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Original article

Into the urban wild: Collection of wild urban plants for food and medicine in Kampala, Uganda

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ABSTRACT

In sub-Saharan Africa, many people depend on natural resources for their livelihoods. While urbanisation causes landscape changes, little is known of how this process affects the use of wild plant resources by urban populations. This study contributes to addressing this knowledge gap by exploring the prevalence and determinants of urban collectors of wild plants in Kampala, Uganda. During February to August 2015, 93 structured interviews were conducted in inner, outer, and peri-urban areas of the city. The findings in this study show that urban wild plants are used by almost half (47%) of the respondents, mainly for medicinal purposes but also as a complement to diets. The findings further indicate that residents with lower income, of younger age (<51 years old), and predominantly living in peri-urban areas are more likely to be urban collectors. Seasonality appears to be of greater importance in collection of food plants than of medicinal plants. Overall, these findings indicate that wild plants occupy an important role in the livelihoods and traditions of Kampala's residents, and we argue that this should be taken into account in urban planning projects.

1. Introduction

Urban collection of wild plants is a subject that has received scant attention in studies of natural resource usage and conservation. There is therefore very little understanding of its prevalence and determinants. However, the body of evidence on the importance of wild plants in rural peoples livelihoods in developing countries is growing, and it is recognised that non-cultivated plants are highly valued as a strategy to combat food insecurity, dietary deficiencies (Arnold et al., 2011; Mahapatra and Panda, 2012; Powell et al., 2011; Vinceti et al., 2013) and alleviate poverty (Oteng-Yeboah et al., 2011; Shackleton et al., 2011; Sunderland and Ndoye, 2004). They also play an important role in maintaining and improving health in different settings (e.g. McMullin et al., 2012; Pouliot, 2011).

African countries have some of the highest urbanisation rates and it is estimated that 50% of Africa's population will be living in urban areas by 2030 (Montgomery, 2008; The World Bank, 2015). In a region that is already severely affected by demographic, political and economic challenges, urban development plans need rethinking to accommodate the population in a sustainable way (UN Habitat, 2014). Effects of climate change and the rise of unplanned informal settlements cause pressure on urban natural vegetation (Cohen, 2006; The World Bank, 2015). Thus, urbanisation affects local biodiversity (McKinney, 2008), directly through land cover change, or indirectly by changing ecosystem and biogeochemical processes (Alberti, 2008).

Along with loss of local biodiversity comes a change in the use of wild plant resources. This is frequently seen as erosion of traditional knowledge and has been assumed to be particularly prevalent in the urban environment, where global influences, market availability of exotic species and loss of biodiversity pose a threat to traditional knowledge systems (Sogbohossou et al., 2015; Vandebroek et al., 2011). Nevertheless, market studies show that the interest in wild plant species does not disappear as people move from rural to urban areas (e.g. Barirega et al., 2012; McMullin et al., 2012; Sneyd, 2013; van Andel et al., 2012; Vandebroek and Balick, 2012). Household studies on urban consumption of wild plants, however, are much rarer. Still, the scant evidence on the topic can provide some insights into consumer profiles and their underlying motivations for consuming wild plants, as well as provide information on the state of traditional knowledge of urban residents (Oreagba et al., 2011; Schlesinger et al., 2015). For example, a study conducted

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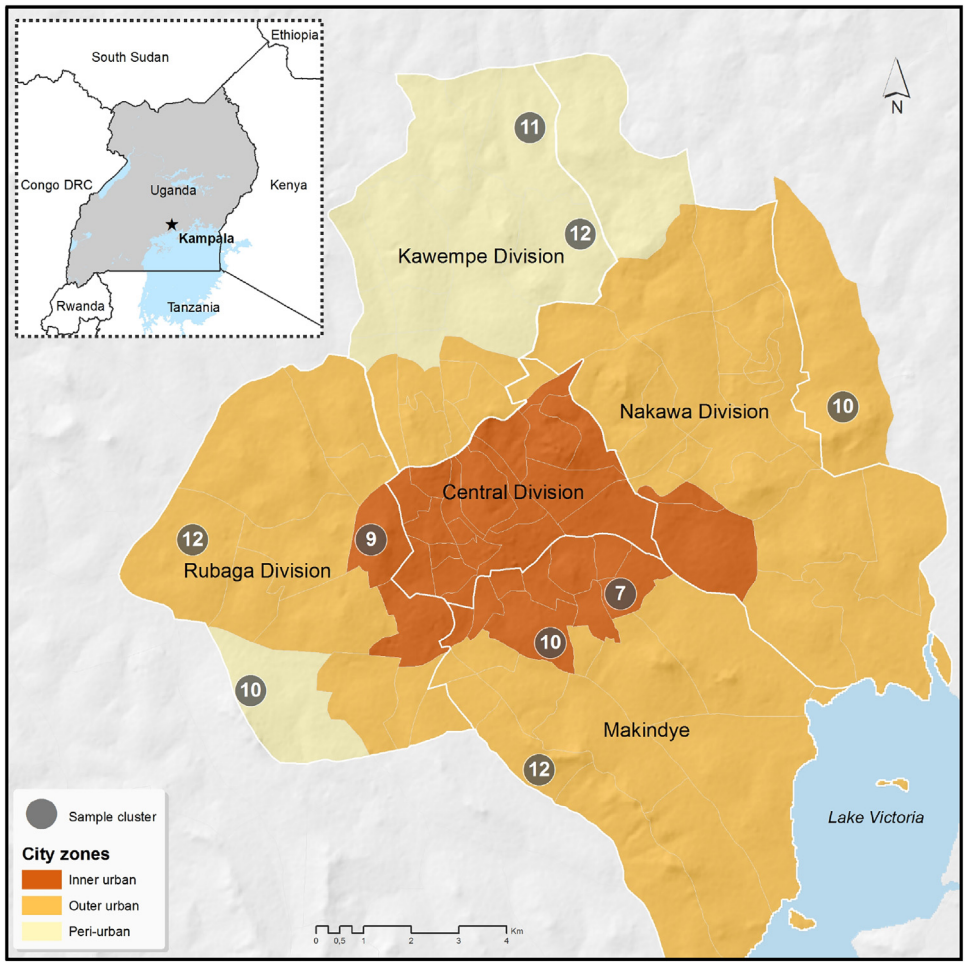

Fig. 1. Map of Kampala, Uganda with inner-, outer- and peri-urban areas indicated. The nine cluster sampling sites are indicated with the grey dots. The numbers within the dots show the number of households included in this study at each cluster site.

in Suriname in 2006 (van Andel and Carvalheiro, 2013) showed that 66% of the urban population use wild medicinal plants (mostly self-collected in their own garden or neighbourhood) and that its consumption is neither linked to poverty nor to limited access to allopathic healthcare. Health status and traditional knowledge are instead the strongest explanatory variables of medicinal plant consumption in the urban study area. Qualitative evidence from Yaoundé, Cameroon, shows that wild food plants are important ingredients for the preparation of commonly-prepared traditional dishes (Sneyd, 2013).

These studies demonstrate that the use of wild plants still play important roles in the lives of urban residents, but say little about sources of these plants. In fact, only a few authors discuss sources of wild plants outside of markets such as wild collection. While wild collection of plant species in *rural* communities has been studied extensively (e.g. Cunningham, 2001; Pouliot, 2011; Tabuti and Damme, 2012; Vinceti et al., 2013), there is only very little empirical evidence showing that *urban* collection of wild species occurs (e.g. Davenport et al., 2011; Furukawa et al., 2016; Kaoma and Shackleton, 2014; McLain et al., 2013; Schlesinger et al., 2015). Yet, urban collection can be considered a "deeply relational practice connecting humans with nature, other humans and their inner selves" (McLain et al., 2013, p. 12). Moreover it is a form of preserving cultural identity, it provides free medicines and adds to food security as a safety net preventing people from falling deeper into poverty in times of hardship (e.g. unexpected shocks and crises) (Davenport et al., 2011). In an urbanising world, where traditional knowledge systems and biodiversity are threatened, this is a field that deserves more attention (Penafiel et al., 2011; Sneyd, 2013).

Studies conducted in Southern Africa by Davenport et al. (2011), Kaoma and Shackleton (2014) and Schlesinger et al. (2015) all focused on the use of wild natural resources in medium sized towns and cities (Davenport et al., 2011; Kaoma and Shackleton, 2014; Schlesinger et al., 2015). These locations are all fast growing and important because there are still opportunities for planning interventions. The findings of Davenport et al. (2011) indicate that town size determines the intensity of wild plant collection practices, as they found 27% of the population in larger towns versus 70% in smaller towns to be urban collectors (Davenport et al., 2011). However Schlesinger et al. (2015) did not find any relationship between size of town and prevalence of wild plant collection in urban areas (Schlesinger et al., 2015). Instead, they found that the importance of urban collection of wild plants is related to the location of the household in the urban to peri-urban continuum; they attribute this to the higher share of land covered by vegetation in peri-urban areas. As these peri-urban areas are prone to near-future developments and urbanisation, their role in local livelihoods needs to be understood before unsustainable and (un)planned development ensues (Davenport et al., 2012; Vermeiren et al., 2013).

While the use of wild plants still has an important role in peoples' livelihoods through traditional medicines and food culture, it is important to understand where in the urban and peri-urban environment wild plant collection takes place in order for public policy to incorporate the land use practice in its designs, including the