



Livelihood diversification: The role of charcoal production in southern Malawi



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ABSTRACT

Growing urban populations in Sub-Saharan Africa are increasing demand for charcoal. This paper presents a detailed case study of three communities supplying charcoal to Zomba, a medium-sized city in Southern Malawi. Using the Sustainable Livelihoods Framework to structure our analysis, we examine individuals' motivations for producing charcoal, assess the seasonality of charcoal production, how livelihood outcomes vary between men and women, and identify sources of vulnerability for charcoal producer livelihoods. Drawing on data from four focus group exercises in each community and a total of 42 semi-structured interviews, we identify direct (e.g. financial) and indirect (e.g. strengthening of social networks, improved access to goods and services, opportunities for livelihood diversification) benefits that contribute to reducing producers' vulnerability to financial insecurity and improve their livelihoods. Irrespective of the benefits obtained and the actions (e.g. prioritising charcoal production over farming) of producers, participants did not perceive charcoal production as a desirable activity because the work was illegal, stigmatised hard and dangerous. Producers' primary motivations for engaging in production were to provide income to meet one-off purchases of expensive items, respond to an income shock, or to meet recurrent seasonal needs. Under certain conditions women were more dependent on income from charcoal production than men, as they had fewer alternative income generating options available to them. There was no reported management of charcoal resources in the study area, therefore the environmental sustainability of charcoal production and its associated benefits are uncertain. Malawi's current de facto charcoal ban leads to enforcement activities that exacerbate livelihood risks and increase producers' vulnerability to income insecurity.

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Introduction

Forests provide a range of products and services, directly contributing to the livelihoods of an estimated 800 million people globally, living in or near tropical forests and savannahs (Chomitz et al., 2007; Naughton-Treves et al., 2007). Through the provision of timber and non-timber forest products (NTFPs) such as food, fodder, medicine, housing materials and fuel, forests contribute to livelihoods by providing access to basic materials and income generation (Ambrose-Oji, 2004; Shackleton and Shackleton, 2004; Sunderlin et al., 2005; Schreckenberg et al., 2006; Heubach et al., 2011; Shackleton et al., 2011). Forest-derived incomes contribute considerably to rural livelihoods and can reduce households' vulnerability by providing a source of savings, asset building, reducing poverty levels and improving wellbeing (Sunderlin et al., 2005; Angelsen et al., 2014).

Across sub-Saharan African (SSA), charcoal has the potential to provide accessible, affordable and reliable energy to millions of households, in addition to supporting millions of rural and urban livelihoods through income generation, providing urban–rural financial flows and contributing to the national economy. For example, in Malawi, the charcoal sector contributes an estimated \$40 million, roughly 0.5% of national GDP (Kambewa et al., 2007). If managed effectively, charcoal is a sustainable energy source and can contribute substantially to reducing carbon emissions and greenhouse gases (Iiyama et al., 2014). Its production and trade will become an important source of income for an estimated 12 million people by 2030 (Mwampamba et al., 2013) yet there are large research gaps in the charcoal literature, which has led to a lack of evidence-based decision-making (ICRAF, 2015). In Africa, 75% of urban growth is expected to occur in small and medium-sized urban areas, with populations of less than 1 million (UN-Habitat, 2014). Yet, the charcoal markets of smaller cities are severely under-researched and there is no evidence to suggest that their value chains, participants or governance structures are comparable to larger cities (Smith et al., 2015).

There is good evidence that involvement in the charcoal trade can generate substantial incomes for participants (Monela et al., 1993;

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Knöpfle, 2004; Khundi et al., 2011; Schaafsma et al., 2012; Minten et al., 2013), though incomes may be unevenly distributed. Middle-men are frequently portrayed as the most exploitative actors in the value chain, yet they play essential entrepreneurial roles connecting producers and consumers (Schreckenberg, 2003; te Velde et al., 2006). Highest profits often accrue to urban-based 'elite' businessmen (or women), as they typically own motorised transporting links, monopolise the trade and are politically connected (Ribot, 1998; Brouwer and Magane, 1999; Kambewa et al., 2007; Kwaschik, 2008; Shively et al., 2010; Schure et al., 2013; Luz et al., 2015). Aside from an economic contribution however, there has been little attention to how involvement in the sector contributes to broader livelihood components.

The contribution to livelihoods of economic activities encompasses more than just income, and there is a need to consider a wider range of factors such as health, access to goods and services, social relations and food security, especially when measuring progress in development and poverty reduction (Chambers, 1995; DFID, 1999; Millennium Ecosystem Assessment, 2003; Scoones, 2009). Poverty Environment Network studies have recently taken an explicit livelihoods perspective in examining the use of forest resources (see Wunder et al., 2014); broader livelihood assessments of other NTFPs such as woodcraft have noted substantial benefits associated with engagement in natural product trade, such as strengthening of social assets, livelihood diversification and risk reduction (Shackleton et al., 2008). Broader analyses of the charcoal trade tend to focus on the negatives, such as the correlation of unregulated production and environmental degradation (e.g. Chidumayo and Gumbo, 2013; Rembold et al., 2013), detrimental health impacts (Bautista et al., 2008; Johnson et al., 2011) and negative livelihood impacts from enforcement activities (Smith et al., 2015).

Rural livelihoods experience numerous stresses that can increase household vulnerability. One of these is seasonality, which creates variability in labour, income and food availability (Ellis, 2000). Many households diversify their livelihood strategies to cope with stresses during challenging periods and diverse livelihoods tend to be less vulnerable as they allow households to adapt to change (Ellis, 1999). In Mozambique, charcoal production has been found to provide a flexible source of income for rural households, making it an important seasonal diversification strategy (Jones et al., 2016). However, there is still insufficient systematic analysis of the extent to which involvement in the charcoal trade contributes more widely to livelihoods, for example how it affects vulnerability and risk, capability and empowerment (Shackleton et al., 2008), its seasonal contribution, and peoples' motivations for involvement in the trade. Yet, understanding people's motivations and how various underlying factors influence them, could help deliver more effective policies (Smith et al., submitted for publication).

Charcoal producers in SSA are often portrayed as young, poor men (Hamilton and Hamilton, 2006; Bekele and Girmay, 2013), who benefit least from the trade because they are unorganised, are unable to access benefits and are less visible in decision-making processes (Schure et al., 2013). However, recent evidence from East Africa indicates that women also participate (Butz, 2013; Jones et al., 2016; Smith et al., submitted for publication). Roles, responsibilities and outcomes of rural livelihoods are often considerably gendered (Ellis, 1999) and differences in the way that men and women value, access and use NTFPs, resources and markets are well documented in the literature (Paumgarten and Shackleton, 2011; Ingram et al., 2014a, 2014b; Sunderland et al., 2014). Within the charcoal literature, male charcoal transporters typically earn higher wages than women (Smith et al., 2015). Perhaps the relatively recent presence of charcoal production within some communities has led to non-gendered production practises (Jones et al., 2016), but there is limited data to suggest whether men and women achieve comparable outcomes from engaging in charcoal production.

Limited understanding and punitive political attitudes towards the charcoal trade, coupled with difficulties in accessing secure resource tenure, market security and start-up costs (e.g. licence fees) means that SSA's charcoal status quo makes it challenging for poor communities to invest

in the sector. Many charcoal-based livelihoods are thus informal, and therefore fraught with uncertainty and risk from enforcement activities, and often ignored or penalised by governments (e.g. Smith et al., 2015). Benefits to individual producers are just one of the many positive aspects of the charcoal industry that are poorly understood and often overlooked in favour of environmental arguments against the industry. A better understanding of the role charcoal production plays in producers' livelihoods is therefore required if charcoal policies are to benefit the rural poor.

Research objectives

This paper is one component of a larger study that examines charcoal-related livelihoods in and around Zomba, a medium-sized city in southern Malawi (see Smith et al., 2015, submitted for publication). Here we aim to address the research gaps outlined above and examine the contribution of charcoal production to livelihoods of charcoal producers who supply to Zomba.

Our specific objectives are to:

- Identify factors that motivate an individual to be involved in charcoal production;
- Analyse gender differences in livelihood outcomes generated from charcoal production;
- Identify sources of vulnerability for charcoal producer livelihoods.

Materials and methods

Sustainable livelihoods framework

We used the Sustainable Livelihoods Framework (SLF) as a conceptual framework to structure our analysis (see Scoones, 1998; DFID, 1999), due to its holistic and multidimensional approach that acknowledges the complexities entrenched in rural livelihoods (Fisher et al., 2013). A livelihood can be considered sustainable when it "can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long-term" (Chambers and Conway, 1992, pp. 7).

The SLF describes livelihoods as comprising a diverse combination of subsistence and income generating activities and strategies. These depend on assets (human, physical, natural, social and financial), which are deployed within a context of vulnerability (e.g. seasonality, shocks and trends). Transforming structures and processes are important external factors that shape people's livelihood strategies. In the case of charcoal production, particularly important transforming structures are local bodies such as the Department of Forestry, police and village committees charged with the forest protection, while key processes include government policies on charcoal and resource access. When applied to charcoal production, the SLF allows assessment of the socioeconomic and underlying vulnerability context in which producers' livelihoods operate. It incorporates their livelihood assets and outcomes, including how involvement in the trade and the governance structures affect livelihood outcomes, and assists in exploring factors that influence power and access to charcoal resources and markets. Sustainability aspects relate to how governance of the sector affects the environmental sustainability of the resource management and extraction practices and thus the overall sustainability of producer-based livelihood outcomes.

Study site

The main charcoal resources for Zomba are located in Machinga and Zomba Districts, in mountainous outcrops located north of Zomba city

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