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Sarah E. Walker, Brett L. Bruyere, Apin Yasin, Elizabeth Lenaiyasa & Anna Lolemu

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# The Good Life in the Face of Climate Change: Understanding Complexities of a Well-being Framework through the Experience of Pastoral Women

SARAH E. WALKER , BRETT L. BRUYERE , APIN YASIN,  
ELIZABETH LENAIYASA & ANNA LOLEMU

Human Dimensions of Natural Resources, Colorado State University, Fort Collins, CO, USA

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**ABSTRACT** Frameworks for understanding well-being play an important role in designing and evaluating climate change adaptation intervention and policy. To be effective, frameworks must capture the complexities of the social, ecological, and cultural contexts specific to vulnerable social groups. This study explores the concept of well-being from the perspective of pastoral women in Northern Kenya, a social group highly vulnerable to the impacts of climate change. Data were collected using semi-structured interviews and a novel participatory group ranking activity. Analysis using the WeD Framework for well-being highlights key components from the perspective of Samburu women and underscores the importance of understanding the interaction between these components. We discuss the theoretical implications of these interactions for future use of the WeD framework and practical implications for the design and evaluation of climate change adaptation intervention and policy.

## 1. Introduction

Pastoral communities inhabiting arid and semi-arid landscapes (ASALs) in sub-Saharan Africa have long endured challenges related to drought. However, increasing frequency of drought due to climate change in combination with increasing constraints on adaptive capacity such as land fragmentation push the limits of pastoral resilience (Galvin, 2009). In addition to these challenges, pastoral women bear a significant share of the burden of adapting to drought (Gurmu, 2018; Westervelt, 2018) and face significant gender marginalisation that further constrains their capacity to adapt and cope (Balehey, Tesfay, & Balehegn, 2018; Eneyew & Mengistu, 2013; Ongoro & Ogara, 2012). Given these responsibilities and limitations, supporting the drought resilience of pastoral women is an important focus for policy and intervention.

In recent years, international development has moved away from using economic indicators as the sole measurement for quality of life and has instead shifted to using more nuanced and holistic indicators of well-being. Scholars also recognise the interconnectedness of natural environments and experiences of well-being (Armitage, Béné, Charles, Johnson, & Allison, 2012; McGregor, 2008), and in the context of changing climates, well-being frameworks provide a useful lens for understanding the multitude of ways drought, and drought-related policies or interventions impact people's

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Correspondence Address: Sarah E. Walker, Human Dimensions of Natural Resources, Colorado State University, Fort Collins, CO, USA. Email: [sewalker@colostate.edu](mailto:sewalker@colostate.edu)

lives (Patnaik, Das, & Bahinipati, 2019; Rigby, Rosen, Berry, & Hart, 2011). However, such frameworks must capture the complexities of the social, ecological, and cultural systems specific to social groups and their experience with climate change impacts.

Significant work has led to culturally inclusive well-being frameworks for use in impact assessment and policy implementation in the fields of natural resource management, conservation, and climate change social science (see Agarwala et al., 2014; Armitage et al., 2012; Milner-Gulland et al., 2014; Summers, Smith, Case, & Linthurst, 2012; Woodhouse & McCabe, 2018; Woodhouse et al., 2015). However, only a small amount of this work has been conducted with pastoral communities, and an even smaller proportion with pastoral women (for example, Rao, 1998; Woodhouse & McCabe, 2018). This study explores how pastoral women in the Samburu region of northern Kenya, who experienced significant impacts from drought, conceptualise well-being, and discusses the theoretical and applied implications of using well-being frameworks for supporting the climate change resilience of pastoral women.

## **2. Conceptual framework**

Adaptive capacity is the ability of individuals, households, and communities to adapt, and it is a critical component of climate change resilience (Adger, 2006). At the core of understanding how and why people adapt are the decisions people make to achieve and maintain well-being (Armitage et al., 2012; Deci & Ryan, 2008). As a result, well-being frameworks play an important role in guiding policy and interventions aimed at increasing the climate change resilience of communities and systems (Armitage et al., 2012).

### *2.1. Conceptualising and measuring well-being*

The vast body of well-being literature originates in the fields of psychology and international development (Gough & McGregor, 2007). In both fields, theories of well-being have transitioned from an initial ‘deficit’ approach about what people do not have, to asset-based models that focus on what people seek to achieve and maintain (Copestake, 2008). In international development, this transition has also paralleled a shift away from only economic measures of well-being towards more holistic and multi-dimensional measures of what it means to live well (Bleys, 2012; Fluehr-Lobban & Billson, 2013).

*2.1.1. The WeD framework.* In one effort to establish a holistic well-being framework, the Research Group on Well-being in Developing Countries (2007) developed the WeD framework. WeD operationalises well-being as both subjective and objective, and draws from literature on the theory of human need (Doyal & Gough, 1991), life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985), and the capabilities approach (Sen, 2017). Specifically, the framework defines well-being as the interplay between multiple factors: (1) the resources a person is able to command; (2) the goals they are able to achieve with those resources, and; (3) the meaning they give to the goals they achieve (McGregor, 2007).

Based on this definition, the WeD framework conceptualises well-being into three key dimensions: the material, the relational, and the subjective. The material dimension includes goods and assets such as food, shelter, income, employment, and similar standard of living indicators. The relational dimension comprises the social relationships that limit or enable a person to leverage material resources to meet their goals, and includes concepts such as social capital, access to goods and services, social norms, security, and collective action. Finally, the subjective dimension focuses on people’s subjective evaluation about what they have and achieved with their material and relational resources.

While most studies base their interpretations of the framework on Gough and McGregor (2007) original definition and delineation between the three dimensions, there has been some inconsistency

in how the dimensions have been interpreted and operationalised. For example, Woodhouse and McCabe (2018) describe the material dimension as what an individual objectively has, while McGregor and Sumner (2010) describe the material dimension as what an individual is able to objectively achieve. As a result, Woodhouse and McCabe (2018) place livestock, land, and income in the material dimension while McGregor and Sumner (2010) place these same indicators in the relational category, and place satisfaction of basic needs in the material dimension. This inconsistency in how scholars differentiate between the material and relational dimensions is contrasted by consistency in how studies apply the subjective dimension, collectively describing the subjective dimension as the evaluations and perceptions individuals have about their lives and achievement of their goals (Britton & Coulthard, 2013; McGregor & Sumner, 2010; Woodhouse et al., 2015; Woodhouse & McCabe, 2018). While the differences and similarities in these examples could be perceived as merely semantics, the subsequent categorisation of well-being indicators, such as income, social capital, and natural resources highlights the significant impact the delineation between dimensions has on how well-being is conceptualised and measured.

For this study we used Gough and McGregor (2007) original definition and delineation of the three dimensions which posits well-being as (1) what a person has (material), (2) what they can do with what they have (relational), and (3) how they think about what they have and can do (subjective).

While a specific definition of each of the three dimensions provides clarity, the interactions between these dimensions are also critical, and several authors have highlighted the theoretical and applied importance of these interactions. Woodhouse et al. (2015) described the WeD's dimensions as *interdependent elements* and argue that the dimensional nature of the framework counterbalances 'a tendency in policy to privilege material well-being and underplay subjective feelings and the social dimension of people's lives' (p. 3). Similarly, McGregor and Sumner (2010) argue that the interaction between the three dimensions is critical to the WeD framework and highlight this interaction as one of its unique aspects. However, such interactions have rarely been examined in existing research (Britton & Coulthard, 2013; Woodhouse & McCabe, 2018).

In one of the few applications of WeD to a pastoral context, Woodhouse and McCabe (2018) used a case study analysis to understand well-being from the perspective of Maasai communities in northern Tanzania. The results of the study highlighted the heterogeneity of how well-being is conceptualised across age, gender, and community. They asked both men and women to describe 'the good life' and found differences in perspectives between genders, as well as between age groups amongst men. The authors argue for the critical role well-being needs to play in supporting effective and ethical conservation and development policy in a system heavily impacted by drought. However, neither Woodhouse and McCabe (2018) nor other authors discuss the implications that interactions between well-being dimensions could have for such policy and intervention in systems heavily impacted by climate change.

To address this gap, this study applies the WeD framework to understand well-being from the perspective of pastoral women in northern Kenya, with a specific focus on the interactions between the WeD framework's dimensions. We subsequently discuss the implications for using well-being frameworks, specifically the WeD framework for supporting and policy and intervention aimed at increasing the climate resilience of pastoral women in East Africa.

### 3. Methods

#### 3.1. Study area: Waso East, Samburu Kenya

*3.1.1. Ecology and climate.* The Waso East district is approximately 4,950 km<sup>2</sup> and located in the lowlands of southern Samburu, Kenya. The ASAL regions in East Africa more broadly are characterised by unpredictable precipitation, and increased frequency of drought due to climate change (Serdeczny et al., 2017; Thornton et al., 2006). On average, Waso East receives 350 mm with peaks in April and November (Pas, 2018; Wittemyer, 2011). However, few years within the last few

decades closely represent this average, with some years notably drier and others notably wetter. The mean average temperature ranges between 18 and 30 degrees Celsius. The Samburu region is also a biodiversity hotspot, home to several endemic and imperilled species such as Grevy's zebra (*Equus grevyi*), reticulated giraffe (*Giraffa camelopardalis reticulata*), and Beisa oryx (*Oryx beisa*) and over 450 recorded bird species. As the frequency and severity of drought increases, intensified grazing in addition to other ecological disturbances (for example, invasive species, land fragmentation, changes in fire regimes) has resulted in a severely degraded landscape leading to significant negative impacts on both wildlife and pastoral livelihoods (Vågen & Winowiecki, 2014).

*3.1.2. Pastoralism and livelihoods.* Archers Post, the largest settlement in Waso East, is a community of approximately 6,000 people (County Government of Samburu, 2017). The region is home to historically nomadic pastoral groups, including the *Samburu* (note: Samburu in italics refers to the tribe; non-italicised refers to the geographic place), Turkana, Rendille, and Borana tribes. Traditionally, households moved with their herds in search of pasture and water and relied solely on livestock and foraging for basic needs (Spencer, 1965). However, communities have transitioned to a more sedentary lifestyle in response to several government policies and an increased desire for access to services such as schools, markets, and health care facilities. Trading livestock at markets is one of the primary ways pastoralists provide for their families, although livestock continue to play an important non-economic role in cultural practices and ceremonies as well (Holtzman, 1996). However, a complex interaction of non-climatic factors such as land-fragmentation, insecurity, and limited grazing rights have reduced the mobility of pastoral communities and resulted in intensified and sedentary grazing (Vågen & Winowiecki, 2014). In addition livestock, diversified livelihood strategies such as small business and tourism enterprises are increasingly common in response to both push and pull factors, such as increased drought and access to new markets (Lenaiyasa, Bruyere, Salerno, & Pickering, 2020).

*3.1.3. Social structure and gender.* In addition to significant economic and ecological shifts, gender roles in Samburu are increasingly dynamic and complex (Holtzman, 1996). Cultural practices and beliefs around polygamy, child marriage, education, female genital mutilation, domestic violence, and property rights are complicated and should not be over-simplified as rooted only in gender inequities, but they inarguably limit the agency and well-being of women in communities across the region. While gender norms strongly influence community structure and decision-making processes (Holtzman, 2001), these norms are undergoing significant and rapid change (Mogambi & Ochola, 2015; Straight, 2000). Additionally, age sets are of particular importance to *Samburu* culture for both men and women; age set often determines who people spend time with, their daily activities, and their role in the community.

### 3.2. Site

This study was conducted with women from the greater Archers Post community in the Waso East district of Samburu. While women in this community share many similarities in terms of their day-to-day life experience, participants in this study lived anywhere between 2 km to 10 km away from Archers Post town. As a result, their households have varying access to pasture, water sources, clinics, schools, and other resources.

### 3.3. Research ethics

Our research team consisted of six local community members and two western researchers from an American university. The team members who led data collection were all women from the participating communities. All members of the team played a role in designing the study, creating and piloting methods, and ensuring the methodology was culturally appropriate. Three of the local research team

members also supported analysis and discussed the implications of the results. In addition to the research team, a group of local advisors (prominent women leaders in the community), gave regular feedback on the project and supported the dissemination of results.

Permission for conducting this research was gained both through Colorado State University Institutional Review Board (IRB) and through consultation with local elders and community leaders. Results from the study were shared and discussed with participants, and dissemination workshops with local organisations are planned to strengthen their climate resilience and development initiatives.

### 3.4. Sampling

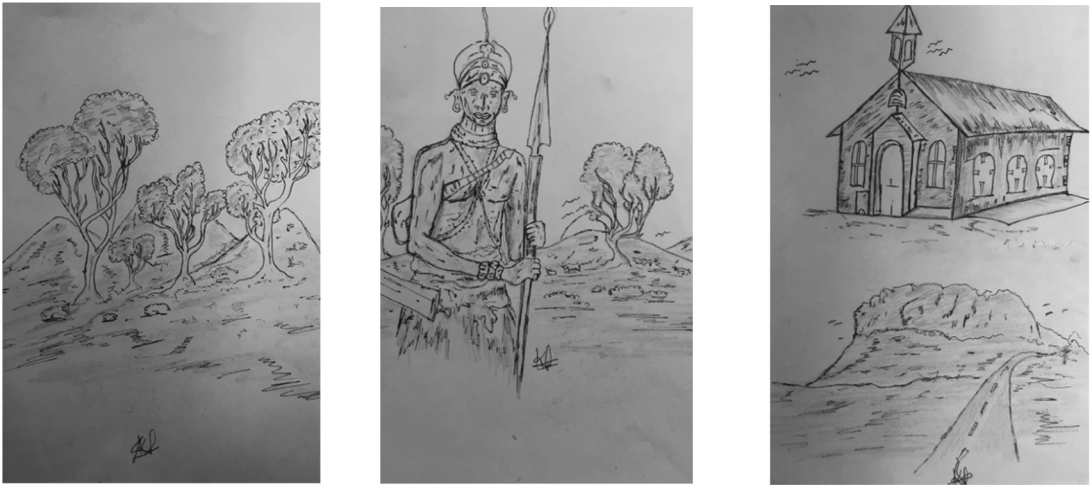
Given the cross-cultural differences between the researcher and the participants, as well as the cultural norms in the region around relationships, purely randomised approaches were neither practical nor ethical. A history of extractive-type research in the region has resulted in unclear or negative sentiments towards research, which has made relationship-building an essential research step in order to overcome these sentiments. Therefore, prior to the commencement of data collection, the primary author visited the area in advance to interact and establish relationships with community members, often in partnership with local research team members. Individual participants were selected using a snowball sampling approach that resulted in participants of diverse age sets, formal education experience, and socioeconomic status. However, it should be noted that Samburu women have very diverse life experiences and our participants, and their perspectives are specific to women living within the greater Archer's Post community. Additionally, a snowball sampling approach often results in participants recommending potential participants that are similar to themselves (Woodley, 2016), resulting in a biased sample and a potential limitation to our study. Additionally, while we were able to make sure our sample included women whose homes were located various distances from the town centre, represented a variety of ages, and had a diversity of formal education, we did not control for wealth, creating an additional limitation of our study.

### 3.5. Data collection

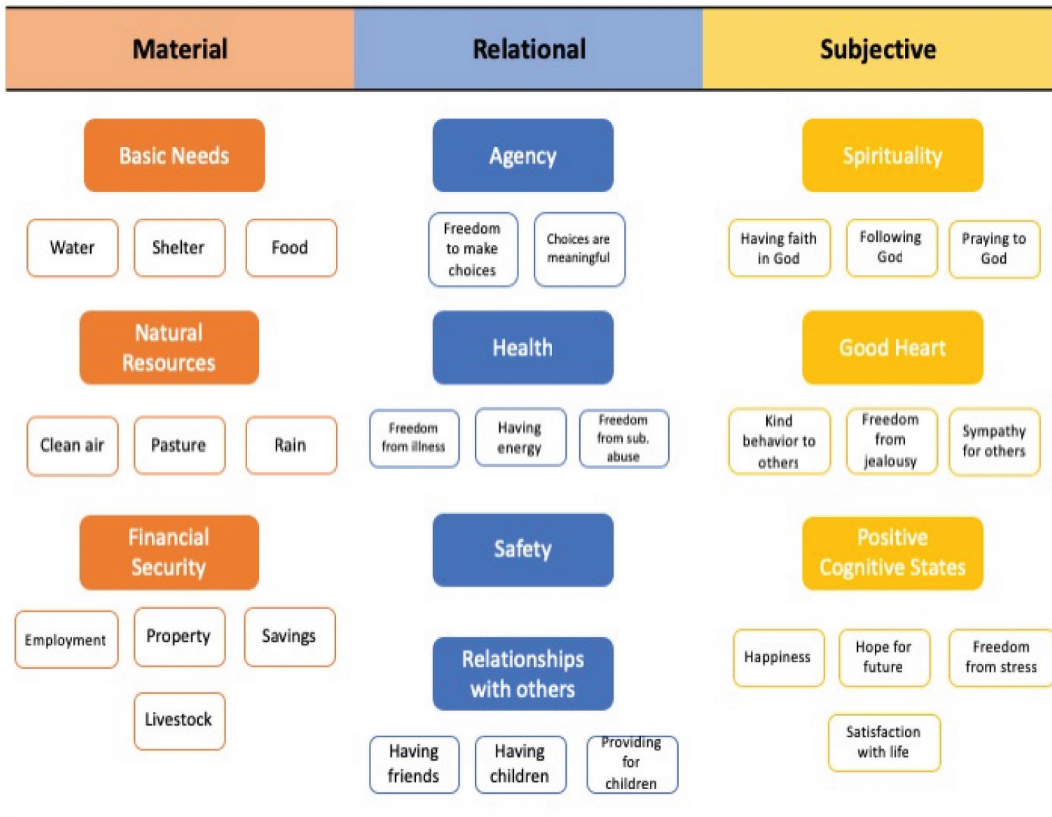
Data were collected using two methods. First, individual semi-structured interviews were conducted with 30 women to define what it means to have a 'good life' (see Woodhouse & McCabe, 2018). Participants were asked to discuss the aspects of a person's life that determine whether one has a 'good life,' and describe stories about times where they felt satisfied with their lives. The interviews were dynamic and often included non-scripted prompts based on our research team's prior relationship with the participant (see Glesne, 2016). Interviews were conducted in the *Samburu* language (a dialect of *Maa*), facilitated by a local team member, and audio recorded. Analysis of transcripts resulted in 12 themes and 28 sub-themes (see Figure 2).

Themes and subthemes were then drawn by a local artist (see Figure 1) for use in the second method, an activity entitled 'Build Your Best Life (BYBL)'. Drawings were used in combination with verbal prompts to increase accessibility of the activity to population with low literacy levels. Additionally, the drawings provided an easy, comfortable, and interesting introduction into the activity that seemed to engage participants quickly. The drawings of themes and subthemes were shown to participants in groups of three to four women. Each participant group was shown the same images, in the same order, and asked to collectively select the three images they would prioritise most highly in order to have a 'good life.'

The method was pilot tested with five different participant groups prior to data collection. After the completion of the piloting, participants were asked questions about the clarity of the activity. Subsequently, our local research team reviewed the data from the pilot testing and the feedback from participants and made adjustments. These adjustments included bundling the images in three groups to help simplify the task as well as selecting 19 of the total 40 themes and subthemes to



**Figure 1.** Example of illustrations by local artist used in BYBL method. Example illustrations represent (left to right) healthy natural resources (material), safety (relational) and spirituality (subjective).



**Figure 2.** Organisation of themes, subthemes and association with Wed Dimension.

include in the activity, after piloting indicated some images were too abstract or similar to each other for participants to effectively prioritise.

The activity was facilitated by a local research team member while two other local team members took notes on each group's choices and discussion. The BYBL method was developed by our research team and based on prior experience conducting research in Samburu using paired comparison methods (Bruyere, Kincheloe, Pickering, Heisel, & Lekanta, 2018), focus groups (Walker et al., 2020) and participatory methodology more broadly (Beh, Bruyere, & Lolosoli, 2013). The purpose of the activity was to both capture contextual data about each of the themes from larger group of participants as well as gain an understanding of which themes were most important or salient to participants.

### 3.6. Data analysis

Audio recordings of the interviews were transcribed into *Samburu* and translated into English. All translated transcripts were reviewed a second time to ensure accuracy. In addition, local team members took notes during the BYBL activity, noting participant discussion about the rationale for why specific themes were selected as a top three priority.

Thematic analysis was used to analyse the interview transcripts and group discussion notes from the BYBL method. Following Braun and Clark's (2006) protocol for thematic analysis, data were reviewed multiple times to build familiarity with the data, and then codes were generated. Codes were then organised into themes and subthemes of well-being using the WeD framework. Next themes and their respective subthemes were reviewed, defined, and named, leading to interpretation and preparation of final results. Thematic analysis was conducted using NVivo software.

## 4. Results

Thirty (30) women from three age groups participated in the interviews: 23 per cent from ~18–30 years, 43 per cent from ~31–45 years, and 34 per cent from ~46+ years. In addition, 70 per cent of women had no formal education, while 30 per cent had at least some formal schooling, ranging from three to 12 years.

The BYBL method was conducted with 20 groups, with three to four women in each group, for a total of 78 participants. The women represented multiple age groups (29 per cent from ~18–30 years, 41 per cent from ~31–45 years, and 30 per cent from ~46+ years) and approximately 30 per cent had some experience with formal education. Approximately 20 per cent of women who participated in BYBL activity also participated in the interviews.

Our analysis of the interview data revealed 12 themes and 28 subthemes representing what women identified in the interviews as important for the 'good life.' After discussion with our research team, we determined that two of the 12 themes (*being alive* and *overcoming challenges*) referred to more broad and abstract aspects of well-being compared to the other 10 themes and could not be logically attached to any of the three WeD dimensions. A more detailed rationale for this decision is outlined in the description of the themes. The remaining 10 themes and associated subthemes were assigned to one of the three WeD dimensions following the work of Gough and McGregor (2007), resulting in three themes as *material*, four themes as *relational*, and three themes as *subjective* (see Figure 2). Each theme consisted of between zero and four subthemes.

### 4.1. Description of themes: material themes

*Theme: Basic needs*

*Subthemes: Water, food, shelter*

*Most often discussed in conjunction with: Financial security*



The importance of meeting *basic needs* was a common theme in the interviews. Three common subthemes of *basic needs* were *food*, *water*, and *shelter*. *Water* and *food* were often discussed in the context of ‘having enough’ while *shelter* was discussed both in the context of ‘having a home’ and the quality of the home. Unique to *water* were the connections made to other aspects of women’s lives. Many women explained that *water* is essential to fulfil all of the daily activities a woman is responsible for, such as taking care of young livestock, cooking, and washing clothes.

*Basic needs* were often mentioned in the context of other themes about the good life, such as *financial security*, *positive cognitive states*, and *rewarding relationships with others*. For example, one interviewee described this interaction between *basic needs*, *financial security*, and *relationships with others*:

*You work hard to find other means, so that your children will not get hungry in the dry season. You work so hard so that your children will get food to eat, even if somebody calls you to do laundry and pay you, so that you buy food for your children.*

Theme: *Natural resources*

Subthemes: *Clean air, pasture, rain*

Most often discussed in conjunction with: *Positive cognitive states*

When describing the ‘good life’ many women referred to the health of the environment. More specifically, they discussed *clean air*, *healthy pasture*, and sufficient *rain*. All three of these subthemes were discussed in the context of their utilitarian value: *clean air* for breathing, and *healthy pasture* and *rain* for livestock.

Women also connected a healthy rangeland to positive cognitive states, explaining that sufficient pasture and water bring the livestock home, uniting families and communities. ‘*When there is green pasture, we have ... happy moments since our animals are at home*’.

Theme: *Financial security*

Subthemes: *Employment, property, savings, livestock*

Most often discussed in conjunction with: *Agency*

*Financial security* was one of the most frequent themes from the interviews, and most often discussed as a means of achieving outcomes and assets represented in many of the other themes.

Owning *livestock*, and more specifically owning *healthy livestock*, was the most frequently mentioned example of *financial security* and discussed as an essential component of having a good life. One woman explained that having *livestock* was critical to achieving other aspects of the good life:

*If I have my own livestock, I can feel that I’m good because livestock are the only ones who can help, even in an emergency. If I feel that I’m not feeling well, my own livestock are the ones who can help me because I can go and sell them and buy medicine for my home. I can even sell them to pay the school fees for my children.*

The utilitarian value of livestock, compared to their cultural value, was the most frequently discussed rationale for their inclusion in the good life. Some women explained that the value of *livestock* comes from their ability to provide essential *basic needs*.

*Financial security* was discussed in relation to other themes such as *agency*, *relationships with others*, and *basic needs*. Women discussed a job and other non-livestock means of making of living as important for providing a sense of independence and agency. For example, one participant stated: ‘*Having a job is better because one will not depend to others since she works for herself so to sustain all her basic needs.*’ Women also linked *financial security* to being able to *provide for their children* and families.

#### 4.2. Description of themes: relational themes

##### *Theme: Agency*

*Subthemes: Freedom to make choices, choices have meaningful impact*

*Most often discussed in conjunction with: Financial security*

The theme *agency* represents the ability to do something about one's situation. This theme is comprised of two subthemes: having the *freedom to make choices* and living in an environment *where choices have a meaningful impact*. Women discussed being able to rely on themselves to provide for their family and being able to do what they 'wanted.' For example, one participant said '*Yes (I have a good life), because I make my own choices. Because God gave me a life, I don't expect to depend on somebody to make decisions for me. I have to depend for myself to have a good life*'.

Women often linked *agency* with *financial security* and being able to help others in times of need, resulting in a *good heart*. They also frequently discussed the feeling of '*not being able to do anything*' about a situation as an indicator of not having a good life, which was often discussed in the context of drought. Many women said that during a *riai* (*Samburu* term for extreme drought), for example, they cannot have a good life, because there is nothing a person could do to change the situation.

##### *Theme: Health*

*Subthemes: Freedom from illness, having energy, freedom from substance abuse*

*Most often discussed in conjunction with: Relationships with others*

Participants described good *health* as an essential part of having a good life. Women often discussed *health* as a lack of illness or as *having the energy* to carry out daily responsibilities. *Health* was also discussed in the context of loved ones, including the health of children and family members, as well as the health needed to provide for children. One participant stated:

*If I wake up and feel like I don't have anywhere in my body that's hurting, I will go and do what I want to do or do work that I am capable of doing. But if I wake up and feel sick, that shows that I don't have a good life.*

There was no discussion about healthcare access to healthcare or about treatment of illnesses. Rather, all comments were framed as maintaining *health* or preventing illness.

Women often linked *health* to other dimensions, such as *relationships with others*. Their own *health* made them capable of taking care of others, and in times of poor *health*, they needed others as caregivers. For example, one participant noted needing her husband when she was ill to care for her and her children: '*When I'm . . . sick and I have my husband because he will look for food for the kids and then sometimes when I give birth, he will take care of the kids.*'

##### *Theme: Safety*

*Subthemes: none*

*Most often discussed in conjunction with: Agency*

*Safety* was almost always discussed in the context of tribal conflict. Women described *safety* as not having to worry about violence between tribes. They also described the uniting power of safety; security from violence enabled people to continue to live in their communities together.

*Safety* was often discussed in tandem with *agency*, specifically the subtheme of *choices having meaningful impacts*. Some participants explained that tribal violence was something out of their

control and therefore limiting their *agency* and negatively impacting their well-being. For example, one participant explained ‘*There is always challenges or problems, that keeps coming in someone’s life that I can’t control. For example, when Turkana fights with Samburu, it’s hard to control that and to have a good life*’.

*Theme: Relationships with others*

*Subthemes: Having friends, having children, providing for your children*

*Most often discussed in conjunction with: Positive cognitive states*

*Relationships with others* were discussed in both the context of family and neighbours. There were three subthemes for *relationships with others*. First, having strong relationships with *friends*, which was often explained in the context of social capital; in a time of need, *friends* provide support.

Second, women explained that *having children* was one of the most critical aspects of a good life for a *Samburu* woman. Women argued that a women’s identity was intrinsically linked to her role as a mother. Some women went as far as to say that a woman had little to no significance in the community if she lacked children. This was illustrated by the common system following childbirth, when a mother is then referred to in relation to her child’s name (for example, ‘Mama Nahla’ or ‘Mama Gumato’). Women also discussed having kids as building a legacy for their families and raising future leaders.

Women also brought up the practical role of children, such as helping herd livestock, support domestic chores, and take care of parents as they age.

Third, women discussed being able to *provide for their children* as critical to the good life. For example, one woman said, ‘*If my children have food, if they are all in school and there are no children that have stress, that’s when I have a good life, because I don’t have stress.*’ Sending children to school and making sure they had enough to eat was the most frequent context in which providing for children was discussed. Women connected children attending school with the potential for a better future, specifically in terms of better livestock management, better community leadership, keeping young adults away from bad influences, and having wealthier children to take care of their parents as they age. Notably, there was no reference about gender when discussing sending children to school.

Relationships with others were often linked with other themes such as *agency*, *freedom from stress*, *financial security*, and *basic needs*. For example, women rationalised the importance of *agency* so that they could care for their children:

*If I have my own (livestock), I can feel that I’m good because ... my own livestock are the ones who can help me because I can go and sell them and buy medicine from my home. I can even sell them to pay the school fees for my children.*

#### 4.3. Description of themes: subjective themes

*Theme: Spirituality*

*Subthemes: Having faith in God, following God, praying to God*

*Most often discussed in conjunction with: Health*

Along with *being alive*, *spirituality* was one of the most frequently coded themes, and discussed as essential for a ‘good life’ by almost all participants. Participants’ discussion of their spirituality was coded into three subthemes. First, when asked what it means to have a good life, a majority of participants answered with ‘having my God’ or ‘knowing’ or ‘believing in God.’ Second, women described the good life as one in which you were *following God* (for example, by loving others and following rules laid out in religious texts). Third, *praying to God* was the most commonly used

phrase to describe an individuals' spirituality and referenced praying to a Christian God as well as praying to the mountains and wildlife.

Discussions of spirituality frequently overlapped with discussions about sense of control, often stating that the good life was ultimately under God's control and discussed God as the provider of assets in other themes such as *Health*.

*Theme: Good heart*

*Subthemes: Kind behaviours to others, freedom from jealousy, sympathy for others*

*Most often discussed in conjunction with: Relationships with others*

Having a *good heart* was the most frequently coded theme from the interview data. Women described having a *good heart* as a self-evaluation of how to think about and treat other people. In this theme, many participants described behaviours that exemplify a person with a *good heart*. One woman described having a *good heart* as 'even if you want to fight with somebody, you just leave and wish good things to happen. You have a good heart.' Subthemes include *kind behaviours towards others*, which described actions such as not 'fighting with others' and 'not speaking poorly of others'; *freedom from jealousy*; and *sympathy for others*. While different people used varying examples, almost all participants used the exact phrase of *Itau supat* (Samburu for good heart) as essential to having a good life.

A *good heart* was often discussed in connection to *relationships with others* and *positive cognitive states*.

*Theme: Positive cognitive states*

*Subthemes: Happiness, hope for the future, satisfaction with life, freedom from stress*

*Most often discussed in conjunction with: Relationships with others*

The theme of *positive cognitive states* represents a number of positive emotions and feelings. *Freedom from stress* was the most commonly referred to positive cognitive state. Women discussed experiencing these *positive cognitive states* as critical signs of the 'good life'. For example, one participant explained 'The happiness I have when I'm waking up, that's how I know I have a good life'.

Many of the other themes such as *basic needs*, *financial security*, *relationships with others*, and *health* were discussed in conjunction with positive cognitive states. For example, one woman explained that ensuring her children experienced *freedom from stress* was an important driver of her own experience with stress: 'when there is no children that have stress, that's when I have a good life, because I don't have stress.'

#### 4.4. Description of themes: non-dimensional themes

*Theme: Being alive*

*Subthemes: none*

*Most often discussed in conjunction with: Spirituality*

The theme *being alive* was one of the most common themes throughout the data. When asked what it meant to have a 'good life' many women answered with phrases such as or similar to 'being alive' or 'just waking up in the morning.' *Being alive* was often a participant's first answer when asked to explain the *good life* and was frequently discussed in conjunction with the theme of *spirituality and health*. Example phrases that were coded as *being alive* included: 'waking up in the morning,' 'just

*being alive,* and *'breathing.'* Additionally, this theme often was mentioned alongside expressions of a theme of spiritual gratitude, acknowledging that *'God is the giver of life'* and simply *being alive* was a gift, and that all life was *'good.'*

Comments coded as *being alive* were almost always followed by comments that were coded to other themes. This theme did not align with the material, relational or subjective dimension of WeD. Further, our research team felt that being alive is a requirement for experiencing any type of life, good or bad. As a result, we decided to omit *being alive* from the BYBL method.

*Theme: Overcoming challenges*

*Subthemes: None*

*Most often discussed in conjunction with: Spirituality*

Another important theme from the data is the role that experiencing and *overcoming challenges* plays in the *good life*. Women discussed challenges in two key ways. First, they discussed experiencing challenges as a natural aspect of life: *'it's a must (experiencing challenges) because when you are living in this world you have to experience challenges, at the same time you can have a good life.'* Experiencing challenges does not prevent a woman from having a good life; in fact, women discussed the ability to overcome challenges as a key indicator of the good life. Unlike other themes that were discussed as components of the *'good life'*, *overcoming challenges* was discussed as a more holistic description of a good life; you need all these different components of the good life to rely on as you overcome the inevitable challenges you will experience in your search for the good life. Women discussed *overcoming challenges* as a complex and multi-faceted process essential for having a good life; one that was possible when the other components of a good life are present. This theme did not fit the WeD framework and as a result, was not placed in a dimensional category and subsequently omitted from the BYBL method. However, the omission from BYBL does not illustrate the unimportance of this theme. Overcoming challenges was frequently discussed in the context of drought, as drought creates a variety of challenges women have to overcome in order to have a good life. Many women articulated that drought can create such significant challenges, that having a good life becomes impossible.

## 5. Ranking of themes

A second analysis was conducted with the BYBL data. A score of one (1) was given to a theme/subtheme (represented by images) each time it was selected by a group. Points for each theme/subtheme were summed, providing a frequency count for each (see [Table 1](#) for results). Images that were chosen as a top three priority by more than 50 per cent of groups included: *sending children to school having children, good heart, agency, spirituality, water, providing basic needs for children,* and having *livestock*.

### 5.1. Integration of themes

As demonstrated by the descriptions of each individual theme, almost every theme was discussed in relation to another theme, often characterised by statements such as *'A leads to B, and B leads to C'*. [Figure 3](#) illustrates some of the most salient connections made by participants during interviews and the BYBL activity.

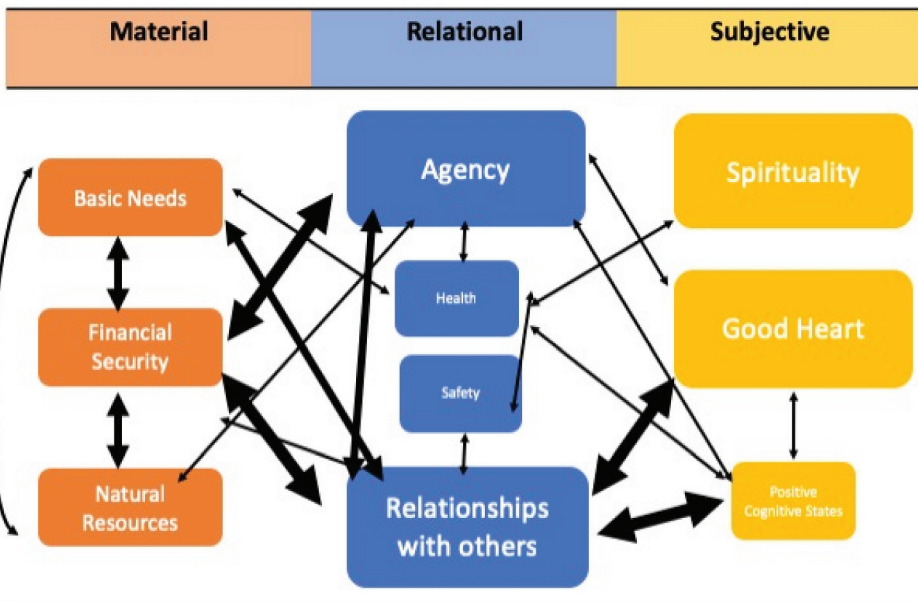
## 6. Discussion

Women in Samburu are constantly adapting and adjusting to stressors, including climate-related stressors, as they work to secure and maintain well-being for themselves, their families, and communities. The concept of well-being is critical for understanding and supporting social-ecological

**Table 1.** Build Your Best Life results including frequencies, mean ranking scores by all participants

Image shown to participants	Theme Dimension	# of times chose as a top 3 priority <sup>1</sup>	Overall ranking
Sending children to school	Relationships with others Relational	20	1
Having children	Relationships with others Relational	17	2
Good heart	Good heart Subjective	16	3
Agency	Agency Relational	15	4
Spirituality	Spirituality Subjective	15	4 –
Water	Basic Needs Material	14	6
Providing basic needs for children	Relationships with others Relational	12	7
Livestock	Financial security Material	10	8
Natural Resources	Natural resources Material	9	9
Giving to others	Good heart Subjective	9	9
Property	Financial security Material	8	11
Safety	Safety Relational	7	12
Shelter	Basic needs Material	6	13
Savings	Financial security Material	6	13
Employment	Financial security Material	5	15
Positive cognitive states	Positive cognitive states Subjective	4	16
Health	Health Relational	3	17
Friends	Relationships with others Relational	2	18
Food	Basic needs Material	2	18

Note: 1 = maximum total is 20.



**Figure 3.** Illustrates the linkages between themes. The size of the boxes around each theme indicates how highly each theme was ranked in BYBL. The arrows indicate linkages between themes, and the weight of the arrows indicates how often the link between the components was mentioned during both interviews and BYBL.

resilience as it provides an ultimate goal for interventions aimed at increasing the resilience of communities, households, and individuals (Armitage et al., 2012; Béné, Frankenberger, & Nelson, 2015; Béné et al., 2012). However, in order to design such interventions in ways that are appropriate

for local context, culturally relevant and place-based frameworks are essential. The results of our study provide an example of such a framework for the context of Samburu women in the Waso East region.

Our results indicate that participants conceptualise well-being in 12 unique ways and prioritise *spirituality*, a *good heart*, *agency*, and *relationships with others* as the most important aspects of their well-being. These themes fit well within and support the three-dimensional framework outlined in WeD. Additionally, when a well-being theme or subtheme was discussed by participants, it nearly always led to further discussion about another theme or subtheme. For example, the theme of *financial security (material)* was discussed as enabling women to provide for their children and families (*relational*) leading to feelings of *freedom from stress (subjective)*. Similarly, *health (relational)*, while partially attributable as an outcome of meeting *basic needs (material)*, was often described as a requirement for *agency (relational)* subsequently linked to the ability to take care of one's family, leading to *freedom from stress (subjective)*. Additionally, *agency (relational)* refers to the ability of people to make choices with what they have (*material*), leading to *subjective* themes such as *positive cognitive states* and being kind to others (*subtheme of good heart*) by capacity to give material assets to others.

These linkages between components have important implications for how we conceptualise well-being using the WeD framework and for policy and interventions that seek to support the well-being of pastoral women as they adapt to the stressors of climate change.

### 6.1. Linkages between WeD dimensions: implications for conceptualising well-being

Previous literature has explicitly stated the importance of considering components of well-being in relation to one another (see Britton & Coulthard, 2013; Woodhouse et al., 2015; Woodhouse & McCabe, 2018). However, few studies have provided actual examples of how different components interact across the three dimensions, and the subsequent implications of such interactions. Our results suggest that well-being components within the three dimensions of well-being rarely occur in isolation; each one builds on, from, or influences, another.

These interactions have important implications for how we conceptualise, rationalise, and measure well-being. For example, women in Samburu prioritised well-being assets within each dimension, such as access to *basic needs (material dimension)*, a *good heart (subjective)*, and *relationships with others (relational)* as most important. Without consideration to how the components interact, food and water, for example, would likely be understood as fulfilling mostly a physical health need. But it does more than that: it leads to *freedom from stress (positive cognitive state)*, which can have positive implications for her relationships with others. Similarly, *agency*, if thought about in isolation from other themes and dimensions, would be thought of only as individual decision-making power. In reality, it has important collective implications, as participants explained that it increased their ability to share resources *with others*, achieve *financial security*, and experience *freedom from stress*. These linkages provide additional depth to high priority components by highlighting how they influence and are influenced by seemingly less salient components.

Additionally, if we only examine the components of well-being in isolation from one another, less salient but important components stand to be ignored. This can result in incomplete or overly simplistic well-being frameworks. For example, *positive cognitive states*, when examined individually, emerged as a third-tier priority (in the BYBL analysis). Two other components were prioritised more highly within the same *subjective* dimension. However, in our analysis of women's discussions, *positive cognitive states* were frequently connected to other highly prioritised components; *relationships with family and friends* brought *happiness* and *freedom from stress*; *agency* brought *feelings of optimism*, and *freedom from stress* enabled women to be kinder to one another. When considered independently, *positive cognitive states* appear as a tertiary component of well-being; when considered in context of other components, it is arguably one of the most important components of well-being. These results also call into question the usefulness of ranking data when analysed in isolation. Our ranking data is an important aspect of our results, but on its own, tell an incomplete narrative of Samburu women's experience with well-being.

## 6.2. Implications for policy and interventions

An increased focus on the interaction between dimensions and their associated components is particularly important for policy and intervention design related to development initiatives, such as climate change adaptation. Well-being is relevant to such a context because it is both an important driver of decision-making (Deci & Ryan, 2008) and in turn, adaptation (Armitage et al., 2012). As a result, well-being is often an outcome variable in theory of change models used to design and implement interventions focused on improving adaptive capacity to climate change (Agarwala et al., 2014; Armitage et al., 2012; McGregor, Camfield, & Woodcock, 2009). When we move away from siloed frameworks of well-being and consider cascading impacts between different components of well-being, we increase the accuracy of theory of change models, and subsequently, the efficacy of interventions in two key ways.

First, the effectiveness of interventions can be increased by understanding how different variables interact with one another. Take the example of a micro-loan program, a commonly used intervention focused on climate adaptation with women by several NGOs in the Samburu region. Such an intervention might use well-being indicators as a measure of the program's effectiveness. One potential theory of change model for a micro-loan program might posit that increasing the short-term financial resources of women would lead to an increased ability to invest in adaptive livelihood strategies. In turn, this could lead to increased adaptive capacity to climate stressors and ultimately well-being components such as *freedom from stress* and *basic needs*.

Conversely, a theory of change model that recognises the relationships between themes of well-being would also posit that relational components of well-being, such as *agency* and *safety*, play an important role in women's ability to leverage *financial resources* into *freedom from stress* and *access to basic needs*. In our study, participants explained that tribal security in the region decreased their sense of agency as it limited their ability to make adaptive choices. An intervention that considers the temporal patterns of local violence and the impact such insecurity has on women's agency, could implement programming during times when insecurity is less likely to occur or include training that addresses the risk of tribal violence to livelihoods in addition to micro-loans. This adaptation to the intervention could increase the likelihood of participants investing in alternative livelihood strategies, and ultimately securing basic needs and freedom from stress despite climate stressors. By understanding how components of well-being impact one another, interventions can be designed in ways that more effectively address potential barriers.

Second, recognising the relationships between the different components of well-being also provides more opportunities for intervention. Take the same example of a climate change adaptation intervention working to increase access to adaptive livelihood strategies by providing micro-loans to Samburu women. A theory of change model that places well-being as the long-term desired impact, points to economic options for interventions. However, recognition of the linkages between well-being components highlights other options in addition to economic interventions, such as interventions that leverage agency, which has the potential to positively influence other aspects of well-being. Such an intervention might actually seek to increase women's decision-making power by providing education opportunities like financial literacy or small business training in addition to providing credit access to support alternative livelihoods. Ultimately, recognising the interactions between dimensions highlights multiple avenues for interventions and encourages adaptive management of interventions within unique and dynamic systems.

## 7. Conclusion

Samburu communities and pastoral communities more broadly are living with the impacts of climate change. These impacts, in combination with the social, economic, and institutional constraints on their ability to respond, threaten the viability of pastoralism livelihoods and the well-being of those who practice them. As a result, increasing the climate resilience of pastoral communities, and the



resilience of vulnerable groups within these communities, is a critical focus for policy and development intervention. Well-being frameworks provide useful indicators for such interventions and policies because they are more holistic than more commonly used economic indicators, and when used appropriately, account for diversity in local contexts. However, for indicators of well-being to most effectively support interventions and policies aimed at supporting climate resilience, well-being frameworks need to be created from the perspectives of people living with reality of climate change and account for the interaction between the various components of well-being.

Recognition of the interactions between components can support effective climate resilience by providing an increased number of pathways for potential intervention and encouraging the adaptation of interventions to more accurately reflect the context in which they are situated. Because disturbances such as climate change occur in increasingly complex social-ecological systems, well-being frameworks need to similarly reflect that complexity.

The results from this study are specific to a single group of women from Samburu, Kenya, and should not be generalised across cultures and gender. However, the linkages between themes and dimensions of well-being demonstrated by our data provide guidance for how to conceptualise and measure well-being in ways that honour the unique perspectives of vulnerable social groups as they adapt to the increasing pressures of climate change.

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### ORCID

Sarah E. Walker  <http://orcid.org/0000-0003-3095-9194>

Brett L. Bruyere  <http://orcid.org/0000-0001-7802-5468>

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