Measuring livelihood resilience: The Household Livelihood Resilience Approach (HLRA)

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Abstract

The concept of resilience, and livelihood resilience more specifically, is growing in prominence with international development and humanitarian organizations that aim to measure and build resilience to specific disturbances such as floods or droughts. However, measuring livelihood resilience is a difficult task, and practical methods to measure livelihood resilience, as well as analyze and visualize the data are needed. In this paper, I introduce the Household Livelihood Resilience Approach (HLRA), which draws from the sustainable livelihoods approach and its five capital assets to measure resilience. However, unlike other approaches that use the five capital assets such as utilized by Zurich Insurance Group, Ltd and the IFRC, the HLRA goes farther to help visualize the results and identify specific actions to build resilience. This paper illustrates the effectiveness of the HLRA through an empirical case study where this approach was used to measure livelihood resilience in Isiolo County, Kenya, and the effectiveness of agroforestry in building livelihood resilience for agricultural households. Drawing from this case study, I suggest five ways that the HLRA improves upon previous frameworks, including 1) providing practical methods and tools, not just a theoretical framework, 2) integrating 'subjective' measures of livelihood resilience, 3) focusing on the household-scale instead of community-scale or larger, 4) providing methods to analyze, visualize, and interpret results of livelihood resilience measures, and 5) highlighting the importance of human agency, power, and access to assets. The HLRA has the potential to help organizations identify specific interventions that could help build livelihood resilience for the most vulnerable groups of people within a community.

1. Introduction

Over the last few years the concept of resilience has gained prominence with international development and humanitarian organizations (Jones and Tanner, 2015; Walsch-Dilley et al., 2016). The notion of resilience is being employed with the aim to sustainably manage resources for both ecosystem function and human development and wellbeing (Berkes et al., 2003). However, Tanner et al. (2015) propose that the lens of resilience “requires greater attention to human livelihoods if it is to address the limits of adaptation strategies and the development needs of the planet’s poorest and most vulnerable people (pg. 23).” Thus, the concept of livelihood resilience specifically has been growing as livelihoods are increasingly caught in major global transitions in climatic, economic, and social systems. For example, livelihood resilience is acknowledged both explicitly and implicitly in a range of the United Nation’s Sustainable Development Goals for 2030 (Bahadur et al., 2015). Resilience-building efforts are also key aspects of humanitarian organizations including the International Federation of Red Cross and Red Crescent (IFRC) and Zurich Insurance Group, Ltd (Zurich). However, resilience is often criticized for being difficult to empirically measure (Carpenter, Walker, Anderies, & Abel, 2001), thus creating a challenge when aiming to understand or promote livelihood resilience. While methods for measuring livelihood resilience have been proposed by others, many of these methods have not been empirically tested (Speranza, Wiesmann, & Rist, 2014), focus more on social resilience compared to overall livelihood resilience which includes environmental and natural indicators important to livelihoods (Obrist, Pfeiffer, & Henley, 2010), while others focus on only a subset of indicators such as Lindstädt et al. (2016) who focus their analysis solely on agro-economic and institutional indicators. Further, much of the discussion on livelihood resilience takes place at the community-level or larger scales, and often overlooks the importance of household-level analyses and human agency in building livelihood resilience (Berkes and Ross, 2013; Brown and Westaway, 2011; Cabell and Oelofse, 2012; Cutter et al., 2008; Elasha et al., 2005; Erenstein, Hellin, & Chandna, 2010; Lindstädt et al., 2016; Szoenyi et al.,...
2016). For example, in practice, resilience strategies in Africa are widely applied at the community-level (Otsuki et al., 2017; United Nations Development Program 2010).

This paper aims to fill these gaps and introduces one innovative methodological and analytical approach for measuring livelihood resilience at the household-scale called the Household Livelihood Resilience Approach (HLRA). This method uses on-the-ground quantitative and qualitative data to measure livelihood resilience between different households and individuals within a community. It also provides analytical methods to identify the most vulnerable groups and identifies specific pathways for building livelihood resilience. This approach draws from the sustainable livelihoods approach and five capital assets to measure resilience as is done by Zurich and the IFRC, but it improves upon previous approaches in five major areas. First, the HLRA provides not only a theoretical framework for measuring resilience, but also a practical method and applicable tools for measuring livelihood resilience. Second, it includes ‘subjective’ measures of resilience, moving beyond top-down objective measures of livelihood resilience and allowing for context-specific indicators of livelihood resilience. Third, it focuses on the household and individual scale and the importance of understanding that communities are heterogeneous and diverse individuals or households within a community have different levels of livelihood resilience. Fourth, it outlines methods for analyzing, visualizing, and interpreting the results, and identifying specific actions to build resilience. Lastly, the HLRA highlights the importance of human agency and power relationships in livelihood resilience and access to assets with which households build their livelihood resilience. This paper illustrates the effectiveness of the HLRA through an empirical case study where this approach was used to measure livelihood resilience in Isiolo County, Kenya and the effectiveness of agroforestry in building livelihood resilience.

1.1. Resilience

Resilience is defined by Walker and Salt (2006) as the “capacity of a system to absorb disturbance and still retain its basic function and structure.” There are two main aims of building resilience: to prevent the system from moving to an undesired, alternative regime in the face of change, and to nurture and preserve the components of the system that build resilience and allow the system to renew and reorganize after a disturbance (Walker et al., 2002). Broadly, the concept of resilience is a promising tool for exploring adaptive changes towards sustainability because it provides a way for analyzing how to maintain stability in the face of change (Berkes et al., 2003). In order to effectively build resilience, it is important to ask the questions ‘resilience of what’, ‘resilience to what’, and ‘resilience for whom’ (Lebel et al., 2006; Walker and Salt, 2006; Nelson and Stathers, 2009)? Much has been written about the development and applications of resilience thinking, and I will not repeat this work here (for a more comprehensive review see Walker and Salt, 2006; Gunderson and Holling, 2002, to name a few).

1.2. Livelihood resilience

While resilience thinking has been praised by some, it has also attracted some criticism. For example, it is often seen as highly context specific which challenges its implementation through policy mechanisms (Cooper and Wheeler, 2015). Resilience thinking has also largely focused on natural systems and is often criticized for ignoring the social or political side of social-ecological systems (Brown, 2014). One response to these criticisms has been the development of a livelihood perspective in resilience thinking. Tanner et al. (2015; 23) define livelihood resilience as “the capacity of all people across generations to sustain and improve their livelihood opportunities and well-being despite environmental, economic, social, and political disturbances.” Focusing on livelihood resilience places people in the center of analysis and highlights the role of human agency, rights, and capacity to prepare for, and cope with shocks (Tanner et al., 2015). A livelihood resilience approach expands our understanding of resilience beyond “…technical approaches to minimizing harm and loss by bringing issues of people's lives, rights, justice, politics, and power to the fore” (Tanner et al., 2015, 23). Society's ability to manage resilience resides in actors, social networks, and institutions (Lebel et al., 2006). A livelihood approach also strengthens resilience theory by acknowledging that people's circumstances, cultures, values, and perceptions impact their ability to adapt (Enns and Bersagli, 2015). Further, concentrating on livelihood resilience helps address the question of resilience of what and resilience for whom by focusing on the resilience of people's livelihood strategies. Central to livelihood resilience are the coping strategies used by households or individuals during times of stress. These coping strategies can be spontaneous, but often involve planning and preparation for certain shocks. Coping strategies are specific responses or activities used to adjust to changing conditions, both short and long-term, and do not only happen during periods of stress, but are often intensified in such events (Adger, 2003; Mosberg and Eriksen, 2015). Building livelihood resilience means that a given household’s livelihood strategies and activities are better prepared to cope and manage the impacts of shocks, navigate uncertainty, and adapt to changing conditions (Marschke and Berkes, 2006). According to Allison and Ellis (2001), the most robust livelihood system is one displaying high resilience and low sensitivity, while the most vulnerable displays the opposite. Shocks to livelihoods can come from the environmental realm, such as climate change, or from the political-economic system, including crop price fluctuations or political instability.

Lastly, it is important to differentiate livelihood resilience from social resilience. Cote and Nightingale (2012) define social resilience as the ability of communities to cope with stresses as a result of social, political, or environmental change. Social resilience is said to be increased through improvements in communications, risk awareness, the development and implementation of disaster plans, the purchase of insurance, and sharing of information (Cutter et al., 2008). While not mutually exclusive, livelihood resilience applies a broader set of indicators to resilience measurement, such as natural and human assets, while indicators of social resilience can be more narrowly focused, and in many cases is similar to social capital within the sustainable livelihoods framework. For example, when measuring the resilience of the social system, Lindstädtet et al., 2016 only include agronomic and institutional indicators. The multi-disciplinary, broad set of contextual indicators is one advantage of the HLRA.

1.3. Sustainable livelihoods

The concept of sustainable livelihoods was first introduced by the Brundtland Commission on Environment and Development, advocating sustainable livelihoods as a broad goal for poverty eradication (Krantz, 2001). The sustainable livelihoods approach developed as a form of livelihood analysis that has been used by a number of development organizations including the Department for International Development of the United Kingdom (DFID), the United Nations Development Program, CARE, and Oxfam (Adato and Meizen-Dick, 2002). The sustainable livelihoods approach is methodologically based in participatory research, applied anthropology, and rapid rural appraisal (Chambers, 1994; Krantz, 2001; Thuisterup, 2015). This approach states that livelihoods should be considered in terms of people’s access to capital assets
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