Plant and Environmental Sciences, University of the Witwatersrand, Wits 2050, South Africa*

Received 26 February 2005; received in revised form 3 May 2006; accepted 15 May 2006

Available online 12 October 2006

## Abstract

The importance of wild edible herbaceous species to resource poor households in most rural economies within savannas has been little studied. This is because most of the herbs grow in impoverished species communities and lands, often referred to as ‘marginal lands’. The aim of this paper is to conceptualize how the economics of wild edible herbs to households can be used to add value to total livelihoods and conservation within traditional communal areas of South Africa. Analysis of the economics of the consumption of wild edible herbs in Thorndale (Bushbuckridge district) of the Limpopo province is presented. The majority of households consumed wild edible herbs, averaging 15.4 kg dried weight per household per year and valued at \$167 per household. The herbs were mostly harvested from uncultivated areas of farms, and rangelands. There was little correlation between household characteristics and the dependence on wild herbs for food. The local people noted a decline in the availability of the species, although not much is known about attempts to cultivate them. The only reasons attributed to the decline were nutrient poor soils and insufficient rains. With this background, developing a local strategy to sustain the species through cultivation by households was found to be feasible. A multiple-use system for the herbs, their improvement and value addition towards commercialization and increased household usage may result in wider acceptance and subsequent cultivation. Species diversity will be enhanced whilst conserving the land on which they grow. This multiple use system may include species roles in soil and water conservation.

© 2006 Published by Elsevier Ltd.

*Keywords:* Biodiversity; Cultivation; Food security; Impoverished lands; NTFPs; Savanna

## 1. Introduction

### 1.1. The benefits of non-timber forest products to rural households

The utilization of wild plants and animals continues to greatly benefit society to this day, from processes mostly involving local experimentation through indigenous and local knowledge (Johnson, 2000; Kristensen and Balslev, 2003; Ladio and Lozada, 2004; Scherrer et al., 2005). Out of these came the direct dependence of numerous resource-

poor households on indigenous plant resources in rural areas of most countries as an integral part of their livelihoods (Arnold and Ruiz Pérez, 2001; Godoy and Bawa, 1993; Hammett and Chamberlain, 1998; Ladio and Lozada, 2004; Scherrer et al., 2005; Shackleton and Shackleton, 2004). Such dependence is predominant in areas where there are easily accessible communal area resources, in conjunction with limited economic options (Clarke et al., 1996; Cunningham, 1997; Dovie et al., 2005). The term non-timber forest products (NTFPs) is used in this paper to generally define ‘secondary natural resources’ from a given piece of land, coincidental to the primary management objectives, in this case the bush, herbs and trees that are collectively referred to as woodland resources. Examples of the NTFPs are wild edible herbs,

\*Corresponding author. Tel.: +27 11 4034980; fax: +27 11 4031429.

E-mail addresses: [ddovie@paned.org](mailto:ddovie@paned.org),  
[delalibd@yahoo.co.uk](mailto:delalibd@yahoo.co.uk) (D.B.K. Dovie).

wild edible fruits, craft materials, medicinal plants, mushrooms, fuelwood, and construction poles, among several others (see Campbell et al., 1997; Dovie et al., 2002; Shackleton et al., 2002a). Their role and value are hardly recognized in macro-economic and conservation planning as they are overshadowed by the value of charismatic species. During the ground breaking ‘hidden harvests’ project, the importance of diverse species referred to as ‘lesser-known’ in food security was demonstrated over the whole range of rural livelihood systems (Guijt et al., 1995; Scoones et al., 1992). They are essential sources of vitamins, minerals, carbohydrates and proteins for poor people (Agrahar-Marugkar and Pal, 2004; Agte et al., 2000; FAO, 1995; Gockowski et al., 2003; Parvathi and Kumar, 2002; Singh and Garg, 2006).

Besides direct nutritional contributions (e.g., beta-carotene, vitamin C, calcium, and iron), the diversity of wild edible herbs is a source of variety, spice and taste in local meals (FAO, 1995; Parvathi and Kumar, 2002). Decades of official food security policies worldwide have completely overlooked the importance of most food represented by wild species and harvested from impoverished and agriculturally unproductive lands, herein referred to as ‘marginal lands’ (Bell, 1995; Prescott-Allen and Prescott-Allen, 1990). In many cases, this has undermined food security and the conservation of biodiversity at local levels (Bell, 1995; Scoones et al., 1992), such that these marginal lands are deemed to have little value and so may face external pressure for transformation to seemingly better uses, such as intensive agriculture, residential sites and infrastructural development. The need to treat such ecosystems as unique is key to maintaining biological diversity whilst conserving soil and providing livelihood services. The situation is further aggravated by the fact that not much is known about the cultivation of these wild species in savanna environments.

Subsequent to the contribution of NTFPs as important components of livelihood security and biodiversity, very little is known about the holistic value of wild edible herbs in savanna ecosystems compared to tropical rainforests, hence leaving important gaps in knowledge. A general failure is the limited appreciation of the livelihoods of resource poor rural communities. Thus they are not just about growing cash or staple crops, raising livestock and participating in the mainstream cash economy only, but are tied to a complex network of dependence on non-marketed wild resources that are not captured in macroeconomic analyses. Wild edible herbs or wild leafy vegetables are a part of these resources that are mostly without formal markets. This article therefore is an attempt to show that the sustainable utilization and cultivation of wild edible herbs may provide an effective incentive to conserve agroecosystems and marginal lands and thus will enhance species community structure and composition. The objectives of the paper are to (a) provide an understanding of the value of wild edible herbs to resource poor rural households using a quantitative analysis, (b) investigate the

effects of some attributes of households (e.g., wealth status and population) on usage, and (c) to qualitatively demonstrate the importance of wild edible herbs in conserving species communities, improving impoverished lands, and agroecosystems using a simple ‘herbaceous species use—conservation’ conceptual model.

## 1.2. Livelihood and potential conservation roles of herbaceous species

Traditional communal area resources are mostly described as open access, frequently associated with over-utilization and poor management of the natural resources therein. Yet it is those ‘unproductive and impoverished lands’ that support and supply diverse sources of important biological resources from which local people benefit (Cocks and Wiersum, 2003; Cousins, 1999; Dovie et al., 2002; Shackleton and Shackleton, 2004). Over 90% of resource poor rural households are known to depend on NTFPs in southern African communal areas (Dovie et al., 2002; Shackleton and Shackleton, 2004; Twine et al., 2003). As a result, the daily usage of NTFPs is a significant, yet underestimated component of livelihoods, biodiversity, land use and land cover. This underestimation results from the lack of monetization of the consumption of these resources at the household level, and the lack of formal markets, and hence they are not captured in national level accounting. However, they may account for a considerable proportion of the total biodiversity in natural and subsistence ecosystems.

Of the over 6000 higher plant species in South African savannas (Cowling and Hilton-Taylor, 1994), a wide range is harvested for NTFP purposes (Clarke et al., 1996; Cunningham, 1997; Lawes et al., 2004; Twine et al., 2003). In particular, dozens of plants are used as wild edible herbs, harvested from and around arable fields, communal rangelands, wetlands, and homesteads (Dovie et al., 2002; Shackleton and Shackleton, in press; Shackleton et al., 1998). Several families of plants are used, with the genera *Amaranthus*, *Agathosma*, *Bidens*, *Cleome*, *Chenopodium*, *Corchorus*, and *Vigna* being the most conspicuous (Coetzee et al., 1999; Shackleton, 2003). The amount of wild edible herbs consumed in traditional communal areas of South Africa is known to range from 12 to over 130 kg per household per year (Dovie et al., 2002; Shackleton et al., 2002a, b; Twine et al., 2003), with a single household using as many as 21 species (Shackleton et al., 1998). However, not much information exists on the cultivation and domestication of most of these wild edible herbs. The socio-economic status of individual households (e.g., wealth, gender of household head, location of community and culture) could potentially influence the use of wild edible herbs. In the Kat river valley of South Africa, Shackleton and Shackleton (in press) observed that the mean consumption frequency of wild edible herbs per household and per capita was higher for poorer households than richer ones.

Download English Version:

<https://daneshyari.com/en/article/1058833>

Download Persian Version:

<https://daneshyari.com/article/1058833>

[Daneshyari.com](https://daneshyari.com)