Exploring perceptions of National wellbeing: links between inequalities, health, and wellbeing in Ghana

by

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Author's Declaration

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Statement of Contributions

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I hereby declare that as lead author on all three manuscripts, I was responsible for the research conceptualisation, data collection and analysis. I was also responsible for drafting and submitting all the articles for publication in the respective peer-reviewed journals. I also addressed all the comments from peer-reviewers. The other co-authors adopted a supervisory role, providing directions in data collection and feedback on draft manuscripts. Dr. Susan Elliott, as the primary supervisor provided significant direction and editorial assistance.

Abstract

We live in a world currently faced by unprecedented social and environmental changes (WEF, 2017). In the face of such rapid change, it is becoming difficult to understand what population wellbeing might mean as well as the indicators that capture its essence. Since the post war era, Gross Domestic Product (GDP) has been widely used as an indicator of population wellbeing (Potter et al. 2012). However, in recent times, population wellbeing or how people are doing and their progress is increasingly seen as more than merely the value of economic activity undertaken within a given period of time. In response to the growing discontent with the use of economic measures to reflect societal progress and population wellbeing, there has been a global momentum to develop and encourage the use of community level indicators of wellbeing (Michalos, 2011; Davern et al., 2017). These initiatives aim to increase public understanding of wellbeing and ideas of the 'good life' beyond traditional economic measures. Despite the relevance of these alternative measures for practical and policy purposes, their application remains limited in low to middle income countries (LMICs), especially sub-Saharan Africa (SSA). The limited usage is due to the narrow focus of current measures and their inability to adequately capture what wellbeing means in the SSA context. Also of critical importance is whether the constituents of these 'Beyond GDP' measures represent what really matters to people in their specific contexts and captures the collective, contextual and compositional attributes that shape wellbeing of places in low to middle income countries.

This thesis explores the meaning of wellbeing, with emphasis on the role of inequality as a key contributor to the wellbeing of places in low to middle income countries (LMICs), using Ghana as a case study. The research focused on three broad objectives: first, to develop an integrated framework for understanding links between inequality and wellbeing in LMICs; second, to explore lived experiences, perceptions and understanding of wellbeing and its indicators in LMICs and finally, to explore the potential pathways that link inequalities, and wellbeing in the context of LMICs. A mixed-method approach involving a conceptual review, key informants interviews, focus group discussions and a survey were used in the research.

The conceptual review suggests that the role of place and inequality in wellbeing research is inadequately conceptualized and inequality as a key attribute of the wellbeing of places in LMICs is not given adequate attention. The review thus suggested that an integrated framework

will enable researchers to adequately conceptualize inequality and wellbeing. It further shows that inequality affects wellbeing through multiple pathways. First, inequality may lead to poor wellbeing through *status anxiety*- the psychosocial response of individuals or societies to the perception of their place in the status ladder. Secondly, the 'social facts' of communities and societies like inequalities may have long lasting impacts on social cohesion and community vitality. This is especially important in the context of LMICs where communities, and not individuals, mostly serve as the units of identification and development. Thirdly, inequality is detrimental to population wellbeing in LMICs through the differential accumulation of exposures and experiences that have their sources in the material world, which weakens societies' willingness to make investments that promote the common good. Results from the key informants and focus group discussions revealed similarities as well as context specific descriptions or definitions of wellbeing across Ghana. Description of wellbeing consists of an embodiment of both material and non-material circumstances. The descriptions or definitions that people ascribe to wellbeing were complex and context dependent. Perceptions of the relative importance of indicators differed depending on sex, gender, and location. Further, findings from the survey (n=1036) reveal that inequalities affect wellbeing by constraining access to basic amenities like water, food, and housing and also through its effects on community social capital and cohesion.

This research makes important contributions to knowledge, policy, and practice. Theoretically, the research links capability framework with an ecosocial theory to demonstrate the multidimensional nature of wellbeing by revealing the contextual influences that simultaneously facilitate and constrain optimum experience of wellbeing. The framework outlined is a useful tool for exploring how structural forces at different scales interact to shape population patterns of wellbeing in low to middle income countries. The framework is beneficial as it enables researchers to connect interactions between environmental risks and (re)actions with broader socio-economic factors to understand wellbeing inequalities and how populations literally embody inequalities. Moreover, the framework can be applied to the embodiment of other risks (e.g., water/air pollution) within similar (or different) contexts. Methodologically, the research contributes to the conceptualisation and measurement of wellbeing in a cross-cultural context and expands health geographers' substantive focus to include population wellbeing. The research also provides an effective example of an embedded mixed-method design by highlighting the strengths of mixing quantitative methods with other research methods such as focus group discussions and key

informants interviews in order to gain a nuanced understanding of wellbeing. In terms of policy, the research highlights to adopt wellbeing as the central focus of policy interventions. It also highlights the need for policies to respect community perspectives and experiences in identifying what matters to forge a common understanding not only of wellbeing but also what is fair and just.

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Dedication

This work is dedicated to my mother, Augustina Kangmennaang

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Chapter 1

1.1 Introduction

We live in a world faced by unprecedented social, economic and environmental changes (WEF, 2017). In the face of such intense and rapid change, it is difficult to fathom how we might measure and monitor related impacts on population wellbeing. Since the post war era, Gross Domestic Product (GDP) has been widely used as an indicator of national wellbeing. However, due to new challenges such as rising inequality, national wellbeing or how a country is doing and its progress is increasingly seen as more than merely the value of economic activity undertaken within a given period of time. In response to these challenges, several 'beyond GDP' initiatives are being developed to appropriately measure national wellbeing and to account for the multiple factors that affect wellbeing. Current alternative measures of wellbeing can be grouped into three main categories: 1) indicators that correct the weaknesses of GDP; 2) indicators that measure aspects of wellbeing directly; and 3) composite indices that combine approaches. These categories of wellbeing are explained in Table 1. A growing literature from the 'beyond GDP' initiatives such as the Canadian Index of Wellbeing (CIW), OECD better life index and the Bhutan Gross National Happiness Index suggests that cultural identity, inequality, job security, health, community vitality, leisure, environmental factors, and subjective perceptions are equally important factors that shape population wellbeing (Elliott et al. 2017: Davern et al., 2017). These initiatives have been a useful guide for policy and practice in their respective countries.

Table I: Categories of alternative measures of wellbeing

Classification of alternative measures	Meaning	Examples
Indicators that correct for the weakness of GDP (GDP+, GDP++)	Uses GDP as a foundation and adds or subtracts other economic welfare indicators, health, education, wealth distribution adjustments, and natural, social, and human capital adjustments	Green GDPs, Genuine Progress Indicator, Genuine Savings, Ecological footprint, Index of Sustainable Development Welfare and Genuine Wealth
Subjective Wellbeing measures	Derived from questions that require an individual to reflect on and evaluate their overall wellbeing, happiness or life satisfaction; these indices are typically based on the collection of primary data	Happiness Index, World Values Survey, and Quality of life indices
Composite measures of wellbeing		
Subjective + Objective indicators	Derived from a broad range of domains and indices that rely on both subjective and objective measures of wellbeing typically sourced from secondary and primary data sources	Bhutan Gross National Happiness Index, Happy Planet Index
Only Objective indicators	Derived from a broad range of domains and indices that rely on only objective measures of wellbeing typically sourced from secondary data sources	Human Development indices, Canadian Index of Wellbeing(CIW), Australian Index of Wellbeing (AIW),

Adapted from Vemuri & Costanza, 2006, Costanza et al., 2009

Despite the relevance of 'beyond GDP' measures for practical and policy purposes, their application remains limited in low to middle income countries (LMICs), especially in sub-Saharan Africa (SSA). With a few exceptions (e.g. Bhuttan Gross National Happiness Index, Wellbeing in Development), the majority of wellbeing research is dominated by scholarly and policy literature based on the Euro-American version of wellbeing-individual wellbeing, with its associated values and aspirations (Barletti, 2016: Elliott et al. 2017). The current discourse conceives wellbeing as a measurable individual pursuit, evaluated in terms of health and/or material prosperity and ignores socio-cultural, ecological and collective discourses that accompany the 'good life' in other contexts (Ferraro and Barletti, 2016: Elliott 2017). That is, existing measures are limited in a range of ways: they may be narrow (e.g., the world happiness index), lack context (e.g., Human Development Index (HDI)), are data driven and not adequately conceptualized to capture other

issues that contribute to wellbeing, such as ecology, cultural identity, community participation and psychological security (Costanza et al., 2009; White 2010; Ferraro and Barletti, 2016). The inadequate conceptualisation of wellbeing to include the collective and socio-cultural context of places limits the relevance of current indicators in the contexts of LMICs where wellbeing is often promoted as a collective attribute at the community or household level rather than at the individual level (Steele & Lynch, 2013: Ferraro and Barletti, 2016). Even among studies that have examined the role of place, it is often used merely as a backdrop to human activity, with little consideration to the complex experiences of people in that place (Ferraro and Barletti, 2016). Among researchers that call for a more critical attention to the role of place, there exists a dominance of a Euro-American version of wellbeing, often concentrating on its health and psychological dimensions (e.g. Atkinson et al. 2012; Schwanen and Atkinson 2015), neglecting other world views. Moreover, the limited research that examines the role of the place has mainly focused on the characteristics of individuals concentrated in particular places without drawing attention to collective opportunities in the ecological, physical and social environments, as well as the socio-cultural and historical features of places (Macintyre et al., 2002: Mackenbach 2009). Thus, using individual level measures or theories of wellbeing for populations in LMICs may be problematic, rendering it difficult to interrogate the relationality across and between scales, as well as interdependences between the compositional, contextual and collective facets of places and wellbeing.

Also of critical importance is whether the constituents of these 'beyond GDP' measures represent what really matters to people in their specific contexts and if they are capable of capturing the multi-dimensional nature of wellbeing (Allin and Hand, 2014). As Allin and Hand (2017; pg. 359) observe, researchers must address "how user requirements are articulated in detail and gathered" (pg. 359) when seeking to identify 'what matters' to people. Thus, researchers must seek the meaning and constituents of wellbeing from the users these measures are intended to serve. The take home message is that alternative measures of wellbeing for SSA should start by defining or describing what wellbeing means to populations in their contexts, taking into consideration their values and aspirations. These people-centered approaches, however, are rarely implemented (Narayan-Parker & Patel 2000; Potter et al., 2012; King et al. 2014; McGregor, Coulthard & Camfield 2015).

As the world commits to achieving the Sustainable Development Goals, questions about where the global society and governments should continue their investments in wellbeing and efforts to measure those outcomes are now up for debate. A critical indicator that has caught the attention of policy makers and undermines wellbeing everywhere is rising inequality (Pickett and Wilkinson 2015: World Bank 2016). Heightened concern about inequality stems from its dramatic increase worldwide. As the world becomes increasingly interconnected, disparities in living standards have become more visible. This in turn has created a growing global commitment to basic human rights, dignity, and entitlements (Deaton 2013; SDGs 2015; World Bank 2016). However, the theoretical utility and the role of inequality as a key construct of wellbeing in marginalized communities has received limited attention to date (Sen 2006: Deaton 2013; Pickett and Wilkinson 2015). This may be partly due to difficulties in conceptualization, measurements and the pre-occupation with increasing GDP as the main way to enhance peoples lives in SSA. To address this knowledge gap, this dissertation integrates ecosocial theory, and capability framework to explore perceptions of wellbeing and the linkages between wellbeing and inequality.

The **objectives** of this research were to:

- develop an integrated conceptual framework for understanding the links between inequality and wellbeing of places in low to middle income countries;

- explore people's lived experiences, perceptions, and understanding of wellbeing and its essence in low to middle income countries; and

- explore the potential pathways that link inequalities, and wellbeing in the context of a low to middle income country.

These objectives emanate from a broader research programme undertaking the development of a global index of wellbeing (GLOWING) through the exploration of population wellbeing in LMICs. The GLOWING project originated from lessons learned, working with local partners on the ground in Ghana, Kenya, Uganda and other parts of East Africa (Elliott et al. 2017) where we discerned that it was feasible to develop socially, culturally, and geographically relevant indicators of wellbeing. However, the key caveat was that the development of indicators must be done with explicit recognition of the role of *place* and be conducted in consultation with local partners. The

project seeks to understand and collaboratively address health and wellbeing challenges through the following strategies:

1. Explore public understanding of wellbeing and the indicators to capture its essence in Kenya, Ghana, Uganda, and Barbados;
2. Undertake with local communities and governments interventions to improve population wellbeing;
3. Along with official statistical agencies, use secondary data to measure wellbeing and use such measure to evaluate the impacts of interventions and governments.

By using these strategies, we will begin to understand wellbeing and its indicators among these populations to develop Global indicators of Wellbeing (GLOWING) that are socially, culturally and geographically relevant.

1. 2 The Wellbeing-inequality nexus

Historically, the links between inequality, the health and wellbeing of populations is one of the most highly contested debates in the social sciences (Easterlin, 1975, Deaton 2008). At the core of these debates is the Easterlin paradox. The paradox indicates that *long term trends in subjective wellbeing*[1] *and income are not related, however short term fluctuations in subjective wellbeing and income are positively related* (Easterlin 2012). Thus, there is a contradiction between the short-run evidence of a positive income–wellbeing relationship and the long-run evidence of a no income–wellbeing relationship (Easterlin 1995; 2012; Clark et al. 2008; Graham et al. 2010). In addition, it is further claimed that happiness or subjective wellbeing (SWB) varies directly with personal income and inversely with other peoples' income (Easterlin 1995). At any point in time, happiness increases with personal income but over time, a general increase in income does not affect wellbeing. Easterlin and colleagues further argue that the absence of a relationship between income and wellbeing, in the long run, applies to all countries (Easterlin 2016). He argues that adaptation to any increase in income and social comparison operates to cancel out any short-run effects of income on wellbeing, causing short-run improvement in wellbeing to revert to their long-run levels (Easterlin 1974; 2001; 2012; Layard 2006; Beja Jr 2015). Similarly, a number of studies

[1] The term "subjective well-being" encompasses a variety of measures of feelings of well-being – happiness, life satisfaction, and ladder-of-life.

have found that one's relative position is an important determinant of health (defined in terms of disease, infirmity, mortality or morbidity) (Preston 1975; Wilkinson and Pickett 2011; 2015).

However, some scholars are unconvinced that income inequality is harmful to health and wellbeing and argue instead that, absolute income plays an important role in influencing health and wellbeing because income influences material living standards (Deaton and Lubotsky 2003; Deaton, 2003; Deaton 2008; Stevenson and Wolfers, 2008; Veenhoven and Vergunst 2014). Stevenson and Wolfers (2008) for instance, argue that economic growth within countries improves wellbeing in the exact same ways as we would expect from differences in wellbeing between rich and poor countries. Deaton (2013) also argue that equal proportional differences in income are associated with equal proportional effects on SWB (measured using life evaluation). Deaton and colleagues further contend that there is a relationship between per capita income and wellbeing in both developed and developing countries, however, the slope is steeper for developing countries (Stevenson and Wolfers 2008; Deaton 2008; Deaton 2013). Nevertheless, there is a counter-narrative that suggests a threshold effect of income on wellbeing. The argument is that once per capita income rises above the poverty line or "subsistence level," the main source of health and wellbeing is not income but rather social capital (Wilkinson and Pickett 2009). To those who hold this view, the Easterlin paradox applies to only developed countries with per capita incomes greater than $10,000 (Frey and Stutzer 2002; McMahon 2006; Wilkinson and Pickett 2009).

Despite the linkages between inequalities, health, and wellbeing, the current evidence is inconclusive (Pickett and Wilkinson, 2015; Rözer, and Kraaykamp, 2013; Verme 2011). For instance, a meta-analysis conducted by Kondo et al. (2009, 2012) found that associations between inequality and health exist when income inequality exceeds a certain threshold, and they observed a time lag between these associations. The authors thus asked for caution when interpreting the effects of inequality on health and wellbeing. Another meta-analysis of 168 studies conducted by Wilkinson and Pickett (2006), found that 52% of studies support the inequality and health hypothesis. Also, others have found that the relationship between GDP, inequality, and wellbeing is sensitive to context, question interpretation, method selection, choice of data, and the question framing (Clark et al. 2008; Graham et al. 2010; Verme 2011). For example, the use of different SWB measures means that different aspects of wellbeing are captured (Diener et al. 2009; Hall et al. 2011; Deaton 2013). Others have found that that question-framing makes a major difference in the direction and slope of the relationship (Graham et al. 2010). Also, there is disagreement around

methodological issues such as the use of absolute or log GDP values, as well as the length of time series data used (Easterlin 2012; Graham et al. 2010).

However, most of these studies rely on data from the developed world, hence the effects of inequalities on health and wellbeing in the context of developing countries remain unclear (Herzer and Nunnenkamp, 2015; Pop et al., 2013). Also, most of the studies examining the relationships between inequality, health and wellbeing rely on subjective wellbeing or single indicators such as mortality, morbidity, crime rates, subjective wellbeing or self-reported health as indicators of wellbeing. Our study extends these analysises further by adopting a multi-dimensional construct of wellbeing that is specific to the Ghanaian context but similar in construct to the Canadian index of Wellbeing and the UK Better Life index.

Additionally, there have been calls to explicitly identify the relationships, causal mechanisms and processes through which inequalities affect wellbeing across the life course (Pickett and Wilkinson, 2015; Herzer and Nunnenkamp, 2015). For instance, Pickett and Wilkinson (2015) recommend that future research should move towards explicitly clarifying any causal relations between inequalities and wellbeing of populations. Herzer and Nunnenkamp (2015) also called for research to identify the transmission channels, and provide further insights into the links between different aspects of inequality and wellbeing in developing countries. In light of these theoretical and empirical debates and proposals, the relationships and causal mechanisms between income inequality and wellbeing is essentially an empirical issue. My research will contribute theoretically, methodologically and practically to understanding these relationships by addressing the following research questions using Ghana as a case study.

1.3 Study context

In Sub Saharan Africa (SSA), Ghana is one of the countries that has been viewed as progressing based on its GDP (World Bank, 2014). Its average GDP growth rate was about 7.8% for the period 2005 to 2013 (World Bank, 2015; GLSS6, 2015), and it is the only country in SSA to reduce poverty by half; from 52.6% to 21.4% between 1991 and 2012 (World Bank, 2014). Despite the stellar economic performance, Ghana is becoming increasingly unequal with worsening inequalities and worsening living standards (Osei-Assibey, 2015; GLSS, 2006; GLSS, 2015). For instance, income inequality has widened considerably; with the Gini index rising by almost 14%, from 0.37 to 0.42 between 1990 and 2012 (World Bank, 2015). The poorest fifth of Ghana's

population earned 6.9% of total national income while the richest 20% earned 44% of total income in the early 1990s. However, by 2006, the inequality gap widened such that the poorest group earned just 5.2% of national income while the richest accumulated almost half (48.3%) of national income (GLSS 6, Osei-Assibey, 2015). Wide regional variation across the country also exists. For instance, while poverty has declined in the south and among older men, it remains endemic in the northern regions and rural areas. Inequality, like poverty, is rising across the country and both are higher in northern Ghana (GSS, 2015). Ghana's GDP grew by 14% in 2011 with the oil sector and volatile commodity prices (cocoa and gold) contributing largely to the growth, with no consequent effects observed on living standards (Osei-Assibey, 2015). The lack of attention to the distribution and empowerment of poor people meant that increased growth is experienced differently by diverse groups and classes (Obeng-Odoom, 2014). The country is also unable to translate economic growth into job creation, improvement in living standards and equity in incomes (Fosu, 2015). Further, there have been widespread concerns of breakdown in social fabric and value systems, community cohesion and vitality, low educational performances, increased corruption and rent[2] seeking behaviours. For instance, the current high number of youth who are unemployed or in precarious employment has been described as a national security threat[3]. Further, educational standards continue to fall due to under investment in primary and basic education. There is thus a growing realisation that a pro-growth focus combined with the government's failure to correct the excess of the market will not ensure national wellbeing. Thus, the existing spatial inequalities provide an ideal environment to explore the underlying mechanisms between inequalities in income, health, and wellbeing.

1.4 Geographies of wellbeing

Health geography is a broad field within geography that reflects geographers' empirical foci and philosophical perspectives on health and medicine (Kearns and Collins, 2010). Health geographers' engagement with *place* and *critical geographies of health* are at the core of debates that lead to "shifts" in the sub-disciplinary focus from medical geography to geographies of health

[2] getting income not as a reward to creating wealth but by grabbing a larger share of the wealth that would otherwise have been produced without their effort

[3] http://www.graphic.com.gh/news/general-news/unemployment-is-national-security-crisis-haruna-iddrisu.html

in the early 90's (Kearns and Moon, 2002; Brown et al. 2011). This shift reflects a move "from concerns with disease and the interests of the medical world in favour of an increased interest in wellbeing and broader social models of health and health care" (Kearns and Moon, 2002; 606). Despite post-medical geography's recognition for an increased interest in wellbeing, the concept of wellbeing has mainly been reduced to a synonym for health and wellness (Brown et al. 2011; Atkinson and Joyce, 2011). Not only is wellbeing synonymous with health, it has also been particularly reduced to subjective or psychological health expressed through mental health, resilience or happiness as well as the therapeutic experience of place (Layard, 2005; Brown et al. 2011;Riva and Curtis, 2012; Seligman 2011; Atkinson, 2013; Andrews, Chen, and Myers, 2014).

Health geographers have contributed to broader debates on population health and wellbeing and have engaged with how *place and place-based experiences* affect health and wellbeing (Gesler 1992; Dorling et al., 2007; Ballas et al., 2007). Three geographical approaches, however, stand out. First, health geographers have been concerned with the *spatial distribution of health and wellbeing* often focusing on objective indicators such as income or life expectancy of places and spatial zones (Atkinson, 2013; Schwanen and Atkinson, 2015). Examples include the 'territorial social indicators' approaches concerned with spatial wellbeing (e.g. Smith 1973; Cutter 1995), and recently, the socio-spatial inequalities in wellbeing (Pacione 2003; Dorling, 2011; Ballas 2013). The second empirical foci have been on *explaining how inequalities in health and wellbeing are (re)produced*. Studies under this stream largely employ theoretical approaches to explain how subjectively experienced wellbeing varies with both the social and physical dimensions of space (Atkinson 2012; Andrews et al., 2014; Schwanen and Atkinson, 2015). These approaches mostly rely on hedonic measures of wellbeing – either pleasure experienced, or pain avoided (Gesler 1992; Schwanen and Wang 2014). Some health geographers have also recently engaged with eudemonic measurements of wellbeing at the individual level foregrounding Aristotle's ideas of flourishing and Sen's Capability framework (Ryff and Singer, 2008; Schwanen and Wang, 2014; Ettema and Smajic, 2014; Fleuret and Prugneau, 2014). The third strand highlights the *politics of health and wellbeing* by utilizing Foucauldian discourse analysis to understand the social construction of wellbeing. This strand also includes studies that explore how the experience of wellbeing is constrained by political, economic, and social factors (Atkinson and Joyce 2011; Scott 2014). Research from these three major strands shows that wellbeing inures beyond the individual to

include social and institutional practices that enhance or constrain the spaces through which individual and population wellbeing is (re)produced (Dinnie et al. 2013; Foo et al. 2014).

Despite these useful engagements, health geographers rarely define or conceptualize wellbeing for further critical examination and discussion (Andrews et al., 2014; Elliott, 2017). Moreover, the discipline contributes little to placing *place* and *social theories* in population wellbeing research. Health geographers have failed to leverage the richness, diversity and critical potential that the sub-discipline offers, to contribute to inter-disciplinary debates on population wellbeing. Within the sub-discipline, wellbeing is often linked with health, even though health geographers '*have no theoretical or conceptual frameworks for informing our 'wellbeing' research, let alone techniques and methodological approaches for measuring it'* (Elliot, 2017, pg. 2). Most studies rely on partial or oblique consideration, or the everyday or metaphorical understanding of wellbeing (Andrews et al., 2014; Pain and Smith, 2010). This has led others to conclude that wellbeing, as employed by health geographers, is a concept that 'explains almost everything, yet nothing explains it' (Andrews et al., 2014, p. 213).

Furthermore, the concept of wellbeing has often been reduced to either a synonym for physical health (Dienner et al., 2009; Atkinson and Joyce 2011) or psychological health expressed through mental health, resilience or happiness (Layard, 2005; Seligman 2011; Atkinson, 2013; Andrews et al, 2014). The lack of attention to *place* in categories of social analysis makes the western conception of wellbeing susceptible to becoming instruments of hegemony, under the assumption that the local context of SSA occupy a subordinate position to Western informed ideas of wellbeing (Ferraro and Barletti, 2016). Indeed, it is our view that health geographers bear some responsibility for this and should contribute to debates on population wellbeing with which they have so far only partially engaged (Elliott, 2017).

1.5 Outline of the dissertation

This dissertation is organised as a collection of published manuscripts. Though the manuscripts together form a conceptual whole, the objectives and methods employed for each paper are unique. Chapter 2 of the thesis provide a detailed description of the research design and methods. Chapter 3 address the first research objective and provides an integrated conceptual framework for understanding the links between inequality and wellbeing in LMICs context. Chapter 4, address the second objective and explores public perception and understanding of wellbeing and its

indicators in the context of LMICs, using Ghana as a case study. Chapter 5 examines links between different indicators of inequality and wellbeing. Together, chapters 3, 4, and 5 consists of manuscripts published or submitted for publication in peer reviewed journals and form the substantive chapters of the thesis. Chapter 6 summarizes the main findings across the four manuscripts and provides a discussion of the broader implication for policy and practice. It also highlights the contributions of the research and concludes with directions for future research.

Chapter 2

2.1 Introduction

The thesis aimed to explore public perceptions and understanding of population wellbeing and the links between inequality and wellbeing guided by ecosocial theory and capabilities framework. Accordingly, the thesis adopted a mixed method research design using key informants interviews, focus group discussions and a cross sectional survey. Since the thesis is a conceptual whole, this chapter outlines and justifies the research design, methods, and techniques. The chapter also provides a detailed account of the data collection process, ethical considerations and a consolidated methodology for the entire research as journal word limitations prevented an adequate discussion of the methods in the published manuscripts.

2.2. Approaches to research in health geography

In health geography, there is the recognition that researchers and policy stand to gain from an explicit engagement with theory (Kearns 1993; Dorn and Laws 1994; Litva and Eyles 1995; Krieger 2011; Aboud 2012). Aboud (2012) and Krieger (2011) underscore the practical importance of making explicit philosophical approaches to influence health and wellbeing research. First, without an explicit engagement with theory, researchers are likely to pose poorly conceived questions and potentially generate wrong answers (Krieger 2011). Second, theory provides a lens for observation and by extension, the whole enterprise of research (Litva and Eyles 1995; Krieger 2011) and 'without theory, observation is blind and explanation impossible' (Krieger 2011, p 3). Third, an explicit engagement with theory assists in the identification of silences (Krieger 2011) – that is, what is included or omitted to judge the strengths and weaknesses of that theory and the policy implications of research findings. As such, relevant information can be obtained to inform the design of better programs and provide practical solutions to challenges and develop habits of critical self-reflection (Hanna and Kleinman, 2013). Engaging with theory is thus both of practical and empirical necessity.

Within health geography, different philosophical approaches such as positivism, social constructionism, structuralism, and structuration inform the broader questions of how to identify,

classify and enhance the determinants of health and wellbeing (Luginaah 2009; Gatrell and Elliott 2014). Although, these philosophical perspectives differ in their assumptions, beliefs, and values regarding reality (Doucet et al. 2010: Gatrell and Elliott 2014), they nonetheless guide researchers by shaping both the questions asked and the methods used to generate answers (Guba and Lincoln 1994). For example, understanding factors that shape perceptions and experience of wellbeing may be explored through a social constructionist approach that gives priority to "lay perceptions," or through structuralist interpretations that give weight to the impacts of social, economic and political systems on wellbeing, or a combined exploration of individual perceptions and structuralist interpretation (structuration).

2.3 Research design

This research is framed within the broader framework of social constructionist and ecosocial interpretation to capture both lay and policy makers perceptions of wellbeing and to examine the links between inequality and wellbeing using Ghana as a case study. The research used an embedded mixed-method design where the collection and analysis of both qualitative and quantitative data were prioritized (Greene, 2007). In an embedded research design, the secondary and primary data are collected simultaneously though the quantitative analysis is done during or after the primary data is analysed (Creswell and Clark, 2011). Thus, the second data set usually provides a supportive role or explores findings from the primary data set.

In this research, the qualitative interviews were the main primary data while the quantitative data provided a supportive role to enable us to examine the links between inequality and wellbeing as identified through the qualitative interviews. Though the survey was collected during the same time period as the qualitative interviews, the survey was administered and analysed after the qualitative interviews in order to first understand or describe wellbeing before quantifying and examining the relationships between different variables and wellbeing. The premise of the design is that different questions about the case study need different types of data sets to provide detailed understanding of the problem (Creswell 2007). This design was appropriate as the broad research objective required the application of both qualitative and quantitative techniques. That said, time and logistics challenges constrained an extensive exploratory design (where data collection, analysis and result from the qualitative study inform the quantitative research design). Furthermore, each method addressed a separate research objective within the

broader research goal. Thus, an embedded approach enabled an exploration of wellbeing from different perspectives. Figure 1 below outlines a general framework and flow of data collection and analysis. The rest of this section details the data collection and analytical procedures.

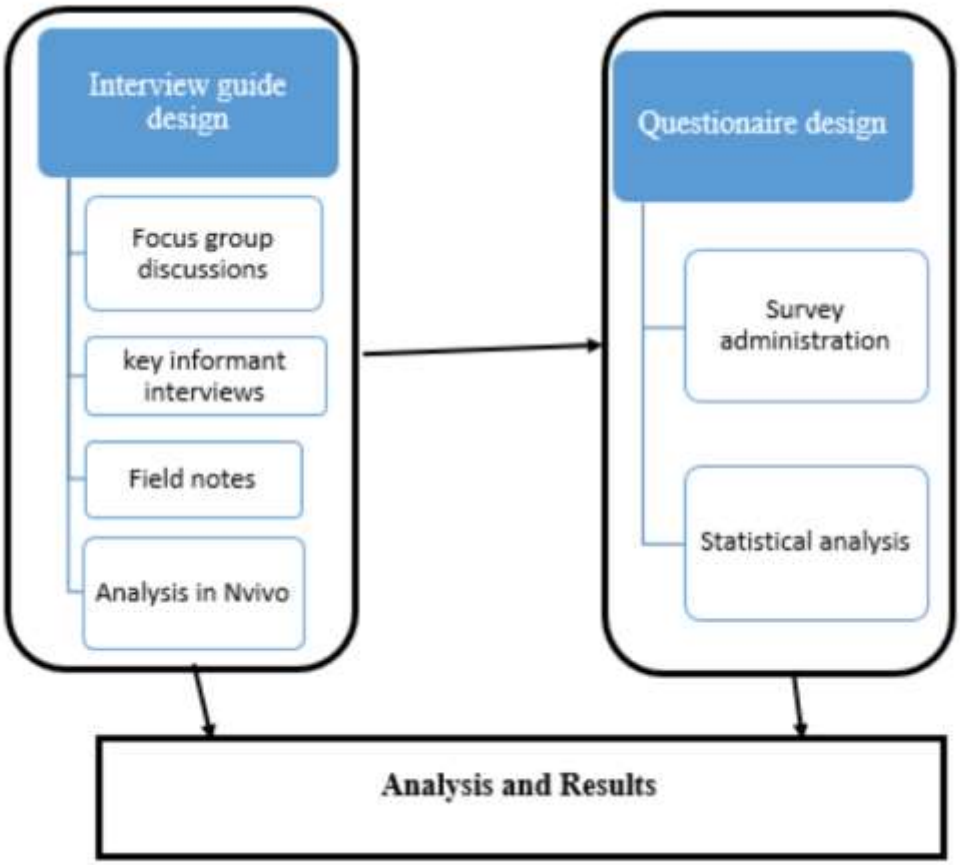

Figure 2.1: Framework and flow of activities for the data collection and analysis

2.3.1 Case studies and mixed methods designs

In this research, using a mixed-method case study was most appropriate as it provided an opportunity to employ both extensive (breadth) and intensive (depth) research approach. Case studies have often been described as conducting an empirical investigation of a contemporary phenomenon within its natural context using multiple sources of evidence (Yin, 2009). Though case studies have largely been identified with intensive research, the use of a broad range of techniques (both quantitative and qualitative) has often been suggested in order to present strong evidence for any case (Yin, 2009). Mixed methods research designs in case studies focus on the

complementary roles the different methods can play rather than their limitations and differences (Sayer, 1992). Thus, instead of emphasising difference between "quantitative and qualitative," "objectivity and subjectivity, "truth and perspective," "generalisations and extrapolations" (Patton, 1999), mixed methods emphasise the complementarity of each method and reveal the benefits of using different aspects of empirical reality. When using mixed-methods in case study research, the qualitative aspects are concerned with how processes and experiences within the case can be transferred to similar contextual settings (Warshawsky, 2014). On the other hand, the quantitative techniques seek to determine general patterns, relationships and associations and common properties among the general population – in order to make generalisations based on observable data (Sayer, 1992; Gatrell and Elliott, 2009). For example, to find the links between different indicators of inequality and wellbeing in this research, surveys were conducted and analysed using structural equation modelling, and mediation analysis. Though the quantitative analysis provided very useful information on general links between inequality and wellbeing, it failed to capture people's everyday practices, interactions and lived experiences around inequality and wellbeing. Qualitative methods were thus used to explore practices and lived experiences that remained unknown in the quantitative analysis.

2.3.2 Research techniques

The research employed a cross-sectional survey, focus group discussions and key informant interviews as the main data collection techniques. In health research, cross-sectional surveys are carried out at a point in time to take a snap-shot of exposure and outcome in a population. They are usually conducted to estimate the prevalence of the outcome of interest or to determine associations between the exposure and certain outcomes of interest in a population (Levin, 2006). Thus, data on the exposure and outcomes are collected concurrently over a relatively short period. In this research, associations between the exposure (inequalities) and outcome of interest (wellbeing) were examined. Cross-sectional studies are limited by the fact that it is often difficult to infer causality or temporality since they are usually conducted at a point in time. For example, in this research, it was not possible to determine whether the outcome (wellbeing) occurred after or before the exposure (inequalities). However, employing a cross-sectional survey was very important for determining possible pathways linking inequalities and wellbeing as well as generating questions and hypothesis for future research. Further, it was possible to include many

exposure variables and confounding variables in the survey instrument, which created an opportunity to assess multiple pathways. In addition, the survey required less time and resources to implement.

The second method employed was key informant interviews. Key informant interviews are data gathering tools, regarded as a partnership, involving both the interviewer and interviewee, where both are engaged in a communicative performance (Silverman, 2013; Dunn, 2010, Miller and Crabtree, 2004). The goal was to document and gain insights into the variety of opinions, meanings, and experiences on a given subject within participants' social context (Dunn, 2010). Following Miller and Crabtree (2004), this study utilized key informant interviews to document and understand wellbeing and its indicators because (a) participants were familiar with interviews as a communication tool; (b) discourse about wellbeing are regularly expressed in the form of stories; and (c) the goal was to obtain a picture of both individual and community perceptions of wellbeing. Participants were first presented with information letters that outlined the research objectives, potential risks, and benefits, privacy and confidentiality issues, as well as key contacts for the research project. All questions and clarification regarding the research were addressed in person or through the telephone. Further, before the commencement of interviews, critical issues – e.g. consent, recording, and privacy – in the information letter were discussed with participants again. The time, location and manner of the interview were determined by participants. In-depth interviews with key informants were conducted simultaneously. In all, a total of 10 key informant interviews were conducted between May 2016 and April 2017. Discussions were guided with the aid of interview guides (see appendix 2) allowing the researcher some flexibility during interviews to probe for additional information. Interviews generally lasted between 30 minutes and 1 hour and were mostly conducted in the English language. To ensure all relevant data was captured, in addition to tape recordings, notes of internal and external interruptions were taken in order to help provide further context for the data. Though some participants provided actual names, to ensure confidentiality, pseudonyms were used as exemplified in the substantive papers in Chapter 4 and 5.

The third method employed was focus group discussions. Focus group discussion is a method of interviewing where multiple research participants are interviewed in a group setting and engage in dialogue (Hesse-Biber, 2003). We employed focus group discussions to understand the community (lay) perspectives, and to prompt a richer discussion through the interaction between

participants (Kitzinger, 1994; Kitzinger, 2013). The use of group interaction produced experiences and insights that would be less accessible through interviews or participant observation (Morgan, 1997; Farnsworth and Boon, 2010; Boateng, 2012). The focus groups acted as dynamic social process that enable participants to collectively construct meanings of wellbeing. From a social constructionist perspective, I believe that ideas, opinions, and meaning are not generated by individuals in isolation but rather through social interaction with others, in specific social contexts (Markovà et al., 2007: Belzile and Öberg, 2012). Focus groups discussion thus allowed for the content of the discussion to be contextualized; as individuals could change their positions, justify or revise opinions, or come to new ideas through collective reflection and social interaction (Markova et al., 2007; Belzile & Öberg, 2012). Such interactions were useful to unpacking the rich dimensions of participants' views as well as gain an in-depth understanding of wellbeing across the life course. A total of 4 focus group discussions with a purposefully selected sample of between 8-12 individuals per community were conducted across four regions in Ghana with different levels of inequality [using Gini coefficients]. The purposeful sampling ensured maximum variation across demographic characteristics as well as across life stages [youth (18-30), middle (30-50) and old (50-65) ages].

2.4 Field data collection

2.4.1 Data collection

The study was undertaken between May 2016 and April 2017. Ten key informants' interviews and four focus group discussions were conducted across Ghana. The key informants included policy makers (6), traditional leaders (2), civil society organisations (3), development planners as well as researchers (see table 2.1). Using purposively sampling, key informants were first contacted in May 2016, in an earlier recognisance survey to explain the purpose of the project. Those who agreed to participate were then contacted again via email and phone calls (collected during the recognisance survey) to arrange the interviews and were asked open ended questions on their perceptions, conception, and understanding of national wellbeing. The interviews lasted between 35minutes to 1 hour.

The focus group discussions were conducted primarily to understand wellbeing and the indicators that capture its essence. Eligible participants were community members between the ages of 18-75 years who were residents and had lived in the selected communities for at least 1 year (see Table 1). Participants were purposively selected and were physically contacted by the lead investigator and the research assistants to explain the general purpose of the study. Interested participants were then invited to participate and asked to suggest other people they felt would have interest in the project. One focus group discussion was conducted with youth [both male and female] in a slum area in the capital city, Accra, one with only female group in a peri-urban area in the middle belt of Ghana (Wechi), one with only male group in a migrant farming community in the middle belt of Ghana (Tuobodom) and one with both male and female in northern Ghana (Wa). Participants with similar demographic characteristics were grouped into the same meetings to decrease constraints on speaking freely, particularly for young, female and otherwise marginalized stakeholder groups. The organisation of meetings in different sub-groups also strengthened subgroup identity and facilitated discussion on common issues, problems, desires, and ideas. However, in the fourth focus group, both sexes agreed to participate in the same group and we noticed that it did not affect participation as women were very vocal and expressed their views freely. Each focus group had between 8 to 12 participants recruited using a purposeful sampling strategy in order to ensured maximum variation across job characteristics and length of stay in the community. Guided by capability approach and ecosocial theory, the discussions focused on capturing the collective meaning and understanding of wellbeing, its indicators as well as the links between perceptions of wellbeing and inequality. The focus group sessions lasted for between 60 to 100 minutes.

2.4.2 Survey data collection

The quantitative data is a cross-section survey that was collected using both purposive and random multistage sampling strategies. In the first stage, three regions: Greater Accra, Brong Ahafo, and Upper West were selected purposively to capture regions with varying levels of income inequality as indicated by their respective Gini coefficients. According to the 2010 census, Brong Ahafo, Central, and Upper West regions have populations of approximately 4,010,054, 2,310,983; and 702,110 people (GSS, 2015) and are divided into 3,666; 3,234 and 1,122 enumeration Areas respectively (GDHS, 2014). Within the three regions, three districts each were purposively selected and a list of villages based on the 201o Population and Housing Census was divided

further into households. The list of villages was also divided into clusters ensuring that each cluster would provide adequate numbers of eligible respondents to be included in the survey. Within each district, a list of villages based on the 2010 Population and Housing Census was divided further into households. The list of villages was also divided into clusters ensuring that each cluster would provide adequate numbers of eligible respondents to be included in the survey. This approach both corrects for sampling bias and weights the cases to match census percentages of males and females of various age groups and ethnicity. This provided the frame for selecting the clusters to be included in the survey. Individuals in the households were randomly selected from these clusters for interview. The questionnaire was administered face-to-face and were collected using a modified version of the Canadian Index of Wellbeing Community Survey (CIW-CS) questionnaire (CIW, 2018) as a guide.

A modified version of the Canadian Community Wellbeing Survey (CIW-CS) questionnaire (see Appendix C) was used for the survey. The CIW-CS is an instrument developed by the Canadian Index of Wellbeing to measure wellbeing over time in relation to other development indicators at the community level. The CIW-CS has been used to study community wellbeing across several cities in Canada: Guelph, Waterloo, Wood Buffalo, Victoria and Kingston[4] using the global wellbeing measure. An adapted version of the health and wellbeing assessment tool was used to assess health and wellbeing. The tool has been used extensively to study wellbeing among diverse populations (Howell, 2011; Rodriguez-Blazquez et al, 2011; Tiliouine, et al., 2006; Yiengprugsawan et al., 2010). To make the CIW-CS and global wellbeing measure contextually relevant for this study, the following modifications were made to the instrument: first, most questions were modified to reflect the local context. For instance, water and sanitation and cultural activities were modified to reflect locally available sources of water and sanitation, and cultural facilities; second, we included the Household Food Insecurity Access Scale (HFIAS); Housing and Water insecurity scales; the General Health Questions (CHQ-20), Relative SES and Capability and functioning measures. These modifications were guided by qualitative interviews and focus group discussions conducted with policy makers and communities on what matters to Ghanaian's wellbeing. To ensure context appropriateness, a professional translator and three other researchers from the University of Development Studies and the University of Ghana translated the questionnaire into Dagaare, Twi and back to English. Nine research assistants (RAs) were recruited

[4] https://uwaterloo.ca/canadian-index-wellbeing/community-users

to administer the actual survey. These RAs were university graduates students, fluent in Dagaare, Twi or Ga and understood the local context. The RAs also received rigorous training that focused on the research objectives and purpose, what each question in the questionnaire sought to elicit and general ethics considerations in the data collection process. The questionnaire was pre-tested on the first day (20th February 2017) on nine respondents. The outcome was satisfactory as all the pre-tested questionnaires were correctly administered without errors. On subsequent days, the RAs administered the questionnaires independently with a debriefing exercise every evening to take stock of progress and to check for any gaps on completed surveys. Follow-ups were made the following day to correct any gaps that existed. The survey was administered to a target random sample of (n=1,250) adults aged 18-65 years across three regions and 9 districts in Ghana between February and April 2017. A total of (n=1,100) completed the surveys generating a response rate of 88%. About 5% of the responses contained missing data and were pair-wise deleted generating an analytical sample of (n=1,036). The survey was administered in a language chosen by respondents (either English, Dagaare, Twi or Ga). All the questionnaires were carried back to Canada for analysis using Stata version 13.

2.5 Positionality

I position my methodological approach to research within the realm of what Donna Haraway refers to as "partial and situated knowledges" (Haraway, 1988). Haraway's notion of partiality and situated knowledges has had a great impact on critical human geography research, and by extension qualitative debates in human geography (Nightingale, 2003). Whiles issues of power and positionality in Haraway's thesis remain important, the epistemological and methodological implications of "partial and situated knowledges" to mixed method research design cannot be overemphasized. The use of mixed-methods implies that different vantage points and techniques *"produce different views of particular processes and events"* (Nightingale, 2003:80). The ability to employ different methods to address research questions makes mixed methods very useful in human geography. Hence, my focus was to address my research questions using different methodologically approaches that complement each other, allowing my research questions to determine the methods as suggested by Elliott (1999).

While undertaking my doctoral research work, I have been reflexive of the fact that the practical focus and substance of my work reflect some of my individual interests, biases, and

experiences growing up in a rural community in Ghana. In particular, improving wellbeing in terms of access to basic needs remain a challenge in many communities in my home country, Ghana. I have had personal challenges in accessing some of these basic needs while growing up in such resource sittings. Thus, researching how people define, measure and improve wellbeing in the face of more complex economic, environmental and health challenges, I could not escape the tendency to use the "lens" from my experiences to ask the questions, probe further and analyse situations during my field work. Thus, I did not approach the research or go to the field with a "God's eye view" (Haraway, 1989) or "the view from nowhere" (Nagel, 1989), but rather with a *perspective* which could influence what I saw and how I interpreted it.

Chapter 3

Kangmennaang, J., & Elliott, S. J. (2018). Towards an integrated framework for understanding the links between inequalities and wellbeing of places in low and middle income countries. *Social Science & Medicine, 213*(Complete), 45-53. doi:10.1016/j.socscimed.2018.07.002

Overview

As part of a larger research programme undertaking the development of a global index of wellbeing (GLOWING) through the exploration of population wellbeing in low to middle income countries (LMICs), this paper examines the role of inequality in shaping experiences of wellbeing. The paper explores various conceptualizations of wellbeing and inequality and outlines an integrated framework for understanding the importance of measuring the wellbeing of places. We conclude by urging geographers to explicitly engage with theory and cross-disciplinary research in order to adequately conceptualize the role of place in 'Beyond GDP' and progress measures.

3.0 Introduction

Human prosperity as measured by Gross Domestic Product (GDP) and life expectancy is better now than at any time in history (Deaton, 2013). However, there is a growing recognition that prosperity has been achieved at the expense of social, environmental, and economic costs, including rising inequalities (Costanza et al., 2014; Stiglitz, 2012). Population health and wellbeing can thus be hardly judged by focusing on GDP alone or measures of life expectancy without looking at the range of other factors that affect wellbeing (Deaton, 2013). Alternative measures of population wellbeing that reflect what society values, as well as their perceptions and aspirations, are thus needed to design, measure, implement, and evaluate policies. This is because *"what we measure affects what we do; and if our measurements are flawed, decisions may be distorted"* (Stiglitz et al., 2009; pg 1). Currently, policies are often judged based on their potential to promote economic growth; *"but if our metrics of performances are wrong, our [policy] inferences may also be flawed"* (Stiglitz et al., 2009, p 1).

Recently, several initiatives aptly categorised as 'Beyond GDP' are attempting to conceptualize and measure the wellbeing of populations (Stiglitz et al., 2009; Costanza et al., 2014). Current alternative measures of wellbeing can be grouped into three main categories (Elliott et al., 2017): 1) indicators that correct the weaknesses of GDP; 2) indicators that measure aspects of wellbeing directly; and 3) composite indices that combine approaches (see Table 1 for a list of these indicators). These existing indicators have been a useful guide for policy and practice in their respective countries (Boarini, Kolev and McGregor, 2014). A growing literature from the 'Beyond GDP' initiatives suggests that cultural, social, environmental factors and subjective perceptions are equally important factors shaping population wellbeing (Elliot et al., 2017; Davern et al., 2017; Barrington-Leigh and Escande, 2018).

Table 3.1: Categories of alternative measures of wellbeing

Classification of alternative measures	Meaning	Examples
Indicators that correct for the weakness of GDP (GDP+, GDP++)	Uses GDP as a foundation and adds or subtracts other economic welfare indicators, health, education, wealth distribution adjustments, and natural, social, and human capital adjustments	Green GDPs, Genuine Progress Indicator, Genuine Savings, Ecological footprint, Index of Sustainable Development Welfare and Genuine Wealth
Subjective Wellbeing measures	Derived from questions that require an individual to reflect on and evaluate their overall wellbeing, happiness or life satisfaction; these indices are typically based on the collection of primary data	Happiness Index, World Values Survey, and Quality of life indices
Composite measures of wellbeing		
Subjective + Objective indicators	Derived from a broad range of domains and indices that rely on both subjective and objective measures of wellbeing typically sourced from secondary and primary data sources	Bhutan Gross National Happiness Index, Happy Planet Index
Only Objective indicators	Derived from a broad range of domains and indices that rely on only objective measures of wellbeing typically sourced from secondary data sources	Human Development indices, Canadian Index of Wellbeing(CIW), Australian Index of Wellbeing (AIW),

Adapted from Vemuri & Costanza, 2006, Costanza et al., 2009

Despite the relevance of alternative measures of wellbeing for practical and policy purposes, their uptake remains limited in LMICs (Elliot et al., 2017). With a few exceptions (e.g. Bhuttan Gross National Happiness Index, Wellbeing in Development), the majority of wellbeing research is dominated by scholarly and policy literature based on the Euro-American version of wellbeing-individual wellbeing, with its associated values and aspirations (Ferraro and Barletti, 2016; Elliott et al., 2017). The current discourse conceives wellbeing as a measurable individual pursuit, evaluated in terms of health and/or material prosperity and ignores socio-cultural, ecological and collective discourses that accompany the 'good life' in other contexts (Ferraro and Barletti, 2016: Elliott et al., 2017). Their application and relevance for policy making, therefore, remain limited in LMICs, especially in SSA where such indicators are urgently needed (Elliott et al., 2017). That is, existing measures are limited to a range of ways: they may be narrow (e.g., the world happiness

index), lack context (e.g., Human Development Index (HDI)), are data driven and not adequately conceptualized to capture other issues that contribute to wellbeing such as ecology, cultural identity, participation and psychological security (Costanza et al., 2008; White, 2010; Ferraro and Barletti, 2016). Also of critical importance is whether the constituents of these 'Beyond GDP' measures represent what really matters to people in their specific contexts and if they are capable of capturing the multi-dimensional nature of wellbeing (Allin and Hand, 2014). The take home message is that theoretically informed alternative measures of wellbeing that clearly interrogate the role of place, as well as allow for relationality across scales and between people and places are needed in LMICs.

The inadequate conceptualisation of place to include the collective and socio-cultural context in wellbeing studies limits the relevance of current indicators in the contexts of LMICs where wellbeing is often promoted as a collective attribute at the community or household level rather than at the individual level (Steele and Lynch, 2013: Ferraro and Barletti, 2016). Place is often used merely as a backdrop to human activity, with little consideration to the complex experiences of people in place (Ferraro & Barletti, 2016). Even among the few research that calls for a more critical attention to the role of place, there exists a dominance of a Euro-American version of wellbeing, often concentrating on its health and psychological dimensions (e.g. Atkinson and Joyce, 2011; Schwanen and Atkinson, 2015), neglecting other world views. Moreover, the limited research that examines the role of place has mainly focused on the characteristics of individuals concentrated in particular places without drawing attention to collective opportunities in the ecological, physical and social environments, as well as the socio-cultural and historical features of places (Macintyre, Ellaway and Cummins, 2002; Macintyre and Ellaway, 2009; Mackenbach, 2009). Thus, using individual level measures or theories of wellbeing for populations in LMICs may be problematic and also make it difficult to interrogate the relationality across and between scales, as well as interdependences between the compositional, contextual and collective facets of places and wellbeing.

This paper explores alternative ways of conceptualizing wellbeing and the role of inequality as a key component of the wellbeing of places. The rest of the paper is structured into five parts. Following the introduction, sections 2 and 3 examines different conceptualizations of wellbeing and inequality. Section 4 then examines the link between inequality and wellbeing and the pathways that link inequalities, health, and wellbeing. In doing so, we also review the empirical

literature on links between inequality and wellbeing especially, within the context of LMICs. To comprehensively explain these links, section 5 explores potential theoretical and methodological approaches that can be used to assess the relationships between inequality and wellbeing along with an outlined integrated framework. The paper concludes by emphasizing the importance of considering the wellbeing of places along with comprehensive measures of inequality.

3.1 Conceptualizing Health and Wellbeing

Health and wellbeing are two related but distinct concepts (Deaton, 2013; Allin and Hand, 2014). Since the middle of the twentieth century, there has been a move to increasingly stress the positive dimensions of health as a resource for everyday living (WHO, 2008; Kearns, 1993). As observed by the WHO Commission on Social Determinants of Health (2008) *"while we see health as having intrinsic value – health as an end in itself – the Commission also recognizes its instrumentality" (p. 10)*. Health is conceptualized as a positive concept that influences the social, personal and physical resources that enable individuals and communities to function emotionally, mentally and physically, and not merely the absence of disease and infirmity (WHO, 1986). Even though population health is important in itself, its major value lies in the contributions that it makes to and receives from other equally important aspects of life (Michalos et al., 2011; Michalos, 2017). Therefore health must be understood as constitutive parts of ends of development which is to improve population wellbeing.

But what is population wellbeing? Even though there is a considerable body of work which aims to develop measures of population wellbeing (e.g. Canadian Index of Wellbeing (CIW), Australian National Development Index (ANDI), OECD better life index), there is no consensus on how wellbeing should be defined and measured (McAllister, 2005; Forgeard et al., 2011; Hall et al. 2011; Allin and Hand, 2014). Nonetheless, different scholars guided by theoretical frameworks or consultative processes have attempted to conceptualize and measure wellbeing (e.g. Hall et al., 2011; Barrington-Leigh and Escande, 2018; Michalos et al. 2011). Though many different conceptualizations exist, the majority are utilitarian (including both the 'revealed preferences' approach and the happiness approach) or guided/based on the fulfillment of human needs, capabilities, and functioning (Bleys, 2012). For instance, the Human development index is based on Sen's capabilities approach whilst others such as Canadian index of wellbeing (CIW),

OECD better life and UK's How's life indices employs pragmatic approaches by combining theoretical approaches and a consultative component (Michalos et al., 2011; Hall et al., 2011; Boarini et al., 2014; White, 2010; Barrington-Leigh and Escande, 2018). While these notions of wellbeing differ, they are united in the philosophy that wellbeing comprises both material and immaterial components (Hall et al., 2011). We use wellbeing here to refer to all things that are good for a person and society, that make for a good life (Deaton, 2013). Our idea of wellbeing is similar in construct to the Canadian Index of Wellbeing (CIW) and the OECD Better Life Index (CIW, 2016; OECD, 2016). For instance, the CIW conceptualizes wellbeing across eight domains including; community vitality, democratic engagement, education, environment; healthy populations, leisure and culture, living standards and time use (Appendix 3.1). The OECD Better Life index, on the other hand, conceptualizes wellbeing encompassing individual wellbeing as well as sustainability of wellbeing over time (Appendix 2). Despite these useful conceptualisations, we believe that what determines a good life is situational, contextual and is best articulated by people in their own context (Sen, 1993; Nussbaum, 2011). However, a critical indicator that undermines wellbeing everywhere is rising inequality (Pickett and Wilkinson, 2015: World Bank, 2016). Heightened concern about inequality stems from its dramatic increase worldwide, reinforced by the interconnectedness of the world that has increased the visibility of disparities in living standards as well as a growing commitment of the world to basic human rights, dignity and entitlements (Sachs, 2012; Deaton, 2013; SDGs, 2015; World Bank, 2016). However, the role of inequality as a key construct of wellbeing has been to date inadequately conceptualized (Sen, 2006; Deaton, 2013; Pickett and Wilkinson, 2015).

3.2 Conceptualizing inequality

Rising inequality has become a critical challenge to wellbeing in the 21st century (World Bank, 2016). However, much of the concerns about inequality are based on a narrow view of inequality, relying on measures of income and wealth inequality (Sen, 2006). To re-echo Sen's (1980) question; 'equality of what?' We explore current measures of inequality to explicitly state the informational spaces within which inequality is measured. This is necessary to understand the values and value systems, assumptions and presuppositions that shape our view of what is fair and socially just (Sen, 1999; Rawls, 2009; Nussbaum, 2011). Second, to be able to explicitly identify

any links between inequality and wellbeing and the scale at which these links occur, we need to adequately conceptualize inequality to satisfactorily capture the wide range of political and cultural factors that structure inequality and social justice (Sen, 2000; 2006; Nussbaum, 2011). Conceptualizations of inequality are thus useful to enhance understandings of how inequality is 'embodied' and its linkages with population wellbeing as well as the scale at which inequality is measured when exploring the potential pathway through which inequality is embodied, experienced, and expressed. Over the years, various conceptualization has guided inequality research coalescing around four major perspectives of fairness and equity. These include; 1) the Utilitarian view of equality; 2) Rawls' theory of justice (Rawls, 1971); 3) Sen's Capability inequality (1980); and 4) Stouffer et al., (1949) theory of relative deprivation. The strengths and weaknesses of each perspective are briefly reviewed below.

3.2.1 Utilitarianism measures of inequality

These measures employ utility-based theories in judging a person's advantage, often measuring the distribution of income and wealth over the population (Sen, 2006; Deaton, 2013; Atkinson and Bourguignon, 2014). Gini coefficients have been widely used as a measure of inequality as they measure the extent to which actual income distribution deviates from a hypothetical distribution in which each individual receives an equal share (Cowell, 2000; Sen, 2006; Yitzhaki and Schechtman, 2012). Its measurement relies on real income as a metric for weighting different commodities that are deemed useful to people (Cowell, 2000). The Gini coefficient is thus relevant for evaluative assessments since income is assumed to have a general command over resources and the lack of income may lead to deprivation (Sugden and Sen, 1993; Sen, 2000; 2006). Also, the major form of injustice is achieved over access to economic resources (Atkinson, 2015) and most government agencies and policy makers use Gini coefficients as the primary summary measure of inequality (Lyon, Cheung, and Gastwirth, 2016).

Despite its usefulness, Gini coefficients are insensitive to group partitioning and unable to capture institutionalized inequality that gives rise to socially structured groups (Sen, 2006). For example, gender inequality is a central dimension of inequality but its precise nature as a social construct is context dependent and Gini measures cannot capture it (Nussbaum, 2011). Similarly, Gini coefficients are measured at a structural level and do not reflect individual circumstances, as

individuals may have unique characteristics that cannot be inferred from macro-level income data (Sugden and Sen, 1983; Ferreira and Peragine, 2015).

3.2.2 Rawls theory of primary goods

Rawls theory of justice and fairness is based on the concept of primary goods and social justice (Rawls 1974). According to Rawls, primary goods are goods that every rational person is supposed to want, and these goods enable individuals to achieve their ends (Rawls 1974; 2001; 2009; Sugden and Sen 1993). Social goods, are at the disposal of society and include liberty and opportunities, income, wealth and self-respect (Rawls 2001; 2009). Rawls principles of justice and equality are that "*all social goods are to be distributed equally unless an unequal distribution of any, or all of them may lead to everyone's advantage"* (Rawls 1971, p.6).

Rawls extends the informational space of inequality beyond measures of income and wealth to include how freedoms and respect may affect access to resources. Hence, in the context of LMICs, inequalities in political participation, access to justice and respect of civil rights are key to ensuring population wellbeing. However, the theory does interrogate how people may convert these resources into capabilities and functioning to improve wellbeing and the wide variations people have in converting primary goods into outcomes that matter for a good life (Sen 1980; 1993; 1999; Nussbaum; 2011).

3.2.3 Sen Capability inequality

Sen's Capability based approach to inequality shifts attention from inequality of outcomes (income and wealth) and primary goods to inequality in capability/endowments (Sen, 1980; 2006). Sen defines capability as sets of opportunities and alternative combinations of functions feasible to people (Sen, 1993; 1999). Sen argues for inequality to be based on basic functions and endowments rather than in terms of outcome measures (e.g., income and wealth), claiming that *'absolute deprivation in terms of a person's capabilities relates to relative deprivation in terms of commodities, incomes, and resources'* (Sen, 1983, pg. 153). The argument is that, because outcomes measure individual preferences and endowments, policies should focus on equalization of endowments themselves rather than a sole focus on ends (Sen, 1980; Sugden and Sen, 1993). Due to the focus on individual agency and freedoms, it offers insights into other forms of inequality

including gender and ethnic inequalities that often result from lack of attention to household and group dynamics (Sugden and Sen, 1993; Sen, 2006; Klasen, 2007). The capability approach allows each society to identify the set of basic capabilities to form the basis for assessing capability inequality. Despite its usefulness, operationalizing the framework is difficult as it involves identifying the basic capabilities left to each society. Others such as Martha Nussbaum however, have contributed immensely to the capability framework, extending Sen's analysis to include ten capabilities that each society should guarantee through their constitution (Nussbaum, 2011). She employs interpretative approaches to better understand people's hopes, desires, aspirations, motivations and decisions. Also, the framework has been critiqued for the lack of emphasizes on how broader social, historical, economic, cultural, and political powers influence inequality and constrain people's access to capabilities and their ability to function.

3.2.4 Relative deprivation

Relative Deprivation (RD) occurs when a person or a group is disadvantaged compared to a relevant referent, accompanied with feelings of anger, resentment, and entitlement (Stouffer et al. 1949; Smith et al. 2012; Smith and Pettigrew 2015). The fundamental features of RD involve four basic tenets. First, individuals must make a cognitive comparison between themselves and their group (racial group, sex etc). Second, cognitive appraisal is made regarding a person or a group disadvantaged. Third, perceptions of any disadvantages are seen as unfair. Finally, there is resentment of these unfair and disadvantaged conditions (Smith et al. 2012; Smith and Pettigrew 2015). These comparisons are made within a specific historical, social and experiential context (Smith and Pettigrew 2015). RD reflects the emotional reactions of people to their objective situation, a process often neglected in the other measures of income inequality. The different conceptualizations of inequality are useful to enhance understandings of how inequality is 'embodied' and its linkages with population wellbeing. It is also useful to know the scale or level at which inequality is measured when exploring the potential pathway through which inequality is embodied, experienced, and expressed. It will also enable policy makers to adequately address the root causes and consequences of inequality across different scales.

3.3 Linking inequality and wellbeing in LMICs

The relationship between inequalities and wellbeing is highly contested, with some researchers critical of the theoretical and methodological strengths of arguments asserting linkages (Easterlin, 1995; 2015: Deaton, 2008; 2013; Rözer and Kraaykamp, 2013; Verme, 2011). At the core of these debates is the *Easterlin paradox* which indicates that '*long term trends in subjective wellbeing*[5] *and income are not related, however short term fluctuations in subjective wellbeing and income are positively related'* (Easterlin, 2015, page1). In addition, it is claimed that happiness or subjective wellbeing (SWB) varies directly with personal income and inversely with other peoples' income (Easterlin, 1995). Easterlin (2015) used data from 17 developed, 11 transitioning and 9 developing countries (only one from Sub-Saharan Africa (SSA)) over a period of 15 to 33 years to show an insignificant relationship between population wellbeing and per capita income. Easterlin argues that adaptation to any increase in income and social comparison operates to cancel out any short-run effects of income on wellbeing, causing short-run improvement in wellbeing to revert to their long-run levels (Easterlin, 1974; 2015; Layard, 2005; Beja Jr, 2015). Similarly, numerous studies have found that one's relative position in society is an important determinant of wellbeing (defined in terms of disease, infirmity, mortality or morbidity) (Preston, 1975; Wilkinson and Pickett, 2011).

However, some scholars are unconvinced that inequality is harmful to wellbeing. They argue that absolute income plays an important role in influencing wellbeing because of its effects on material living standards (Deaton, 2003; 2008; Stevenson and Wolfers, 2008; Veenhoven and Vergunst, 2014). Stevenson and Wolfers (2008) for instance, argue that income improves wellbeing in the exact same ways as differences in wellbeing between rich and poor countries. Deaton (2013) also argues that equal proportional differences in income are associated with equal proportional effects on SWB. However, there is a counter-narrative that suggests a threshold effect of income on wellbeing. The argument is that once per capita income rises above the poverty line or "subsistence level," the main source of wellbeing is not income but rather social capital (Wilkinson and Pickett, 2009). For those who hold this view, the Easterlin paradox applies to only developed countries with per capita incomes greater than $10,000 (Frey and Stutzer, 2002;

[5] The term "subjective well-being" encompasses a variety of measures of feelings of well-being – happiness, life satisfaction, and ladder-of-life (Easterlin, 2015).

McMahon, 2006; Wilkinson and Pickett, 2009). Following Easterlin (1971), an extensive literature examining the effects of inequality on wellbeing has resulted (Easterlin, 1995; Deaton, 2003; Wilkinson and Pickett 2015).

Reviews of this relationship have been inconclusive with different interpretations of the evidence (Lynch et al., 2004; Macinko et al., 2003; Subramanian and Kawachi, 2004; Kondo et al., 2009; Wilkinson and Pickett, 2011). However, the majority of studies support the hypothesis that wellbeing tends to be worse in more unequal societies **(**Ross et al., 2005; Wilkinson and Pickett, 2011; Dorling, Mitchell and Pearce, 2007; Pickett and Wilkinson, 2015). Consequently, researchers have argued that inequalities may influence wellbeing through a broad range of behavioral and physiological mechanisms (Link et al., 2008; Phelan et al., 2010; Wilkinson and Pickett, 2011; Pickett and Wilkinson 2015). Yet others have contested these results. For instance, a meta-analysis conducted by Kondo et al. (2009, 2012) found a modest association between inequality and wellbeing, while Zheng (2012) reported a threshold effect and a time lag of about 5-12 years for the effects of inequality to manifest. These authors asked for caution when interpreting the effects of inequality on wellbeing. Another meta-analysis of 168 studies conducted by Wilkinson and Pickett (2006) found that 52% of studies were fully supportive while the rest were partially or non-supportive of the inequality wellbeing hypothesis. Another review of the relationship limited to wealthy countries only found that inequality was not systematically related to population wellbeing (Lynch et al., 2004). Nevertheless, it is unclear at which geographical scale inequality is most damaging (Ballas et al., 2007; Layard, 2005). As previous studies indicate, inequality matters because people compare themselves with their reference groups. However, what remains unclear is whether these comparisons made with people in their neighbourhood, city, region, country or diaspora groups or with peoples [e.g. celebrities] they know little about (Ballas et al., 2007).

It is also important to note that most of these studies rely on data from the developed world where levels of poverty and inequality are relatively lower, making it difficult to understand the effects of inequality on wellbeing in the context of LMICs, where deprivation and inequalities are extreme (Dierk and Peter, 2015; Pop et al., 2013; Burns, Tomita and Lund, 2017; Ward and Viner, 2017). Also, people's perceptions and experience of inequality and how it affects wellbeing remain unknown in the context of LMICs. For instance, many LMICs have experienced rapid economic

growth in recent years, which can be beneficial to population wellbeing in terms of reducing poverty, but may also exacerbate existing inequalities, increase the risk of sedentary lifestyles as well as the the risk of non-communicable diseases (Burns et al., 2017; Ward and Viner, 2017). LMICs also record some of the highest levels of inequality globally, and the World Bank estimates that this has increased by 11% between 1990 and 2015 in SSA (World Bank, 2016). In the face of these challenges, it is thus pertinent to know whose wellbeing is affected and the scale at which the effects of inequality occur (Subramanian and Kawachi, 2004; Ballas et al., 2007, Layard, 2005).

Additionally, the causal mechanisms and processes through which inequality affects wellbeing in the contexts of LMICs have not been explicitly identified (Pickett and Wilkinson, 2015; Herzer and Nunnenkamp, 2015). Thus, Pickett and Wilkinson (2015) recommend that future research should move towards explicitly clarifying any causal relations between inequalities and population wellbeing by: (1) using different measures of income inequality, (2) allowing for time lags for different outcomes, (3) modelling and testing of specific causal pathways, and (4) determining whether the effects of inequalities in wealth are similar to inequalities in income. Herzer and Nunnenkamp (2015) have also called for research to identify the transmission channels and provide further insights into the links between different aspects of inequality and wellbeing in developing countries. In light of these proposals, we explore how geographers can contribute theoretical insight to help explain the relationships and causal mechanisms between inequality and wellbeing. As such the following section explores how geographers can contribute theory to help bridge the identified gaps, and improve our understanding of the inequality-wellbeing relationship.

3.4 Framing the inequality-wellbeing relationship in LMICs and the role of Health geography

Health geographers have contributed to broader debates on population health and wellbeing and have engaged with how place and place-based experiences affect health and wellbeing (Gesler, 1992; Dorling et al., 2007; Ballas et al., 2007). Three geographical approaches, however, stand out. First, health geographers have been concerned with the *spatial distribution of health and wellbeing* often focusing on objective indicators such as income or life expectancy of places and spatial zones (Atkinson, 2013; Schwanen and Atkinson, 2015). Examples include the 'territorial social indicators' approaches concerned with spatial wellbeing (e.g. Smith, 1973; Cutter, 1995),

and recently, the socio-spatial inequalities in wellbeing (Pacione, 2003; Dorling, 2015; Ballas, 2013). The second empirical foci have been on *explaining how inequalities in health and wellbeing are (re)produced*. Studies here largely employ theoretical approaches to explain how subjectively experienced wellbeing varies with both the social and physical dimensions of space (Atkinson, 2013; Andrews, Chen and Myers, 2014; Schwanen and Atkinson, 2015). These approaches mostly rely on hedonic measures of wellbeing – either pleasure experienced, or pain avoided (Gesler, 1992; Schwanen and Wang, 2014). Some health geographers have also recently engaged with eudemonic measurements of wellbeing at the individual level foregrounded in Aristotle's ideas of flourishing and Sen's Capability framework (Ryff and Singer, 2008; Schwanen and Wang, 2014; Ettema and Smajic, 2014; Fleuret and Prugneau, 2014). The third strand highlights the *politics of health and wellbeing* by utilizing Foucauldian discourse analysis to understand the social construction of wellbeing. This strand also includes studies that explore how the experience of wellbeing is constrained by political, economic, and social factors (Atkinson and Joyce, 2011; Scott, 2015). Research from these three major strands shows that wellbeing inures beyond the individual to include social and institutional practices that enhance or constrain the spaces through which individual and population wellbeing is (re)produced (Dinnie et al., 2013; Foo et al., 2014).

Despite these useful engagements, health geographers rarely define or conceptualize wellbeing for further critical examination and discussion (Andrews et al., 2014; Elliott, 2017), and contributes little to placing *place* and *social theories* in population wellbeing research. Health geographers have failed to leverage the richness, diversity and critical potential that the sub-discipline offers, to contribute to inter-disciplinary debates on population wellbeing. Within the sub-discipline, wellbeing is often linked with health, even though health geographers '*have no theoretical or conceptual frameworks for informing our 'wellbeing' research, let alone techniques and methodological approaches for measuring it'* (Elliot, 2017, pg. 2). Most studies rely on partial or oblique consideration, or the everyday or metaphorical understanding of wellbeing (Andrews et al., 2014; Pain and Smith, 2010). This has led others to conclude that wellbeing, as employed by health geographers, is a concept that 'explains almost everything, yet nothing explains it' (Andrews et al., 2014, p. 213).

Furthermore, the concept of wellbeing has often been reduced to either a synonym for physical health (Diener, 2009; Atkinson and Joyce, 2011) or psychological health expressed through mental health, resilience or happiness (Layard, 2005; Seligman, 2012; Atkinson, 2013;

Andrews et al., 2014). The lack of attention to *place* in categories of social analysis makes the western conception of wellbeing susceptible to becoming instruments of hegemony, under the assumption that the local occupy a subordinate position to Western informed ideas of wellbeing (Ferraro and Barletti, 2016). Indeed, it is our view that health geographers bear some responsibility for this and should contribute to debates on population wellbeing with which they have so far only partially engaged (Elliott, 2017).

We drew on Sen's Capability framework, political ecology and Krieger's eco-social theory as well as lessons learned, working with partners on the ground in Ghana, Kenya, Uganda and other parts of East Africa (Elliott, 2017) to form an integrated conceptual framework to frame the linkages between inequalities and wellbeing. Through reconnaissance, we discerned that it was feasible to develop socially, culturally, and geographically relevant indicators across the existing domains of wellbeing **(**Michalos et al., 2011; Hall et al., 2011; Boarini et al., 2014; White, 2010). However, the key caveat was that this must be done with explicit recognition of the role of *place* and in consultation with local partners. In this regard, a team of researchers conducted key informant interviews with policy makers and focus group discussions with communities to understand what wellbeing means in their specific contexts and the indicators that can be used to capture its essence (Kangmennaang et al., forthcoming; Rishworth et al., forthcoming and Onyango et al., forthcoming). It involved interacting with politicians, civil society, individuals, communities and special interest groups, all of whom may have an interest in how wellbeing is defined and measured. This was, first of all, to define or at least describe what wellbeing means in such a context, before attempting measurement, a process we acknowledge require several iterations (Allin and Hand, 2014). Lessons learned are combined with key constructs from Sen's Capability framework (Sen,1993: 1999), developed further by Martha Nussbaum including; capability (ies), functioning and agency, and embodiment, pathways of embodiment, life course perspective and political ecology to develop the integrative framework. These ideas are illustrated in Figure 3.

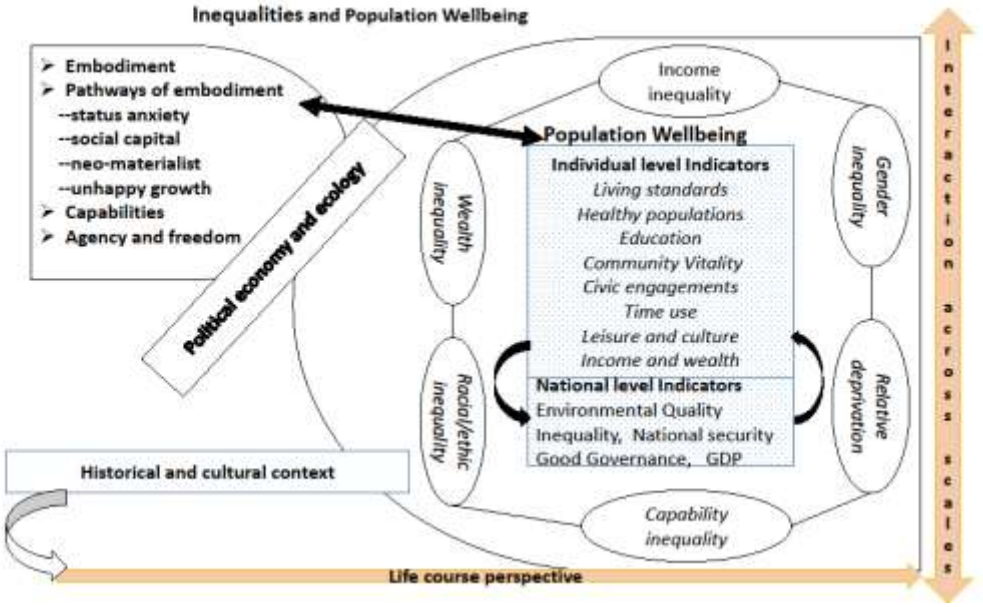

Figure 3.1: Framework for explaining relationships between inequalities and wellbeing adapted from Krieger (2011)

3.3 Explaining the framework

3.3.1 Embodiment

Embodiment suggests that *"we literally incorporate, biologically, the material and social worlds in which we live, from utero to death''* (Krieger, 2001, p. 672). Krieger (2005) advanced three critical claims that are central to the notion of *embodiment*. First, "bodies tell stories about – and cannot be studied divorced from – the conditions of our existence" (Krieger, 2005: 350). Second, "bodies tell stories that often – but not always – match peoples stated accounts" (Krieger, 2005: 350). Finally, Krieger argued that "bodies tell stories that people cannot or will not tell either because they are unable, they are forbidden, or they choose not to" (Krieger, 2005: 350). Embodiment is useful to understand how various social processes and circumstances (inequality) become 'embodied' to produce population wellbeing profiles. The construct of *embodiment* is fundamental to understanding the links characteristics of places and wellbeing as it expresses how people biologically incorporate the material, ecological and social circumstances within which they live (Krieger, 2005). The construct thus helps establish the feedbacks and independences between our bodies, ecologies and social organisation of power and privilege, illuminating how populations biologically embody the successes and failures of their societies and ecologies

(Mackenbach, 2009). It also explicitly recognizes the temporal transformation of bodily characteristics as a result of exposure to inequalities and other social and ecological facets of life across the life course. For example, exposure to inequalities may affect an individual's height, stunting and cognitive development through an embodiment of their living conditions (e.g. food and water security, material condition) access to basic necessities and opportunities within society, which are often influenced by social and political factors (Krieger and Smith, 2004). Embodiment can be employed to advance various sociobiological interpretations of the pathways between inequality and wellbeing to highlight the interrelationship and interdependences between the inequalities, social, economic and ecological factors and their biological expressions (Moss and Dyck, 1999; Hall, 2000; Parr, 2002; Krieger, 2011; DeVerteuil, 2015).

3.3.2 Pathways of embodiment

Pathways of embodiment recognises multiple ways of embodying inequality, structured simultaneously by; "societal arrangements of power, property, and contingent patterns of production, consumption, and reproduction", and which *"constrain the possibilities of our biology, as shaped by our evolutionary history, ecological context, and individual and community histories—that is, trajectories of biological and social development"* (Krieger, 2005). For instance, health geographers have employed embodiment to advance socio-biological interpretations of health and wellbeing, highlighting the importance of the interrelationship between socio-biological processes and population wellbeing (Moss and Dyck, 1999; Hall, 2000; Parr, 2002; DeVerteuil, 2015). Inequality may be embodied through multiple pathways including but not limited to; status anxiety, social capital, neo-materialism and growth-inequality-poverty nexus to affect population wellbeing.

First, inequality may lead to poor wellbeing through *status anxiety*- the psychosocial response of individuals or societies to the perception of their place in the status ladder (Wilkinson and Pickett, 2011). Unequal societies are often dominated by status competition and class differentiation that influences wellbeing (Wilkinson and Pickett, 2011). Low social status and the perception of inferiority produce negative emotions such as shame and distrust which directly damage wellbeing through stress reactions (Wilkinson and Pickett 2011; Marmot and Bell, 2012).

Moreover, social exclusion affects cognitive, emotional, and behavioural outcomes, and adaptations to a low social rank which lead to altered levels of hormones and behaviours, such as withdrawal, apathy, or hypervigilance (DeWall et al., 2011; Wilkinson and Pickett, 2011) which have direct effects on wellbeing.

Secondly, the 'social facts' of communities and societies like inequalities may have long lasting impacts on social cohesion and community vitality (Kawachi, Subramanian and Kim, 2008; Wilkinson and Pickett 2011; Phelan, Link and Tehranifar, 2010). Higher levels of inequality lead to status differentials between individuals and groups, lower levels of civic participation and social mixing, which in turn leads to lower levels of interpersonal trust and social cooperation. Lower levels of social trust are thus associated with lower collective efficacy, which makes people unwilling to offer social support to improve the indicators that influence wellbeing by affecting people's access to services and amenities (Wilkinson and Pickett, 2009). For example, socially cohesive communities are better united, participate actively in political processes and can lobby for better social services to improve wellbeing (Kawachi et al., 2008). This is applicable in the context of LMICs, where there may be competing interests from communities for governments to provide social amenities given limited resources.

Thirdly, inequality is detrimental to population wellbeing through the differential accumulation of exposures and experiences that have their sources in the material world, which weakens societies' willingness to make investments that promote the common good (Lynch, Smith, Kaplan, and House, 2000; Elo, 2009; Torssander and Erikson, 2010). Thus, initial levels, as well as rising levels of inequality, may act as impediments in transforming economic growth into poverty reduction and improving wellbeing within SSA countries (Fosu, 2015). This pathway explicitly recognizes that the political and economic processes that generate inequality also influence individual access to resources (Kaplan and Lynch, 2001; Layte, 2011). In the context of LMICs, strategic investments in neo-material conditions via more equitable distribution of public and private resources are likely to have the most impact on wellbeing.

3.3.3 Agency and capability

The third construct, *agency and capability* focus attention on the capability of individuals to function – what they can do and are able to do as well as protection of central freedoms that makes for a good life (Nussbaum, 2011). Sen argues that the distribution of capabilities should be evaluated in terms of their contribution to individual functional capabilities in ways deemed to be objectively valuable (Sen, 1993). What counts is not just capabilities but the contributions of these forms of capabilities in enhancing individuals' and a communities' agency to respond to undesirable conditions [e.g. social, ecological, economic constraints]. Thus, the construct is useful to explore what people can do and are able to do within their own context to improve wellbeing. It is useful to explore the characteristics of a population in place (compositional effects) and how marginalized groups such as women, children and ethnic minorities negotiate their place in society in the face of gender, ethnic and racial inequalities (Nussbaum, 2011). It also directs attention at individual and institutional capacity to act and take responsibility for their actions and the ecological, political and economic contextual constrains.

3.3.4 Political ecology

Another key construct embedded within this framework is *political ecology (P.E),* which examines how large-scale political, social, economic and ecological processes affect the wellbeing of populations (Mayer, 1996; King, 2010, Richmond et al., 2005). Political ecology captures the myriad of ways in which ecosystems support and contribute to wellbeing including its roles in; supporting (e.g. nutrient cycling, soil formation and primary production); provisioning (e.g. food, fresh water, wood and fiber and fuel); regulating (e.g. climate regulation, flood and disease regulation and water purification); and cultural (aesthetic, spiritual, educational) and recreational (Bennett et al., 2015; Collins et al., 2011). Power, politics and social organisation are key constructs of this conceptual framework, particularly with respect to how they affect access to, and utilisations of ecosystem services. Attention to power, politics and ecology is useful to link the biophysical aspects of ecosystems and population wellbeing while creating avenues to assess trade-offs between ecological, socio-cultural, political and economic systems (Collins et al., 2011). For instance, PE explicitly recognises that political decisions about investment in built, natural, human, and social systems in balanced ways may create opportunities for people to fulfil their needs (Collins et al., 2011; Blaikie and Brookfield, 2015). This broadens our understanding of the role of multiple, complex and contested rationalities in ecological decision-making processes to

shed lights on who loses and who gains in such processes (Neumann, 2009; Krieger, 2011; Blaikie and Brookfield, 2015). Further, P.E is useful to explore the collective effects of the macro-dimensions of the political economy (trade liberalization, and economic development) and the associated effects on the wellbeing of populations in specific contexts. The links between ecology (land degradation, drought, and climatic variability) and the wellbeing of populations in context can also be explored with P.E, thus providing a means for understanding the socio-political as well as ecological dimensions underpinning wellbeing inequalities.

3.3.5 Life course perspective and historical antecedents

The fifth construct, *life course perspective*, explicitly recognizes the importance of time, the development of responses to embodied exposures such area level poverty and inequality and manifestation of their effects on population wellbeing. It also explicitly recognizes that consequences may persist even after these structural antecedents are eradicated or reduced (Mackenbach, 2009). It thus informs the exploration of the *spatio-temporal* effects of inequality on wellbeing as well as how communities' development trajectories, social and environmental histories are linked to population wellbeing. Similarly, the framework outlines how structural, historical and social factors contribute to inequality, and focuses on how population wellbeing is situated within historical, cultural, and social conections across several scales. It also exposes how social processes and local meanings inform and produce wellbeing profiles.

Our integrative approach extends beyond the recognition that wellbeing is effected by distal forces or factors defined at multiple scales to explicitly allow for dynamic processes that occur including feedbacks, interdependences as well as interactions across several systems [ecology, social, economic]. These feedbacks and independences may result in complex relations and unanticipated effects on wellbeing across space and time. The integrated framework help goes beyond the understanding of specific independent effects to a more nuanced understanding of the system as a whole. For instance, both the capability and eco-social frameworks portray wellbeing as multidimensional, but each takes a different interest in the material and non-material manifestation of wellbeing. For the capability framework, the unit of analysis is the individual and individual's capabilities and functions whereas the eco-social framework examines how the individual embodies social, ecological and political phenomena including inequality. The integrated framework helps make the theoretical connection between the materiality of nature and the socio-political processes embedded within them (Atkinson, 2013; Andrews et al., 2014). The

integrative framework brings into focus the multi-dimensional nature of wellbeing and inequality as well as create avenues to explore the complex relationships between inequalities and wellbeing and intra-relationships between different wellbeing domains (Panelli and Tipa, 2009). Moreover, a relational approach will make connections to, and potentially inform policy and practice at multiple simultaneously engaged scales (Andrews et al., 2014).

The framework emphasizes the importance of human agency in enhancing wellbeing and while explicitly reflecting on how broader social, ecological, economic as well political factors constrain access to capabilities and functioning (Binder, 2014), especially in the context of LMICs where wellbeing is collective in nature (Gasper and van Staveren, 2003; Stewart, 2005; Deneulin, 2008). Thus, the framework is able to generate broader policy recommendations beyond the individual level and brings attention to how collective attributes such as culture, ethnicity and historical antecedents constrain or create opportunities, capabilities and influences values and choices (Stewart, 2005; Deneulin, 2008).

The integrative approach recognizes co-production of knowledge and different ways of doing, supporting the use of mixed-methods. To operationalize this framework empirically, quantitative methods can be used to examine patterns and establish relationships between inequality and wellbeing, inequality and other domains of wellbeing. Qualitative methods can also be used to explore how inequalities are embodied, expressed and experienced across the life course. The use of qualitative methods can contribute to our understanding of what makes a society egalitarian and how local actors understand, enact, and respond to inequalities and, how inequalities translate into embodied effects on wellbeing. Conceptualizing inequality and wellbeing to encompass and to be influenced by determinants across several scales is also useful to explore the relationality between different measures (and determinants) of inequality as well as their effects on wellbeing through multi-level analysis. An explicit engagement with scale is useful to explore how local, national as well as global levels of inequality become embodied to influence wellbeing and its expression.

A key challenge of operationalizing the framework is the integration of all the key components. While it may not be easy to integrate all these in a single analysis, it is important to have conceptual clarity on the links and to seek more practical measures in the long run. Likewise, depending on the research question, researchers can integrate a combination of key constructs to

afford a richer understanding of the links between inequalities and population wellbeing. Despite such challenges, we believe the framework provides a strong foundation for exploring the links between inequality and wellbeing and advocates for research to look beyond average and compositional measures of national wellbeing to account for inequalities in wellbeing vis-à-vis income, gender, and ethnic and capability inequality as well as explore how inequality is embodied.

3.5 Conclusion

This paper asserts that inequality is a key component of population wellbeing and is critical to understanding the wellbeing of places in LMICs. In so doing, we propose an integrated framework that can be used to understand the links between inequalities and population wellbeing in the contexts of LMICs where wellbeing is more collective rather individual. The proposed framework depicts wellbeing as multi-dimensional and highlights some of the inadequacies of GDP and 'Beyond GDP' measure of population wellbeing. The paper thus calls for alternative measures of wellbeing that adequately conceptualizes the role of place to ensure that wellbeing measures that hold meaning and matter to people in their context while ensuring equity. Thus, beyond the average and compositional measures of national wellbeing, measures need to move a step further to account for inequalities in wellbeing vis-à-vis other inequalities. This is important because what we measure often determines what we do and care about, and if measurements of wellbeing are flawed, decisions may be distorted (Stiglitz et al., 2009). Moving forward, health geographers are urged to actively engage with broader conceptualisations of population wellbeing and to engage with theory in order to improve our understanding of how social processes and place-based factors affect population wellbeing. Explicit engagement with theory will also enhance confidence in our measures of inequality and wellbeing, and provide evidence against which to test reliability, validity and the quality of our measures and inferences.

Conflict of interest statement

The author(s) declare(s) that there is no conflict of interest

Chapter 4

Kangmennaang, J., & Elliott, S. J. (2019). 'Wellbeing is shown in our appearance, the food we eat, what we wear, and what we buy': Embodying wellbeing in Ghana. *Health & place*, *55*, 177-187

Overview

In the post war era, Gross Domestic Product (GDP) has been extensively used as the primary indicator of population wellbeing. More recently, population wellbeing has been increasingly seen as more than merely the value of economic activity undertaken within a given period of time. Rather, several alternative measures have been proposed to correct some of the weaknesses of GDP, although these have focused primarily on countries in the so-called developed world, ignores socio-cultural, ecological and collective discourses that accompany the 'good life' in other contexts. We have embarked on a larger research program to develop a global index of wellbeing (GLOWING) through the exploration of national wellbeing in low and middle income countries (LMICs). As such, this paper explores public perceptions and the meanings attached to population wellbeing in the Ghanaian context. Informed by eco-social and capabilities theoretical frameworks, we conducted focus group discussions and key informant interviews to explore participants' conceptions of wellbeing. Results reveal that the descriptions or definitions that people ascribe to wellbeing are complex, socially and context dependent, and comprise the embodiment of both material and immaterial circumstances. The results, therefore, support the view that national wellbeing is complex and multi-dimensional and reflects the lived experiences of communities and people. Furthermore, although the specific domains are similar to existing frameworks such as the Canadian Index of Wellbeing and OECD better life indices, the constituents of these domains differed in the Ghanaian context, underscoring the importance of place in the conceptualization and measurement of wellbeing.

4. 1 Introduction

In the post war era, Gross Domestic Product (GDP) has been widely used as the primary indicator of population wellbeing (Potter et al. 2012; Costanza et al., 2014). However, population wellbeing is increasingly seen as more than merely the value of economic activity undertaken within a given period of time (Stigliz 2012; Deaton 2013). GDP growth is sometimes generated at the expense of ecological and social systems and often disregards how benefits of growth are distributed (Costanza, 2009; Stiglitz, 2009; Costanza et al., 2014). In response to the challenges of GDP as an indicator of wellbeing and "progress", a number of 'beyond GDP' initiatives are being developed as measures of population wellbeing (Stiglitz, 2009; Costanza et al, 2014; Elliott et al., 2017). Current alternative measures can be grouped into three main categories: 1) indicators that correct the weaknesses of GDP; 2) indicators that measure aspects of wellbeing directly; and 3) composite indices that combine approaches (a review of these approaches is published elsewhere, see Elliott et al., 2017). A growing literature from the 'beyond GDP' initiatives such as the Canadian Index of Wellbeing (CIW), OECD better life index and the Bhutan Gross National Happiness Index suggests that cultural identity, inequality, job security, health, community vitality, leisure, environmental factors and subjective perceptions are equally important factors that shape population wellbeing (Michalos 2011; Davern et al., 2017). These initiatives have been a useful guide for policy and practice in their respective countries.

Despite the relevance of 'beyond GDP' measures for practical and policy purposes, their application remains limited in Low to Middle Income Countries (LMICs), especially in Sub-Saharan Africa, where 'beyond GDP' measures in these contexts are narrow and or lack context. For instance, the human development index (HDI) which is heavily focused on per capita income and combines inequality (using Gini coefficients) and life expectancy to measure wellbeing but fails to capture other important aspects of context (e.g., social support/social capital; time use; community vitality) that may (and typically do) matter to wellbeing (Deaton, 2013; Shek and Wu, 2017). Similarly, the various happiness studies such as the World Happiness Reports which rely on subjective evaluations may not reflect objective circumstances (Deaton, 2013). Hence, relying on only subjective indicators as measures of wellbeing do not offer policy makers concrete indicators on which to prioritize policy (Hall et al., 2011; Deaton, 2013). Their application and relevance for policy making, therefore, remains limited in such resource poor settings, especially

at sub-national levels where indicators are urgently needed (Elliott et al., 2017). Also of critical importance is whether the constituents of these 'beyond GDP' measures represent what really matters to people in Sub-Saharan African (SSA) contexts and capable of capturing the multi-dimensional nature of wellbeing (Allin and Hand, 2014). With a few exceptions (e.g. Bhuttan Gross National Happiness Index, Wellbeing in Development), the majority of wellbeing research is dominated by scholarly and policy literature based on the Euro-American version of wellbeing-individual wellbeing, with its associated values and conception of the self as autonomous and independent (Ingersoll-Dayton et al. 2004; Ferraro and Barletti, 2016; Elliott et al., 2017). The current discourse conceives wellbeing as a measurable individual pursuit, evaluated in terms of health and/or material prosperity and ignores socio-cultural, ecological and collective discourses that accompany the 'good life' in other contexts (Ferraro and Barletti, 2016: Elliott et al., 2017). The lack of attention to the collective and socio-cultural context within which wellbeing occurs limits the relevance of such indicators in the contexts of SSA where wellbeing is often promoted as a collective attribute at the community or household level rather than at the individual level (Steele and Lynch, 2013: Ferraro and Barletti, 2016; Elliott et al., 2017; Kangmennaang and Elliott, 2018). The Euro-American conception of wellbeing over interdependence and collective attributes of the social unit has become increasingly privileged in wellbeing studies in LMICs (Case and Wilson, 2000; Addai et al, 2014).

However, following the cultural turn, geographers have contributed to broader debates on wellbeing by drawing attention to human-environment interactions and how place affects the conditions and opportunities accessible to people, thereby shaping their conception of wellbeing across space and time (Gesler, 1992; Kearns, 1993; Law et al., 2005; Ramsey and Smit, 2002). A growing number of studies now critically examine the role of culture and place to understanding of wellbeing as well as its indicators (e.g., Cutchin, 2007; Richmond et al., 2005; Panelli and Tipa, 2007: Gibson, 2012; Calestani, 2012), even though these engagements with place have not been extended to national level indicators of wellbeing. The growing research that pays attention to the cultural, social and economic environments within which wellbeing occur has helped illuminate how experience of wellbeing can be physically and politically placed or mis/re-placed as well as how wellbeing can be understood and sought among different populations (Panelli and Tipa, 2007: Gibson, 2012; Calestani, 2012). These studies show that conceptions of wellbeing are influenced by lived experiences within natural, social, spiritual, economic and cultural worlds and that

attention to place and place-based experiences is useful to capture culturally sensitive definitions and indicators of wellbeing (Ingersoll-Dayton et al. 2004; Schaaf, 2016). They also provide an interesting context in which to begin to examine the wellbeing of other vulnerable populations especially those in SSA where: (i) the stakes with respect to improving wellbeing are high due to high levels of poverty and inequality; (ii) the determinants of living standards are often volatile; and (iii) the availability of appropriate data, while much improved, are often characterized by significant challenges. The take home message is that alternative measures of wellbeing for SSA should start by defining or describing what wellbeing means by identifying its constituent parts by taking into consideration the values and aspirations of these populations in their context. These people-centered approaches, however, are rarely implemented (Narayan-Parker & Patel 2000; Potter et al., 2012; King et al. 2014; McGregor, Coulthard & Camfield 2015).

This paper seeks to understand wellbeing from the perspective of lay persons and policy makers, in order to identify indicators of population wellbeing that are socially, culturally, and geographically relevant. Specifically, we explore the meaning of wellbeing and its indicators in the SSA context, using Ghana as a case study. The paper is structured into five sections. The following two sections outline the theoretical frameworks informing the research and the study context. Section 4 describes the methods employed to understand public conceptions and perceptions of wellbeing while section 5 details the results obtained from the analysis. Section 6 discusses the results, identifying the key take home messages and contributions to the growing global literature on the measurement and application of wellbeing especially in SSA. In so doing, we underscore the importance of place in wellbeing conceptualization and measurement, revealing how/that wellbeing reflects an embodiment of economic, environmental, political and social circumstances.

4. 2 Wellbeing framing

We draw on an integrated framework that combines key constructs from Sen's capability approach and Krieger's (2011) ecosocial theory to act as a procedural guide to assist us to explore the individual, contextual, ecological as well as structural factors that influence wellbeing. Since the goal of this analysis is to develop an index of wellbeing, we believe a combination of top-down and bottom-up approaches (bi-directional approach) will enable us to proceed patiently, transparently and flexibly, testing any ideas presented both against the hard evidence yielded by

empirical research and against the key constructs of existing frameworks (Michalos, 2010, CIW, 2011). Sen's capability framework explicitly incorporates the capabilities of individuals to function – what they can do, are able to do, and the protection of central freedoms that make for a good life (Sen 1982: 1993: 1999; Nussbaum 2011). The framework is useful for examining the processes by which endowments and functions are generated, as well as the context that supports such functioning. It is participatory in nature and promotes capacity building and community empowerment, thus providing a means for people to be actively engage in shaping their own destiny (Sen 1999). It also recognizes the importance of understanding the perspectives and experiences of individuals, and thus, provides a useful way for developing policies that respect and empower lay persons rather than reflecting the perspectives and biases of intellectual elites (Nussbaum 2011).

Though the framework emphasizes the importance of human agency in enhancing wellbeing and its multi-dimensional nature, it does not explicitly reflect on how broader social, ecological, economic, as well as political powers, constrain access to capabilities and ability to function (Binder 2014). Consequently, relying on individual functions and capabilities alone to evaluate wellbeing may be misleading without due regard to the broader context of these evaluations (Gasper and van Staveren 2003; Deneulin 2006; 2008). In addition, it pays little attention to how group membership or social capital improves peoples' access to capabilities and influences values and choices (Stewart 2005). Hence for a more nuanced understanding of population wellbeing, we incorporate key constructs of ecosocial theory pertaining to political ecology, ecosystems, spatiotemporal scales and embodiment (Krieger, 1994; 2011) to enable us to examine how broader socio-political processes, economic and ecological contexts shape capabilities, and hence wellbeing (and related indicators) in the context of Ghana. Embodiment refers to the process by which humans literally incorporate, biologically, the material and social worlds in which they live, from utero to death (Krieger 2011). This construct is useful for understanding how various social processes and circumstances become 'embodied' or personified to produce population wellbeing profiles. Thus, the capacities of individuals and societies to function are literally 'embodied' in the social and ecological structures of their communities.

The construct of political ecology directs attention to the interaction of social, political, economic and ecological systems that intersect across spatial and temporal scales to produce wellbeing profiles (King & Crews, 2013; Mayer, 1996). The construct is useful to explore how

large-scale political, social, economic and ecological processes affect the wellbeing of populations at the local level (Richmond et al., 2005) and provides a means for understanding how dynamic interactions involving power, property, and privilege are expressed across multiple interacting scales to affects population wellbeing (Krieger 2011). The construct is useful to explore links between ecology such as environmental degradation, water rights, and water use, drought, climate variability and the associated effects on population wellbeing. A related construct is political economy, which directs attention to the interplay between economic structures and the associated effects on population wellbeing. It is a useful construct to examine the relationships between the macro-dimensions of the political economy (liberalization and economic development) and the associated effects on the wellbeing of populations in specific contexts.

4.3 Study context

Ghana, a country in SSA, has made great strides to multi-party democracy and is viewed as progressing based on GDP measures (World Bank, 2014). The average GDP growth rate was about 7.8% for the period 2005 to 2013 (World Bank, 2015; GLSS6, 2015), and Ghana is the only country in SSA to reduced poverty by half; from 52.6% to 21.4% between 1991 and 2012 (World Bank, 2014). Despite the stellar economic performance recorded over the years, there is disconnect between economic growth and wellbeing as growth figures often have little meaning for many people (Aryeetey et al. 2002; Aryeetey and Kanbur, 2017). This disconnect has lead others to ask "how can people with seemingly the same ends disagree so much about means, and how can seemingly the same objective reality be interpreted so differently' [between policy makers and lay persons]?" (Kanbur, 2001, pg. 1084). While Ghana's GDP grew by 14% in 2011, due to a surge in commodity prices (cocoa, gold, and oil), no consequent effects were observed on living standards (Osei-Assibey, 2015) especially for those engaged in the informal sector. This is because the structure of the Ghanaian economy is skewed towards the formal sector, with services and industrial sectors contributing about 76% to GDP. The agricultural sector, which serves as the main source of livelihood for almost half (46%) of Ghanaians, only contributes 24% to GDP (Ghana Statistical Service 2012; Aryeetey and Kanbur, 2017). It is within this context that we explore the conceptions and perception of 'wellbeing'.

Ghana is divided into 10 administrative regions with different cultures and varying levels of economic development. The Southern sector is relatively more developed and more urbanized

than the Northern sector. This research was carried out in three regions that transect the country; Greater Accra [James town]; Brong-Ahafo [Wenchi and Tuobodom] and Upper West [Wa]. Greater Accra region is located in southeastern Ghana and it is one of the most densely populated and urbanized regions in the country (Figure 4.1). The Brong-Ahafo region is located in the middle belt of Ghana and is the 6th most populated region, with the main occupation being agriculture and related activities. The Upper West Region is located in the north western part of Ghana, the least populated and poorest of all the regions. These sites were chosen based on pre-existing networks as well as our aim to capture varied opinions and perceptions across the country. According to the 2010 Population and Housing Census (PHC), the Greater Accra, Brong-Ahafo, and Upper West regions have populations of approximately 4million, 2.2 million and 700,000 respectively.

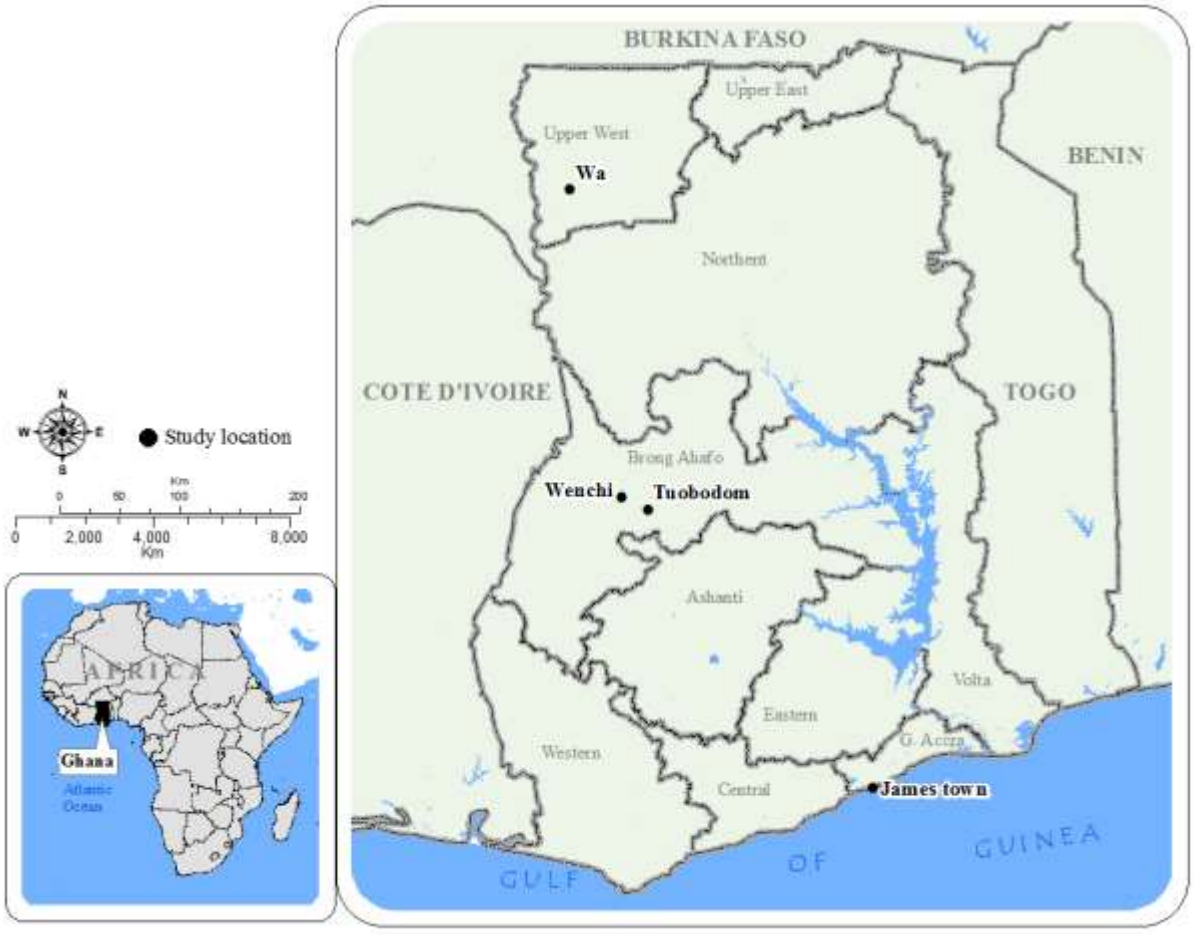

Figure 4.1: Map of study area

4.4 Measuring Wellbeing in Ghana

Given the inherent challenges in defining and identifying what matters for population wellbeing, we combined key informant interviews (KI) and focus group discussions (FGD) to gain an in-depth understanding of wellbeing from a range of stakeholders. Data was collected between May 2016 and April 2017. Ten KI interviews and four FGD were conducted across Ghana. KIs included policy makers (6), community leaders (2), civil society organisations leaders (3), a business owner (1) as well as researchers (3) (see Table 4.1). Using purposive sampling, KIs were first contacted in May 2016, in an earlier formative reconnaissance survey. The formative reconnaissance introduced prospective KI to the general purpose of the study. Those who agreed to participate were then contacted again via email and phone to arrange the interview. The interviews were guided by open ended questions on their perceptions, conceptions, and understanding of national wellbeing. The interviews lasted between 35 minutes and 1 hour and were digitally recorded and transcribed verbatim for subsequent thematic analysis using NVIVO version 11.

To understand lay person's perspectives on wellbeing, four FGDs consisting of about 8 to 12 individuals each were conducted. Eligible participants included those who had been living in the study communities for at least a year and were between the ages of 18-75 (Table 4.2). Participants were purposively selected across demographic characteristics such as occupation, length of stay and age to ensure maximum variation in opinions and perceptions. The participants were contacted by the first author with assistance from research assistants to explain the general purpose of the study. Three post-graduate students fluent in English and the local languages were recruited to assist in facilitating the focus group discussions. One focus group discussion was conducted with only youth aged between 18-35years [male and female] in a slum area [James town] in the capital city, Accra. Another was conducted with only female participants in a peri-urban area in the middle belt of Ghana (Wechi). The third with males' only participants in a migrant farming community in the middle belt of Ghana (Tuobodom) and the final one was with both males and females in northern Ghana (Wa). Participants with similar demographic characteristics were grouped into the same meetings to decrease constraints on speaking freely, experienced particularly by young, female and otherwise marginalized stakeholder groups. The organisation of meetings in different sub-groups [males and females, youth, etc] also strengthened

sub-group identity and facilitated discussion on common issues, problems, desires, and ideas. However, in the fourth focus group, both sexes agreed to participate in the same group. We noticed the inclusion of both male and female participants did not affect participation in the discussion as women were very vocal and expressed their views freely. Guided by the theoretical frameworks, the discussions focused on capturing the collective meaning and understanding of wellbeing [how's life, good life, better life etc], and its indicators. The focus group sessions lasted between 60 to 100 minutes.

To ensure context appropriateness, a professional translator and three other researchers from the University of Development Studies, Wa and the University of Ghana translated the interview guide as well as synonyms or local descriptors of wellbeing into Dagaare, Ga, Twi and back to English. Three research assistants (RAs) who were university graduates students, fluent in Dagaare, Twi or Ga and understood the local context were recruited to assist in conducting the key informant interviews and focus group discussions. The RAs also received rigorous training that focused on the research objectives and purpose, what each question in the interview guide sought to elicit and general ethics considerations in the data collection process. The interview guide was pre-tested on the first day (06th February 2017) on 3 key informants and one focus group. The outcome was satisfactory as all the pre-tested interview guide questions were correctly understood by participants. The interviews were conducted in the presence of both the lead investigator and the RAs with a debriefing exercise done after every interview to take stock of progress and to check for any gaps and compare notes. To ensure all relevant data was captured, in addition to tape recordings, notes of internal and external interruptions were taken in order to help provide further context for the data. The research was approved by the University of Waterloo ethics review board (ORE #: 21963).

Table 4.1: Key informants characteristics

Name	Number of key informant interviews	References
Motivations for doing what they do		
Humble background	4	4
Opportunity to make a difference	5	5
Personal experience	3	3
Philosophical orientation	1	1
Research interest	1	1
Role in the community		
Business owner	1	1
Community leader	2	5
Civil society organizations	3	3
Policy maker	6	6
Researcher	3	5
Sex		
Female	4	4
Male	6	6
Years of work		
10-15	1	1
5-10	2	2
less than 5	4	4
more than 15	3	3

Table 4.2: Focus group members' characteristics

Background	Number of focus group	Number of mentions
Length of stay in the community		
10-15year	1	5
5-10 year	2	12
Born here	4	15
less than 5 year	2	8
Role in the community		
Community leader	2	4
community member	4	36
migrant	3	13
Sector of work		
Banker	2	2
Casual work	2	5
Construction	2	2
Driver	1	3
Farmer	2	9
House wife	1	4
Nurse	2	3
Student	3	5
Teacher	3	4
Trader	2	3
Sex		
Female	3	19
Male	3	21

4.4.1 Analysis

Audio-recorded interviews were transcribed verbatim and coded theoretically (Creswell, 2007). Following Crabtree and Miller (1999), the lead researcher read all transcripts in order to determine thematic codes (arising both deductively and inductively) to compose a coding manual. Examples of deductive codes included themes that aligned with the interview questions, existing literature and theoretical concepts while inductive codes included issues emerging from the transcripts. Themes include; development challenges, definitions or descriptions of wellbeing, components of wellbeing and wellbeing measurement challenges. For each data source, two transcripts were coded by the first author and subsequently independently coded by another researcher to assess inter-rater reliability. Over 70% agreement was achieved for both data sources (Miles &

Huberman, 1994). Any differences between coders were resolved through discussion and consensus. Following this, the thematic codes were subsequently applied to all the remaining transcripts using Nvivo version 11. The community focus group discussions were compared and contrasted with the key informant accounts to explore convergence, complementarity, and dissonance to enhance the validity of the results (Lincoln & Guba, 1985). The analysis sought to answer the study questions: i) how wellbeing is defined? ii) What indicators might be used to capture its essence? as well as iii) what are the differences and similarities of wellbeing indicators across sub-group?

4.5 Wellbeing in Ghana

The results are organized around two dominant themes: the meanings of wellbeing and the indicators for capturing its essence. To facilitate reporting, tables are used to illustrate the number of mentions and number of respondents mentioning key themes and sub-themes. These themes are punctuated by participants' voices, gender [M=male, F=female] and location [NG=Northern Ghana, MG=Middle Ghana, CG=Coastal Ghana, and SG=Southern Ghana].

4.5.1 The Meanings of wellbeing

When asked about what wellbeing means, participants offered a range of responses primarily related to accessing basic needs and social capital (Table 4.3-4.5). The local words used to refer to wellbeing in three regions were: asetena mu y3', 'asetena pa' [Twi]; 'hetsem, gbomotso hewal3' [Ga] and 'nmaarung, Zinsung' [Dagaare].When asked to expand on what these words mean, participants offered several descriptions relating to access to basic necessities, ability to live a fulfilled life and an embodiment of social and economic circumstances.

> *"You have a good life when you are able to meet your necessities, at least for the necessity part, you should be able to cater for it and you should be able to understand some basic life activities and know how to do it without the intervention of others" (Diana, F, NG)*

Participants explained wellbeing as an embodiment of their context, noting:

> *"To me, wellbeing is shown in our appearance, the food we eat, what we wear, and what we buy"(Winny, F, MG)*

> *"Ultimately for me, wellbeing is defined specifically by the people in their context, what are the things that they see as important to them feeling that they are living lives that are*

meaningful, that give them a chance to express themselves most fully as human beings"(Chaker, M, CG).

When describing wellbeing, several participants offered metaphors related to different aspects of social capital and community support. Several participants observed that:

'I understand better life to mean living in healthy conditions and being at peace with your neighbors, you can go to anyone and ask for anything; if they have, they should give…and support each other'(Mariam, F, CG)

'I look at wellbeing from a collectivist point of view, not individual wellbeing but collective, community wellbeing and people support each other in terms of calamity, drought, and natural disasters' (Dery, M, NG)

Thus, key informants and focus group participants conceptualized wellbeing as multi-dimensional, comprising access to basic needs, aspects of social capital, cultural identity, and other important aspects highlighting the contextual meanings associated with wellbeing.

4.5.2 Differences in meanings of wellbeing

Conceptions of wellbeing, however, varied depending on the location of participants. For instance, participants from Northern Ghana were more concerned about collective experience (e.g. peaceful coexistence, sharing, and support for each other) while participants from Middle Ghana and Southern Ghana were more concerned with individual level description of wellbeing (e.g. access to basic necessities and fairness).

For instance, a FG participant based in northern Ghana was of the view that communal relationship/sense of community were important aspects of wellbeing:

'For me, wellbeing is about the community experience and relationships. The people around you, community members around you support you and you support them, eerrhm then there is a social safety net that you can always rely on in times of trouble in the community'(Zainabu, N, NG)

Whereas participants in southern Ghana was of the opinion that creating opportunities is all that is required for individuals to achieve their potential:

'A good society is a society that offers opportunities to its citizens to enable them express and exercise their individual creativity and individual desires that can be achieved' (Brown, M, SG)

Participants in the middle belt of Ghana held similar views to those in southern Ghana underscoring individual aspects of wellbeing:

'I will say how each and every one will feel comfortable in this community, like whatever you want you will get it and like you will not face challenges in getting it'(Kwekeu, M, MG).

Cultural and contextual concerns were expressed often when describing wellbeing, with male KIS often discussing how culture and arts were important for wellbeing while women KIs were more likely to express concerns over access to basic amenities, health, and social support. Similarly, KIs above 50years were more likely to express social support and contextual concerns when describing wellbeing. Among focus group participants, the youth only group that was conducted in Southern Ghana were more likely to express concerns regarding fairness and equality of opportunities, while participants in Northern Ghana were more likely to express concerns over peaceful coexistence and sharing. Although we also found many similarities in the conceptualizations and description of wellbeing underscoring the universality of the concept, descriptions also varied by gender, location, and age, highlighting contextual meanings associated with living a good life.

Table 4.3: Focus group meanings of wellbeing

Descriptions	Middle Ghana Frequency (%)	Northern Ghana Frequency (%)	Southern Ghana Frequency (%)	**Total**
Support for each other	9(38)	8(33)	7(29)	**24**
Sharing	11(34)	13(41)	8(25)	**32**
Respect for one another	6(29)	8(38)	7(33)	**21**
Peaceful co-existence	9(26)	16(48)	9(26)	**34**
Fairness and equity	8(29)	6(21)	12(43)	**28**
Access to social amenities	15(27)	18(33)	22(40)	**55**
Fulfilment	8(32)	10(40)	7(28)	**25**
Health	9(38)	7(29)	8(24)	**24**
Cultural identity	4(33)	5(42)	3(25)	**12**

Table 4.4: Key Informants descriptions of wellbeing by gender

Descriptions	Male Frequency (%)	female Frequency (%)	**Total**
Spiritual	4(40)	6(60)	**10**
Social support	9(45)	11(55)	**20**
Health	7(44)	9(66)	**16**
Happiness	6(60)	4(40)	**10**
Fulfilment	4(57)	3(43)	**7**
Fairness	5(56)	4(44)	**9**
Context/culture	8(57)	6(43)	**14**
Access to basic amenities	15(45)	18(55)	**33**

Table 4.5: Key Informant meanings of wellbeing by age of participants

	Below 50	Above 50	**Total**
Spiritual	3(30)	7(70)	**10**
Social support	6(30)	14(70)	**20**
Health	8(50)	8(50)	**16**
Happiness	6(60)	4(40)	**10**
Fulfilment	3(43)	4(57)	**7**
Fairness	6(67)	3(33)	**9**
Context	5(36)	9(64)	**14**
Access to basic amenities	19(58)	14(42)	**33**

4. 6 Indicators useful for capturing wellbeing

While discussing the indicators of wellbeing, participants mentioned several indicators which we grouped into ten interrelated themes to aid reporting. Participants perceived indicators ranged from living standards, inequalities to environmental and cultural concerns. To facilitate reporting, Tables 4.6-4.7 report the number of times particular themes and sub-themes mentioned while Tables 4.8-4.10 reports on the variation of themes by gender and location. The various indicators are discussed in turn, with findings punctuated by participants' voices.

Table 4.6: Indicators of wellbeing

Indicators of wellbeing	**Focus group**		**Key informants**	
Indicator	# of FG	# of mentions	# of KI	Number of mentions
Living standards	4	93	10	81
Employment	4	33	5	15
Inequality	4	21	10	20
Health	4	18	10	35
Education	4	15	9	29
Arts and Culture	3	10	4	7
Community	3	13	4	12
Environment	4	11	8	19
Functioning	N/M	N/M	3	8
Happiness	2	3	4	13
Others	2	6	1	1

N/M= not mentioned

4.6.1 Living standards

Participants in all 4 FGDs and 10 KIs identified living standards as a major indicator of wellbeing in Ghana. Even though the rank of the different living standard indicators aligned across data sources [money, basic needs, food security, housing, and water security], the relative mention of money was consistently higher among FG participants compared to KIs (see table 5.7). The different sub-themes under living standards are considered below:

Table 4.7: Living standards components by the source of data

Components of Living standards	Focus group (FG)		Key informants (KI)	
	# of FG	# of mentions	# of KI	# of mentions
Money	4	40	8	23
Basic needs	4	19	8	18
Food security	3	16	6	14
Housing	4	11	4	14
Water security	3	7	6	12

4.6.1.1 Money

Money was deemed as an important indicator of a good life as many participants indicated its usefulness and command it has over other equally important indicators. This was discussed by several KIs and FGS alike. As Akos notes:

> *'Money is life's blood…. without money, you cannot do anything' (Akos, F, MB).*

Others talked at length about the linkages between money and other indicators of a better life underscoring how money provided the opportunities to engage in different spheres of life:

> *'If you are a farmer and you can't get money to farm or a carpenter and you can't buy your materials then you are not living well and if you don't have the money to buy the seeds or chemicals for farming, when that happens you feel miserable'(Abraham, M, NG).*

Likewise, a KI emphasized the importance of money in accessing health care lamenting:

> *'There is no money to buy drugs even if you are sick …..and so that makes health matters very difficult……these days if you don't have money then you can't afford to be sick….if you don't tell sickness to leave you then you will die'(Akos, F, MG)*

4.6.1.2 Basic needs

Participants identified basic needs such as food, water, and housing securities as very critical to enjoying both personal and community wellbeing. As a FG participant reveals:

> *'The minimum is you should be able to afford your 3 square meals a day, pay your medical bills, afford a decent place to sleep, pay your electricity and water bills, pay your children school fees, afford at least once to have a holiday and not to be so much dependant on loans for living' (Ibrahim, M, NG)*

Housing and water insecurities were stressed as key indicators of wellbeing by several participants stating that:

> *'There are many things…. the house where a person lives or does not live lets you know whether they are living well' (Akosua, F, MG)*

> *'The essentials, water for drinking, even I would add water for irrigation, for local economic development. The water supply that ensures that people can live a fulfilled life. Those must be part of any system of looking at wellbeing' (Dery, M, NG).*

4.6.2 Employment

Access to job opportunities and decent work were emphasized as key components of wellbeing and progress. Yet, many participants lamented about the bleak employment prospects for youth:

> *'So, in Ghana, what is preventing us from progress is the lack of jobs, our children are not working …progress occurs when a child gets a job to do …when we are asked to mobilise forces, he can also do that but when there are no jobs then he won't even respond to the call for help' (mobilisation) (Akos, F, MG)*

Participants also expressed concerns regarding job security and precarious employment. As a Kwame notes:

> *'The job you do will make you respectable or let people respect you in the society. The kind of work you do, so for me if you want to measure my standard of better life, then you have to look at the work I am doing and then find out if am I satisfied with what I'm doing; because someone can be working as a mason but maybe he's not satisfied with that' (Kwame, M, CG).*

4.6.3 Inequality

In explaining wellbeing, participants frequently expressed worries about unequal access to opportunities, legal representation, and gender inequalities as important for living a good life. These sentiments were mostly expressed by FG participants, especially young people even though some KIs were equally concerned about inequality.

> *'As for Ghana's development, it's a lot of issues, it's not good development; it's like the rich keep getting richer. You see the difference between the rich and the poor, right now, if we go to the market and I have money, and this gentleman sitting next to me does not, you will see the difference in what he will buy and what I will also buy'(Winny, F, MG).*

Participants frequently discussed unequal access to opportunities as an essential hindrance to living a good life. A participant observed that:

> *'Please, let me say something about wellbeing in Ghana, you know in Ghana when maybe you get some work that you are going to do. They will say for whom you know…or who knows you'* (*Mariam, F, CG*)

Likewise, growing inequalities in gender were discussed by both male and female participants as essential for living well:

'By the nature of our society, patriarchal kind of society, take a man and a woman, there is inequality in terms of opportunity, what you can do, to some extent, is influenced by our tradition eeerm which has given men mostly an edge over women'(Hawa, F, NG)

'Let's say in this community if you take gender, for instance, we had about six assembly members here but only one is a woman. So if you take gender you can see the men are more than the women. As at now if you take this current parliament about 70% are men and only 30% are women' (Yaw, M, MB)

4.6.4 Health

Different aspects of health were identified as critical to wellbeing. As several participants revealed, health is intrinsically connected to all over aspects of life:

'Health is also important, you have quite a bit of income but if you have poor health then it really doesn't amount to much and you may also have to spend that income down the line trying to take care of yourself, so health i think is very important'(Fosu, M, CG)

Many participants spoke about the fears associated with the changing burden of diseases and its impacts on wellbeing, observing that:

'Let's say in health aspect, some years back, you could see we weren't complaining of Hepatitis, diabetes, stroke, HIV/AIDS but you can see current society now have shifted' (Kontor, M, CG)

Perception of rising health iniquities was deemed to be affecting wellbeing. As one participant observed:

'Now if you have any serious sickness in Upper West, they would have to rush you to Tamale Teaching hospital and most of the equipment there are dysfunctional. By now, we should have had good and well-equipped hospitals at least in each regional capital so that sick people would not have to travel almost 1000 kilometres to seek good medical services. That's unacceptable' (Dery, M, NG)

4.6.5 Education

Access to education was identified as a vital component of wellbeing, however, participants were critical of spatial and gendered disparities in educational opportunities and outcomes. For instance, participants suggested that:

'The right and access to education at all levels are important and contributes to the quality of life of the individual' (Naa, M, NG)

Yet at the same time, participants expressed worries over rising educational disparities across location and gender, noting:

> *'There are a lot of more boys in school especially if you look at the secondary school. There are more southern children in secondary school than northern children. If you go to the tertiary level, it is worse, there are more boys than girls and the northern girls at the tertiary level is much lower' (Slyvia, F, NG).*

> *'But the other thing is that my form 3 boys came to complain to me that, madam ever since we came to school, everything they bring here is for the girls, so we dee3, we will not benefit' (Pagra, F, NG)*

4.6.6 Environment

Many participants expressed concerns about environmental variability, air and water quality as essential components of wellbeing. Participants were particularly concerned about the effects of environmental change and degradation on agriculture, food and water security. For example, a KI observed that:

> *'Issues of climate are important for wellbeing because being in West Africa, northern Ghana especially which is at the centre of the whole climate change thing…, our water tables are dropping, the environment is becoming a lot hotter, the rivers and streams are drying up'* (*Dery, M, NG*)

Unsanitary conditions and plastic contamination were discussed among many participants as negatively affecting wellbeing. As one KI observes:

> *'Sanitation has been largely marginalized in terms of government budgeting for sanitation and expending resources on sanitation so there is a major gap in access to sanitation for many people in Ghana'(Chaker, M, CG)*

Even still, others expressed fears about open defecation and its potential effects on wellbeing:

> *'There are some areas that don't have toilets, most houses are still constructed without toilet facilities which are basic necessities. And open defecating at some parts of Wa is still ripe. And even where there are toilets, you will see somebody just behind the toilet, they won't go in there, they do it outside' (Sulemana, M, NG)*

4.6.7 Community Vitality

Concerns about social engagements, collective support, and community safety were expressed as essential constituents of wellbeing. However, participants were often worried about changing community dynamics, westernization of cultures and a growing sense of individualism. As discussed by one participant:

> *'In the community where I come from, the social security there is not a written law but the community comes out to support each other in times of need. When you have a funeral, everybody comes together to get you to burry your dead, when you are sick in the hospital, they visit you, they support you, give you moral support, good morning, good evening. The fellow feeling, that kind of humanity for me is more valuable than the money' (Naa, N, NG)*

Similarly, participants recognied that despite the growing need for material gain, such desires were meaningless without social support:

> *'With all the water, light, transport, and everything else but if there is no social network that is around you when you need them, you would not be happy. And if you are not happy, regardless of your big car, your big house, all the water that you drink, you are still not a complete human being'(Prosper, M, MB)*

4.6.8 Traditional values and culture

Similarly, recognition and appreciation of cultural and traditional values were deemed as essentials of wellbeing, though participants expressed fears that cultural heritage of communities such as language and proverb retention are often left out in official measures of wellbeing and progress. As Chaker notes:

> *'An essential part of what we see get miss sometimes is having communities cultural values recognized and appreciated as part of wellbeing…., in particular, what is often appreciated is spiritual values, communities will articulate the spiritual and social aspects observed for them as a community as being a key element of what makes them feel happy' (Chaker, M, CG)*

FG participants also observed changing values and systems of norms, expressing worry about its negative effects on community cohesion.

'At first if someone goes somewhere he doesn't have anywhere to sleep, he goes to somebody else's house, "oh, I travelled I need a place" .....but now for someone to come to your house and ask for help, it will be difficult for you to accept the person because we don't trust each other anymore (Gyasi, M, CG)

'We are moving gradually from our culture because I think somewhere around the early 90s, there was much interest in our festival, Homowo. but now people don't find interest in it anymore' (Harod, M, CG)

4.6.9 Democracy and good governance

Political participation and democratic engagement were mentioned as key constituents of wellbeing. However, participants mostly expressed concerns with the workings of the democratic system, corruption, the lack of leadership and inequalities in political participation revealing:

'Even though we have a decentralised system, is only in name but it does not work because the money and the resource are centralized. There is even a tragedy going on now, the government has cut the common fund allocation to local entities so the money that was coming from the center to take care of our local needs has been cut'(Serwaa, F, MG).

Other complained about the challenges of democracy at the community level alleging political parties competing interests.

'It's the assembly I am talking about, it has turned into politics; it is A and B. I am in B and the MCE [municipal chief executive] is in A and so the MCE will not agree with me, there was nothing that I said that was ever accepted by the man' [referring to previous MCE] (Akos, F, MG)

'When you take Wenchi municipality, as I was saying Akrobi is NPP stronghold, and people at other areas (NDC strong holds) so when NDC comes to power those people enjoy there much than here. So this time around, we too want to see more development here in our community because this is our time' (Yaw, M, MG).

Overall, these varied accounts highlight participants' broad understanding and perceptions of wellbeing and its constituents, and the links between different domains of wellbeing. We observed similarities and differences in the constituents of wellbeing depending on the data source, gender, and location (Tables 4.8, 4.9, and 4.10). Female KIs were more concerned about outcome factors that had a direct impact on absolute or relative wellbeing such as living standards, inequality, and health while male KIs express more concerns with community vitality and the environment (Table

4.8). Similarly, KIs in northern Ghana expressed community vitality, and environmental concern than others (Table 4.9), while FG participants in northern Ghana were the only group to express security concerns (Table 4.10).

Table 4.8: Number of mentions of indicated by gender of the Key informant

Indicator	*Female* *Frequency (%)*	*Male* *Frequency (%)*	*Total* *Frequency (%)*
Living standards	46(55)	35(43)	81
Employment	7(47)	8(53)	15
Inequality	11(55)	9(45)	20
Health	18(51)	17(49)	35
Education	14(48)	15(52)	29
Arts/culture	3(43)	4(57)	7
Community vitality	2(17)	10(83)	12
Environment	9(47)	10(53)	19
Happiness	7(58)	5(42)	12

Table 4.9: Number of mentions by the location of the Key informant

Indicator	*Northern Ghana* *Frequency (%)*	*Middle Ghana* *Frequency (%)*	*Southern Ghana* *Frequency (%)*	*Total*
Living standards	28(35)	27(33)	26(32)	81
Employment	6(40)	3(20)	6(40)	15
Inequality	5(25)	7(35)	8(40)	20
Health	15(43)	12(34)	8(23)	35
Education	13(45)	7(24)	9(31)	29
Arts/culture	3(42)	3(42)	2(28)	7
Community vitality	6(50)	4(33)	2(17)	12
Environment	14	6	5	19
Happiness	10	2	6	12

Table 4.10: Number of mentions by the location of Focus Group

Indicator	*Northern Ghana*	*Middle Ghana*	*Southern Ghana*
Living standards	37	38	18
Employment	8	11	14
Inequality	8	6	7
Health	8	9	8
Education	4	7	4
Arts/culture	3	1	6
Community vitality	3	5	5
Environment	5	4	2
Happiness	2	0	1
Security	5	0	0

4.7 Discussion

The aim of this study was to contribute to the global movement to redefine population wellbeing and progress toward holistic measures that extend beyond the economy and are socially, culturally and geographically relevant. In doing so, the study explores understandings of wellbeing and societal progress and the indicators that capture its essence in the LMIC context of Ghana. The descriptions or definitions that people ascribe to wellbeing were complex, socially and context dependent (McAllister, 2005; Forgeard et al., 2011, Allin and Hand, 2014). For instance, some participants described wellbeing as meeting the basic necessities of life and ability to function without the support of others, focusing on individual wellbeing. This is similar to Sen's notion of wellbeing as concerned with a person's achievement and their being (Sen 1993). Others, however, described wellbeing in terms of the collective experience, fellow feeling, community support and an embodiment of the social, economic, climatic and political context, extending the definition of wellbeing beyond the individual. Although notions of wellbeing differed among participants, they agreed that it comprises both material and immaterial components that make for a good life in their context (Hall et al., 2011; Deaton, 2013). It also involves a life of freedom, agency and the enjoyment of basic human rights (Sen 1993; Nussbaum 2011). The dimensions of meaning associated with wellbeing or better life make the conception of wellbeing in this context, social rather purely individualistic (McGregor, 2007) as the meaning people ascribed to wellbeing were shaped by their social, economic, cultural and ecological context. For instance, the meaning associated with wellbeing was differentiated by gender, ecological context as well as location.

Consistent with the literature, we found that living standards indicators (money, basic needs, food security, housing, and water security) were the dominant factors deemed to matter for a good life in this context. However, participants were equally concerned about the important roles of other indicators such as inequality, cultural identity, spirituality and community vitality towards population wellbeing (Stiglitz et al. 2009; Deaton 2013; Allin & Hand 2014). As illustrated in Table VI, the identified indicators include those that focused on material wellbeing; income, employment, food, and water security, and income adequacy while others included physical and psychological wellbeing, represented by health, access to water and sanitation, and happiness. Education, inequalities, community vitality, culture, and democratic participation, as well as the social and natural environments within which wellbeing is situated, were identified as equally important indicators. However, the order of the identified indicators varied between key informants and community members. While key informants identified living standards, health, education, and inequality as the most important factors for wellbeing, the community members identified living standards, employment, inequality and health as the most important factors that matter for wellbeing. Community members were more concerned about indicators that had a direct bearing on their absolute and relative living conditions whereas policy makers were particular about process factors such health and education that can drive population wellbeing in the long run. The identified indicators of wellbeing thus included both process and outcome variables while recognizing the intersectionality between them.

The inclusion of both process and outcome variables provides policy makers with a workable understanding of how to improve wellbeing as it enables them to understand not only whose wellbeing is poor but the process through which communities and individuals have poor wellbeing. Thus, by identifying what people value and aspire to, the identified indicators will help guide the design, implementation, and evaluation of policies (Stiglitz et al. 2009). Further, information from qualitative interviews can enable policy makers to gain a deeper understanding of the processes through which different factors affect wellbeing, resulting in policy strategies that are more effective at improving population wellbeing. The use of a participatory approach has the potentially empower local communities to identify local problems that are important to them but are rarely measured or considered in policy. The identification of local problems creates avenues for lay people and policy makers to collaborate to make decisions and implement solutions to sustain and improve wellbeing (Camfield et al. 2009; Shek and Wu, 2017).

Theoretically, we combined Sen's Capability framework with key constructs of Ecosocial theory and interpretative approaches to bring into focus the multi-dimensional nature of wellbeing. The use of interpretative approaches enabled us to provide rich and detailed accounts of the social orientations shaping experiences of wellbeing in Ghana. The use of theoretically informed participatory research created avenues to explore the complex relations between people and capabilities, people and places, the material and non-material constituents of places, and intra-relationships between different wellbeing domains (Panelli and Tipa, 2009). This helped advance a more accurate representation and measurement of people's lives and experiences and it is important that the selection of indicators of wellbeing be guided by some procedural method rather than simply applying a pre-existing list (Camfield, et al. 2009; Shek and Wu, 2017). However, there must be coherence between theoretical definitions, epistemological goals, and the methodologies applied (Elliott 1999; Robeyns 2005).

Although the purpose of the research was not to quantify, establish patterns and make generalizations about wellbeing and its indicators, a limitation of this research is the relatively small sample size (10 key informants and 40 FGD participants). The small sample size and rootedness in contexts, however, allowed us to gain an in-depth understanding of wellbeing, eventhough, the knowledge produced might not be generalizable to other contexts. We adopted a purposive sampling strategy to ensure that we covered varied experiences, different cultures, and opinions across the life course and across the country as much as possible. This allowed us to gain an in-depth contextual understanding of people's perceptions and meanings associated with wellbeing and progress. The next step is to use a quantitative survey to examine the relationship between the various domains and wellbeing with a view to quantify and establish associations. A second key limitation is that our key informant sample was 60% male, which may underrepresent female voices. However, this was possibly due to the relatively low percentage of females in policy making positions in Ghana.

4.8 Conclusion

Population wellbeing indicators that are locally grounded and built on inter-sectoral partnerships are vital to ensuring maximum levels of societal wellbeing (Atkinson 2011: 2013; Schwanen and Atkinson 2015) especially for populations in SSA. Adopting population wellbeing

measures will broaden policy attention to include a wider range of potential impacts on social and environmental wellbeing (Michealson et al. 2009). These measures are also useful to enable policy makers to examine the effectiveness of different policies as well as gauge any associated externalities, allowing for group comparisons and monitoring change over time (Diener et al. 2009). Even though population wellbeing measures are important in the context of SSA and are urgently needed, an important step towards developing indicators is to engage with populations in these contexts to identify the indicators they deemed important for their daily life, and to support them within the environments in which they live, grow and work (Elliott et al, 2017). This consideration is currently missing in some social indicators, as researchers and citizens in SSA have little input into the domains and indicators used to measure their wellbeing.

Adopting a place-based approach to wellbeing will enable us to embrace the complexity of local and wider processes and understandings that affect a population's sense of wellbeing (Cutchin, 2007). Second, studying perceptions and meaning of wellbeing in place will encourage an analysis of individual, collective and contextual livelihood strategies as they are played out in different locations—showing variation both within and between places. For instance, in the case of Northern Ghana, collective and contextual attributes such as fellow feeling, peaceful co-existence, community support and environmental change with its associated effects on food and water security were deemed more important while southern participant mostly talked about individual wellbeing. Attention to place thus help highlight the significance of human-environment specificity, where particular relations with, and understandings of, environments affect the way of life and sense of wellbeing. Third, attention to place enables an appreciation of how particular social relations, structures, and social norms affect the sense of good life. For instance, even though participants expressed the need to have cultural values and norms respected, they were also concerned about the tendency of culture towards hierarchy and acceptance of hierarchal structures as normal and necessary which reinforces inequalities. However, cultural and social concerns were not uniform across the study sites and were frequently expressed by participants [both KI and FG] from northern Ghana. Thus attention to place enabled us to identify variations in cultural beliefs and norms, embedded in contrasting locations.

Chapter 5

Kangmennaang, J., Smale, B and Elliott, J ***'When you think your neighbour's cooking pot is better than yours':*** **A mixed-methods exploration of inequality and wellbeing in Ghana, Social Science and Medicine (Revise resubmit)**

Overview

Existing evidence suggests that rising inequality is detrimental to population wellbeing. However, the effects and pathways through which inequality affects wellbeing in the context of low to middle income countries (LMICs), where absolute and relative deprivation are extreme, remain unknown. As part of a larger research program that aims to develop a Global Index of Wellbeing (GLOWING), this paper explores the linkages between inequality and wellbeing in Ghana. We used key constructs from the capability and ecosocial frameworks, and a parallel mixed methods approach to explore the linkages between inequality and wellbeing. Specifically, path analysis is used to examine the pathways between different measures of inequality (e.g. income and relative deprivation) and wellbeing while qualitative interviews are used to explore perceptions of inequality and the links between inequality and wellbeing to provide context and depth to our quantitative results. The results show that inequalities affect wellbeing by constraining access to basic amenities like water, food, and housing and also through its effects on community social capital and cohesion. The implications for policy and practice, specifically to ensuring shared prosperity, are discussed.

5.1 Introduction

We live in a world faced by unprecedented changes including rising inequality and growing consensus among policy makers and academics is that inequality has emerged as one of the most important challenges of the 21st century (Obama 2014; World Bank 2016). The heightened concern about inequality has been in part due to its dramatic increase worldwide (World Bank 2016; OECD 2011). This has been reinforced by the interconnectedness of the world that has increased the visibility of spectacular disparities in living standards (Deaton 2013) and a growing commitment to basic human rights, dignity, and entitlements across the world (SDGs 2015). Furthermore, concerns have been raised about the negative impacts of inequality on economic growth and poverty reduction (Fosu 2015; World Bank 2016). However, it is often said that the tale of economic progress is the tale of inequality (Deaton, 2013), suggesting that inequality maybe driven by many underlying causes, including opportunities for self-advancement and progress over time. A central theme in these debates is the Easterlin paradox (Easterlin, 1974) which indicates that *"long term trends in subjective wellbeing*[6] *and income are not related, however short term fluctuations in subjective wellbeing and income are positively related"* (Easterlin 1974, p. 1).

Following Easterlin (1974), an extensive literature examining the effects of inequality on health and wellbeing has been produced. However, the current evidence is inconclusive with various interpretations of the mechanisms linking the links between inequality and wellbeing (Ngamaba et al. 2017; Wilkinson and Pickett 2011). While some studies point to a negative association between inequality and wellbeing (Alesina et al. 2004; Biancotti and D'Alessio 2008; Verme 2011), others find positive (Berg and Veenhoven 2010) or ambiguous patterns (Bjornskov et al. 2008; Blanchflower and Oswald 2004; Helliwell 2003; Stevenson and Wolfers 2008; Ngamaba et al. 2017). Among these studies, the dimensions or indicators used as wellbeing vary greatly [e.g. happiness, health, life satisfaction and adequacy of consumption], as well as the choice of the reference group and the type of populations approached. This makes it difficult to generalise from such studies and calls for context specific analyses to examine the effect of relative considerations on wellbeing in alternative places. It is important to note that most studies on the

[6] The term "subjective well-being" encompasses a variety of measures of feelings of well-being – happiness, life satisfaction, and ladder-of-life.

links between inequality and wellbeing rely on data from the developed world where levels of poverty and inequality are relatively lower, making it difficult to understand the effects of inequality on wellbeing in the context of LMICs where absolute and relative deprivation are extreme (Dierk and Peter 2015; Pop et al. 2013; Burns, Tomita and Lund, 2017; Ward and Viner 2017). Also, people's perceptions and experience of inequality and how it affects wellbeing remain unknown in this context. For instance, many LMIC have experienced rapid economic growth in recent years, which can be beneficial to population wellbeing in terms of reducing poverty, but may also exacerbate existing inequalities, increase risk of sedentary lifestyles as well as risk of non-communicable diseases (Burns, Tomita and Lund, 2017; Ward and Viner 2017). LMICs also record some of the highest levels of inequality globally, and the World Bank estimated that increased by 11% between 1990 and 2015 in SSA (World Bank, 2016). It's thus important to know in the face of these changes how rising inequalities are affecting population wellbeing in LMICs.

As part of a larger research program seeking to explore the meaning and determinants of population wellbeing, the objectives of this paper is to explore perceptions of inequality and to examine the linkages between different inequality indicators and wellbeing, using Ghana as a case study. The rest of the paper is structured into five parts. Following the introduction, we briefly discuss the literature on the links between inequality and wellbeing. Next, we present the theoretical framework that guided the research as well as the methods employed to explore the links between inequality and wellbeing. The next section provides the results obtained from our analysis. We then discuss the results and provides more context for the findings and concludes by emphasizing the importance of taking into account different measures of inequality when measuring the wellbeing of places in LMICs.

5.2 Links between inequality and wellbeing

Following Richard Easterlin (1974) seminal paper on the links between inequality and wellbeing, an extensive literature examining the effects of inequality on health and wellbeing has been produced (Lynch et al. 2004; Macinko et al. 2003; Subramanian and Kawachi 2004; Wagstaff and van Doorslaer 2000; Koodo et al. 2009; Wilkinson and Pickett 2006; 2009; 2011). While some studies point to a negative association between inequality and wellbeing (Alesina et al. 2004; Biancotti and D'Alessio 2008; Verme 2011), others find positive (Berg and Veenhoven 2010) or

ambiguous patterns (Bjornskov et al. 2008; Blanchflower and Oswald 2004; Helliwell 2003; Stevenson and Wolfers 2008; Ngamaba et al. 2017). For instance, a meta-analysis conducted by Kondo et al. (2009, 2012) found a modest association between inequality and health, while Zheng (2012) reported a threshold effect and a time lag of about 5-12 years for the effects of inequality to manifest. These authors asked for caution when interpreting the effects of inequality on health and wellbeing due to lag effects. Another meta-analysis of 168 studies conducted by Wilkinson and Pickett (2006) found that 52% of studies were fully supportive of a positive link, while the rest were partially or non-supportive of the inequality, health and wellbeing hypothesis. A recent review and meta-analysis on income inequality and subjective wellbeing by Ngamaba et al. (2017) found negative, positive and null associations between income inequality and SWB. The authors conclude that the association between income inequality and wellbeing is weak, complex and moderated by the level of economic development. Another review by Lynch et al. (2004), limited to only developed countries found that inequality was not systematically related to population health and wellbeing. Despite the different contestation, the strongest or compelling evidence suggests that inequalities maybe detrimental to population health and wellbeing through a broad range of behavioral and physiological mechanisms (Link et al. 2008; Phelan et al. 2010; Wilkinson and Pickett 2009; 2011; Pickett and Wilkinson 2015). This paper contributes to these debates by examining the links between inequalities and wellbeing in the context of a low to middle income countries.

In the context of LMICs, where poverty levels are high, it is often said that absolute income is a major determinant of wellbeing than relative income as these countries are yet to experience the epidemiological transition and are plagued by diseases of poverty (Deaton, 2013). However, recent evidence has pointed to the fact that even in poor resource settings, the relative position has an important impact on wellbeing than personal objective circumstances as measured by personal income (Reyes-Garcia et al. 2018; Knight et al. 2007). For instance, using data from 21 developing countries, Reyes-Garcia et al.(2018) observe that inequality measured at different levels are associated with subjective wellbeing. Also in Peru, Guillen-Royo (2009) found a negative effect of relative consumption on participants' appraisal of their wellbeing even though other personal objective indicators such as health and food expenditures were equally important. Also in rural China, Knight et al. (2007) found significant relationships between relative household income, and subjective wellbeing. Other empirical studies in LMICs also report a negative relationship between

incomes of the reference group and wellbeing (Guillen-Royo, 2009: Knight et al. 2007, Graham and Felton, 2006; Razafindrakoto, and Roubaud, 2006; Knight and Gunatilaka, 2008) and the relative income is of greater importance than the personal income. In contrast, a study in Ethiopia found that the impact of relative income on subjective wellbeing was insignificant (Akay and Martinsson, 2011). However, among these studies, the dimensions or indicators used as wellbeing vary greatly [e.g. happiness, health, life satisfaction and adequacy of consumption], as well as the choice of the reference group and the type of populations approached. This makes it difficult to generalise from such studies and calls for specific analyses to examine the effect of relative considerations on wellbeing in alternative contexts.

Furthermore, most studies on inequality and wellbeing are based on analyses of quantitative data (Wilkinson, 2015) which neglect the perceptions and lived experiences of people facing higher levels of inequality and how such exposures affect wellbeing. For instance, it has been shown in other contexts that perception of a person's relative position in the income hierarchy is a greater contributor to wellbeing than objective measures of income distribution (Cruces, Perez-Truglia, and Tetaz, 2013, Kuziemko et al., 2015). However, the specific means through which inequality affects wellbeing remains unknown. This paper contributes to our understanding of how inequality is perceived, experienced and manifested in a different sociocultural context. Specifically, in contexts of significant poverty, does perceived inequality further exacerbate disparities in wellbeing? And what are the lived experiences of people affected by extreme poverty and inequality? Related to the perception and experience of inequality is the causal mechanisms and processes through which inequality affects wellbeing (Pickett and Wilkinson 2015; Herzer and Nunnenkamp 2015). Further, it is unclear geographical scale at which inequality is most damaging (Ballas et al. 2007, Layard 2005). As previous studies indicate, inequality affects wellbeing because people compare themselves with their reference groups, however, it remains unknown whether these comparisons are made with people in their neighbourhood, city, region, country or diaspora groups or with peoples [e.g. celebrities] they hardly know (Ballas et al. 2007). Thus, Pickett and Wilkinson (2015) recommend that future research should move towards explicitly clarifying causal relations between inequalities and population health and wellbeing by; (1) using different measures of income inequality, and (2) modelling and testing of specific causal pathways. Herzer and Nunnenkamp (2015) echo this, particularly for developing countries.

5.3 Theoretical framework

An integration of key constructs from Sen's capability framework and Krieger's ecosocial theory form the overarching framework for this study. Sen's capability framework focuses on the capability of individuals to function – what they can do and are able to do (Sen 1982: 1993: 1999). The framework focuses on the protection of central freedoms that makes for a good life (Nussbaum 2011) and is primarily concerned with the identification of valued indicators that enable individuals to function (Nussbaum and Sen 1993). Sen argues that the distribution of capabilities should be evaluated in terms of their contribution to individual functional capabilities in ways deemed to be objectively valuable (Sen 1993). What counts is not just capabilities but the contributions of these forms of capabilities in enhancing wellbeing. In the context of SSA where income and wealth measures may be inaccurate due to market imperfections, a multi-dimensional focus on capabilities and functions will complement income and wealth measures.

We incorporated the theoretical construct of embodiment from ecosocial theory (Krieger, 1994; 2011) to enable us explicitly explore how individuals and societies embody inequality within their context. Embodiment refers to how humans literally incorporate, biologically, the material and social worlds in which they live, from utero to death (Krieger 2011). The construct of embodiment is useful for understanding how inequality and other social processes and circumstances become 'embodied' or personified to produce population wellbeing profiles. Thus, the capacities of individuals and societies to function are literally 'embodied' in the social and ecological structure of their communities. For this reason, Krieger (2005) suggests a need to focus on data that are more 'embodied' in communities.

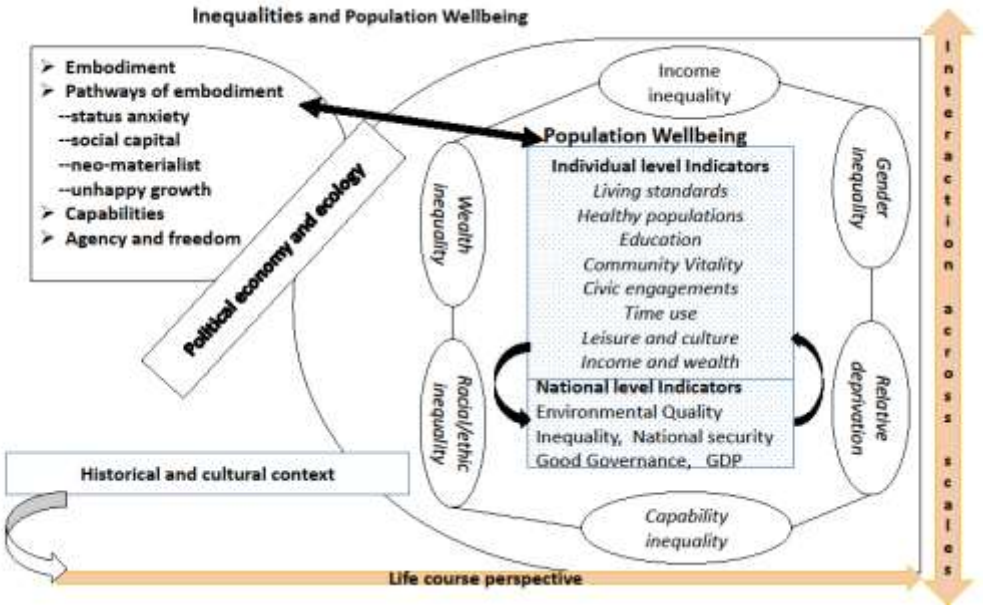

Figure 5.1: Integrated conceptual framework

5.4 Study context

This research was undertaken in 9 districts across 3 regions in Ghana (Figure 5.2). Ghana is a middle income country in SSA, and has made significant economic gains based on its gross domestic product (GDP), with an average GDP growth rate of 7.8% for the period 2005 to 2013 World Bank, 2015; GLSS6). Ghana was the only country in SSA to achieve the millennium development goal one (MDG1) target of halving poverty (World Bank, 2015; GLSS6). Despite this stellar economic performance, there is a disconnect between economic growth and wellbeing, and measured growth figures often have little meaning for the livelihoods of people (Aryeetey et al. 2002). This disconnect has led Kanbur (2001, pg. 1084) to ask "How can people with seemingly the same ends disagree so much about means, and how can seemingly the same objective reality be interpreted so differently'[between policy makers and lay persons]?" Obviously, the growth of an economy does not mean growth in income for most of the people, but should Ghanaians not 'feel' that there has been growth in the economy? Unfortunately, Ghana is becoming increasingly unequal with worsening income inequalities and falling living standards (Osei-Assibey, 2015; GLSS, 2006; GLSS, 2015). Income inequality has widened considerably; with the Gini index

rising by almost 14%, from 0.37 to 0.42 between 1990 and 2012 (World Bank, 2015). The poorest fifth of Ghana's population earned 6.9% of total national income while the richest 20% earned 44% of total income in the early 1990s. However, by 2006, the inequality gap widened such that the poorest group earned just 5.2% of national income while the richest accumulated almost half (48.3%) of national income (GLSS 6, Osei-Assibey, 2015).

Ghana's GDP grew by 14% in 2011 with the oil sector and commodity prices (cocoa and gold) contributing largely to the growth, however, no consequent effects were observed on living standards (Osei-Assibey, 2015). There are also wide spatial disparities in income and wealth between the northern and southern sectors of Ghana, across the ten administrative regions of Ghana as well as between genders. For instance, over 70 percent of people who live below the poverty line are in the three northern regions and while absolute poverty declined sharply in the South sector between 1992 and 2006 (2.5 million fewer poor), it increased in the Northern sector (0.9 million more poor). Also, current evidence points to persistent and growing gender disparities in access to and control of a wide range of assets including access to jobs, political participation, education and social capital (GSS, 2010; Osei-assibey, 2014). The lack of attention to distribution or empowerment of vulnerable people has meant that increased growth is experienced differently by diverse groups and classes (Obeng-Odoom, 2014). The country therefore unable to translate economic growth into job creation, improvement in living standards and equity in incomes (Fosu, 2015). For instance, current levels of youth unemployment or youth in precarious employment have been described as a national security threat. Also, there have been widespread concerns about a breakdown in social fabric and value systems, community cohesion and vitality, low educational performances, increased corruption and rent[7] seeking behaviours. Further, educational standards continue to fall due to under investment. There is, therefore, a growing realisation that a pro-growth focus and the failure to understand the multi-dimensional factors that affect wellbeing will not ensure shared prosperity.

Ghana is divided into 10 administrative regions with different cultures and varying levels of economic development which influence perceptions of wellbeing. The different cultural backgrounds influence people aspirations, exposure to inequalities and perception. The Southern

[7] getting income not as a reward to creating wealth but by grabbing a larger share of the wealth that would otherwise have been produced without their effort(Stigliz, 2012)

sector is relatively more developed and more urbanized than the Northern sector. This research was carried out in three regions that transect the country; Greater Accra [Accra Central, La Dade, Ashaiman]; Brong-Ahafo [Wenchi, Sunyani municipal and Techiman North] and Upper West [Wa Central, Nadowli-Kaleo, Jirapa]. The location of these districts and municipalities are shown in Figure 1 and were selected to capture varying levels of income inequality at the administrative. Greater Accra region is located in south-eastern Ghana and it is one of the most densely populated and urbanized regions in the country (Figure 1). The Brong-Ahafo region is located in the middle belt of Ghana and is the 6th most populated region, with the main occupation being agriculture and related activities. The Upper West Region is located in the north western part of Ghana, the least populated and poorest of all the regions. According to the 2010 Population and Housing Census (PHC), the Greater Accra, Brong-Ahafo, and Upper West regions have populations of approximately 4million, 2.2 million and 700,000 respectively.

Figure 5.2: Map showing districts where survey was conducted

5.5 Methods

The study used a parallel mixed method design, with the qualitative interviews conducted before the quantitative survey during the same data collection period (between May 2016 and April 2017). The research employed focus group discussions, key informant interviews and a cross-sectional survey as the main data collection tools. Preliminary findings from the qualitative study influenced the formulation of questions in our quantitative survey.

5.5.1 Qualitative component

The qualitative component consisted of ten KI interviews and four FGD conducted across Ghana. KIs included policy makers (6), community leaders (2), civil society organisations leaders (3), a business owner (1) as well as researchers (3) (see Table 5.1 and Appendix1 for details of the key informants). Using purposive sampling, KIs were first contacted in May 2016, in an earlier formative reconnaissance survey. The formative reconnaissance introduced prospective KI to the general purpose of the study. Those who agreed to participate were then contacted again via email and phone to arrange the interview. The interviews were guided by open ended questions on participants' perceptions, conceptions, and understanding of national wellbeing. The interviews lasted between 35 minutes and 1 hour and were digitally recorded and transcribed verbatim for subsequent thematic analysis using NVIVO version 11.

To understand lay person's perspectives on wellbeing, four FGDs consisting of about 8 to 12 individuals each were conducted. Eligible participants included those who have been living in the study communities for at least a year and were between the ages of 18-75 (Table 5.2). Participants were purposively selected across demographic characteristics such as occupation, length of stay [number of years participant stayed in the community], and age to ensure maximum variation in opinions and perceptions. The participants were contacted by the first author with assistance from research assistants to explain the general purpose of the study. Three post-graduate students fluent in English and the local languages were recruited to assist in facilitating the focus group discussions. One focus group discussion was conducted with only youth aged between 18-35years [male and female] in a slum area [James town] in the capital city, Accra. Another was conducted with only female participants in a peri-urban area in the middle belt of Ghana (Wechi).

The third with males' only participants in a migrant farming community in the middle belt of Ghana (Tuobodom) and the final one was with both males and females in northern Ghana (Wa). Guided by the theoretical frameworks, the discussions focused on capturing the collective meaning and understanding of wellbeing, perceptions of inequality as well as any links between inequality and wellbeing. The focus group sessions lasted between 60 to 100 minutes.

Table 5.1: Key informants characteristics

Name	Number of key informant interviews	References
Motivations for doing what they do		
Humble background	4	4
Opportunity to make a difference	5	5
Personal experience	3	3
Philosophical orientation	1	1
Research interest	1	1
Role in the community		
Business owner	1	1
Community leader	2	5
Civil society organizations	3	3
Policy maker	6	6
Researcher	3	5
Sex		
Female	4	4
Male	6	6
Years of work		
10-15	1	1
5-10	2	2
less than 5	4	4
more than 15	3	3

Table 5.2: Focus group members' characteristics

Background	Number of focus group	Number of mentions
Length of stay in the community		
10-15year	1	5
5-10 year	2	12
Born here	4	15
less than 5 year	2	8
Role in the community		
Community leader	2	4
community member	4	36
migrant	3	13
Sector of work		
Banker	2	2
Casual work	2	5
Construction	2	2
Driver	1	3
Farmer	2	9
House wife	1	4
Nurse	2	3
Student	3	5
Teacher	3	4
Trader	2	3
Sex		
Female	3	19
Male	3	21

5.5.2 Survey

The quantitative data is a cross-section survey that was collected using both purposive and random multistage sampling strategies. In the first stage, three regions: Greater Accra, Brong Ahafo, and Upper West were selected purposively to capture regions with varying levels of income inequality as indicated by their respective Gini coefficients. According to the 2010 census, Brong Ahafo, Central, and Upper West regions have populations of approximately 4,010,054, 2,310,983; and 702,110 people (GSS, 2015) and are divided into 3,666; 3,234 and 1,122 enumeration Areas respectively (GDHS, 2014). Within the three regions, three districts each were purposively selected and a list of villages based on the 201o Population and Housing Census was divided further into households. The list of villages was also divided into clusters ensuring that each cluster would provide adequate numbers of eligible respondents to be included in the survey. Within each district, a list of villages based on the 2010 Population and Housing Census was divided further into households. The list of villages was also divided into clusters ensuring that each cluster would provide adequate numbers of eligible respondents to be included in the survey. This approach both corrects for sampling bias and weights the cases to match census percentages of males and females of various age groups and ethnicity. This provided the frame for selecting the clusters to be included in the survey. Individuals in the households were randomly selected from these clusters for interview. The questionnaire was administered face-to-face and was collected using a modified version of the Canadian Index of Wellbeing Community Survey (CIW-CS) questionnaire (CIW, 2018) as a guide. The CIW-CS is an instrument developed by the Canadian Index of Wellbeing to measure wellbeing across several cities in Canada: Guelph, Waterloo, Wood Buffalo, Victoria and Kingston[8] and have been by the Australian Index of Wellbeing and New Zealand Index of Wellbeing to measure wellbeing over time in relation to other development indicators at the community level. To make the CIW-SC measures contextually relevant for our study, most questions were modified to reflect the local context. For instance, water and sanitation, cultural and recreational activities were modified to reflect locally available sources. Also, we included the Household Food Insecurity Access Scale (HFIAS); Housing and Water insecurity; the General Health Questions (CHQ-20), Relative SES and Capability and functioning measures. These

[8] https://uwaterloo.ca/canadian-index-wellbeing/community-users

modifications were guided by qualitative interviews conducted with policy makers and communities on what matters for wellbeing in Ghana.

To ensure context appropriateness, a professional translator and one researcher each from the University of Development Studies and the University of Ghana translated the questionnaire and interview guides into Dagaare, Twi, Ga and back to English. Nine research assistants (RAs) were recruited to administer the actual survey. These RAs were university graduates students, fluent in Dagaare, Twi or Ga and understood the local context. The RAs also received rigorous training that focused on the research objectives and purpose, what each question in the questionnaire sought to elicit and general ethics considerations in the data collection process. The questionnaire was pre-tested on the 20th of February 2017 with 10 people and the outcome was satisfactory. On subsequent days, the RAs administered the questionnaires independently with a debriefing exercise every evening to take stock of progress and to check for any gaps on completed surveys. Follow-ups were made on the next day to correct any gaps that existed. The survey was administered to a target random sample of (n=1,250) adults aged 18-65 years across three regions and 9 districts in Ghana between February and April 2017. A total of (n=1,100) completed the surveys generating a response rate of 88%. About 5% of the responses contained missing data and were pair-wise deleted generating an analytical sample of (n=1,036).

5.5.3 Measures

We used a global wellbeing measure that follows a multidimensional approach to measuring satisfaction across several life domains (SWB) (Howell et al., 2011) to measure wellbeing. We conceptualize wellbeing according to the holistic definition provided by the Canadian Index of Wellbeing (CIW) as: *the presence of the highest possible quality of life in its full breadth of expression focused on but not necessarily exclusive to: good living standards, robust health, a sustainable environment, vital communities, an educated populace, balanced time use, high levels of democratic participation, and access to and participation in leisure and culture. ("What is wellbeing?",* 2012, *1).* Wellbeing was thus measured using 16 items drawn from the Happiness Initiative Survey and the Canadian Community Wellbeing Survey (Howell et al., 2011). Respondents were asked to indicate their level of satisfaction along a 7-point Likert scale from 1 'extremely dissatisfied' to 7 'extremely satisfied' with their physical and mental health; personal

relationships; sense of belonging; leisure; work; financial situation; educational opportunities in the community; satisfaction with local governance; access to arts, culture, and recreational opportunities in the community; sense of community; and the quality of the environment in their neighbourhood (see appendix 5.2).

Subjective Wellbeing Measure

Confirmatory Factor Analysis (CFA) was performed on the 16 scale items, using principal-factors extraction and orthogonal varimax rotation. Four criteria were used to investigate candidate factors for retention. First, the factor eigenvalues were examined for those factors with eigenvalues greater than 1.0 (Guttman 1954; Kaiser 1991). The eigenvalues were graphed in decreasing order to identify the scree, i.e., the portion of the graph where the slope of decreasing eigenvalues approaches zero (Appendix 5.3) (Cattell 1966). Although we did not have an explicit test of a single factor solution, the eigenvalue of 6.93 for the first item is large enough for us to be reasonably confident that all 16 items are trapping on a single dimension. Third, CFA was used to examine the loadings of the individual items on the different factors (See Figure 3) and the covariance matrix (Appendix 5.4). All but one of the 16 items had standardized factor loadings greater than 0.40 (0.40—0.79) (Floyd & Widaman 1995). An index of wellbeing was then created using the factor scores of all items, which is normally distributed as shown in Figure 4.

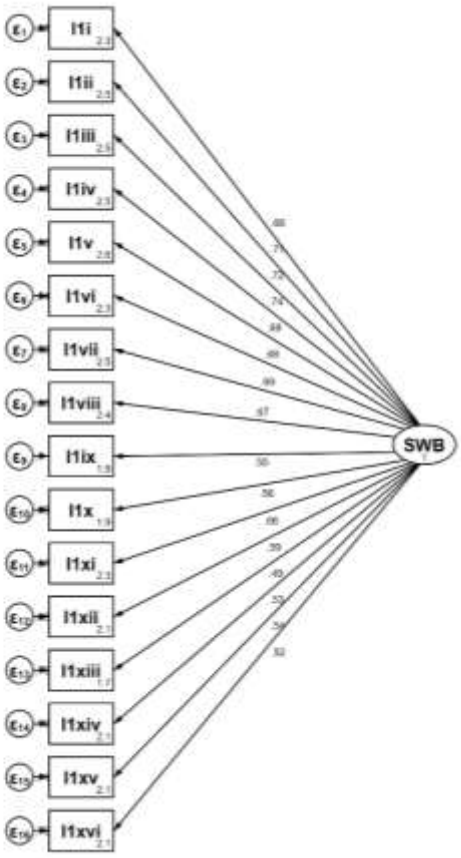

Figure 3: Confirmatory factor analysis of subjective wellbeing

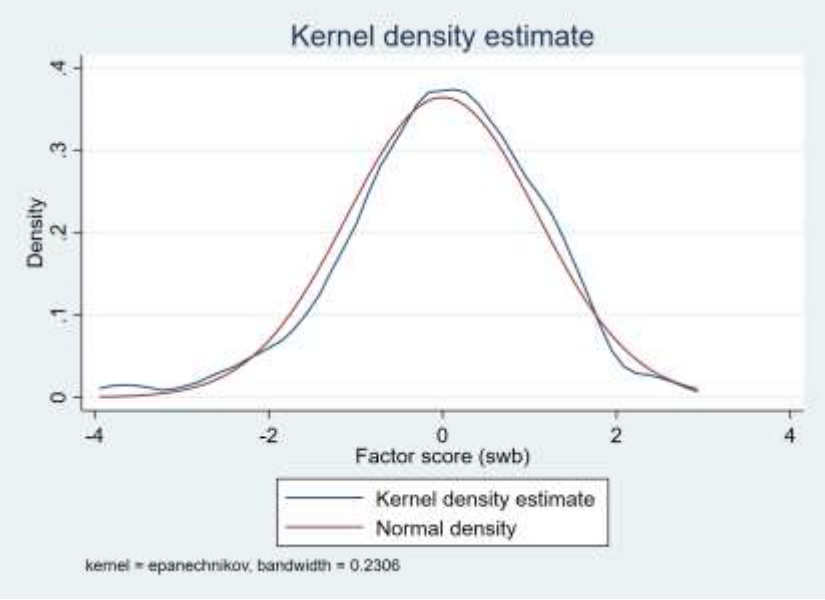

Figure 4: Kernel density estimates of Subjective wellbeing score

5.5.3.1 Independent Variables

We used both objective and subjective measures of inequality as our main independent variables. We used district level Gini coefficients obtained from the Ghana statistical service (GSS, 2015) and Canstril's relative deprivation (RD) measures as indicators of perceived inequality at the community level. RD measures were obtained by asking respondents to indicate where they would place themselves on a Castril ladder which consisted of 10 steps, in comparision to their neighbors in the community. The other independent variables were grouped into seven categories from living standards, health, education, community vitality, democratic engagement, environment, culture and leisure, and time use and detail explanation of each domain is provided below.

Living standards

Respondents' living standards were captured by indicators such as job security, income adequacy, food security, water security, and housing security. Job security was measured by a series of 7 questions that asked respondents about how they felt about their job. All questions used a 7-point scale where 1= 'Very strongly disagree' and 7 = 'Very strongly agree' (α=0.82). Water and food insecurity were measured using modified versions of the Household Food Insecurity and Access scale (HFIAS) (α=0.73) and the household water insecurity and access scale (HWIAS) (α=0.83). Income adequacy consisted of responses to seven situations that focused on behavioural assessments of how well respondents' income met their financial needs during the past year. Respondents were asked to indicate the frequency with which the following situations occurred: 'I could not pay my bills on time', 'I ate less because there was not enough food or money for food', 'I did not have enough money to buy the things I needed', 'I could not pay my rent', 'I did not have enough money to buy the things I wanted'. The first two situations were drawn from the Happiness Initiative Survey (Howell et al., 2011) and the third was added by the CIW. Responses ranged from 1 'Never' to 5 'At least once a month' and were reverse-scored so that a higher mean score was an indicator of stronger income adequacy (α =0.85). Similarly, housing security was measured by asking respondents how they felt about their current housing situation.

Health

Health status is represented by overall general health, as well as emotional health. General health is measured by questions about general physical health, mental health, availability, accessibility and overall quality of health services within the community. Emotional health is measured by the General Health Questionnaire (Goldberg, 1972) that tap into several aspects of emotional distress including predisposition to depression, anxiety, and social impairment. GHQ method (all items coded 0-0-1-1) was used to score all the items with a mean score of 4.52 [SD=3.60, α =0.78] and categorized into: no emotional distress '0' (scores between 0 and 4) and emotional distress (4+ scores).

Education

Respondents were asked indicate the extent to which they agree with statements about educational opportunities in their community. For example, all questions used a 7-point scale where 1= 'strongly disagree' and 7 = 'Very strongly agree' (α =0.71).

Community Vitality

Community vitality is represented by; community involvement, community support and sense of community. Community involvement is measured by adding responses regarding respondents' engagement in several community level activities including; being part of a union, political group, sports or recreational group, clean up group etc. Participation scores were then created for each respondent by summing their responses (α=0.78). A categorical variable was then created based on the participation scores ('0'=no participation, '1' participation in 1 or more groups). Similarly, level of community support is created from six questions that asked respondents about whether they provided unpaid help ranging from work at home to teaching or assisting with reading in the community. A summative scale was created from responses to these questions and the index grouped into three categories. Sense of community was measured using a shortened version of the Multidimensional Sense of Community Scale for Local Communities (Prezza et al., 2009). The scale has 19 items comprising five subscales. For the purpose of this study, we selected three of the most salient subscales using 14 of the original items, as the other 5 items were deemed irrelevant in this context. These included: (1) help in case of need (4 items), which focuses on perceptions of willingness of people in the community to provide help if needed (e.g. 'Many people in this community are available to give help if somebody needs it'); (2) social climate and bonds

(6 items), which addresses social ties and ability to connect with people in the community (e.g. 'People are sociable here'); (3) need fulfilment (4 items), which examines perceptions of the availability of services and activities designed to meet residents' needs and interests (e.g. 'This community provides opportunities for me to do a lot of different things'). Participants indicated their level of agreement to each item along a 7-point scale where 1 = 'Very strongly disagree' and 7 = 'Very strongly agree' (α=0.78). Five of the items were reverse-scored so that a higher score on all 14 items indicated a stronger sense of community. The index was later categorized into three categories using the Likert scale.

Democratic engagement

Democratic engagement is captured by two variables that tap into citizens' engagement in public life and in governance and overall interest in politics (a summation of interest in presidential, parliamentary and District elections). Participation in public life is a categorical variable created from responses to 9 questions (e.g participation in community meetings or clean up exercise, demonstration, calling a radio station or Facebook to complain about a local problem etc) (α=0.64)

Environment

Environmental concerns were measured by asking questions related to the feeling of personal responsibility to protect the environment, and perceptions of community environmental quality. Personal responsibility to protect the environment is measured using 7 questions that asked how often respondents engage in activities to help protect the environment (e.g, reduce household waste, conserved energy, and water, drop plastics in dustbins, practice open defecation etc.). Respondents were asked to indicate the frequency with which these activities occurred (α=0.81). Perceptions of environmental quality is measured by 10 questions that asked respondents about air quality, water quality, opportunities to enjoy nature etc. within their communities. Respondents indicated their level of agreement to each item along a 7-point scale where 1 = 'Very strongly disagree' and 7 = 'Very strongly agree' (α =0.59).

Recreation and leisure

Leisure facility use was measured on a 5-point scale ranging from "never" (value = 1) to "quite often" (value = 5). Participants were asked, "During the past year, how often did you use the

following recreation and cultural facilities in your community?" Facilities included a variety of sports (e.g. soccer or volleyball field), cultural (e.g., historical landmarks), and recreation (e.g., public parks/gardens) facilities within the community over the past year. The scale was developed to reflect the use of a variety of different facilities available and common to all of the communities. The scores on the reported use of the facility types were used to represent overall leisure participation ('0'=less than 3, '1'=5 and, '2'=more than 5). Similarly, access to recreational facilities was measured by five questions that asked respondent the extent to which they agree with questions such as; recreational and cultural activities (RAC) are easy for me to go to, the times RAC are offered is convenient for me etc. Respondents indicated their agreement on a 5-point Likert scale ranging from "strongly disagree" (value = 1) to "strongly agree" (value = 5). The overall reliability of the items included from this measure was high (α =.66).

5.6 Analysis

5.6.1 Qualitative analysis

The audio-recorded qualitative interviews were transcribed verbatim and coded theoretically (Creswell, 2007). Following Crabtree and Miller (1999), the lead researcher read all the transcripts in order to determine thematic codes to compose a coding manual. For each data source, two transcripts were coded by the first author and subsequently independently coded by another researcher to assess inter-rater reliability. Over 70% agreement was achieved for both data sources (Miles & Huberman, 1994). Any differences between coders were resolved through discussion and consensus. Following this, the thematic codes were subsequently applied to all the remaining transcripts using Nvivo version 11.

5.6.2 Quantitative analysis

Our Quantitative analysis is done in two stages. First, we used Generalized Linear Latent and Mixed Models (*gllamm*) with a gaussian link function to analyse SWB given that it is contineous and normally distributed, and our data is hierarchical with individual nested within districts and regions. The hierarchical structure of our data violates the assumption of independence of

respondents in standard logistic regression and increases the possibility of bias in the standard errors. To avoid bias in the standard errors and parameter estimates, a multilevel modeling analysis that corrects for these biases was employed using the gllamm command available in Stata 13 (see Rabe-Hesketh & Skrondal, 2008; Raudenbush, 1993; Schielzeth & Nakagawa, 2013; Stephenson, 2009).

Second, path analysis was then used to test multiple potential mediators to examine how they intervene in the relationship between inequality and wellbeing. More specifically, mediation analysis yields estimates for the total effect, or c path (association of inequality with wellbeing), direct effect (association of inequality with wellbeing controlling for the mediators), and indirect effects of inequality with wellbeing through each mediator (indirect effects). Path analysis also allows an examination of the extent to which the mediators independently contribute to an explanation of the association of the focal variable (inequality) with the outcome variable (wellbeing) as well as a comparison between mediators.

5.7 Results

5.7.1 Qualitative results

The qualitative results are structured around two key themes: the perceptions and signs of inequality as well as how inequality affects wellbeing. To facilitate reporting, tables are used to illustrate the number of mentions and number of respondents mentioning key themes and sub-themes. These themes are punctuated by participants' voices. These themes are punctuated by participants' voices and each voice quotation is identified with a pseudonym, gender [i.e. F=Female, M=Male], and location [NG=Norther Ghana, MG=Middle Ghana, CG=Coastal Ghana].

5.7.1.1 Perceptions of inequality

When asked about their perception of inequality in Ghana, participants offered varied opinions with the majority indicating that inequality was high, expected to rise and that the high level of inequality was detrimental to wellbeing. However, others thought inequality is not necessarily bad if income is earned through legitimate means and used to support the community. Those who

perceived inequality to be increasing offered several reasons to support these perceptions including increase status competition, rent seeking, begging etc (Table III) which participants acknowledge are the signs of broader structural challenges. For instance, participants indicated that:

> *'As for Ghana's development, it's a lot of issues, it's not good development; it's like the rich keep getting richer. You see the difference between the rich and the poor' (Winny, F, MG).*

> *'Inequality in Ghana is prevalent and the truth is that it is getting worse. Is getting worse because, with the kind of economy that we are running, it is one that the majority of people who are in the rural areas do not even appreciate and cannot be part of'* (Dery, M, NG).

> '*…inequalities are glaring, the salary of the working class hardly survives them the month. What do you do for the rest of the month when your money runs out, you know that is the reality, yet you find some of the best cars in the world on the street of Accra and you also find all these slump areas where poor people live and begin to wonder whether some of us are human'* (Naa, M, NG).

In explaining these perceptions, participants pointed to the role of historical and cultural context, the political organisation of power and resources, and global influences as reasons for the rising inequality. For instance, participants lamented that historical discrimination towards the northern section of the country as well as cultural constraints to explain these perceptions:

> *'... there is the north-south inequality which dates back to colonial times because the mineral wealth of the country in those days was down south, and north provided manual labour for the mines. Let us even go before colonial times when people of the North were used as slaves, and a lot of people were taken away from the north'* (Dery, M, NG)

> '*Culturally, in some extent there is a tendency towards hierarchy and acceptance of hierarchal structures as normal and necessary and these too then can reinforce inequalities because if at people at the top of the pedicle believe they are justified in accumulating all that they can, then they will defend the status quo and help exacerbate inequalities more'* (Chaka, M, SG)

The tendencies towards hierarchy and culture were linked to growing gender inequalities

> *'By the nature of our society, patriarchal kind of society, take a man and a woman, there is inequality in terms of opportunity, what you can do, to some extent, is influenced by our tradition eeerm which has given men mostly an edge over women' (Hawa, F, NG)*

Others pointed to the role of lifestyle factors such as the increasing levels of individualism for their perceptions of the rising inequality

> *'Some rich people are selfish, they don't help anyone ….nobody knows what they do with their money. If somebody is sick, they do not help, their riches are just for them and their family only. When we have problems in this village, we have to wait for people to come from somewhere else to help us'* (Amina, F, NG)

Changing environmental conditions were also blamed for perpetuating spatial inequalities across the country. For instance, participants observed that:

> *'there is also climatic inequality which interestingly is also north-south where south get two raining seasons and the north get only one raining season….little wonder that the stronger people from the north are migrating south and it worsens the inequality'(Kwame, M, MG)*

Other participants expressed concerns that the rising levels of inequality were due to failures associated with the political organisation of power and resources

> *'I think in the last five years, I think yes, there is the perception that inequality is rising in light of government failure. The quality of education deteriorated, there is joblessness, lack of local production initiative and the electricity crisis also affected businesses, limiting job opportunities…. if you also look at the composition of national tax revenue, you would find that the poor are paying more of the taxes'* (Brown, M, SG).

Table 5.3: Perceptions of inequality and associated signs

Indicators of wellbeing	**Focus group(FG)**		**Key informants (KI)**	
Perceptions of inequality	# of FG	# of mentions	# of KI	# of mentions
Bad	3	14	2	6
We can feel it	3	10	4	2
Not bad	2	7	N/M	N/M
Mixed	N/M	N/M	3	3
Not enough attention	N/M	N/M	2	5
Reduced	N/M	N/M	2	4
Rising	3	15	7	14
Will rise in the future	3	10	4	7
Signs				
Begging	3	13	2	3
Increased corruption	3	11	4	9
Dependency ratio	N/M	N/M	4	6
Gini	1	1	3	3
Joblessness	N/M	N/M	3	4
Labour agitations	1	2	2	7
Low productivity	N/M	N/M	4	6
Increase in poverty	3	6	8	14
Rent seeking	N/M	N/M	5	12
Social vices and crimes	3	8	4	5
Status competition	4	18	4	9

#= number; N/M= No mentions; FG=Focus group; KI=Key Informant

5.7.1.2 Perception of the links between inequality and wellbeing

When asked, participants frequently expressed worries about how rising inequalities lead to unequal access to basic needs, opportunities, inadequate legal representation for poor persons, and gender inequalities. These sentiments were mostly expressed by FG participants, especially young people even though some KIs were equally concerned about rising inequality. For instance, a young lady underscored the links between inequality, access to basic needs such as food, clothing and purchasing power and stressed how an embodiment of material needs affects wellbeing:

> *'In Ghana, it is like the rich keep getting richer. You see the difference between the rich and the poor. You see, in some countries, for example, food, meat, and water are very cheap, everybody, it doesn't matter if you are rich or poor, you can buy some. But right now in Ghana, if we go to the market and I have money, and this woman sitting next to me does not, you will see the difference in what we are going to buy, you will see what she will buy and what I will also buy, so the difference is shown in our appearance, the food we eat, what we wear, and what we buy' (Winnifred, F, MG).*

Similarly, other community members talked at length about the linkages between inequality and access to food. For instance, a participant observed that:

> *'Some people find it difficult to get money for food, especially in our villages, how to get money for food is very hard while others have the money in abundance yet will not support the needy'*(Alima, F, NG*)*

Others noted that the growing levels of inequalities disproportionately affected the standard of living of the poor, especially urban poor slums dwellers. Participants lamented that the poor urban slum dwellers were paying more in absolute and relative terms for basic needs such as water, electricity and other social amenities, even though urban slums are also less likely to have access to these social amenities. For instance, a policy maker lamented:

> *'Inequality makes poor people worse off and therefore once you are worse of you can't live a better life. Let's say, for instance, if you are living in Nima or Maamobi areas [urban slums], you are having to buy a bucket of water let's say for 5 Ghana Cedis [CAD$1.25] when somebody can have a whole full poly tank of water for let's say at a fraction, a cedi or so. You would find that the expenditure of rich people on water is very low than the poorer people because those who buy water in bucket pay more for water and so it makes them worse off. May be the opportunity cost may be that rather than send their children to school, they would use the money to buy water and so it makes them economically worse off' (Naa, M, NG).*

Likewise, a female participant alluded to the disparities in access to water which she deemed essential to living a good life as she lamented:

> '*How can you talk of wellbeing without looking at the unequal access to essential services where some people have water flowing through their pips 24/7 to the extent that they can afford to use water to water their lawns and to wash their cars and some people do not have water even for drinking'* (Adobea, F, SG)

Other participants complained of the impacts of inequality on access to basic infrastructure at the community level. For example, one KI observed that:

> *'And you look at the infrastructure, the poorest areas are those who do not have access to basic services. Those who have the service are able to reinvent themselves either by buying generators or solar panels to use but those who depend on the state or the public utilities to provide water and electricity can't, so you see that the poor people pay more for these services that the rich' (Dery, M, NG)*

Also in discussing the effects of inequalities on the optimum experience of wellbeing, participants were quick to indicate that the growing levels of status competition affected people perception of their quality of life which could both spur them to work harder or deteriorate their psychosocial health. For instance, a participant observed that;

> *'So the comparison is part of the problem. When you think your neighbour's cooking pot is better than yours, it can affect your perception of a better life and whatever you have'* (Naa, *M, NG*)

Participants were equally concerned that growing disparities within communities was eroding trust, sense of community as well as willingness to support one another. Participants noted that the lack of support has led to wasted talents, inability to mobilize for clean ups and affects enthusiasm for communal events such as funerals and festivals. For instance, a male farmer observed that:

> *'There is a lack of trust and support, so some of us have experienced these things so if people are not helping, may be it's because of those things. For me I won't support another person, because we are from different places, I, for instance, am from Lawra so I would rather help my family than a neighbor because he won't come back to help me if he becomes successful' (*Prosper, M, MG*).*

Similar views were expressed by others in southern Ghana. A female student observed that:

> *'At first if someone goes somewhere where he doesn't have anywhere to sleep, he goes to somebody else's house, "oh, I travelled I need a place" .....but now for someone to come to your house and say that, "I have travelled and I don't have a pace to sleep" it will be*

difficult for you to accept the person because we don't trust each other anymore' (Ama, M, MG)

Others observed that inequality was creating social tensions which could undermine social cohesion and cause a social revolt. Participants observed that;

> *'Now with fairness, is a different issue, you create social tension to the extent that if there is a belief that those who have acquired such high income have acquired them through elicit means then that would create some tension' (Brown, M, SG).*

> *'Inequality creates instability if don't manage well. If you do not manage it, then the marginalization gets to a certain point, then there would revolt, there would be social deviants, attack, people would steal, and so on and that is the danger that faces us as a country' (Manteaw, M, SG).*

Overall, these varied accounts highlight participants' broad understanding and perceptions of inequality as well as its effects on wellbeing and these results are useful to guide policies that aim to address inequality and promotes shared prosperity.

5.7.2 Quantitative results

The quantitative results are presented on tables 5.4 to 5.7. The mean of the standardized subjective wellbeing score was 1.27e-09[SD=1.09, range=-3.7—2.69], with mean district Gini and community relative deprivation measures of 0.43 [SD=0.084, range=0.33-0.64] and 5.17 [SD=1.95, range=1—10] respectively [see Table 5.4]. The average age of participants was 30 years [SD=9.5, range 18-75], with the majority of respondents (35%) identifying Akan as their ethnicity. The sample consisted of 55% male and most identify with Christianity (72%). About 46% of respondents reported secondary school as their highest level of education. Regarding living standards, the majority of respondents were living in poor (42%) conditions, most had a relatively secure job, were mildly food insecure and had fairly stable housing (54%). About 31% of respondents reported being emotionally distressed.

Table 5.4:Descriptive statistics of survey

Variables	Codes	Frequency (%)
Subjective wellbeing(mean)		1.27e-09 [SD=1.09, range=-3.7—2.69]
District Gini(mean)		0.43[SD=0.084, range=0.33—0.64]
District RD(mean)		5.17[SD=1.95, range=1—10]
Age		29.6 [SD=9.52, range=18-75]
Ethnicity		
Akan	0	363(35.04)
Ga	1	114(11.00)
Ewe	2	119(11.49)
Dagao	3	284(27.41)
others	4	156(15.06)
Religion		
Christianity	0	749(72.30)
Muslim	1	212(20.46)
others	2	75(7.24)
Region of residence		
Greater Accra	0	367(31.08)
Brong Ahafo	1	322(31.08)
Upper West	2	347(33.49)
District of residence		
Ashiedu Keteke	0	117(11.29)
Madina	1	84(8.11)
Ashaiman	2	165(15.93)
Sunyani	3	106(10.23)
Wenchi	4	110(10.62)
Techiman North	5	107(10.33)
Wa	6	151(14.58)
Nadowli/Kaleo	7	136(13.13
Jirapa	8	60(5.79)
Highest level of education		
Primary	0	90(8.69)
JHS/SHS	1	478(46.14)
Tertiary	2	468(45.17)
Living standards		
income adequacy(7 questions, 7Likert scale)		(α =0.85)
good	0	350(33.78)
poor	1	434(41.89)
worse	2	252(24.32)
Food insecurity(HFIAS)		(α=0.73)
Very insecure	0	259(25.00)
Insecure	1	259(25.00)
Mildly insecure	2	259(25.00)
Secured	3	259(25.00)
Water insecurity(Modified HWIAS)		(α=0.83).
Insecure	0	276(26.64)
Mildly insecure	1	512(49.42)
Secured	2	248(23.94)
Housing security		
Stable and secured	0	247(23.84)

fairly stable	1	558(53.86)
unstable	2	231(22.30)
Healthy population		
Overall health (Likert scale)		
Poor	0	172(16.60)
Good	1	584(56.37)
Very good	2	280(27.03)
Physical health(Likert scale)		
Poor	0	152(14.67)
Good	1	683(65.93)
Very good	2	201(19.40)
Emotional distress (GHQ-20)		
Less than 4	0	711(68.63)
4+	1	325(31.37)
Community Vitality		
Community involvement(Likert scale)		(α=0.56)
Low	0	341(32.92)
medium	1	345(33.30)
high	2	350(33.78)
Sense of Community ((Likert scale))		(α =0.78)
Low	0	324(31.27)
medium	1	348(33.59)
high	2	364(35.14)
Face discrimination in the community(summative)		
Most of the time	0	308(29.73)
Sometime	1	317(30.60)
never	2	411(39.67)
Democratic engagement		
Democratic engagement with local issues (Likert scale)		(α=0.64)
Low	0	335(32.34)
medium	1	354(34.17)
high	2	347(33.49)
Interest in politics(summative)		
Not interested	0	292(28.19)
Interested	1	368(35.52)
very interested	2	376(36.29)
Environment		
Community Environmental Quality(Likert scale)		(α =0.59)
Poor	0	328(31.66)
Good	1	335(32.34)
Very good	2	373(36.00)
Personal environmental responsibility(Likert scale)		(α=0.81)
Low	0	315(30.41)
medium	1	364(35.14)
high	2	357(34.46)
Recreation and leisure		
Benefits of recreation(Likert scale)		(α =.91)
Not beneficial	0	337(32.53)
Beneficial	1	314(30.31)
Somehow beneficial	2	385(37.16)
Recreational access(Likert scale)		

low	0	352(33.98)
medium	1	301(29.05)
high	2	383(36.97)
medium	1	345(33.30)
high	2	347(33.49)

(α =alpha reliability)

At the first stage of the quantitative analysis, we employed gllamm with a Gaussian linked funtion to examine the links between different forms of inequality and SWB controlling for demographic factors. Results show a significant association between relative deprivation and wellbeing and a non-significant association between district level inequality and wellbeing after controlling for demographic and socio-economic factors (Table 5.5). An increase in perception of higher status at the community level ($\beta = 0.05$, $p = 0.05$), was associated with 0.05points higher on subjective wellbeing score (Table 5.5). Among the socio-economic factors; educational level, and wealth were significantly associated with wellbeing. However, after controlling for the indicators of wellbeing, an increase in district level Gini was associated with 1.10 points lower on the subjective wellbeing score while the initial significant association between relative deprivation and wellbeing was no longer significant (Table 5.6). When the domains of wellbeing (potential mediators) such as living standards, health, community vitality, democratic engagement, and leisure and recreation were added in model 2 of our multilevel analysis, among the socio-economics factors, wealth and education remained significant predictors of wellbeing (Table 5.6). Also, people who identify as traditionalist scored 0.35 points lower on SWB. Among the indicators of wellbeing, the predictors of wellbeing include food insecure, water insecurity, housing security, self-rated health and access to educational opportunities (Table 5.5 and 5.6).

Table 5.5: Multi-level analysis of relative deprivation, District Gini and subjective wellbeing of 1,036 individuals nested within 9 districts

	β[95% CI] Relative deprivation	β[95% CI] Gini
Inequality	0.05(0.01 - 0.08)**	-0.15(-1.697 - 1.397)
Demographic and Socioeconomic variables		
Wealth quintiles(ref: richest)		
Richer	-0.12(-0.33 - 0.08)	0.21(0.004 - 0.41)**
Rich	-0.31(-0.52 - -0.09)***	0.36(0.14 - 0.57)***
Poor	-0.44(-0.66- -0.22)***	0.57(0.35 - 0.79)***
Poorer	-0.60(-0.84 - -0.35)***	0.71(0.48 - 0.94)***
Educational level(ref: none)		
Primary	0.41(0.12- 0.69)***	0.41(0.12 - 0.70)***
Secondary	0.45(0.19 - 0.71)***	0.45(0.19 - 0.71)***
Tertiary	0.35(0.09 - 0.61)***	0.39(0.13 - 0.65)***
Sex(ref: male)		
Female	0.04(-0.09 - 0.16)	0.02(-0.105 - 0.157)
Age	-0.003(-0.01 - 0.01)	-0.003(-0.01 - 0.01)
Marital status(ref: single)		
Married	-0.06(-0.23 - 0.11)	-0.06(-0.23 - 0.11)
Separated	-0.11(-0.45 - 0.23)	-0.11(-0.45 - 0.24)
Religion(ref: Christian)		
Muslim	-0.11(-0.29 - 0.08)	-0.10(-0.29 - 0.08)
Traditionalist	-0.29(-0.56 - -0.03)**	-0.28(-0.55 - -0.02)**
Ethnicity(ref: Akan)		
Ga	-0.03(-0.26 - 0.20)	-0.03(-0.265 - 0.208)
Ewe	0.12(-0.11 - 0.35)	0.12(-0.115 - 0.355)
Dagaaba	0.30(0.09 - 0.50)***	0.29(0.09 - 0.49)***
Other	0.18(-0.05 - 0.42)	0.19(-0.05 - 0.43)
Random effects		
Individual	0.02(-0.01 - 0.07)	0.03(-0.0110 - 0.0755)
District	0.19(0.07 - 0.31)***	0.18(0.0754 - 0.302)***
Constant	-0.27(-0.76 - 0.20)	-0.64(-1.43 - 0.15)
Observations	1,036	1,036
Number of districts	9	9

Table 5.6: Multi-level analysis of district Gini coefficients, Relative deprivation and subjective wellbeing of 1,036 individuals nested within 9 districts

Inequality indicator	β(95% CI) **Relative deprivation**	β(95% CI) **District Gini coefficients**
	0.01(-0.02 - 0.04)	-1.10(-1.92 - -0.27)***
Socioeconomic and demographic variables		
Wealth quintiles(ref: poorer)		
poor	0.12(-0.06 - 0.31)	0.13(-0.05 - 0.32)
Rich	0.09(-0.110 - 0.290)	0.10(-0.09 - 0.29)
Richer	0.22(0.02 - 0.44)**	0.246(0.04 - 0.45)**
Richest	0.26(0.03 - 0.49)**	0.28(0.06 - 0.50)**
Educational level(ref: none)		
Primary	0.26(0.003 - 0.52)**	0.26(0.01 - 0.53)**
Secondary	0.30(0.07 - 0.53)**	0.29(0.065 - 0.52)**
Tertiary	0.17(-0.06 - 0.40)	0.18(-0.04 - 0.41)
Sex(ref: male)		
Female	0.05(-0.07 - 0.16)	0.04(-0.07 - 0.15)
Age	-0.002(-0.01- 0.01)	-0.01(-0.01 - 0.01)
Marital status(ref: single)		
Married	-0.02(-0.17 - 0.14)	-0.01(-0.16 - 0.15)
Separated	0.03(-0.27 - 0.34)	0.06(-0.24 - 0.37)
Religion(ref: Christian)		
Muslim	-0.11(-0.27 - 0.06)	-0.10(-0.27 - 0.06)
Traditionalist	-0.35(-0.58 - -0.11)***	-0.34(-0.57 - -0.10)***
Ethnicity(ref: Akan)		
Ga	0.17(-0.04 - 0.37)	0.12(-0.08 - 0.34)
Ewe	0.21(0.01 - 0.42)**	0.17(-0.03 - 0.38)*
Dagaaba	0.35(0.18 - 0.53)***	0.38(0.22 - 0.55)***
Other	0.23(0.02 - 0.44)**	0.25(0.04 - 0.46)**
Indicators of wellbeing		
Income adequacy(ref: good)		
Poor	-0.15(-0.29 - -0.01)**	-0.16(-0.30 - -0.02)**
Worse	-0.12(-0.29 - 0.04)	-0.13(-0.29 - 0.04)
Food insecurity (ref: secure)		
Moderately insecure	-0.05(-0.20 - 0.10)	-0.05(-0.19 - 0.10)
Severely insecure	-0.26(-0.46 - -0.06)**	-0.26(-0.46 - -0.06)**
Water security(ref: secure)		
Moderately insecure	-0.28(-0.42 - -0.13)***	-0.26(-0.41 - -0.12)***
Severely insecure	-0.21(-0.36 - -0.06)***	-0.20(-0.35 - -0.04)**
Housing security(ref: stable)		
Fairly stable	-0.16(-0.30 - -0.01)**	-0.16(-0.31 - -0.02)**
Unstable	-0.48(-0.66 - -0.31)***	-0.48(-0.66 - -0.31)***
Self-rated health(ref: very good)		
Good	-0.14(-0.29 - 0.02)*	-0.13(-0.29 - 0.02)*
Poor	-0.46(-0.68 - -0.25)***	-0.44(-0.66 - -0.23)***
Sense of community(ref: poor)		
Good	-0.19(-0.34 - -0.05)***	-0.20(-0.34 - -0.06)***
Very good	-0.35(-0.50 - -0.19)***	-0.36(-0.51 - -0.20)***
Democratic engagement(ref: High)		
Medium	-0.16(-0.32 - -0.01)**	-0.16(-0.32 - -0.01)**
Low	-0.09(-0.25 - 0.06)	-0.09(-0.25 - 0.06)
Environmental responsibility(ref: low)		
Medium	-0.17(-0.34 - -0.01)**	-0.23(-0.39 - -0.06)***
High	-0.23(-0.41 - -0.05)**	-0.29(-0.46 - -0.12)***

Access to recreation(ref: high)		
Some access	-0.12(-0.26 - 0.02)*	-0.14(-0.28 - 0.01)*
No access	-0.19(-0.34 - -0.05)***	-0.21(-0.36 - -0.06)***
Benefits of recreation(ref: not beneficial)		
Beneficial	-0.07(-0.22 - 0.07)	-0.07(-0.22 - 0.07)
Highly beneficial	-0.29(-0.45 - -0.14)***	-0.29(-0.45 - -0.15)***
Access to educational opportunities (ref: low)		
Medium	-0.09(-0.24 - 0.04)	-0.10(-0.24 - 0.04)
High	-0.25(-0.41 - -0.09)***	-0.25(-0.41 - -0.09)***
Random effects		
Individual	-0.09(-0.14 - -0.06)***	-0.09(-0.14 - -0.05)***
District	0.09(0.01 - 0.18)**	-0.04(-0.15 - 0.07)
Constant	0.98(0.52 - 1.45)***	1.59(0.99 - 2.19)***
Observations	1,036	1,036
Number of districts	9	9

In the final stage of the quantitative analysis, our first mediation results indicate that district level inequality has a negative direct and independent effect on wellbeing (β=0.10, p =0.01), after controlling for all the domains of wellbeing. As shown by the thicker lines in Figure 5.5, district level Gini coefficients indirectly affected wellbeing through water security (β=0.01, p=0.01), Environmental quality (β = 0.02, p =0.01), environmental responsiveness (β = 0.003, p =0.01), sense of community (β = 0.02, p =0.01) and access to recreational facilities (β = 0.02, p =0.01) (Figure 5.5). The second mediation analysis between relative deprivation and wellbeing (Figure 5.6) revealed that direct effect (c) of relative deprivation on wellbeing was completely mediated after controlling for all the potential mediators. Six of the indirect paths were however statistically significant (thicker paths). These includes; water security (β = 0.01, p =0.01), food security (β = 0.03, p =0.01), housing security (β = 0.04, p =0.01), and environmental quality (β = 0.02, p =0.01). The findings suggest that the effects of inequality on wellbeing operates through its indirect effects on access to and satisfying the basic needs of life such as food, water, and housing security in this context. Also, the mediation results indicate that inequality affects wellbeing indirectly through its effects on sense of community (β = 0.02, p = .01) as well as collective action to protect the environment (β = 0.003, p =0.01).

Table 5.7: Links between District Gini coefficients, Relative deprivation and subjective wellbeing (Direct effects)

Indicators	**Standardized coefficient [95% CI]**	**Standardized coefficient [95% CI]**
Inequality indicator	Relative deprivation	District Gini
	0.01[-0.06— 0.08]	***-0.11[-0.16— -0.03]****
Education	0.05[-0.02—0.13]	0.06[-0.01—0.12]*
Wealth level	-0.7[-0.15—0.00]*	-0.07[-0.14— -0.00]**
Sex (female)	0.05[-0.01—0.11]	0.04[-0.01—0.10]
Age	-0.09[-0.15—0.03]***	-0.09[-0.15—0.03]**
Water insecurity	-0.09[-0.15-- 0.02]**	-0.08[-0.15-- 0.02]**
Food insecurity	-0.12[-0.19-- -0.05]***	-0.11[-0.18-- -0.04]***
Housing insecurity	-0.15[-0.21-- -0.09]***	-0.15[-0.21-- -0.09]***
Income Adequacy	-0.04[-0.10—0.03]	-0.04[-0.10—0.02]
General health	-0.01[-0.07—0.05]	0.02[-0.07—0.05]
Environmental quality	-0.12[-0.18— -0.05]***	-0.12[-0.18— -0.05]***
Environment responsible	-0.07[-0.14— -0.01]**	-0.11[-0.18— -0.04]**
Community involvement	-0.01[-0.08—0.05]	-0.01[-0.08—0.05]
Sense of community	-0.17[-0.23— -0.10]***	-0.17[-0.24— -0.11]***
Democratic engagement	-0.04[-0.11—0.03]	-0.04[-0.01—0.03]
Political interest	-0.11[-0.16— -0.05]***	-0.10[-0.16— -0.04]***
Recreational access	-0.14[-0.19— -0.07]***	-0.15[-0.21— -0.08]***
Recreational use	-0.02[-0.08—0.05]	-0.02[-0.09—0.04]
RMSEA	**0.094[0.092—0.097]**	**0.097[0.095—0.099]**
CFI	**0.59**	**0.56**
TLI	**0.55**	**0.52**
SRMR	**0.093**	**0.103**
CD	**0.386**	**0.225**

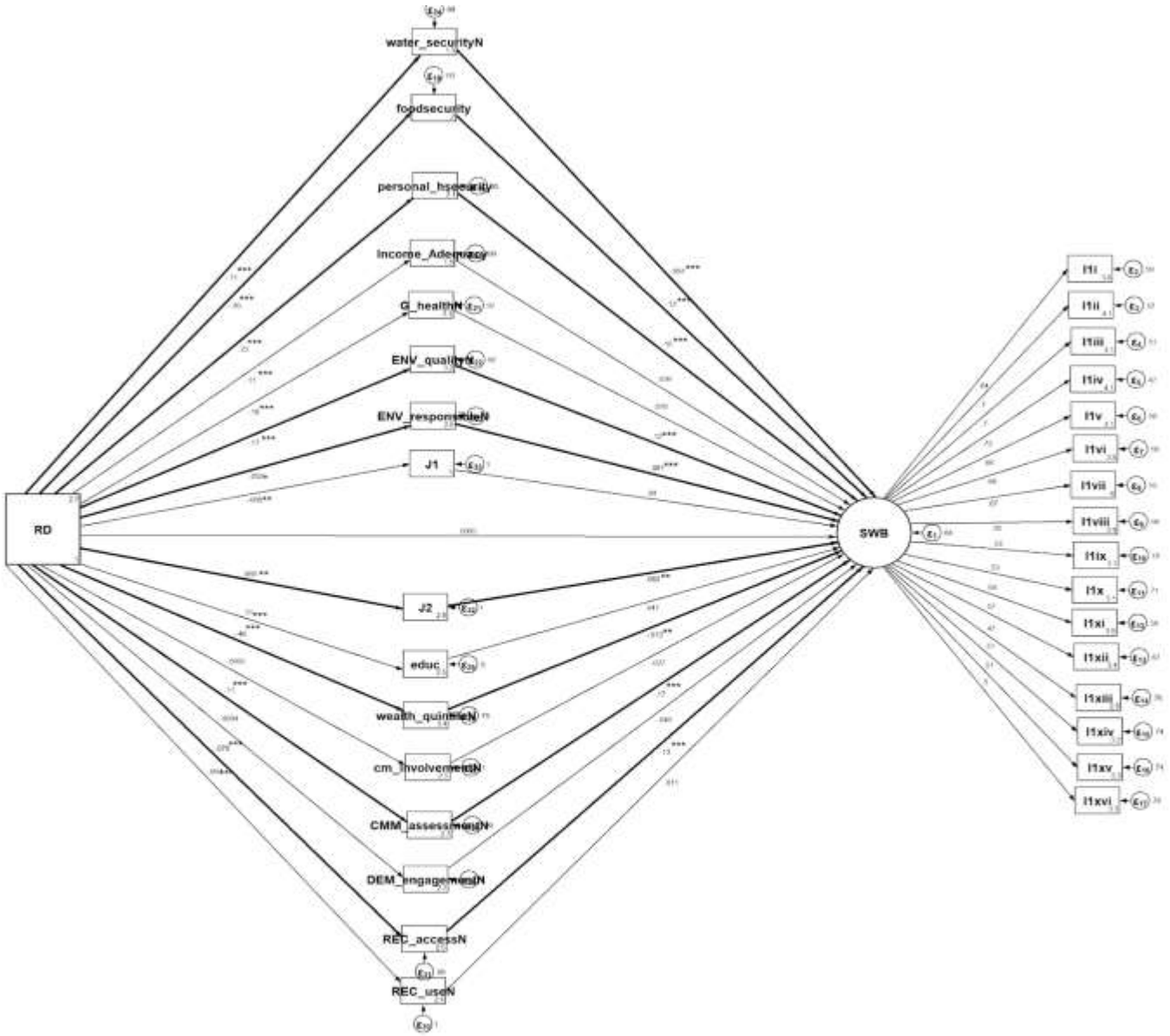

Figure 5.5: Links between District level inequality and subjective wellbeing (SWB)

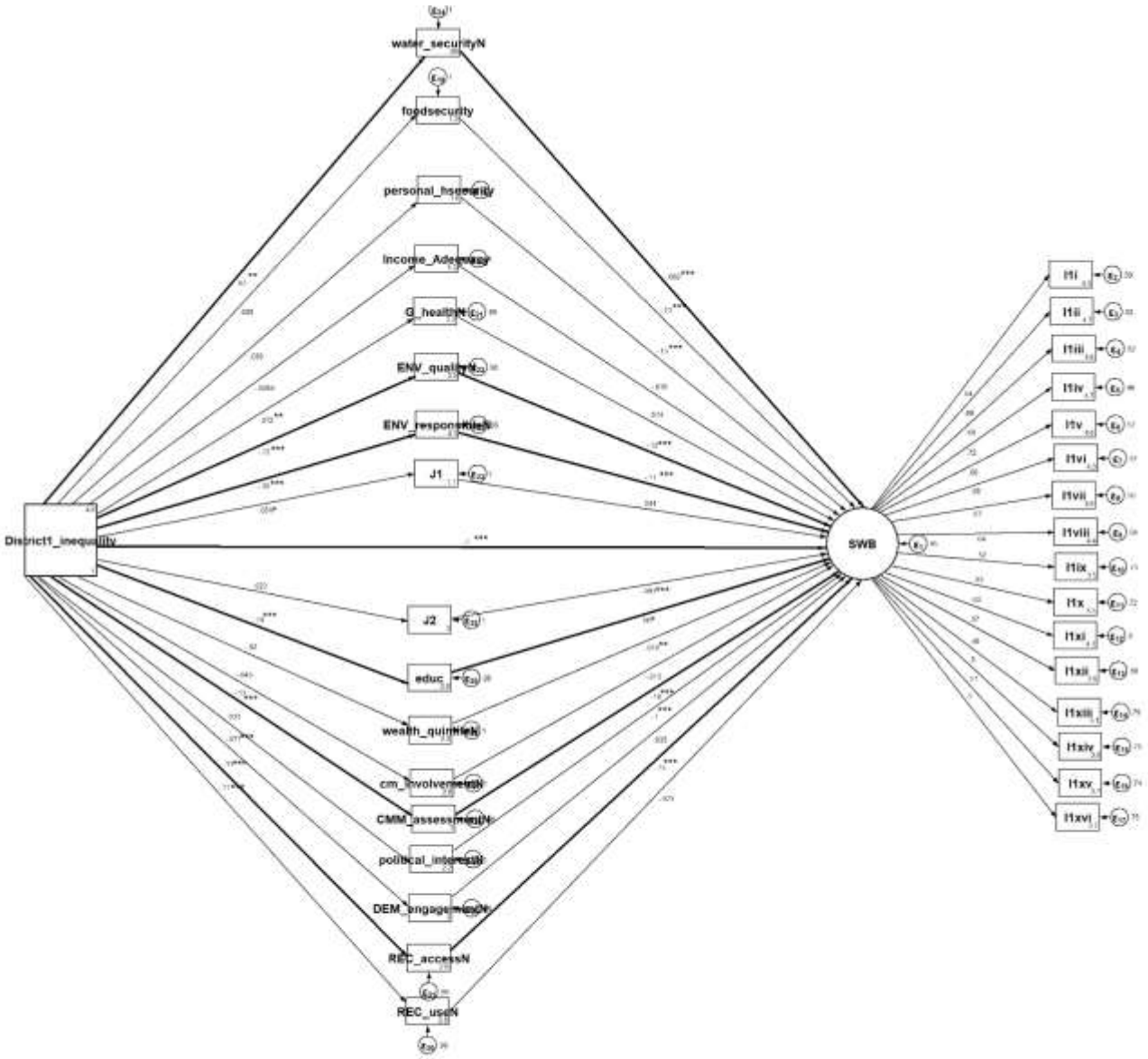

Figure 5.6: Links between Relative SES and subjective wellbeing (SWB)

5.8 Discussion

The aim of this study was to contribute to the literature on the links between inequality and wellbeing and to explore how populations in LMICs embody inequality, using Ghana as a case study. The study applied a mixed-methods approach and utilized key constructs from Sen's capability and ecosocial conceptual frameworks to better understand the effects of different forms of inequality on wellbeing. The combination of both qualitative and quantitative methods enabled us to provide context and in-depth understanding of the links between inequality and wellbeing. Our qualitative results reveal that the perception of rising inequality is widespread in Ghana and rising inequality was deemed an important development challenge even in this resource poor setting. Participants offered various explanations and justification for these perceptions including the increasing level of poverty, status competition, rent seeking, as well as corruptions and nepotism. The quantitative results offered support for these perceptions however, only the association between district level Gini and wellbeing remained significant when we control for the indicators of wellbeing. Thus, the association between relative deprivation and wellbeing was completely attenuated when the constituents of wellbeing such as community vitality, health, and living standards were controlled. This is not surprising as RD measures the emotional reactions of people to their objective situation, and once these objective indicators are controlled for, these reactions maybe lessened.

As alluded to by Adjaye-Gbewonyo et al., 2017, the effects of inequality may operate at various geographic scales depending on whether people compare themselves to others at the national, regional, municipal, or community level and on how societal resources are organized. Due to low residential segregation, (Agyei-Mensah & Owusu, 2010; Owusu, G., & Agyei-Mensah, 2011) in Ghana, people are more likely to compare themselves to individuals within their communities as well as to the administrative unit of the district were resources are usually organized. The significant effects of income inequality on wellbeing at the district level may be an indication that people compare themselves to people within their district (Clark and D'Ambrosio 2014) and these comparisons are on access to basic needs, community vitality as well as exacerbated negative effects of peer-peer comparisons. These findings are supportive of previous research that has found that relative income and perceptions are important determinants of wellbeing even in poor settings (Guillen-Royo, 2009: Knight et al. 2007, Graham and Felton, 2006;

Herrera, Razafindrakoto, and Roubaud, 2006; Knight and Gunatilaka, 2008; Reyes-Garcia et al.2018).

The findings both from the qualitative and quantitative analysis demonstrate that inequality affects wellbeing through access to basic needs including food, housing, and water security. This lends credence to the neo-materialist approach which argues that inequality is detrimental to population wellbeing through the differential accumulation of exposures and experiences that have their sources in the material world (Lynch, Davey Smith, Kaplan, and House, 2000; Elo, 2009; Torssander and Erikson, 2010). The effect of inequality on health and wellbeing thus reflects a combination of negative exposures and lack of resources held by individuals, along with systematic underinvestment across a wide range of human, physical, and social infrastructure (Kaplan et al., 1996; Lynch et al., 2000; Lynch et al., 2004). This suggests a temporal relationship between inequality as a distal cause of wellbeing and the adoption of interventions that are proximate determinants of wellbeing (Clarkwest, 2008; Torssander and Erikson, 2010). Thus, inequality may be but one manifestation and cause of a cluster of neo-material conditions that affect population health and wellbeing (Macintyre and Ellaway, 2009; Twigg and Cooper, 2009). The neo-material interpretation is an explicit recognition that the political and economic processes that generate inequality also influence individual access to resources such as food, water, and housing securities (Kaplan and Lynch, 2001; Layte, 2011). Therefore, in the context of LMICs, it is strategic investments in neo-material conditions via more equitable distribution of public and private resources that are likely to have the most impact on health and wellbeing. However, the link between inequality and wellbeing through income adequacy was surprisingly not significant. That is, income adequacy which measures behavioural assessments of how well respondents' income met their financial needs during the past year, was not a significant pathway between inequality and wellbeing even though income inequality and income inadequacy were negatively associated.

In examining the links between inequality and wellbeing, sense of community and protection of communal resources, such as the environment, were significant pathways through which inequality affected wellbeing (Wilkinson, 2002, 2005; Wilkinson and Pickett, 2006, 2009). Unequal societies are often dominated by status competition and class differentiation that affects health and wellbeing through the psychosocial response of individuals to the perception of their place in the status ladder (Wilkinson and Pickett, 2006; 2009; 2011). Low social status and the

perception of inferiority produces negative emotions such as shame and distrust which can directly damage health and wellbeing through stress reactions. Perception of inferiority produces social exclusion that affects cognitive, emotional, and behavioural outcomes, and adaptations to such feelings can lead to altered levels of hormones and behaviours, such as withdrawal, apathy, or hypervigilance (DeWall et al., 2011; Wilkinson and Pickett, 2011; 2015). Similarly, low sense of community affects health and wellbeing through weakening of social capital because 'social facts' of communities and societies, like levels of inequality, have long lasting impacts on social cohesion and precede individual experience of health and wellbeing (Kawachi, Wilkinson, and Pickett, 2009; 2011; Phelan, Link, and Tehranifar (2010). The argument is that higher levels of inequality lead to increasing status differentials between individuals and groups. It can lead to lower levels of civic participation and social mixing, resulting in lower levels of interpersonal trust and social cooperation to protect common resources, such as the environment. Lower levels of social trust are associated with lower collective efficacy which makes people unwilling to intervene to offer social support or to prevent deviant behaviour or protect communal resources (Wilkinson and Pickett, 2009). Second, social capital influences wellbeing by affecting people's access to services and amenities. Indeed, socially cohesive communities are better at uniting, participating in political processes and lobbying for better social services, especially in the context of LMICs, where there may be competing interest for governments to provide social amenities. Societies with low levels of income inequalities are able to deploy resources to collectively tackle health risks such as pollution, traffic congestion, and crime, which leads to improved health and wellbeing (Phelan, Link, and Tehranifar, 2010).

There are inherent limitations associated with the study. Due to the cross-sectional nature of our data, we cannot rule out reverse causation. Even though we controlled for wealth levels and other co-variates, it is nonetheless possible that the association between relative deprivation at the community level and subjective wellbeing reflected the unmeasured influence of low levels of subjective wellbeing on an individual's ability to have a positive image of themselves in the community. The association between relative deprivation and wellbeing could also reflect other omitted variables such as individual variations in ability, and personality, which were not measured in our survey. Despite the limitations, the findings from this study have implications for Ghana and other sub-Saharan countries as they transition to Sustainable development Goals (SDGs). Notably, it is important for policymakers to target both the material conditions within which people

live as well as the psychosocial and mental response of people facing higher levels of economic inequality.

5.8.1 Conclusion

The study shows that inequality both within communities and the administrative unit may be affecting wellbeing in LMICs through multiple pathways; its effects on material conditions as well as through community cohesion and protection of communal resources such as the environment. The effects of inequality through the material conditions is an explicit recognition that the political and economic processes that generate income inequality influence individual resources and also have an impact on public resources such as water, recreation, and other social infrastructure. It is strategic investments in these neo-material conditions via more equitable distribution of public and private resources that are likely to have the most impact on improving population wellbeing among low and middle income countries. However, as our results show, the psychosocial functioning of people, such as trust, respect, and support, are equally important considerations when examining the effects of inequality on health and wellbeing. It is thus an explicit recognition that inequality may be having a dual effect on wellbeing in LMICs. Development interventions are urged to aim to reduce both poverty and inequality in order to improve health and wellbeing.

By drawing on the perceptions and experiences of inequality, this study highlights individuals' embodiments of inequality while hinting of the need to pay attention to the role of broader contextual factors (e.g. how resources are organized, power and politics) that shape the understandings of wellbeing in a low to middle income country context. The study shows that in a context where absolute income is often deemed as the most important factor for improving wellbeing (Deaton, 2013), relative income is becoming an important wellbeing issue. This is important, especially given the tendency in the theoretical and empirical literature to implicitly assume that inequality is not a key issue in low to middle income countries especially those in SSA. Participants suggested that inequality was already high in Ghana and will likely rise if interventionist policies are not undertaken. In Ghana, inequality is constraining wellbeing through its effects on material conditions, community vitality and psychosocial health. These perceptions are consistent with recent reports and research that suggest that inequality is an emerging health and development challenge in SSA (World Bank, 2016; Fosu 2015). As the world commits to the

sustainable development goals, a change in perspective of the effects of inequality on wellbeing in poor resource setting will help ensure shared prosperity.

Chapter 6: Discussions and Conclusions

6.1 Introduction

The goal of this thesis was to explore the meanings and perceptions of wellbeing and its indicators, as well as examine how inequality shape wellbeing experience in the context of a low to middle income country. In order to achieve this goal, the research used a mixed methods approach to address the following research **objectives:**

1) to develop an integrated conceptual framework for understanding the links between inequality and wellbeing of places in low to middle income countries;

2) to explore people's lived experiences, perceptions and understanding of wellbeing and its essence in low to middle income countries; and

3) to explore the potential pathways that link inequalities, and wellbeing in the context of a low to middle income country.

This chapter presents a summary of key findings, contextualised within the context of the current literature on population wellbeing and inequality. The chapter further identifies the main contributions of the research as well as limitations. This chapter concludes with a discussion of the implications of these findings for policy as well as directions for future research.

6.2 Summary of key findings

The thesis consists of three substantive papers (Chapters 3, 4 and 5). **Chapter 3** reviewed existing literature on the conceptualization and measurement of wellbeing and indicates the importance of adequately conceptualising the role of place in wellbeing research. This is because current conceptualization of wellbeing ignores ideas of the good life from other contexts and does not examine the contextual, collective and compositional factors that influence wellbeing. The inadequate conceptualisation of place limits the relevance of current indicators in the contexts of LMICs, where wellbeing is often promoted as a collective attribute at the community or household level rather than at the individual level (Steele and Lynch, 2013: Ferraro and Barletti, 2016). Further, the dominance of a Euro-American version of wellbeing, with its associated values and

aspirations (Ferraro and Barletti, 2016; Elliott et al., 2017) can serve as constraining factor to the development of alternative measures of wellbeing that respect other world views. Further, the review showed that the role of inequality as a key attribute of the wellbeing of places is inadequately conceptualized and not adequately established in LMICs context. However, as chapter 3 shows, inequality affects wellbeing through multiple pathways. First, inequality may lead to poor wellbeing through *status anxiety*- the psychosocial response of individuals or societies to the perception of their place in the status ladder (Wilkinson and Pickett, 2011). Examples include social exclusion which affects cognitive, emotional, and behavioural outcomes, as well as altered levels of hormones and behaviours, such as withdrawal, apathy, or hypervigilance (DeWall et al., 2011; Wilkinson and Pickett, 2011).

Second, the '*social facts'* of communities and societies like inequalities may have long lasting impacts on social cohesion and community vitality (Kawachi, Subramanian, and Kim, 2008; Wilkinson and Pickett 2011; Phelan, Link and Tehranifar, 2010). This is especially important in the context of LMICs where communities, and not individuals, mostly serve as the units of identification and development. Third, inequality is detrimental to population wellbeing in LMICs through differential accumulation of exposures and experiences that have their sources in the material world and further weakens societies' willingness to make investments that promote the common good (Lynch, Smith, Kaplan, and House, 2000; Elo, 2009; Torssander and Erikson, 2010). Thus, initial levels, as well as rising levels of inequality, may act as impediments in transforming economic growth into poverty reduction and improving wellbeing within SSA countries (Fosu, 2015). The suggested framework linking inequality and wellbeing has feedback mechanisms whereby wellbeing can influence inequalities through the same pathways. The pathways discussed above are not mutually exclusive but interact continuously as shown in Figure 3.1.

Chapter 4 uses key informant interviews and focus group discussions to explore perceptions and understanding of wellbeing in Ghana. Results from the interviews indicate similarities as well as context specific descriptions and embodiment of wellbeing. The descriptions or definitions that people ascribe to wellbeing were complex and context dependent (McAllister, 2005; Forgeard et al., 2011, Allin and Hand, 2014). Specifically, when asked about what wellbeing means, participants offered a range of responses primarily related to accessing basic needs and social capital. This is similar to Sen's notion of wellbeing as concerned with a person's

achievement and their being (Sen 1993). However, when describing wellbeing, males expressed more cultural concerns while women were more likely to express concerns over access to basic amenities, health, and social support. Similarly, older participants were more likely to express social support and contextual concerns when describing wellbeing while younger people were more likely to express concerns regarding fairness and equality of opportunities. Participants in the Northern part of Ghana compared the Southern and middle belt of Ghana expressed more concerns over peaceful coexistence and communal sharing. Overall, these varied accounts highlight participants' broad understanding and perceptions of wellbeing and the similarities and differences in the constituents of wellbeing depending on the gender, age, and location.

Further, in terms of indicators of wellbeing, the results indicate that living standards indicators (money, basic needs, food security, housing, and water security) were the dominant factors deemed to matter for a good life in this context. However, participants were equally concerned about the important roles of other indicators such as inequality, cultural identity, spirituality and community vitality towards population wellbeing (Stiglitz et al. 2009; Deaton 2013; Allin & Hand 2014). The identified indicators include those that focused on material wellbeing; income, employment, food, and water security, while others included physical and psychological wellbeing, represented by health, access to water and sanitation, and happiness. Education, inequalities, community vitality, culture, and democratic participation, as well as the social and natural environments within which communities are situated, were identified as equally important indicators. However, the order of the identified indicators varied between key informants and community members. While key informants identified living standards, health, education, and inequality as the most important factors for wellbeing, the community members identified living standards, employment, inequality and health as the most important factors that matter for wellbeing.

Chapter 5 uses structural equation modelling (SEM) and qualitative interviews to measure and examine the pathways between different measures of inequality (e.g. Gini coefficients and relative deprivation) and wellbeing as well as explore perceptions of inequality to provide context and depth to results from the SEM. Results show that perceived inequality [relative deprivation (RD) at the community level] and district level Gini coefficients were significantly related to wellbeing, however perceived inequality had a higher relative impact on wellbeing. This is not surprising as RD measures the emotional reactions of people to their objective situation, a process

often neglected by other inequality measures. As alluded to by Adjaye-Gbewonyo et al., (2017), the effects of inequality may operate at various geographic scales depending on whether people compare themselves to others at the national, regional, municipal, or community level and on how societal resources are organized. Due to low residential segregation (Agyei-Mensah & Owusu, 2010; Owusu, G., & Agyei-Mensah, 2011) in Ghana, people are more likely to compare themselves to individuals within their communities and hence community level measures of inequality may better capture the full range of the extent to which individuals make comparisons. Further mediation analysis showed that inequalities affect wellbeing by constraining access to basic amenities like water, food, and housing and also through its effects on community social capital and cohesion. This lends credence to the neo-materialist approach which argues that inequality is detrimental to population wellbeing through the differential accumulation of exposures and experiences that have their sources in the material world (Lynch, Davey Smith, Kaplan, & House, 2000; Elo, 2009; Torssander and Erikson, 2010). In examining the links between inequality and wellbeing, sense of community and protection of communal resources such as the environment were significant pathways through which inequality affected wellbeing (Wilkinson, 2002, 2005; Wilkinson and Pickett, 2006, 2009). Unequal societies are often dominated by status competition and class differentiation that affects health and wellbeing through the psychosocial response of individuals to the perception of their place in the status ladder (Wilkinson and Pickett, 2006; 2009; 2011). Low social status and the perception of inferiority produces negative emotions such as shame and distrust which can directly damage health and wellbeing through stress reactions.

6.3 Discussion

6.3.1 Revisiting wellbeing and inequalities in low to middle income countries

The importance of enhancing wellbeing is universally acknowledged and represents the overarching goal of the Sustainable Development Goals (SDGs, 2015). However, conventional frameworks for understanding and measuring wellbeing have mainly focused on money, commodities and economic growth. This thesis contributes to an alternative paradigm of development centred on human wellbeing, acknowledging that people are not defined solely by their income or health. The thesis argues that a *place-based* approach of wellbeing provides a

holistic means for understanding people in their context. This is particularly true in LMICS where; (i) the stakes with respect to improving wellbeing are high due to high levels of poverty and inequality, (ii) the determinants of living standards are often volatile, and (iii) the availability of appropriate data, while much improved, are often characterized by significant challenges. Conceptualization of wellbeing also remains, surprisingly, a Euro-American project that neglects other ideas of the 'good life' even though initial conceptions of alternative measures of wellbeing were spearheaded by Bhutan (Bhutan Gross National Happiness Index). With a few exceptions (e.g. Bhutan Gross National Happiness Index, Wellbeing in Development), the majority of wellbeing research is dominated by scholarly and policy literature based on the Euro-American version of wellbeing-individual wellbeing, with its associated values and aspirations (Ferraro and Barletti, 2016; Elliott et al., 2017). The current discourse conceives wellbeing as a measurable individual pursuit, evaluated in terms of health and/or material prosperity and ignores socio-cultural, ecological and collective discourses that accompany the 'good life' in other contexts (Ferraro and Barletti, 2016: Elliott et al., 2017). Thus, the current measures that exist in most LMICs lack context, are narrow, and are mainly subjective measures based on one-item questions. A number of researchers have been critical of the utility of such measures for a number of reasons. These include indiscriminate usage and vague definitions of wellbeing in the literature (Allin and Hand, 2017); lack of attention to socio-ecological processes that influence wellbeing across the life-course (Krieger, 2011; Costanza et al., 2014; Bennett et al. 2015); and inadequate attention to structural inequalities (Lynch et al., 2000; Wilkinson and Pickett, 2011). In this current research, the theoretical framework proposed in **Chapter 3** explored the socio-ecological and socio-political processes that link inequality and wellbeing, as well as inequality and other domains of wellbeing. The proposed framework depicts wellbeing as multidimensional and highlights some of the inadequacies of GDP and Beyond GDP measures of population wellbeing in LMICs. Conceptualizing inequality and wellbeing to encompass and to be influenced by several determinants across different scales is useful to explore the relationality between different measures. Findings in **Chapter 4** clearly confirm these arguments as participants in both focus group discussions and key informant interviews reveal that wellbeing is a complex construct that is socially, ecologically and context dependent (McAllister, 2005; Forgeard et al., 2011; Allin and Hand; 2014). For instance, participants offered several descriptions related to meeting the basic necessities of life, social capital including collective experience, concern for each other,

community support and embodiment of the social, economic, climatic and political context within which they live. Even though understandings of wellbeing differed among participants, they agreed that it comprises both material and immaterial components that make for a good life in their context (Hall et al., 2011; Deaton, 2013). As illustrated in Table 4.6, the identified indicators focused on both material and non-material indicators, however, the order of the identified indicators varied between key informants and community members. While key informants identified living standards, health, education, and inequality as the most important factors for wellbeing, the community members identified living standards, employment, inequality and health as the most important factors that matter for wellbeing. Community members were more concerned about indicators that had a direct bearing on their absolute and relative living conditions whereas policy makers were particular about process factors such health and education that can drive population wellbeing in the long run. The identified indicators of wellbeing thus included both process and outcome variables while recognizing the intersectionality between them.

Participants also frequently expressed worries about unequal access to opportunities, legal representation, and gender inequalities as important for living a good life. These sentiments were mostly expressed by young people, though some older participants were equally concerned about rising inequality. This lends support to the notion that inequality or rising inequality is a critical indicator that undermines wellbeing everywhere (Pickett and Wilkinson, 2015: World Bank, 2016). However, despite increased research interest in inequality, health and wellbeing, the theoretical relevance and empirical evidence linking the concept of inequality to wellbeing remain contested and deemed unimportant in LMICs context (Deaton, 2008: 2013). A number of researchers have been critical of the utility of inequality for a number of reasons. These include; high poverty levels in most LMICs (Deaton 2013; Stevenson and Deaton, 2018), indiscriminate usage and vague definitions of inequality in the literature (Sen, 2000); lack of attention to macro-level socio-ecological processes that influence inequality across the life-course (Krieger, 2011; Nussbaum 2011; Pearce and Davey-Smith, 2003); and inadequate attention to structural inequalities (Lynch et al., 2000; Krieger 2011). Over the years, various conceptualisation have guided inequality research coalescing around four major perspectives of fairness and equity. These include; 1) the Utilitarian view of equality; 2) Rawls' theory of justice (Rawls, 1971); 3) Sen's Capability inequality (1980); and 4) Stouffer et al. (1949) theory of relative deprivation. As **Chapter 3** indicates conceptualizations of inequality are useful to enhance understandings of how

inequality is 'embodied' and its linkages with population wellbeing as well as the scale at which inequality is most damaging to wellbeing. This enhances our understanding of the potential pathway through which inequality is embodied, experienced, and expressed to affect wellbeing. These four approaches have different implications for wellbeing within the context of global challenges.

Within the utilitarian approach, inequality is as a collective attribute, often measured using the distribution of income and wealth over the population (e.g Gini coefficients). This paradigm formed the informational base upon which the idea of the social good has been judged (Cowell 2000; Sen 2006; Deaton 2013; Stiglitz 2012). In development literature, inequality has been presented both as a positive asset (encourages innovation) and a destructive resource informed by different theoretical perspectives (World Bank, 2016; Dabla-Norris et al. 2015; Wilkinson and Pickett, 2011). It has also been suggested that some level of inequality may be necessary in society to provide incentives for people to excel, compete, save, and invest in order to prosper (Deaton 2013; Dabla-Norris et al. 2015). For instance, returns on education and differences in labor earnings despite being associated with widening inequalities, can spur human capital development and promote wellbeing (Deaton 2013). Also, income inequality may positively influence growth by providing incentives for innovation and entrepreneurship (Deaton 2013; Dabla-Norris et al. 2015). Increasingly, however, a group of researchers have suggested that inequality comes with other social costs including lower levels of social trust, collective action and interpersonal relationships that have multiple negative outcomes on investing in social capital to spur wellbeing. In **Chapter 5,** participants perceived inequality to be rising and these perceptions were confirmed as we found significant relationships between district level Gini coefficients and wellbeing. Participant accounts in **chapter 4,** however, indicated that reliance on only income or wealth is inadequate to capture the multidimensional nature of inequality, which has been institutionalized and culturally structured into socially marginalized groups (Sen, 2006). For example, gender inequality, rural-urban, north-south divide, and representational inequality were deemed as central dimensions of inequality in Ghana, acknowledging that inequality is a social construct that is context dependent and extends beyond income (Nussbaum, 2011). These accounts are similar to those espoused by Rawls and Sen who conceptualize inequality as multidimensional even though they disagreed on what constitutes that multi-dimensional informational space (Rawls, 2009; Sugden and Sen, 1993). As shown in **Chapter 5**, even though income, primary goods, capabilities,

and their distribution are important, it is how people subjectively interpret their position relative to their reference group in the larger society that shapes their emotional and behavioural reactions (Krieger 2011; Smith and Pettigrew 2015). This is supported by other research that found that in addition to poor health, relative comparisons may have other negative consequences such as loss of dignity (Marmot 2004), loss of freedom, social exclusion and ultimately loss of wellbeing (Wilkinson and Pickett 2011).

6.4 Contributions

In a world faced by unprecedented social, economic and environmental change, it is becoming difficult to understand what population wellbeing might mean as well as the indicators that capture its essence (WEF, 2017). Conventional frameworks for understanding development and poverty have focused on money, commodities and economic growth. Population wellbeing or how people are doing and their progress are increasingly seen as more than merely the value of economic activity undertaken within a given period of time. In response to growing discontent with the use of economic measures to reflect societal progress and population wellbeing, there has been global momentum to develop and encourage the use of alternative measures of wellbeing (Michalos, 2011; Davern et al., 2017). These initiatives aim to increase public understanding of wellbeing and ideas of the 'good life' beyond traditional economic measures. The initiatives have been useful to support evidence based policy making and citizen engagement (Davern et al., 2017). Despite the relevance of these alternative measures for practical and policy purposes, their application remains limited in LMICs, especially Sub Saharan Africa (SSA). The limited usage is due to the narrow focus of current measures and their inability to adequately capture what wellbeing means in the SSA context. This is because current wellbeing measures in SSA are mainly single item questions measuring either happiness and/or general satisfaction with life. Also, of critical importance is whether the constituents of these 'Beyond GDP measures represent what really matters to people in their specific contexts and if they are capable of capturing the multi-dimensional nature of wellbeing (Allin and Hand, 2014). The take home message is that the world needs theoretically informed alternative measures of wellbeing.

By integrating several theoretical perspectives (e.g. Capability(ies), ecosocial), this research sheds light on the multidimensional nature of wellbeing by revealing the contextual influences that simultaneously facilitate and constrain optimum experience of wellbeing. The

framework outlined in **Chapter 3** is a useful tool for exploring how structural forces at different scales interact to shape population patterns of wellbeing in low to middle income countries. The framework recognises that wellbeing is affected by distal forces or factors defined at multiple scales and explicitly allow for dynamic processes that occur including feedbacks, interdependences as well as interactions across several systems [ecology, social, economic]. These feedbacks and independences may result in complex relations and unanticipated effects on wellbeing across space and time. The integrated framework enhances our understanding beyond specific independent effects to a more nuanced understanding of the system as a whole. As **chapter 4** demonstrates, wellbeing is a multidimensional construct that is structured by cultural, social, ecological and economic factors. However, current indicators of wellbeing in LMICs especially SSA are still narrowly focused on income or single item indicators of happiness or general satisfaction with life. As several researchers in the wellbeing research (Gough and McGregor, 2007; Michaelson et al., 2009: Stiglitz, Sen, and Fitoussi, 2009, Allin and Hand, 2014) and social science disciplines (Ruebi et al., 2016; Neely, 2011) have suggested, attention to socio-cultural and ecological environmental is critical to our understanding of wellbeing and to explaining why people are poor and remain poor. This research, therefore, supports calls for the definition and conceptualization of wellbeing to be undertaken within its social and ecological context (Allin and Hand, 2017: Costanza).

In addition, findings from this thesis can be transferred to similar contexts in other LMICs. The social, ecological and economic conditions in most SSA countries are similar and the learnings from this study will be applicable to most communities facing economic, epidemiological and social changes. We acknowledge that the things that enhance people wellbeing in many different societies across SSA may take many shapes and forms, but many of them are similar across a wide range of quite different cultures: the love of friends and family, a decent place to sleep, good food and water, arts and culture, a good joke, etc. Though place-specific circumstances may limit transferability beyond developing regions, lessons from this research can be applied to vulnerable contexts in developed countries (e.g. small communities in the Arctic regions of Canada) where communities are facing challenges and among aboriginal communities (Richmond et al., 2009; Mark and Lyons, 2010; Castleden et al, 2015; Daley et al, 2014; Barrington-Leigh and Sloman, 2016).

Furthermore, this research makes an important contribution to health geography by expanding the substantive focus of the sub-discipline to include population wellbeing. Health geographers have contributed to broader debates on population health and wellbeing and have engaged with how place and place-based experiences affect health and wellbeing (Gesler, 1992; Dorling et al., 2007; Ballas et al., 2007) but these engagements have been limited at the individual level. Also, health geographers rarely define or conceptualize wellbeing for further critical examination and discussion (Andrews et al., 2014; Elliott, 2018), contributing little to placing place and social theories in population wellbeing research. While the reasons for the apparent lack of interest are unclear, health geographers have much to say about the relationships between people, place, and wellbeing. This research seeks to expand health geographers focus by leveraging on the richness, diversity and critical potential of the sub-discipline to contribute theoretically and empirically to interdisciplinary debates on population wellbeing. Further, the research responds to calls for a greater research focus on health and wellbeing needs in LMICs particularly in sub-Saharan Africa (Phillips and Andrews, 1998; Elliott 2017). While an account of progress in health geography in LMICs has yet to be undertaken, this research adds to the growing works on wellbeing in developing countries.

This research makes four contributions to the methodological literature. First, it contributes to the conceptualisation and measurement of inequality and wellbeing in a cross-cultural context. Though a number of researchers have measured wellbeing in developing countries, the use of comprehensive indicators to capture its multidimensional nature in LMICs remains limited. For example, aside Gough and McGregor, 2007 and Tiliouine et al. 2015, there is very little evidence of its application and adaptation to other countries. Thus, this research contributes to filling this knowledge and methodological gap by providing evidence of adaptation and application of a validated wellbeing measurement tool in LMICs context.

Second, this research demonstrates how to explicitly use theory to inform research design, data collection, and analysis. The conceptual framework developed at the beginning of the research (described in Chapter 3) drew on literature from epidemiology, sociology, political science, and health geography to illustrate pathways through which inequality influence wellbeing in the context of LMICs. These pathways were subsequently used to design and structure the data collection and subsequent analysis. The use of theory to inform data collection and analysis is

particularly important given recent calls and emphasis to move away from "blind observation" to theoretically informed research (Aboud, 2011; Krieger, 2011).

Third, the research contributes to the application of "decolonizing and participatory methodologies" in response to some of the criticisms regarding wellbeing studies as well as the power relationships in research involving marginalised communities (McGregor 2007: Camfield et al., 2009; Braun and Clarke, 2014). The use of focus group discussions created an environment for adequate participation and discussion of community challenges and an opportunity to value local knowledge and expertise in the identification of wellbeing indicators. These approaches were essential in understanding people's experiences and provided a rich and detailed accounts of the social orientations shaping experiences of wellbeing, both now and in the future. The use of theoretically informed participatory research created avenues to explore the complex relations between people and capabilities, people and places, the material and non-material constituents of places, and intra-relationships between different wellbeing domains. The research provides evidence that participatory methodologies that require the active involvement of marginalised groups are possible in diverse resource settings and can provide an effective means to explore many issues that affect health and wellbeing.

Finally, the research provides an effective example of embedded mixed-method design combining data from qualitative and quantitative approaches (e.g. psychological measures or household surveys) to enhance its explanatory power. Though a number of guidelines on how to conduct mixed-methods exist in the literature, they hardly address issues of mixing quantitative methods with qualitative methods such as focus group discussions and key informant interviews. For example, using focus group discussions concurrently with the survey was able to elicit the full participation of women, who were less represented in the household surveys and the key informant interviews. Further, focus group discussions created critical consciousness about some of the practices within the community, which is an important step for finding sustainable solutions.

6.5 Implications for policy and practice

The importance of enhancing wellbeing is universally acknowledged and represents the overall goal of the Sustainable Development Goals. However, the appropriate measurement of wellbeing remains complex and controversial. Over the past 2 decades, researchers and practitioners have recognized the integral role of wellbeing in development practice and major international

institutions and national governments have begun using wellbeing to inform policy. For example, former French President Sarkozy's commission (Stiglitz et al., 2009) recommended that the statistical offices of the world should *"incorporate questions to capture people's life evaluations, hedonic experiences, and priorities in their own terms"* (p. 18). The Kingdom of Bhutan has used Gross National Happiness, instead of Gross Domestic Product as an overarching policy (Adler, 2011). At an international level, on June 13th, 2011, a United Nations resolution encouraged the Member States *"to pursue the elaboration of additional measures that better capture the importance of the pursuit of happiness and wellbeing in development with a view to guiding their public policies"* (UN General Assembly Resolution A/65/L.86). Following this forum, many international organizations including the European Commission, Organization for Economic Co-operation and Development (OECD), Organization of the Islamic Conference, United Nations, United Nations Development Program (UNDP), World Bank and many more) affirmed their commitment to measuring and fostering the progress of societies in all dimensions, with the ultimate goal of improving policy making, democracy and citizen wellbeing. Further, the OECD has developed its Better Life Index to advocate for wellbeing in its 34 member states while countries such as Canada, Norway and Australia have developed their national indices of wellbeing. As these measures show, no single measure can exhaustively capture the state of societies at a given point in time. These alternative measures have complemented GDP to capture a holistic view of wellbeing and to provide policy makers with more comprehensive, multi-dimensional, accurate portrayal of social progress. Despite the relevance of these measures for policy making, their application remains limited in the context of LMICs where questions about ensuring wellbeing are particularly poignant, given that; (i) the stakes with respect to improving wellbeing in LMICs are high due to high levels of poverty and inequality; (ii) the determinants of living standards are often volatile; and (iii) the availability of appropriate data, while much improved, are often characterized by significant challenges. In SSA, we currently do not know what wellbeing means and the indicators that capture its essence and whether current 'beyond GDP' measures represent what really matters to people in Sub-Saharan African (SSA) contexts. The findings of this thesis thus have implication for wellbeing research, practice and policy intervention.

6.5.1 Defining and measuring wellbeing in low to middle income countries

While there is growing recognition for wellbeing of societies to be measured, issues about how it should be defined and measured remain unresolved and contested (McAllister, 2005; Forgeard et al., 2011, Allin and Hand, 2014). Also of critical importance is the question of whether the constituents of these alternative measurements represent what really matter to people in their specific contexts (Matthews 2012; Paul & Hand, 2014). The findings of chapters 3 and 4, reveal that in Ghana, wellbeing is a complex construct that is socially, ecologically and context dependent. Participants offered several descriptions related to meeting the basic necessities of life and social capital including collective experience, fellow feeling, community support and an embodiment of the social, economic, climatic and political context, extending the definition of wellbeing beyond the individual. The dimensions of meaning associated with wellbeing or better life make the conception of wellbeing in this context were social rather purely individualistic (McGregor, 2007); meanings people ascribed to wellbeing were shaped by their social, economic, cultural and ecological context. Wellbeing measures that are based on what matters to people and are multi-dimensional enhance broad understanding of what accounts for societal wellbeing and help to build inter-sectoral partnerships that are vital to ensuring maximum levels of societal wellbeing (Atkinson 2011: 2013; Schwanen and Atkinson 2015). Measuring wellbeing in LMICs is a recognition that money alone does not define people, but an acknowledgement of people rounded humanity as well as their agency to achieve wellbeing for themselves even in deprivation. As both chapter 4 and 5 depict, multidimensional, non-monetary indicators are now broadly recognized as important, and these relate more directly relating to policy agendas than GDP and are readily available from censuses and household surveys. Measures of wellbeing provide valuable information to complement existing economic measures of national progress; they can empower decision makers to better design policies that enhance individuals' lives, according to what individuals' value and aspire to and provide a holistic depiction of individuals' quality of life and of societal prosperity. Identified indicators may also serve as social values and goals, and may be adopted as personal values and guiding principles of behavior. Identifying indicators that matter also provides policy makers with a workable understanding of how to improve wellbeing as it enables them to understand not only whose wellbeing is poor but the process through which communities and individuals have poor wellbeing. Thus, by identifying what people value and

aspire to, the identified indicators will help guide the design, implementation, and evaluation of policies (Stiglitz et al. 2009).

6.5.2 Adopting Wellbeing as the focus of health and development policy

Over the past 60 years, population health and economic growth were deemed the focus of most government policies (UN, 1948; Deaton, 2013, Costanza et al., 2014). However, it is our contention that wellbeing is a more powerful, transparent and an all-embracing framework that should be the focus of public and private policy. As chapters 3 and 4 illustrates, wellbeing is a multidimensional construct that cuts across economic, social, health and the environmental focus and disciplinary boundaries and provides a holistic view of the myriad of challenges that confront the world. Thus, wellbeing offers several conceptual unifiers that would make it easier to engage multi-disciplines [economic and non-economic, health and non-health related disciplines] to work towards a common good of shared prosperity and a sustainable world. Thus even though distinct indicators are important themselves, their major value lies in the contributions that they makes to wellbeing as well as inter and intra linkages with other equally important aspects of life (Michalos et al., 2011; Michalos, 2017). Therefore, these sub-domains must be understood as constitutive parts of ends of development which is to improve population wellbeing. Adopting wellbeing as the overarching goal of policy will secure the engagement of all stakeholders, overcoming disciplinary boundaries to achieve a more equal and prosperous world than adopting piecemeal approaches.

6.5.3 Mobilizing communities to ensure their own wellbeing

Over the past decade, researchers and practitioners have recognised that community involvement play a vital role in empowering, protecting and promoting population health and wellbeing (Aboud, 2012; Merzel, and D'Afflitti, 2003). For instance, the landmark international conference on wellbeing held in Istanbul, recommended community action in priority setting and community empowerment as key pillars of wellbeing promotion (Istanbul 2007). The declaration advocated for citizens to be included in the entire process to ensure transparency, strengthen their capacity to influence the goals of their societies through public debates and consensus building (Istanbul 2007; Allin and Hand, 2014). This is echoed in the Stiglitz et al., (2009) report as well. As Chapter 4 indicates, through focus group discussion, communities considered for themselves what wellbeing and progress meant, and the indicators that capture wellbeing's essence. Thus, people were

actively involved and given the opportunity in shaping their own destiny. The participatory processes enabled ordinary citizens to influence what matters most to them through consultation, debates and consensus building through the tools of dignity, self-respect, attention to indigenous knowledge, and common sense. It also imbued in citizens a sense of duty and responsibility towards improving wellbeing as communities were able to identify common challenges and discuss among themselves ways to overcome these challenges. Furthermore, the confidence, capability and resolve of communities were enhanced to demand accountability from their local representatives at the district level. Moreover, the participation of grassroots brought issues of social justice and emancipation into focus and community members were empowered or became aware of their rights through conversations with other. The main objective in undertaking these processes is to recognize the way people see things rather than seek to identify the way things are (Allin and Hand, 2014), and to identify partners and collaborators to actively define, measure and ensure the sustainability of wellbeing. It's only through debate and discussions that we can forge a shared concept, not only of wellbeing and how to measure it, but also of what is fair and reasonable in deciding what and whose values should prevail (Scott, 2012).

6.5.4 Shared growth

A central question in wellbeing research is how to ensure shared prosperity and make comparisons of population wellbeing across groups or space or over time. Appropriate comparison concepts have many potential uses. For example, if a study is able to detect that one population group is clearly worse off than another (i.e. is overall poorer or has less social welfare), society might wish to undertake policies aimed at narrowing this gap. Also, since enhancing wellbeing over time is often a key objective for public policies and reforms, we believe that any analysis of wellbeing should include distributional analysis over all the indicators of wellbeing to identify who gains or losses from any intervention. As chapter 5, suggests, inequality affects health and wellbeing in low and middle income countries through multiple pathways; its effects on material conditions as well as through community cohesion and protection of communal resources such as the environment. Inequality effects through the material conditions is an explicit recognition that the political and economic processes that generate inequality influence individual resources and also have an impact on public resources such as water, recreation and other social infrastructure. It is strategic investments in these neo-material conditions via more equitable distribution of public and private resources that are likely to have the most impact on improving population wellbeing among low

and middle income countries. However, as our results show, the psychosocial functioning of people such as trust, respect and support are equally important considerations when examining the effects of inequality on health and wellbeing. Findings from this study have implications for Ghana and other sub-Saharan African countries as they transition to Sustainable development Goals (SDGs). Notably, it is important for policymakers to target both the material conditions through promoting economic growth but these efforts shouldn't be at the detriment of the environmental, social and political climate within which people live and work.

6.5.5 Mobilizing global partnership for a Global index of Wellbeing (GLOWING)

Chapters 3 and 4 suggests the absence and/or slow response of LMICs including Ghana to measure and adopt alternative measures as an important focus of development policy. Though questions around progress in wellbeing vis-à-vis GDP growth have assumed global importance, it is obvious that most of the country initiatives are based in high income countries. The time to transfer them from their comfort zone to LMICs – where wellbeing also matters and populations are most vulnerable to the impacts of global environmental change – is long overdue. This becomes especially important as the World commits towards the sustainable development goals. We believe existing frameworks and initiatives for measuring societal progress, especially those that rely on objective indicators are useful for application to LMICs for a number of reasons. First, existing bjective measures that uses multiple domains to provide a holistic picture of wellbeing can be extrapolated to LMICs context even though the decision of what to include under each domain is paramount and must reflect what that society wants while striking a balance between information and parsimony. Also, we believe the domains and indicators of wellbeing should not be static but dynamic as new information becomes available and measurement procedures improve over time (Allin and Hand, 2014). Finally, in developing a global index of wellbeing, two important global initiatives and their core dimensions remain central and will provide a useful overarching perspective for developing population level domains of wellbeing for LMICs. These are: 1) the OECD's Better Life Initiative core domains: quality of life, material living conditions, and sustainability, and 2) the Stiglitz-Sen-Fitoussi Commission core domains: revised economic indicators, quality of life and sustainability. Though specific country level domains and indicators may differ to reflect different cultural aspirations, identity and differences in data availability, the

framework behind the Canadian Index of Wellbeing broadly reflects these two recommendations and guidelines and maybe useful guide for developing indices of population wellbeing in LMICs.

Another area where the global community can provide leadership is to assist build the capacity of official statistical agencies in LMICs to meet the demand for data and to begin measuring wellbeing. Looking into the future, measuring a complex and multifaceted concept such as wellbeing is not an end in itself but a means for informed policy making. Thus, the challenge is not only how to create and share knowledge about how communities, groups, and countries are flourishing, thriving, and using their capabilities to achieve their full human potential, but how such knowledge is used to create healthy, just, and sustainable communities and nations (Wiseman and Brasher, 2008; Krishnakumar and Nogales 2015; Hone et al., 2014). As the world commits to the Sustainable Development Goals and their measurement, lessons from the recent Addis Ababa Action Agenda (AAAA; 2015) indicate that it's all about building capacity in LMICs – through the incentivization of science, investment in education, and knowledge sharing – in order to make good decisions to support strong and healthy global populations (*Lancet*, July 25, 2015, p. 311).

6.6 Limitations

There are inherent limitations associated with this study. The quantitative component of this research was based on a cross-sectional design, which does not allow for potential changes in wellbeing and inequality over time to be taken into consideration. Due to the cross-sectional nature of our data, we cannot rule out reverse causation. Even though we controlled for wealth levels and other co-variates, it is nonetheless possible that the association between relative deprivation at the community level and subjective wellbeing reflects the unmeasured influence of low levels of subjective wellbeing on an individual's ability to have a positive image of themselves in the community. The association between relative deprivation and wellbeing could also reflect other omitted variables such as individual variations in ability, and personality, which were not measured in our survey. Despite the limitations, the findings from this study have implications for Ghana and other sub-Saharan countries as they transition to Sustainable Development Goals (SDGs). Notably, it is important for policymakers to target both the material conditions within which people live as well as the psychosocial and mental response of people facing higher levels of economic inequality.

Secondly, although the purpose of the qualitative component was not to quantify, establish patterns or make generalizations about wellbeing and its indicators, a key limitation is the relatively small sample size (10 key informants and 40 FGD participants). The small sample size and rootedness in contexts, however, allowed us to gain an in-depth understanding of wellbeing. We adopted a purposive sampling strategy to ensure that we covered varied experiences, different cultures, and opinions across the life course and across the country as much as possible. This allowed us to gain an in-depth contextual understanding of people's perceptions and meanings associated with wellbeing and progress. The next step is to use a quantitative survey to examine the relationship between the various domains and wellbeing to quantify and establish associations. A second key limitation is that our key informant sample was 60% male, which may underrepresent female voices. However, this was possibly due to the relatively low percentage of females in policy making positions in Ghana. Future comparative research in a similar or contrasting context will help ground the current findings and offer further explanations.

Further, I am aware that my inability to speak Twi and Ga fluently (the two dominant languages in Ghana), restricted my ability to speak directly with some research participants. The research relied on expert translation of all interview guides, information letters, consent forms, training manuals, and questionnaires. Precautions were taken to ensure rigour in this process and ensure that language limitations did not restrict the amount or quality of data or rigour in the research process. First, I developed a rapport with many respondents and community members and engaged in conversations in order to adequately understand the community context. Second, a community feedback exercise in February 2018 gave an opportunity for key informants and some focus group members to "member check" the adequacy of the key findings in order to enhance the credibility of the findings. Third, all interviews and discussions were recorded verbatim and transcribed. In addition, all the audio tapes were cross-checked with the transcripts before analysis to correct any errors and fill any gaps that may exist. Further, adequate field notes were kept and accounts of behaviours and activities during interviews to aid in the analysis. Finally, all the research instruments were translated before data collection so that the three RAs (post-graduate students who have been working in the community for about five years) could have adequate time to cross-check context appropriateness and consistency in the local framing of constructs and sentences.

6.7 Directions for future research

The substantive chapters (Chapters 3, 4 and 5) of this thesis gave some specific future research directions. These directions, which focused on future studies to explore the definition, measurement, and links between inequalities and wellbeing in low to middle income countries, need further expansion to guide future research design and empirical analysis. As mentioned earlier, though researchers have explored the definition and measurement of wellbeing in mostly high income countries, the contexts of LMICs especially SSA remains conspicuously missing from these debates. Even though chapter 4 explored the meaning and description of wellbeing in an LMIC context, we believe the processes to develop and encourage the use of alternative measures of wellbeing must continue and should engage with other world views especially those of other low to middle income countries. Multi-country studies that explore the meaning and determinants of wellbeing will be a necessary and will help illuminate what works and does not.

Also, even though there have been several approaches to measuring national wellbeing for the past 40 years, starting with the social indicators movement and more recently the Stiglitz, Sen, and Fentoussi commission, there has been less focus on exploring which measures work best and captures the most relevant information. Even though there have been evaluations of different subjective measurements scales, there is limited knowledge on efforts that assess how national wellbeing measures are being used, or how they could be used as well as a comparison of these indicators across countries. Without exploring how these measures have been or are being used, the whole exercise of developing indicators maybe useless (Allin and Hand, 2014).

In addition, while the national level provides an important unit of analysis of the collective, compositional and contextual factors that impact wellbeing, the findings in Chapter 4 and 5 suggests that groups and sub-groups (e.g. elderly, children, and different ecological zones) may experience unique circumstance and can provide an important conduit to explore sub-group analysis of wellbeing and its determinants. This is important as certain challenges tend to be common among specific groups. The widening gap in interest for instance in politics between different social groups draws attention to the need to engage different groups in the issues that affect their lives and to actively involve them in decision making. We argue for a greater focus on exploring the wellbeing of vulnerable groups such as women, children and increasingly the elderly in LMICs.

Further, though researchers have analysed the relationships between inequalities and wellbeing through a number of pathways, little research explains how to reduce inequality in resource poor settings. To fill this theoretical and empirical gap, future research that explores the barriers and challenges for ensuring just societies in different cultural contexts is necessary. In this regard, both longitudinal qualitative and quantitative data may be very important in order to explore how some societies are just and others are not. Further, understanding the scale (individual, household, community) at which people react to inequality or compare themselves to others is important for developing interventions. Since the scale of analysis influences association between unequal access and reactions to inequality, using community and district level indicators of inequality in the case of this research may not provide a holistic explanation of the relationships between inequality and wellbeing. Conducting multi-level analysis (household, community, district, national and global levels) and comparative analysis will add another layer to our understanding. In addition, inequality research has often been criticised for downplaying the effects of material conditions on wellbeing in favour of psychosocial justifications. We may borrow from Szreter and Woolcock (2004) ideas of linking the social capital to make a connection between the two (materialism and psychosocial explanations) through "state-society" relationships. However, little empirical research has analysed how such "state-society" relationships reduce inequalities in otherwise marginalised communities. Understanding such mechanisms is vital for health promotion in developing regions such as Sub-Saharan Africa considering the many governance and social challenges populations are confronted with.

7.0 References

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8.0 Appendix

Appendix 1: Key Informant Interview guide

Understanding, Experiences and perceptions of Wellbeing and Inequalities in Ghana		
Purpose: ***To understand key policy makers perception and experience of inequalities and associated challenges for wellbeing***		
Construct	**Question**	**Probe**
Context	Can you tell me about yourself?	What is your current role? How long? What brought you to this position?
	What are [has been] some of the biggest development challenges you have observed over the years?	How have these changed over time? Which ones have changed?
	What would you say national wellbeing is? What can we use to capture it? Do you think we can measure it?	How about wellbeing [inequalities, employment, inclusive development, food security, environmental sustainability]?
Perception and Experience of inequalities and their effects on wellbeing	What do you think about inequality in Ghana? Do you think inequalities or perception of inequalities are rising? Why?	How prevalent is income inequality? Other inequalities and how their importance? What do you think is accounting for these changes?
	In your experience, in what ways does inequalities affect wellbeing for all Ghanaians?	Has this change over the last five years? Is there any link between inequality and economic growth? Do you think rising levels of inequality affects health and wellbeing? In what specific ways?
	What signs of rising inequality in Ghana?	Do they include? 1. Status competitions 2. Demonstrations and public anger 3. Increased in crime 4. Unfair economic system 5. Corruption 6. Greed 7. Low economic growth
	How can the trend be reversed? How should we ensure that economic growth benefit everyone? Or improved the wellbeing of all?	What policies do you propose?

	Do you think inequalities is a big problem that affects wellbeing in the country now?	Why do you say so? In what specific ways
	If you were to guess, which age groups and demographics suffer the most from rising inequalities?	Why are these groups particularly vulnerable? Are they peculiar solutions?
	Do you anticipate that inequalities becoming a major health issue in Ghana?	What could account for this?
Policy Context	To what extend do you or your institution see inequalities especially rising inequalities as a critical challenge?	Why do you think your institution do(do not) recognises inequality as a critical challenge
	What are some of the current policies that address inequality and the systematic causes of inequality?	Are there any policy suggestions you think would help improve this situation?
	What are some of the perceived facilitators and barriers to ensuring an improved wellbeing of all?	
	Do you think that in trying to measure the wellbeing of Ghanaians, inequalities should play a critical role?	
	What other indicators should form part of that measure of wellbeing?	How about [environment, culture, infrastructure, economy, health, community, Hospitality, respect for customs and traditions]
Discussion	Is there anything else you would like to add that we have not already discussed?	
	Is there anyone else you think we should talk to about inequalities and wellbeing?	

Appendix 2: Focus group discussion interview guide

Understanding, Experiences and perceptions of wellbeing and inequalities in Ghana		
Purpose: *To understand key community perception and experience of wellbeing and associated challenges for wellbeing*		
Construct	**Question**	**Probe**
Context	Can each person briefly introduce themselves?	What is your current role in the community? How long have you stayed here? What brought you to this position?
	Today, we are going to talk about wellbeing of Ghana. What do you understand by wellbeing of Ghana?	How about [inequalities, employment, inclusive development, food security, environmental sustainability]?
	What should be used to measure the wellbeing of all Ghanaians?	Can you tell me from your own experience how wellbeing have changed over time? Which ones have changed?
Perception and Experience of inequalities and their effects on wellbeing	What does inequality means?	Who do you compare yourself or your community with?
	Are you worried about rising inequalities in Ghana?	Why are you worried? How does it affect you, the community and Ghana as a whole
	How prevalent is income inequality and are there other inequalities and how important are they?	What do you think is accounting for the changes in inequality?
	In your years of practice, do you think inequalities pose a challenge to ensuring improved wellbeing for all Ghanaians?	Has this change over the last five years? Do you think rising levels of inequality affects health and wellbeing? In what specific ways?
	What signs do you see of rising inequalities in Ghana?	Do they include? 1. Status competitions 2. Demonstrations and public anger 3. Increased in crime 4. Unfair economic system 5. Corruption 6. Greed 7. Low economic growth
	Are you worried as result of the rising inequalities? Do you witness their signs in your community?	What are your worries? How does that affect community life?
	What can be done about inequalities?	What policies do you propose?

	How can we improved the wellbeing of all?	
	Do you think inequalities is a big health and development challenge in the country now?	Why do you say so?
	If you were to guess, which age groups and demographics suffer the most from rising inequalities?	What can we do to support these groups? Community or government support? Specifics?
	Do you anticipate that inequalities becoming a major problem in Ghana going forward?	What could account for this?
Policy Context	To what extend do you or your community see inequalities especially rising inequalities as a critical challenge?	
	Does current policies address inequality and the systematic causes of inequality? [LEAP, Health Insurance e.t.c ?]	Are there any policy suggestions you think would help improve this situation?
	What are some of the perceived facilitators and barriers to ensuring an improved wellbeing of all?	
	Do you think that in trying to measure the wellbeing of Ghanaians, inequalities should play a critical role?	
	What other indicators should form part of that measure of wellbeing?	How about [environment, culture, infrastructure, economy, health, community, Hospitality, respect for customs and traditions]
Discussion	Is there anything else you would like to add that we have not already discussed?	
	Is there anyone else you think we should talk to about inequalities and wellbeing?	

Appendix 3: Questionnaire for Data collection

Name of the interviewer.....Town name.....

Questionnaire No..... Date..... Household Number……

Section A: Community Vitality

	No	Yes	Don't know	Refused
A1. In the past 12 months, did you do any unpaid volunteer work in your community				

A2. In the past 12 months, were you a member or a participant in….	No	Yes
a union or a professional group(Teachers/Carpenters, Hairdressers association)		
a political party or group		
a sports, recreational or keep fit club		
a cleanup group		
a cultural, educational or hobby group (reading club, dance group, sanitation group)		
a religious-affiliated group(church choir, Muslim/Christian youth group, Christian mother e.t.c)		
a school group, neighborhood or (e.g., P.T.A, community watch group)		
a public interest group (e.g., focused on farming, environment, food security)		
any other group or activity not mentioned above? Please specify……..		

A3. In the past 12 months, did you provide unpaid help to anyone….	No	Yes
with work at home such as cooking, cleaning, gardening, carrying load		
by doing any shopping, accompanying someone to the market, or a meeting		
with paperwork such as writing letters, filling forms, translating or finding information or directions		
Health related or personal care such as emotional support, counselling, advice, assisting a child, pregnant woman or elderly person, caring for a sick person		
with unpaid farming, teaching, reading		
Any other activity not mentioned above, please specify…….		

A4. How many ***relatives*** **(including uncles, aunts, cousins**) do you have that you feel close to, who you feel at ease with, can talk about what is on your mind, or call for help?

Number of relatives	

A5. How many ***close friends*** do you have, that is people who are not your relatives, but who you feel at ease with, can talk about what is on your mind, or call for help?

Number of close friends	

A6. About how many people in your community do you know well enough to ***ask for a favour***?

Number of people	

A7. How safe do you feel walking alone in your community after dark? On a scale of 1 (very unsafe) to 10 (very safe), Do you feel:

1(Very Unsafe) 10(Very safe

A8. How often do you ***feel discriminated against*** in your community because of….

	Never	sometime	Neutral	sometime	All of the time
your ethnicity, tribe or culture					
your age					
gender					

A9. How would you describe ***your sense of belonging*** to your local community? Please indicate on a scale of 1(very weak) to 10(very strong) how you feel

1 Very weak 10Very strong

A10. For each of the following statements, please tell us the extent to which you feel about your community as a place to live

"Thinking about your community as a place to live if……."	strongly disagree	Strongly disagree	disagree	Neutral	agree	Strongly agree	Very strongly agree
Many people are available to give help if someone needs it							
I have good friends in this community…….							
I feel at ease with the people in this community							
If I need help, the community has excellent services to meet my needs…..							
People are sociable here							
In this community, there is never much work to do							
If I had an emergency, even people I don't know would be willing to help me							
It is difficult for me to connect with people in my community……							
In this community, I have few opportunities to satisfy my needs……							
I would recommend my community to others as a great place to live……							
There are places in my community that inspires me……							
I am proud of this community							
I regularly stop to talk to others in my community							

I feel comfortable allowing my children to play outside unsupervised in my community							

Section B: Healthy populations

B1. In general, would you say your physical health is:

Poor	fair	good	Very good	Excellent

B2. In general, would you say your mental health is:

Poor	fair	good	Very good	Excellent

B3. In general, how would you rate the **overall availability** of health care services in your community?

Poor	fair	good	Very good	Excellent

B4. In general, how would you rate the **overall accessibility** of health care services in your community?

Poor	fair	good	Very good	Excellent

B5. In general, how would you rate the overall quality of health care services in your community?

Poor	fair	good	Very good	Excellent

B6. Each of the statements below describes how you might have felt during the past 4 weeks, please indicate the extent to which you agree you felt this way during the past 4 weeks.

"During the past week…"	strongly disagree	Strongly disagree	disagree	Neutral	agree	Strongly agree	Very strongly agree
I had a lot of energy…..							
I was able to perform all my daily activities(e.g., household chores)							
I could not get going…..							
Physical pain prevented me from doing what I needed to do….							
I got quality exercise(walk, run)							
I regularly ate healthy meals							

B7. Have you experienced a major positive life event in the past 12 months? (e.g., Marriage, birth, new job)?

Yes No

B8. Have you experienced a major negative life event in the past 12 months? (e.g, death, divorce, job loss)?

Yes No

B9. Do you currently have an active health insurance? Yes No

Now, I would like to know how you have been feeling over the past two weeks.

B10. Have you lost much sleep over worry?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B11: Felt constantly under stress?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B12: felt you couldn't overcome your difficulties?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B13: Felt unhappy and distressed?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B14: Have been losing confidence in yourself?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B15: Been thinking of yourself as a worthless person?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B16: Been taking things hard?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B17: found everything getting on top of you?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B18: Been feeling nervous and tense all the time?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B19: found that at times you couldn't do anything because your nerves were too bad?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B20: Have you felt that you are playing a useful part in life?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B21: felt capable of making decisions about things?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B22: Been able to enjoy your normal day to day activities?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B23: Been able to face up to your problems?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B24: Been feeling reasonably happy, all things considered?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B25: Been managing to keep yourself busy and occupied?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B26: Been getting out of the house as much as usual

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B27: Been satisfied with the way you have carried out your tasks?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B28: Been able to concentrate on whatever you are doing?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

B29: Felt on the whole you were doing things well?

Yes	no	Don't know	Refused

If yes, would you say ***more than usual or the same as usual*** for you?

more than usual	same as usual	Don't know	Refused

Section C: Democratic engagement

C1. In which of the following activities have you participated ***in the past 12 months?***

	No	Yes	Don't know	Refused
I attended a local council meeting				
I attended a community/neighborhood/section meeting				
I participated in a public demonstration or protest				
I participated in a cleanup exercise				
I talked to the assemblyman/woman about a local issue				
I phone into a radio program to complain about a local problem				
I joined a Facebook page about a local issue				
I participated in a local event in support of a charitable organization				
I participated in a local event in support of my community(e.g., clean up exercise)				

C2. How interested are you in politics? Using a scale from 1 to 10, where 1 means "not interested at all" and 10 means a great deal of interest", rate your level of interest in politics for each of the following levels of government:

	No interest at all									A lot of interest
Your level of interest in	1	2	3	4	5	6	7	8	9	10
Presidential elections										
Parliamentary Election										
District Assembly elections										

C3. How helpful are the programs and services at the district or municipal level for improving your life?

Excellent help	Very helpful	helpful	neutral	Not helpful	Very worse	Don't know	refused

Section D: Environment

D1. Please indicate the extent to which *you* ***agree*** with each of the following by telling us what best describes how you feel.

"Thinking about the environment in your community"	strongly disagree	disagree	Neutral	agree	Strongly agree	Very strongly agree
The quality of the natural environment in my community is very high						
There are plenty of opportunities to enjoy nature in my community						
Traffic congestion in our community is a problem						
The air quality in our community is very good						
The water quality in our community is very good						

People who talk about conservation do not recognize the development needs required in Ghana						
Activities like bush burning and forest cutting are acceptable						
I am ready to compromise my standard of living to relieve the burden on nature						
To prevent contamination of lakes waters, surface mining should be restricted						
To prevent contamination of lake waters, chemical farming should be restricted						
I feel a personal responsibility to help protect the natural environment						

D2. In the past 12 months, how often did you engage in the following activities?

"in the last 12 months, how often did you…..?	never	sometimes	regularly	Quite often	All of the time
Try to reduce household waste					
Conserve energy by putting off lights and electronic gadgets					
Conserve water					
Drop plastics (water sachets, bottles) in dustbins or the nearest waste site					
Plant trees					
Practice open defecating					
I participate regularly in clean up exercises					

Section E: Leisure and Culture

E1. For each of the categories of physical activities listed below, please tell us the number of times you participated in each activity in a typical week. If you do not participate in the activity please report "0" or leave it blank

	Total number of times in a week
Team sports (e.g., football, volleyball, basketball, running)	……times
Individual sports (running, walking)	……times
Vigorous exercise (running or walking for 30 mins or more)	……times
Moderate exercise (running or walking between 5 to 30 minutes)	
Light exercise (running or walking for 5 mins or less)	……times
Socializing with friends(e.g., getting together for a party, festival)	……times
Going to cultural events, traditional dances, watch movies	……times
Going to support a local team	……times
Visiting friends casually	……times

E2. For each of the activities listed below that are typically done at home, please indicate the total number of times, you have participated in each activity in a typical week (be sure to count each separate time you participated)

	Total number of times in a typical week
Reading books, newspapers, and or magazines for pleasure	……..times
Playing cards, Ludo, Oware, draft	……..times
Hobbies such as knitting, craft, weaving, woodworking	……..times

E3. For each of the cultural activities listed below, please indicate the total number of times you participated in each activity in the past year. If you do not participate in the activity, please report "0" or leave the space blank

	Total number of times in a month
Attending festivals	……..times
Attending funerals in your community	……..times
Attending weddings and naming ceremonies	……..times
Attending theatres and cultural plays	……..times

E4. For each of the computer-related activities listed below, please indicate the total number of times you participated in each activity for leisure on a typical day (be sure to count each separated time you participated)

	Total number of times in a typical day
Searching the internet for interest	……times
Playing computer games (including online, console, & handheld)	……times
Socializing with others online (e.g., Facebook, Whatsapp, texting)	……times

How much time in total on a typical day do you spend engaged in these computer-related activities for leisure? …….

E5. Do you have access to any of these devices: Television, DVD player or a computer?

Yes

No

E6. Thinking about your typical television viewing how much time in total on a typical day do you spend watching television, DVDs, or shows/movies... ……..

E7. How many holidays you have taken in the past year…….

E7B. How many days in total were you away on holidays in the past year?.....

E8. During the past year, how often did you use the following recreation and cultural facilities in your community?

	Never	Sometimes	Regularly	Quite often	All of the time
Community center					
Amusement parks, gardens					
Sports fields(e.g., soccer, volleyball)					
Public library					
Historical or cultural or tourist site					
Others (specify)					

E9. Please indicate the extent to which ***you agree*** with each of the following statements.

Thinking about your accessibility to recreation and cultural facilities in your community	Strongly disagree	disagree	Neutral	agree	Strongly agree	Very strongly agree
The recreation and culture facilities are easy for me to get to						
Recreation and cultural programs are offered at times that are convenient to me						
There is a local park nearby that is easy for me to get to						
The cost of public recreation and culture programs prevents me from participating						
The recreation and cultural facilities are very welcoming to me						

E10. For each statement below, please indicate the extent to which you agree that is something you get out of your leisure time.

	Strongly disagree	disagree	Neutral	agree	Strongly agree	Very strongly agree
My leisure time provides opportunities to try new things						
My leisure time provides me with opportunities for social interaction with others						
My leisure helps me to relax						
I participated in leisure that develops my physical fitness						
My leisure helps me to develop close relationships with others						
My leisure helps relieve stress						
My leisure helps me to learn about other people						
My leisure is most enjoyable when I can connect with others						
My leisure contributes to my emotional wellbeing						
My leisure helps me to stay healthy						

Section F: Education

F1. Have you taken any formal/informal education courses to improve your skills or to prepare you for a job in the past year (e.g., course for credit towards a certificate, diploma, or degree)

Formal education courses taken in the past year…..	No	Yes
To help you get started in your current or a new job?		
To improve your skills in your current job?		
To prepare you for a job you might do in the future?		
To lead directly to a qualification related to your current job?		
Other (specify)		

F2. Have you taken any courses for interest during the past year?

	No	Yes
Courses for interest taken in the past year(e.g., computer skills, woodworking, sewing, creativity writing		

If yes, how many courses did you take for interest in the past year?

Number of courses taken for interest	

F3. Please indicate the extent to which you agree with the following statements about the educational opportunities in your community.

Thinking about opportunities for formal education and courses of interest in your community…..?	strongly disagree	disagree	Neutral	agree	Strongly agree	Very strongly agree
There are plenty of opportunities to take formal education courses						
There are plenty of opportunities to take courses of interest						
I would have taken courses, but they are too expensive						
There are places nearby where I can take courses out of interest						
There are schools nearby where I can upgrade my educational qualification						
I would have taken courses, but they are offered at inconvenient times						

Section G: Living Standards

G1. Do you work for pay?

……Yes	……..No

G2. How many different jobs for pay do you have (both full and part-time)……Jobs

G3. How many hours per week do you usually spend working at your main job?

.....hours per week

G4. If you have other jobs beyond your main job, how many hour per week do you usually spend working at the other job(s)……hours per week

G5. Approximately, how long does it take (in minutes) to get from your residence to your place of work?.....Minutes

G6. How often did you have the following experiences in the past year? Please indicate how often each experience occurred for you in the past year

"During the past year…."	Never	Once in the past month	At least once every 6 months	At least once every 3 months	At least once a month
I could not pay my bills on time(e.g., water, electricity, loan payments)					
I could not pay health insurance premiums for myself and dependents					
I could not pay my rent on time					
I could not renovate my house on time					
I ate less because there was not enough food or money to buy food					
I did not have enough money to buy the things I wanted					
I did not have enough money to buy the things I needed					

G7. For each of the following statements, please indicate the extent to which *you agree* with which of these statements best describes ***how you feel about your main job.***

	Strongly disagree	disagree	Neutral	agree	Strongly agree	Very strongly agree
I have little hope for promotion at my job						
My current job matches my education and training……						
Considering all my efforts and achievements, my opportunities at work are adequate……						
I have experience or I expect to experience an undesirable change in my work situation…….						
Considering all my efforts and achievements, my salary/income is adequate						
My job security is poor….						

G8. The following statements describe several different reactions to work. Please indicate the extent to which you agree with the statements that best describes how you feel

	Strongly disagree	disagree	Neutral	agree	Strongly agree	Very strongly agree
My personal life suffers because of work						
I neglect personal needs because of work						
I struggle to combine work and non-work activities						
I am happy with the amount of time I have for non-work activities						
My personal life drains me off energy for work						
I am too tired to be effective at work						
My work suffers because of my personal life						
My personal life gives me energy for my job						
I am in a better mood at work because of my personal life						
I am in a better mood generally because of my job						

G9. These next questions are about food eaten in your household in the last 12 months and whether you were able to afford the food you need

	often	sometimes	Never	Don't know	refused
The food that (I/we) harvested/bought just didn't last, and (I/we) didn't have money to get more." Was that often, sometimes, or never TRUE for (you/your household) in the past 12 months?					
"**(I/we) couldn't afford to eat 3 meals a days."** Was that often, sometimes, or never true for (you/your household) in the past 12 months?					

G10.

	Yes	No	Don't know	Refused
In the past 12 months, did (you/or other adults in your household) ever reduce the size of the meals or skip meals because there wasn't enough money for food?				
ASK OF ONLY G10= YES] How often did this happen?	Almost every month	Some months but not every month	Only 1 or 2 months	Don't know
In the past 12 months, did you ever eat less than you felt you should because there wasn't enough money to buy food?				
In the past 12 months, were you ever hungry but didn't eat because you couldn't afford enough food?				

G11. How do you feel about your current housing situation?

Very stable and secured	Fairly stable and secured	Just somewhat stable and secure	Fairly unstable and insecure	Very unstable and insecure	Not sure

G12. Thinking back throughout your life, has there ever been a time when you felt your housing situation was not stable and secure?

yes	no	Don't know	Refused

G13. Thinking more broadly and not for you personally, given the changes that have occurred over the past 10years in the way we live our lives, generally speaking, do you think that renting or building a home is:

More difficult	Less difficult	No changes	Don't know	Refused

G14. Compared to your housing situation 5 years ago, how do you feel about your current housing situation?

Very stable and secured	Fairly stable and secured	somewhat stable and secure	Fairly unstable and insecure	Very unstable and insecure	Not sure

G15. Now I'm going to mention some housing issues in ***your community***. Please tell me whether you think it is very easy, somewhat easy, somewhat challenging, or very challenging (**in your community**)

	Very easy	Somewhat easy	somewhat challenging	very challenging	Not sure
For a family of four with a monthly income of about GHC 2,000 to find affordable quality housing to rent					
For a family of four with an income of about GHC 3,000 to build/buy an affordable quality housing					
For young adults who are beginning to work to find affordable quality housing					
To build affordable quality housing					
For a family of four with an income of about GHC 3,000 to find affordable quality housing to rent					
For a family of four with an income of about GHC 3,000 to build/buy affordable quality housing					

G16. In the past year, how often did you or your household members

	Never	Rarely	sometimes	often	Don't know	Refused
Worry about whether your household will have water for all its needs? These needs may include, for example, watering crops or livestock, washing your hands, washing clothes, or any other needs.						
collect water for drinking from an undesirable or dirty water source because you could not collect water from a preferred or clean source?						

drink water that you thought might not be safe for health?						
drink less water than you needed because there was not enough water or because it was too difficult to collect more water?						
use less water than you needed because there was not enough water or because it was too difficult to collect water? These needs might include, for example, watering crops or livestock, washing your hands, washing clothes, or any other needs.						
About how difficult it is to collect more water? any water at all, whether for watering crops or livestock, washing your hands, washing clothes, or any other needs.						
go to sleep at night without bathing because there was not enough water?						

Section H: Time use

H1. Do you provide *unpaid care to any children*?

Yes

No

If yes how many hours in a typical week of unpaid care do you usually provide

……..to children in your family

……to children who are not members of your family

H2. Do you provide unpaid care to an older or dependent adult?

Yes

No

If yes how many hours in a typical week of unpaid care do you usually provide

……..to older or dependent adults in your family

……to older or dependent adults who are not members of your family

H3. Do you think that families in your community have access to adequate supply of child care services?

Yes

No

Don't Know

H4. How often do you feel you have time on your hand that you don't know what to do with it? Would you say it is:

Never	Less than once a month	About once a month	About once a week	A few times a week	Everyday

H6. How many times in the past week has your extended family (uncles, nuclear family) had a meal together?

None	1 to 2 times	3 to 4 times	5 to 6 times	7 or more times	Not applicable

H7. To what extent do you feel you have adequate time:

	No at all enough									Almost always enough
To get enough sleep	1	2	3	4	5	6	7	8	9	10
To socialize										
To keep in shape										
To prepare or eat healthy meals?										
To participate in or be active in the community?										
To nurture your spiritual and or creative side										
To complete chores or errands										
To be with children you live with										
To be with your spouse, girlfriend or boyfriend										
To form and sustain serious relationships?										

H8. Thinking about night sleep and naps, how many hours of sleep do you usually get per day? .....hours

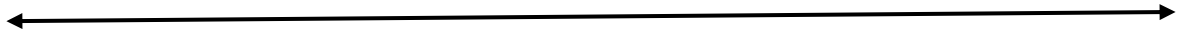
I would like to ask you about overall satisfaction with a variety of areas that affect a good life. For each of the following statements, please indicate how satisfied you are

	Extremely dissatisfied	Very dissatisfied	dissatisfied	Neutral	agree	Satisfied	Extremely satisfied
My mental wellbeing							
My physical wellbeing							
My leisure time							
My sense of belonging to this community							
My personal relationships							
My access to educational opportunities in the community							
The balance of daily activities in my life							
The ways I spend my time							
My access to arts and cultural opportunities							
My access to parks and recreational opportunities in community							
My neighborhood as a place to live							
The environmental quality of my neighborhood/community							
The way my local government respond to community needs							

How well democracy is working in our community							
My financial situation							
My working situation							

I2. Overall, to what extent do you feel things you do in your life are worthwhile?

1)Not at all worthwhile Completely worthwhile



I3. Overall, how satisfied are you with life in general?

Very dissatisfied Very satisfied

Section J. Personal Characteristics
In this section, we would like to know more about the residents of your community so we can create groupings and see if some people have higher or lower experience of wellbeing than others

J1. What is your sex? Male Female

J2. What is your age? ……..Years of age

J3. What is your marital status?

Single, never married	Married	Living together	Separated	Divorced	Widowed	refused

J4. Are you living with a disability (physical or mental) that limits your daily activities?

Yes No

J5. What is your cultural or ethnic background (e.g., Akan, Ga, Ewe, Dagao, Dagomba e.t.c)

J6. How long have you been a resident of this community? …….years……..months

J7. How long have you lived in your current residence? ……years…….months

J8. Do you own or rent the residence in which you are currently living?

own	rent	Care-taker	perching	Other(specify)	Don't know	refused

J9. What is the highest level of education you have completed?

None	Primary School	JSS	SHS	Teacher/nursing College	University degree	Graduate

J10. Which one of the following categories would you say best describes your main activity?

Employed full time	Employed part time	Non-standard employment(self-employed, temporal/seasonal)	Unemployed, looking for work	Retired	In school	Household work

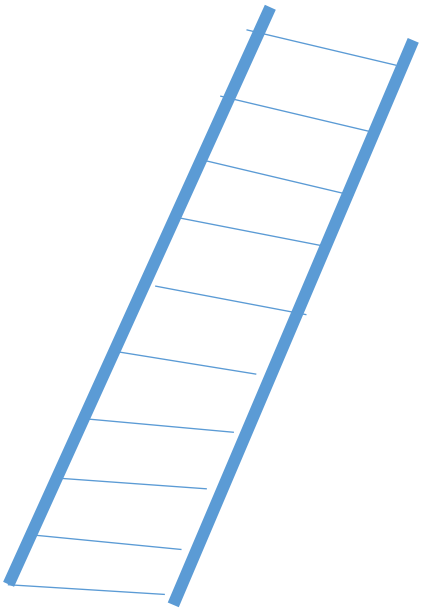
J11. What was your total household income from all sources last month, please tick the appropriate box

Under 300	
300-700	
701-1200	
1,200- 2,000	
2,001-5,000	
5,000-10,000	
Over 10,000	

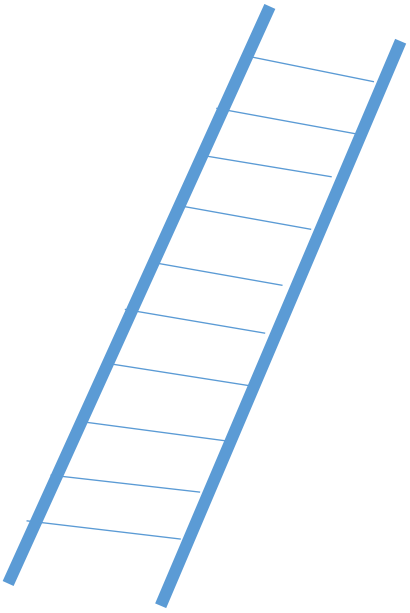
J13. Dwelling characteristics and household possessions

What type of house do you live in?	……please indicate		
What is the main roofing of the house	……please indicate		
Number of rooms including bathrooms and kitchen	……please indicate		
Number of rooms for sleeping	……please indicate		
What is your main source of light	……please indicate		
What is your main supply of water	……please indicate		
Do you have a toilet?	……please indicate		
What type of toilet do you have	……please indicate		
What do you use for cooking (e.g., gas, charcoal, firewood)	……please indicate		
How do you dispose off rubbish	……please indicate		
Do you have nets on your bedroom windows	……please indicate		
Do any member of the household own a :	Yes	No	Not applicable
A sewing machine			
Mobile phone			
Refrigerator			
Radio			
Television			
Electric iron			
Private car			
Washing machine			
computer			
Land, if yes indicate size			
Farm, if yes indicate size			

J15. Think of this ladder as representing where people stand in your community. Where would you place your self on this ladder? Mark with “X”



J16. Think of this ladder as representing where people stand in the whole country. In comparison to people you normally compare yourself too, where would you stand? Mark with “X”



Capabilities and Functions

K1. Would you like to be able to . . . . . but must do without because you cannot afford it?

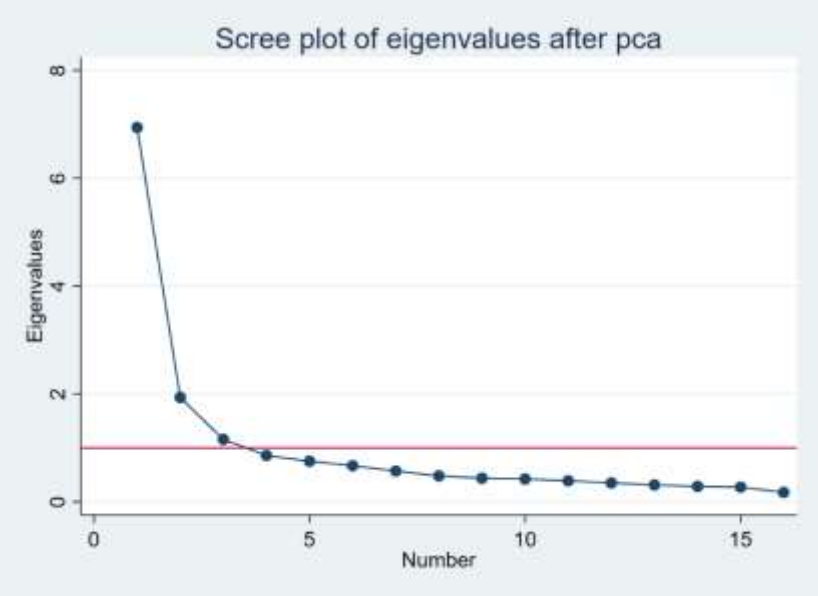
	Yes	No	Don't know	Refused
to meet social obligations(community contributions, attend meetings, funerals and weddings)				
to pay your rent on time				
pay national health insurance yearly premiums				
A decent and a secured home/room				
To pay your kids or relatives school fees				
Buy new rather than second hand clothes				
A bank /mobile money account				
To eat meat, fish or vegetables every week				
To eat 3 main meals every day				
Have family or friends for a drink				
Pay for a week vocation				
Others (please specify)				

K2	Yes	No
If you could choose, would you stay here in your present house or move somewhere		
Does your health in any way limit your daily activities compared to most people of your age?'		
Do you normally have access to a means of transport that you can use whenever you want to?'		
Will you like to move around the community but can't due to fear and safety?		

Do you have any other suggestion or comments for making life better in your family and community?

Thank you for your time in completing this survey

Appendix 5.1


Scree plot of eigenvalues after pca
Eigenvalues
0
2
4
6
8
0
5
10
15
Number

Appendix 5.2

	IIi	IIii	IIiii	IIiv	IIv	IIvi	IIvii	IIviii	IIix	IIx	IIxi	IIxii	IIxiii	IIxiv	IIxv	IIxvi
IIi	3.03															
IIii	1.29	2.55														
IIiii	1.21	1.20	2.19													
IIiv	1.26	1.25	1.17	2.21												
IIv	1.16	1.15	1.07	1.12	2.19											
IIvi	1.18	1.18	1.10	1.15	1.05	2.35										
IIvii	1.13	1.12	1.05	1.09	1.00	1.02	2.03									
IIviii	1.11	1.11	1.04	1.08	0.99	1.01	0.97	2.15								
IIix	0.93	0.92	0.86	0.89	0.83	0.84	0.80	0.79	2.18							
IIx	0.97	0.97	0.90	0.94	0.86	0.88	0.84	0.83	0.69	2.36						
IIxi	1.11	1.10	1.03	1.07	0.98	1.01	0.96	0.95	0.79	0.83	2.20					
IIxii	1.02	1.02	0.95	0.99	0.91	0.93	0.88	0.88	0.73	0.76	0.87	2.30				
IIxiii	0.89	0.89	0.84	0.86	0.79	0.82	0.77	0.77	0.64	0.67	0.76	0.70	2.60			
IIxiv	0.95	0.94	0.88	0.92	0.85	0.86	0.82	0.81	0.68	0.71	0.81	0.75	0.65	2.46		
IIxv	0.92	0.91	0.86	0.89	0.82	0.84	0.79	0.79	0.65	0.69	0.78	0.72	0.63	0.67	2.28	
IIxvi	0.90	0.90	0.84	0.87	0.80	0.82	0.78	0.78	0.64	0.67	0.77	0.71	0.62	0.66	0.64	2.31