

# Insights for Measuring Social Value: Classification of Measures Related to the Capabilities Approach

Shoko Kato<sup>1</sup>  · Shena R. Ashley<sup>2</sup> · Rasheda L. Weaver<sup>3</sup>

Published online: 24 August 2017

© International Society for Third-Sector Research and The Johns Hopkins University 2018

**Abstract** The measurement of performance and the evaluation of social change efforts are vital yet challenging issues for practitioners and researchers in the social sector. Although tools exist to measure social value, they tend to focus on converting non-monetary costs and benefits into monetary terms to demonstrate the cost-effectiveness of operations. The capabilities approach provides a value-based alternative that could potentially enable a broader assessment of a project's impact; this approach encapsulates societal-level factors, beneficiary perspectives, and a more holistic view of a beneficiary's life. Ultimately, our goal is to raise the following question in the social sector field: what might a capabilities approach to social value measurement that is suitable for practical application by social sector organizations look like? The purpose of this article is to introduce the theoretical framework and to present what some of the measures and instruments might

look like, at least in part, based on applications in other contexts.

**Keywords** Social impact · Capabilities · Social value · Performance measurement

## Introduction

The core aim of nonprofits and social enterprises is to create social value. However, the systematic measurement and communication of that value is a major challenge that faces many organizations in the social sector. On the one hand, the difficulties involved in the measurement of social value are conceptual because there is a lack of consensus on the definition of social value. On the other hand, the difficulties of social value measurement arise from methodological limitations. Although there are many tools for measuring social and environmental impact, there is little agreement regarding which tool should be used to measure social benefits and social value creation (Polonsky and Grau 2008).

In a review of the research literature, Maas and Liket (2011) identified more than 30 methods that can be used to measure social impact and social value. Nevertheless, they concluded that there is a need for better methods to accurately measure social impact and value, especially in the long-term context. Arvidson and Lyon (2014) echoed this suggestion for the further refinement of the existing pool of social impact measurement methods from the perspective of practitioners. They argued that the observed behaviors of resistance among organizations to either conducting or fully sharing the results of impacts indicate that the methods and tools need to be further refined so that the measurement results reflect the real impact and context of projects and programs.

**Update 2 July 2018** The PDF version of this article was reformatted to a larger trim size.

✉ Shoko Kato  
shoko.kato@camden.rutgers.edu

Shena R. Ashley  
sashley@urban.org

Rasheda L. Weaver  
Rasheda.weaver@uvm.edu

<sup>1</sup> Rutgers School of Business-Camden, 227 Penn Street, Camden, NJ 08102-1656, USA

<sup>2</sup> The Urban Institute, 2100 M St., NW, Washington, DC 20037, USA

<sup>3</sup> Department of Community Development and Applied Economics, University of Vermont, College of Agriculture and Life Sciences, Morrill Hall, 146 University Place, Burlington, VT 05405, USA

A central critique among scholars of the social value measurement landscape is that social dimensions are acknowledged in a partial and instrumental way. Despite the different methods and tools for measuring social value, there remains a dominant focus on economic value and the use of financial measures. The challenge for the field is to find ways to incorporate more of the social complexity of impact measurement to gain a broader view of social value. In this period of heightened accountability, increasing social audit norms and growing pressure for more rigorous impact measurement, greater requirements are imposed upon organizations to establish their legitimacy (and ultimately, to survive) by measuring their impact. However, it is unlikely that organizations will be able to satisfactorily meet these expectations using the current impact measures. One major issue is that many social value assessment tools assign monetary values to non-monetary factors so that the inputs and outputs can be easily communicated to both donors and stakeholders. This process requires managers either to collect data to better estimate such values or to use their best guesses to assign monetary values to social and environmental impacts. Thus, although managers and donors see both the cost and the impact, these measurements may not accurately reflect the true impact of their interventions, such as the empowerment of marginalized populations and the provision of equal opportunities for the members of a community. In addition, because social problems may have deeply embedded root causes, addressing social problems requires interventions at both the individual and the societal levels, complicating the assessment process (Willems et al. 2014). Thus, the intervention itself can become quite complex, defying a simple effectiveness assessment (Lecy et al. 2012; Murtaza 2012).

In response to calls for better measures of social value, we explored the concept of the capabilities approach, a broad normative framework advanced by Amartya Sen, Martha Nussbaum and others (Nussbaum 2001; Sen 1993), as a potential tool to improve social value measurement. As we pursued this idea, we found examples in the literature that applied the capabilities approach as an evaluative framework to measure people's conditions—i.e., poverty, inequality, well-being and quality of life—in a nuanced manner (Robeyns 2005). We also observed that others have regarded the capabilities approach as having great potential to measure social value creation and, more generally, to measure the performance of projects, organizations, or interventions (Mulgan 2010). However, previous studies have not operationalized what the application of the approach in these contexts would or should look like. Thus, we conducted a broad literature search to find examples of how the capabilities approach has been operationalized, especially in a manner that renders the measurement and

operationalization applicable to the performance measurement and program evaluation contexts in the social sector.

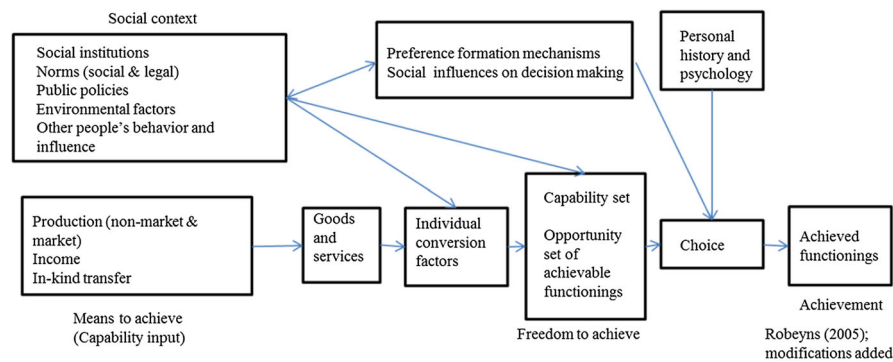
Our aim in this article is to provide guidance to the social sector field on how the capabilities approach can be applied to social value measurement—to show how such measures and instruments have been used in prior evaluations and studies. This study's primary contribution is that it combines measures from a broad, multi-disciplinary, applied stream of literature that operationalizes the measures used in this approach and determines which are applicable in the context of project evaluation in the social sector. Although the capabilities approach is widely known and applied in various academic disciplines such as welfare economics, sociology, social policy, international development, and moral philosophy, it is less well known to scholars and practitioners working in the social sector.

The paper proceeds with a brief overview of the capabilities approach to provide grounding in the concept. This overview is followed by the classification of a wide variety of measures and instruments used in the applied literature to operationalize the various components of the capabilities approach. The paper concludes with a discussion of the potential benefits and limitations of the capabilities approach as a measure of social value for social sector organizations.

## Overview of the Capabilities Approach

The capabilities approach was pioneered by the economist Amartya Sen and the philosopher Martha Nussbaum (2001) and has been conceptually refined by Sen, Nussbaum, and others (Robeyns 2005). It is an explicitly normative framework with social justice orientation at its core, and as a tool, it allows the assessment of individual well-being as well as social institutions, policies, and contexts that may influence individual well-being. Robeyns (2005) offers a concise introduction to the theoretical aspects of the capabilities approach (Fig. 1).

The capabilities approach was conceived as an alternative approach to the conventional economics research on resources such as income, wealth, and legal rights as measures of well-being. Instead, the capabilities approach focuses on what people are actually able to do and be. It contrasts with other evaluative approaches that tend to emphasize what people possess or do not possess, what they have done, or how they feel. It analyzes a person's actual opportunities as they are shaped by both societal and individual factors. The capabilities approach differs from other approaches because it does not focus on the amount of inputs or resources that an individual possesses but instead considers the ability of the individual to convert resources into valued outcomes. According to this view,



**Fig. 1** Capabilities approach—concept

poverty is not merely a lack of resources; poverty also implicates an individual's lack of choice or opportunities.

The approach emerged from the contention that the possession of or access to resources (inputs) does not mean that a person is rich or wealthy. Instead, this approach introduces the notion of capabilities (the ability to convert inputs into functionings) and functionings (the desired or achieved outcomes) (Robeyns 2005). People have different preferences regarding what they want to do and be (functionings) as well as a set of freedoms or opportunities (capabilities) to achieve these functionings (Nussbaum 2001; Nussbaum and Sen 1993). Even if two people have the same amount and types of resources, they are not equal in terms of functioning because their desired outcomes (functionings) and capabilities (opportunities or freedoms to convert inputs) are different (Sen 1992).

The advantages of the capabilities approach that make it particularly insightful for social value measurement are (1) the inclusion of the social context, (2) the ability to measure based on the beneficiary's perspective, and (3) the ability to take a holistic view of a beneficiary's life.

### Social Context

The capabilities approach incorporates each individual's unique preferences as well as social and institutional contexts into the conceptualization of poverty and well-being. Specifically, the capabilities approach highlights the influences of social institutions and environmental factors on individual choice during the conversion of resources into capabilities/functionings. If a group of people has a lower level of achieved functionings and/or fewer capabilities relative to other groups, it indicates the existence of systematic deterrents for the group. Thus, through the assessment of capabilities and functionings, evaluators are able to identify social and environmental factors that may prevent an individual or group from realizing their full potential, such as different gender roles, discrimination, or a lack of access to health/educational institutions.

### Beneficiary Perspective

The capabilities approach allows social value and impacts to be expressed from the perspectives of the people in a society. In the form of capabilities and functionings, the approach allows people to describe what is desired and valued, what is available, and what can be achieved regarding their well-being. Although the capabilities approach does not assign value to benefits or impacts, the approach can help include information about how a project may affect the lives of a target population from the perspective of the beneficiaries. The capabilities approach can also be used to include social and environmental impacts from the perspectives of residents or target beneficiaries. This approach recognizes an individual's freedom to choose the best outcome for his or her life, which is a crucial factor in the measurement of social value.

### The Holistic View of a Beneficiary's Life

As shown above, the capabilities approach regards poverty as a state in which a person has yet to realize his/her full potential (functionings), thus highlighting a lack of not only resources but also the means of converting resources into what he or she desires. The capabilities approach treats poverty not as a mere monetary concern but as a situation that spans multiple dimensions of life. Poverty becomes a much broader concept that encompasses areas from life itself to cognition and thoughts, health, and emotions (Clark 2005; Robeyns 2006; Sen 1992). In turn, the approach may allow evaluators to capture a wider range of values that target beneficiaries may reap through a project.

### Identifying Capabilities and Functionings

According to Sen (2004), a person's capability set is a set of vectors of functionings that are available to that person (i.e., the combinations of what a person can be or do

realistically). Sen does not offer a clear specification of exactly what it is that a person has an opportunity to do or be. To Sen, it is part of a person's functioning to be able to design his or her own list, and he advocates for a democratic, participatory process in society to help people determine their capability sets. Conversely, Nussbaum advocates a list of 'central capabilities' that are essential for any human being to live a dignified life (Nussbaum 2001). The capabilities identified by Nussbaum (2001) as essential to a fulfilling life include the following:

1. Life: The ability to live to the end of a human life of normal length
2. Bodily Health: The ability to have good health and to be adequately nourished and sheltered
3. Bodily Integrity: The ability to move freely from place to place and enjoy choice in matters of reproduction
4. Senses, Imagination and Thought: The ability to use the senses, to imagine, think and reason and to be adequately educated
5. Emotions: The ability to love those who love and care for us
6. Practical Reason: The ability to form a conception of the good and engage in the planning of one's life
7. Affiliation: The ability to engage in various forms of social interaction and show concern for other humans
8. Other Species: The ability to love with concern for and in relation to animals and plants
9. Play: The ability to enjoy recreational activities
10. Control over one's environment: Having the right of political participation and being able to hold property

Other scholars have advocated the use of different lists (Robeyns 2003), and the debates about such lists are still ongoing (Qizilbash 2002), so it should be noted that certain capabilities and functionings may not be universally accepted. For this study, we have chosen (in the following section) to use Nussbaum's list of central capabilities to organize and categorize the different measures of capabilities and functionings included in the literature. This choice should not be interpreted as an attempt to weigh in on the Sen versus Nussbaum approach. Instead, it simply speaks to the utility of starting with a set list of capabilities to map and categorize the literature.

## Challenges in Operationalizing Capabilities and Functionings

Before summarizing the literature on the operationalization of capabilities and functionings, we would like the readers to be aware of the challenges facing the capabilities approach in the context of social value measurement. By placing individual well-being and social arrangement as evaluative goals, the capabilities approach enables us to measure social value creation as a change in both capabilities (the ability to convert inputs into functionings) and functionings (the desired or achieved outcomes). Yet, the capabilities approach has both theoretical and practical measurement issues as well (Comim 2008), and readers should be aware that capabilities scholars have been refining the approach and there still may be significant advancement to come. We briefly introduce three major issues that may be specifically relevant to social value measurement.

Most significantly, capabilities cannot be easily measured. Conceptually, an individual has a set of capabilities that allow him/her to convert inputs into desired outcomes. However, the direct measurement of such an ability can be difficult, especially when only secondary data are available (Robeyns 2006). In our sample of empirical studies (see the next section), achieved functionings are often measured instead of capabilities, and the corresponding capabilities are only implied. Because the capabilities concept includes freedom/opportunities to choose, however, measuring achieved functionings may not fully capture a person's capabilities.

Another challenge is that there is no universal agreement regarding which capabilities/functionings should be measured. As mentioned in the previous section, scholars continue to debate the merit and content of the capabilities list. In addition, to identify a society's least advantaged group, the functionings/capabilities of major dimensions should be measured, but it might not be a straightforward matter to determine either the appropriate weight of each functioning/capability or which capability/functioning has more value than others.

More importantly, a lack of capabilities may have 'clustering' effects (Wolff and De-Shalit 2007). If a person lacks shelter and access to food, this combination will significantly lower the person's well-being to a greater extent than is obtained by simply adding up the two effects. The accumulation of such effects over time also must be considered. In a similar manner, certain capabilities and functionings may be more important than others because they either serve as preconditions for achieving other functionings or they may impact several dimensions of well-being.

These aspects should be carefully considered when evaluators and managers use the capabilities approach in a project evaluation framework. In the next section, we summarize the scales and questions that have been used to measure capabilities and functionings in the literature from various disciplines. We hope the summary provides managers and evaluators a good idea of what social value measurement with the capabilities approach looks like.

### Scales and Questions for Measuring Capabilities: A Literature Scan and Classification

In this section, we summarize the ways in which different capabilities and functionings are measured in the literature. The measurements in the collected literature are from both primary and secondary data, and the studies vary with regard to which of Nussbaum's ten capabilities they emphasize and in whether they use them at all. Yet together, they demonstrate the operationalization of the capabilities approach and the current state of practice.

We conducted a literature search based on the literature review systems suggested by Tranfield et al. (2003) and executed effectively by Maier et al. (2014). Due to the two common words ('capabilities' and 'approach'), we modified the review system and selected a few key survey papers on the operationalization of the capabilities approach, notably working papers by Kuklys and Robeyns (2004), Alkire (2007) and an edited book by Comim et al. (2008). Based on the papers that were surveyed in these studies, we purposefully expanded our literature search by including the specific keywords used in the surveyed papers (e.g., AF method, fuzzy set theory) and collecting papers cited by the surveyed papers. After collecting 67 empirical papers and book chapters that applied the capabilities approach, the author team discussed and excluded papers that (1) mainly discussed the best statistical way to reflect the philosophy of the capabilities approach, (2) were eventually published and thus duplicated, (3) used simulation or hypothetical data, (4) focused on contrasting the capabilities measurement with other well-being measurements, and (5) measured a different type of well-being that was inspired by the capabilities approach. As a result, we analyzed 35 empirical papers.

Table 1 is a summary of the capabilities or functionings that were measured using secondary or existing data. The measurements in this table may be useful for managers to quickly assess capabilities and functionings by utilizing readily available data. We summarized the data sources that have been used in the table as well as the measures used in each of ten central capabilities areas. Table 2 is a summary of the capabilities or functionings that were measured using primary data sources through

questionnaires, focus groups, case studies, or interviews. Although not always clear in these studies, we coded whether the measurement was used to assess a capability (C) or functioning (F) in the tables. Some measurements that may assess both capabilities and functionings are coded as both while implying significance in the order of the codes (F/C implies that the measurement mainly assessed functionings). Although some functionings could serve as capabilities for other categories, we coded the capabilities–functionings relationship within each of only ten capabilities. Due to limited space, we did not include all the questions or scales; thus, interested readers should refer to each original paper. Additionally, we omitted the logic and procedure for the detailed calculation of the capabilities. To precisely measure capabilities, scholars have refined the statistical methods and their applications for the operationalization of the capabilities approach. We decided not to summarize the details of such discussions. Interested readers should refer to papers such as Alkire and Santos (2013) and Robeyns (2006).

Because there are many capabilities or functionings that are conceptualized by program participants and researchers, we categorized the measured capabilities or functionings around the ten central capabilities (Nussbaum 2001). We describe each capability with current measurements and data, and then in each paragraph, we describe the context in which the measurement is/can be used. It is clear from the literature that there is no prescribed way to employ a capabilities orientation and that there are many ways to measure each of the capabilities. The most common ways to measure capabilities are listed in the following tables.

#### Life

The life capability is about enabling a person to live a normal lifespan (Nussbaum 2001). The measurement of this capability mostly relies on life expectancy and primarily contrasts gender differences and country-level differences at the childhood or infancy stage (Biggeri et al. 2006; UN Development Programme 1990, 1995). The basic logic is that a longer life expectancy reflects better institutional or social arrangements that are required for a person to live life fully. Accordingly, the measurements often show macro-level conditions and long-term trends instead of short-term changes or impacts at a community level. These measurements may be useful to contrast countries, regions, or counties/cities where secondary data are consistently available.

**Table 1** Measuring capabilities/functionings (Proxy, Secondary data)

Capabilities (definitions from Nussbaum 2001)	Proxy measurement	Notes on data/dataset
Life (to live a normal length of life)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Life expectancy (Baliamoune-Lutz 2004; Human development index (HDI) by the UN development programme)</li> <li>2. &lt;F&gt;Crude birth rate, mortality rate (Lechman 2014)</li> </ol>	<ol style="list-style-type: none"> <li>1. Measurement at community/region/country level</li> <li>2. Measured at country level, composite measure (World Development Indicators Database)</li> </ol>
Bodily health (to have/enjoy good health, adequate nourishment, and shelter)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Perceived health level (Batana 2013; Wagle 2009, 2014; Yu 2013), &lt;F&gt;health conditions in general (Chiappero-Martinetti 2000; Trani and Bakhshi 2008)</li> <li>2. &lt;C/F&gt;Access to health facilities and doctors (Baliamoune-Lutz and McGillivray 2006; Brandolini and D'Alessio 1998; Chiappero-Martinetti 2000; Dubois and Trani 2009; Klasen 2000; Lelli 2001; Trani et al. 2011, 2013)</li> <li>3. &lt;C/F&gt;Access to water and sanitation toilets (Battiston et al. 2013; Lechman 2014; Qizilbash and Clark 2005; Santos 2013)</li> <li>4. &lt;C&gt;Adequate nutrition, &lt;F&gt;frequency of eating meat/fish (Anand et al. 2005); &lt;F&gt;BMI (Batana 2013; Yu 2013)</li> <li>5. &lt;F&gt;% of stunted children in household (Klasen 2000)</li> <li>6. &lt;C/F&gt;Health insurance coverage (Sophie Mitra et al. 2013)</li> <li>7. &lt;C/F&gt;Access to electricity (Santos 2013)</li> <li>8. &lt;F&gt;Fertility rate (Lechman 2014)</li> <li>9. &lt;C/F&gt;Main sources of energy for cooking (Klasen 2000)</li> <li>10. &lt;F&gt;Daily functioning, remembering things and learning new things (Trani and Bakhshi 2008)</li> <li>11. &lt;C/F&gt;Adequate housing, shelter (Anand et al. 2005; Battiston et al. 2013; Klasen 2000)</li> </ol>	<ol style="list-style-type: none"> <li>1. The demographic and health surveys (DHS) (Batana 2013); U.S. General Social Survey (GSS) (Wagle 2009, 2014); The China Health and Nutrition Survey (CHNS) (Yu 2013); The National disability survey in Afghanistan (NDSA) (Trani and Bakhshi 2008); ISTAT survey (Chiappero-Martinetti 2000)</li> <li>2. HDI (Baliamoune-Lutz and McGillivray 2006); Bank of Italy's SHIW survey (Brandolini and D'Alessio 1998); A survey conducted in 1994 by the Italian central statistical office (ISTAT) (Chiappero-Martinetti 2000); the NDSA (Dubois and Trani 2009; Trani et al. 2011, 2013); SALDRU household survey (Klasen 2000); The panel study of Belgian households (PSBH) (Lelli 2001)</li> <li>3. SEDLAC (Battiston et al. 2013); World Development Indicators Database (country level) (Lechman 2014); SALDRU (Klasen 2000; Qizilbash and Clark 2005); Bhutan living standard survey (BLSS) (Santos 2013)</li> <li>4. The British household panel survey (BHPS) (Anand et al. 2005); DHS (Batana 2013); CHNS (Yu 2013)</li> <li>5. SALDRU (Klasen 2000)</li> <li>6. The U.S. medical expenditure panel survey (MEPS) (Sophie Mitra et al. 2013)</li> <li>7. BLSS (Santos 2013)</li> <li>8. World Development Indicators Database (Lechman 2014)</li> <li>9. SALDRU (Klasen 2000)</li> <li>10. NDSA (Trani and Bakhshi 2008)</li> <li>11. BHPS (Anand et al. 2005); The socioeconomic database for Latin America and the Caribbean (SEDLAC; country level) (Battiston et al. 2013); SALDRU household survey (Klasen 2000)</li> </ol>
Bodily integrity (freedom of movement, autonomy over one's own body, freedom from assault/abuse)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Perception of safety (Klasen 2000)</li> <li>2. &lt;F&gt;Crime in the neighborhood (Anand et al. 2005)</li> <li>3. &lt;F&gt;Mistreatment (Trani et al. 2011)</li> <li>4. &lt;F&gt;Disability, physical difficulty (Trani and Bakhshi 2008)</li> <li>5. &lt;F&gt;National security (Mitra 2013)</li> </ol>	<ol style="list-style-type: none"> <li>1. SALDRU (Klasen 2000)</li> <li>2. BHPS (Anand et al. 2005)</li> <li>3. NDSA (Trani et al. 2011)</li> <li>4. NDSA (Trani and Bakhshi 2008)</li> <li>5. Country-level governance indicators, data from Mo Ibrahim Index of African Governance (IAG) (Mitra 2013)</li> </ol>

**Table 1** continued

Capabilities (definitions from Nussbaum 2001)	Proxy measurement	Notes on data/dataset
Senses, imagination, and thought (reasoning and thought based on education, freedom of expression and speech, cultural life)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Educational attainment level by degree or years attended (Anand et al. 2005; Klasen 2000; Sophie Mitra et al. 2013; Wagle 2009, 2014)</li> <li>2. &lt;F&gt;Knowledge/education level (Anand et al. 2005)</li> <li>3. &lt;F&gt;Schooling rate (Batana 2013; Dubois and Trani 2009)</li> <li>4. &lt;F/C&gt;Access to information, technology (Bali moune-Lutz 2004; Roche 2013)</li> <li>5. &lt;F&gt;Frequency of attending cultural venues (Lelli 2001)</li> <li>6. &lt;C&gt;ICT environment and freedom to communicate (Bali moune-Lutz 2004)</li> </ol>	<ol style="list-style-type: none"> <li>1. BHPS (Anand et al. 2005); SALDRU (Klasen 2000); MEPS (Sophie Mitra et al. 2013); GSS (Wagle 2009, 2014)</li> <li>2. BHPS (Anand et al. 2005); HDI</li> <li>3. DHS (Batana 2013); NDSA (Dubois and Trani 2009)</li> <li>4. Comparison with HDI, country level (Bali moune-Lutz 2004); Bangladesh demographic health survey (BDHS) (Roche 2013)</li> <li>5. PSBH (Lelli 2001)</li> <li>6. International telecommunication indicators from international telecommunication union (Bali moune-Lutz 2004)</li> </ol>
Emotions (social interaction, emotional development without fear/traumatic events)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Mental well-being or psychological well-being (Chiappero-Martinetti 2000; Lelli 2001; Trani and Bakhshi 2008)</li> <li>2. &lt;F&gt;Frequency of interaction with other individuals/friends, number of friends, frequency of social activities (Brandolini and D'Alessio 1998; Chiappero-Martinetti 2000; Lelli 2001; Wagle 2014); &lt;F&gt;love/care (Trani et al. 2011); &lt;F&gt;freedom from early marriage/engagement (Trani et al. 2013)</li> <li>3. &lt;C/F&gt;Ability to focus/concentrate, freedom from stress, lack of sleep (Anand et al. 2005)</li> </ol>	<p>The ISTAT survey (Chiappero-Martinetti 2000); PSBH (Lelli 2001); NDSA (Trani and Bakhshi 2008)</p> <ol style="list-style-type: none"> <li>2. SHIW (Brandolini and D'Alessio 1998); the ISTAT survey (Chiappero-Martinetti 2000); PSBH (Lelli 2001); NDSA (Trani et al. 2011; 2013); GSS (Wagle 2014)</li> <li>3. BHPS (Anand et al. 2005)</li> </ol>
Practical reason (being able to form a conception of the good and to engage in critical reflection about the planning of one's life)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Perceived well-being and decision-making power (Anand et al. 2005)</li> <li>2. &lt;C/F&gt;Empowerment/having a say in family matters (Batana 2013)</li> </ol>	<ol style="list-style-type: none"> <li>1. BHPS (Anand et al. 2005)</li> <li>2. DHS (Batana 2013)</li> </ol>
Affiliation (concern for others, freedom of assembly and from any form of discrimination)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Memberships in sociocultural organizations (Wagle 2014)</li> <li>2. &lt;F&gt;Self-respect, confidence (Anand et al. 2005)</li> </ol>	<ol style="list-style-type: none"> <li>1. GSS (Wagle 2014)</li> <li>2. BHPS (Anand et al. 2005)</li> </ol>
Other species (being able to live with concern for and in relation to animals, plants, and the world of nature)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;CO<sub>2</sub> emissions (Bérenger and Verdier-Chouchane 2007)</li> </ol>	<ol style="list-style-type: none"> <li>1. Country-level data compiled from UNDP HDI reports and World Development Indicators (Bérenger and Verdier-Chouchane 2007)</li> </ol>
Play (being able to laugh, to play, to enjoy recreational activities)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Satisfaction with leisure time (Chiappero-Martinetti 2000)</li> </ol>	<ol style="list-style-type: none"> <li>1. The ISTAT survey (Chiappero-Martinetti 2000)</li> </ol>
Control over one's environment (political participation, freedom of speech, employment and political rights)	<ol style="list-style-type: none"> <li>1. &lt;C/F&gt;Political liberties and civil rights (Bali moune-Lutz 2004)</li> <li>2. &lt;F/C&gt;Human rights (Mitra 2013); &lt;F&gt;political activism (Wagle 2014)</li> <li>3. &lt;F&gt;Electoral participation, fair elections (Anand et al. 2005; Mitra 2013; Wagle 2014)</li> <li>4. &lt;F&gt;Transparency and corruption (Mitra 2013)</li> </ol>	<ol style="list-style-type: none"> <li>1. Country-level data from freedom house (Bali moune-Lutz 2004)</li> <li>2. Country-level data, physical integrity rights index of CIRI Human Rights Dataset (Mitra 2013); GSS (Wagle 2014)</li> <li>3. BHPS (Anand et al. 2005); IAG (Mitra 2013); GSS (Wagle 2014)</li> <li>4. CPI index (Mitra 2013)</li> </ol>
A: political		

**Table 1** continued

Capabilities (definitions from Nussbaum 2001)	Proxy measurement	Notes on data/dataset
B: material	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Employment status (Dubois and Trani 2009; Trani et al. 2011)</li> <li>2. &lt;F&gt;Occupational prestige and types of income (Brandolini and D'Alessio 1998; Sarkodie et al. 2014; Wagle 2014)</li> <li>3. &lt;F&gt;Working conditions (Lelli 2001)</li> <li>4. &lt;F&gt;Income, family income, economic success (Balioune-Lutz and McGillivray 2006; Battiston et al. 2013; Brandolini and D'Alessio 1998; Klasen 2000; Sophie Mitra et al. 2013; Wagle 2014; Yu 2013)</li> <li>5. &lt;F/C&gt;Level of material wealth, owning assets/vehicle (Bérenger and Verdier-Chouchane 2007; Dubois and Trani 2009; Klasen 2000; Sophie Mitra et al. 2013; Trani et al. 2011)</li> <li>6. &lt;F&gt;GDP, inflation, business environment (Shabana Mitra 2013)</li> <li>7. &lt;C/F&gt;Access to roads and land ownership (Santos 2013)</li> </ol>	<p>NDSA (Dubois and Trani 2009; Trani et al. 2011)</p> <p>4. SHIW (Brandolini and D'Alessio 1998); Ghana living standard survey (GLSS) (Sarkodie et al. 2014); GSS (Wagle 2014)</p> <p>5. PSBH (Lelli 2001)</p> <p>6. HDI (Balioune-Lutz and McGillivray 2006); SEDLAC (Battiston et al. 2013); SHIW (Brandolini and D'Alessio 1998); MEPS (Sophie Mitra et al. 2013); GSS (Wagle 2014); CHNS (Yu 2013)</p> <p>7. HDI (Bérenger and Verdier-Chouchane 2007); NDSA (Dubois and Trani 2009; Trani et al. 2011); MEPS (Sophie Mitra et al. 2013)</p> <p>8. IAG (Shabana Mitra 2013) BLSS (rural areas only) (Santos 2013)</p>

Sophie Mitra et al. (2013) incorporate both secondary and primary data

### Bodily Health

The bodily health capability is closely related to life capability, but it involves people's enjoyment of good health, nourishment, and shelter (Nussbaum 2001). The measurement of this capability using secondary data includes perceived health level (e.g., Batana 2013; Yu 2013), access to health facilities and doctors (e.g., Chiappero-Martinetti 2000; Dubois and Trani 2009; Lelli 2001; Trani et al. 2013), access to water and sanitation (e.g., Lechman 2014; Qizilbash and Clark 2005), housing conditions (e.g., Battiston et al. 2013), and nutrition (Anand et al. 2005). When collecting data on this capability, researchers asked about health concerns (Anand et al. 2009), adequate accommodations (e.g., Anich et al. 2011), and nutrition or food intake (Anand et al. 2005). Although these measurements can be used at the macro-level, they are more often used to show individual- and community-level well-being and short-term changes related to health, gender, education, and community empowerment programs.

### Bodily Integrity

The bodily integrity capability is related to freedom of movement, autonomy over one's own body, and the premise that one's body should be free from assault and abuse (Nussbaum 2001). The secondary data for measuring bodily capability pertain to crime or assault (Anand et al.

2005), safety perceptions (Klasen 2000), and national security (Shabana Mitra 2013). The primary data are collected on assaults and violence (e.g., Clark and Qizilbash 2008), personal safety (Biggeri et al. 2006; Clark and Qizilbash 2008), and reproductive choice (Anand et al. 2009; Biggeri et al. 2006). A lack of bodily integrity is often discussed in the context of child abuse and gender inequality (Biggeri et al. 2006; Robeyns 2006). Accordingly, the measurements using primary data seem to effectively capture the conditions of socially disadvantaged groups and examine the root causes of the lack of this capability, which may not be visible from general statistics.

### Senses, Imagination, and Thought

The capability of senses, imagination, and thought is related to reasoning and knowledge in the context of education (literacy and math) along with freedom of expression, speech, and cultural life (Nussbaum 2001). Educational attainment level (degree) or the number of years that an individual attended school is often used to operationalize this capability at the micro-level, citing either secondary or primary data (e.g., Anand et al. 2009; Qizilbash and Clark 2005; Wagle 2009). At the macro-level, secondary data such as literacy rate and schooling rate are used (UN Development Programme 1990, 1995). Other notable measurements include intellectual stimulation (Anand and van Hees 2006), access to information and news (Grunfeld et al. 2011; Van Ootegem and Verhofstadt



**Table 2** Primary data collection: questions and scales

Capabilities (definitions from Nussbaum 2001)	Dimensions/variables	Examples of questions/scales
Life (to live a normal length of life)	<ol style="list-style-type: none"> <li>&lt;F&gt;Life expectancy (Anand et al. 2009; Biggeri et al. 2006)</li> <li>&lt;F&gt;Survival (Clark and Qizilbash 2008)</li> </ol>	<ol style="list-style-type: none"> <li>'...until what age do you expect to live?' (Anand et al. 2009)</li> <li>'If a person were just getting by/living well, to what age would you expect him or her to live?' (Anand et al. 2009)</li> </ol>
Bodily health (to have/enjoy good health, adequate nourishment, and shelter)	<ol style="list-style-type: none"> <li>&lt;F/C&gt;Health concerns, general health conditions (Anand et al. 2009; Anand and van Hees 2006; Azevedo and Robles 2013; Biggeri et al. 2006; Clark and Qizilbash 2008; Qizilbash and Clark 2005; Schischka et al. 2008; Van Ootegem and Verhofstadt 2012)</li> <li>&lt;C/F&gt;Access to health care (Clark and Qizilbash 2008; Qizilbash and Clark 2005)</li> <li>&lt;C/F&gt;Information on health (Grunfeld et al. 2011)</li> <li>&lt;C&gt;Reproductive health (Anand et al. 2009)</li> <li>&lt;F&gt;Clean water, water connection at house (Azevedo and Robles 2013; Clark and Qizilbash 2008; Grunfeld et al. 2011; Qizilbash and Clark 2005)</li> <li>&lt;F&gt;Health insurance coverage (Azevedo and Robles 2013)</li> <li>&lt;F&gt;Access to toilet, sewer (Azevedo and Robles 2013; Clark and Qizilbash 2008; Qizilbash and Clark 2005)</li> <li>&lt;C/F&gt;Nourishment, eating healthy food (Anand et al. 2009; Clark and Qizilbash 2008; Van Ootegem and Verhofstadt 2012)</li> <li>&lt;C/F&gt;House/shelter, home ownership, quality of house (Anand et al. 2009; Azevedo and Robles 2013; Clark and Qizilbash 2008; Qizilbash and Clark 2005; Schischka et al. 2008)</li> </ol>	<ol style="list-style-type: none"> <li>'Does your health...limit your daily activities...?' (Anand et al. 2009)</li> <li>Distance to doctor (Clark and Qizilbash 2008)</li> <li>Mosquito net use, boiling water, pre-natal care (Grunfeld et al. 2011)</li> <li>'Are you able to have children?' (Anand et al. 2009)</li> <li>'Do you eat meat, chicken or fish at least twice a week?' (Anand et al. 2009)</li> <li>'Is your current accommodation adequate...?' 'Are you prevented from moving home for any reason?' (Anand et al. 2009)</li> </ol>
Bodily integrity (freedom of movement, autonomy over one's own body, free of assault/abuse)	<ol style="list-style-type: none"> <li>&lt;C&gt;Mobility (Biggeri et al. 2006)</li> <li>&lt;C/F&gt;Personal safety (Biggeri et al. 2006; Clark and Qizilbash 2008)</li> <li>&lt;C&gt;Freedom from assault/violence, including sexual assaults (Anand et al. 2009; Biggeri et al. 2006)</li> <li>&lt;C&gt;Opportunities for sexual satisfaction, reproductive choice (Anand et al. 2009; Biggeri et al. 2006)</li> <li>&lt;C/F&gt;Home security (Clark and Qizilbash 2008)</li> <li>&lt;C&gt;Information on security (Grunfeld et al. 2011)</li> </ol>	<ol style="list-style-type: none"> <li>Mobility (Biggeri et al. 2006) 'Please indicate how safe you feel walking alone in the area near your home... (7: very safe—1: not at all safe)' (Anand et al. 2009)</li> <li>'Have you ever been the victim of...violent assault/sexual assault/domestic violence....?' 'How likely...you will be a victim of...violent assault...? (7: very likely—1: extremely unlikely) 'Please indicate how vulnerable you feel to....' (Anand et al. 2009)</li> <li>'Do you have sufficient opportunities to satisfy your sexual needs?' '....are you prohibited from using any of the following...contraception, abortion,....' (Anand et al. 2009)</li> </ol>

**Table 2** continued

Capabilities (definitions from Nussbaum 2001)	Dimensions/variables	Examples of questions/scales
Senses, imagination, and thought (reasoning and thought based on education, freedom of expression and speech, cultural life)	<ol style="list-style-type: none"> <li>1. &lt;F&gt;Education, literacy, skills (Anand et al. 2009; Azevedo and Robles 2013; Biggeri et al. 2006; Clark and Qizilbash 2008; Qizilbash and Clark 2005)</li> <li>2. &lt;C&gt;Imagination, intellectual stimulation, (Anand et al. 2009; Anand and van Hees 2006)</li> <li>3. &lt;C&gt;Political expression (Anand et al. 2009)</li> <li>4. &lt;C/F&gt;Exercise of religion, religion and identity (Anand et al. 2009; Biggeri et al. 2006; Clark and Qizilbash 2008)</li> <li>5. &lt;F/C&gt;Enjoyment of activities (Anand et al. 2009)</li> <li>6. &lt;C&gt;Current with news, information (Biggeri et al. 2006; Grunfeld et al. 2011; Van Ootegem and Verhofstadt 2012)</li> </ol>	<ol style="list-style-type: none"> <li>3. Educational attainment level (Anand et al. 2009; Azevedo and Robles 2013; Qizilbash and Clark 2005), # of schooling years (Qizilbash and Clark 2005); literacy (Clark and Qizilbash 2008), math literacy (Clark and Qizilbash 2008; Grunfeld et al. 2011), practical skills, training (Clark and Qizilbash 2008; Schischka et al. 2008; Van Ootegem and Verhofstadt 2012)</li> <li>4. ‘How often do you use your imagination and/or reasoning in your day...?’ (7: All the time—1: Never)’ (Anand et al. 2009)</li> <li>5. ‘I am free to express my political views (7: Agree strongly—1: Disagree strongly)’ (Anand et al. 2009)</li> <li>6. ‘I am free to practice my religion (7: Agree strongly—1: Disagree strongly)’ (Anand et al. 2009)</li> <li>7. ‘Have you recently been able to enjoy your normal...activities?’ (4: more so than usual—1: much less than usual)’ (Anand et al. 2009)</li> </ol>
Emotions (social interaction, emotional development without fear/traumatic events)	<ol style="list-style-type: none"> <li>1. &lt;C/F&gt;Making friends, social relations (Anand et al. 2009; Clark and Qizilbash 2008; Schischka et al. 2008; Van Ootegem and Verhofstadt 2012)</li> <li>2. &lt;F/C&gt;Family, love and care (Anand et al. 2009), support from family (Clark and Qizilbash 2008)</li> <li>3. &lt;C/F&gt;Expressing feelings, loss of sleep, stress/strain (Anand et al. 2009)</li> </ol>	<ol style="list-style-type: none"> <li>1. ‘How difficult do you find it to make friendships that last with people outside work? (1: very difficult—7: extremely easy) (Anand et al. 2009)</li> <li>2. ‘... enjoy the love, care, and support of your family/to express feelings...?’ (1: extremely difficult—7: extremely easy)’ (Anand et al. 2009)</li> <li>3. ‘Have you recently lost much sleep over worry/felt constantly under strain?’ (Anand et al. 2009)</li> </ol>
Practical reason (being able to form a conception of the good and to engage in critical reflection about the planning of one’s life)	<ol style="list-style-type: none"> <li>1. &lt;F/C&gt;Concept of good life, plans/evaluates life (Anand et al. 2009)</li> <li>2. &lt;C&gt;Life achievement, achieving dreams and goals (Anand and van Hees 2006; Van Ootegem and Verhofstadt 2012)</li> <li>3. &lt;F&gt;Happiness, life satisfaction/happy life, perceived/mental well-being (Anand and van Hees 2006; Biggeri et al. 2006; Clark and Qizilbash 2008; Qizilbash and Clark 2005; Van Ootegem and Verhofstadt 2012)</li> <li>4. &lt;F&gt;Individual decision making (Clark and Qizilbash 2008), &lt;F&gt;informed decision making (Grunfeld et al. 2011)</li> </ol>	<ol style="list-style-type: none"> <li>1. ‘My idea of a good life is based on my own judgement. I have a clear plan of how I would like my life to be (7: agree strongly—1: disagree strongly)’ ‘How often...do you evaluate how you lead your life...?’ (7: all the time—1: never)’ ‘Outside work, have you recently felt that you were playing a useful part in things? (4: more so than usual—1: much less than usual)’</li> <li>2. I feel the scope to achieve things in my life is (1: very good – 7: very inadequate) (Anand and van Hees 2006)</li> </ol>

**Table 2** continued

Capabilities (definitions from Nussbaum 2001)	Dimensions/variables	Examples of questions/scales
Affiliation (concern for others, the freedom of assembly and from any form of discrimination)	<ol style="list-style-type: none"> <li>&lt;C&gt;Respect for others (Anand et al. 2009; Clark and Qizilbash 2008)</li> <li>&lt;C&gt;Engaging in social interaction (Anand et al. 2009; Anand and van Hees 2006; Schischka et al. 2008); &lt;C&gt;IT for communication with family members (Grunfeld et al. 2011)</li> <li>&lt;F&gt;Feeling worthless (Anand et al. 2009); &lt;F&gt;self-worth, confidence (Clark and Qizilbash 2008; Schischka et al. 2008); &lt;F&gt;respect from others (Biggeri et al. 2006; Clark and Qizilbash 2008); &lt;F&gt;empowerment (Grunfeld et al. 2011)</li> <li>&lt;F&gt;Action based on personal belief (Van Ootegem and Verhofstadt 2012); &lt;F&gt;personal integrity (Anand and van Hees 2006)</li> <li>&lt;C/F&gt;Discrimination (past, future) (Anand et al. 2009)</li> <li>&lt;C/F&gt;Community participation (Clark and Qizilbash 2008; Schischka et al. 2008)</li> </ol>	<ol style="list-style-type: none"> <li>‘Do you find it easy or difficult to imagine the situation of other people? (7: extremely easy—1: extremely difficult) (Anand et al. 2009)</li> <li>‘Do you normally meet up with friends or family for a drink/meal at least once a month?’ (Anand et al. 2009); I feel the scope to form satisfying social relations in my life is (1: very good – 7 very inadequate) (Anand and van Hees 2006)</li> <li>‘Have you recently been thinking of yourself as a worthless person? (4: no more than usual—1: much more than usual)’</li> <li>‘How are the possibilities for you to act according to your personal opinion...?’ (Van Ootegem and Verhofstadt 2012)</li> <li>‘Outside of work....situation, have you ever experienced discrimination because of your race, sexual orientation, gender, religion, age?’ (Anand et al. 2009)</li> </ol>
Other species (being able to live with concern for and in relation to animals, plants, and the world of nature)	<ol style="list-style-type: none"> <li>&lt;F/C&gt;Concern for other species (Anand et al. 2009)</li> <li>&lt;F&gt;Information on sustainable farming practices (Grunfeld et al. 2011)</li> </ol>	<ol style="list-style-type: none"> <li>‘I appreciate...plants, animals... (7: Agree strongly—1: disagree strongly)’</li> <li>Information on home composting, how to grow mushrooms</li> </ol>
Play (being able to laugh, to play, to enjoy recreational activities)	<ol style="list-style-type: none"> <li>&lt;F&gt;Recreation, leisure activities (Anand et al. 2009; Biggeri et al. 2006; Clark and Qizilbash 2008)</li> <li>&lt;F&gt;Hours of leisure per day (Clark and Qizilbash 2008)</li> <li>&lt;C/F&gt;Access to sports facilities, do sports (Clark and Qizilbash 2008; Van Ootegem and Verhofstadt 2012)</li> <li>&lt;C/F&gt;Access to radio, TV, cinema (Clark and Qizilbash 2008)</li> </ol>	<ol style="list-style-type: none"> <li>‘Have you recently been enjoying your recreational activities? (4: more than usual—1: much less than usual)’ (Anand et al. 2009); Singing and dancing, karaoke, disco (Clark and Qizilbash 2008)</li> <li>No sports facilities, playing field, local park, community center (Clark and Qizilbash 2008)</li> </ol>
Control over one’s environment (political participation, freedom of speech) A: political	<ol style="list-style-type: none"> <li>&lt;C&gt;Political participation, participation in public and social life (Anand et al. 2009; Biggeri et al. 2006)</li> <li>&lt;F&gt;Political and civil rights, economic and social rights (Clark and Qizilbash 2008)</li> </ol>	<ol style="list-style-type: none"> <li>‘I am able to participate in the political activities... (7: agree strongly—1: disagree strongly)’ (Anand et al. 2009)</li> </ol>

**Table 2** continued

Capabilities (definitions from Nussbaum 2001)	Dimensions/variables	Examples of questions/scales
B: Material (employment without discrimination, rights to hold property)	<ol style="list-style-type: none"> <li>1. &lt;C/F&gt;Employment, job type, employment opportunities (Clark and Qizilbash 2008; Grunfeld et al. 2011; Qizilbash and Clark 2005)</li> <li>2. &lt;C&gt;Freedom from economic and non-economic exploitation, economic independence (Biggeri et al. 2006; Clark and Qizilbash 2008)</li> <li>3. &lt;F&gt;Home/land ownership (Anand et al. 2009; Clark and Qizilbash 2008)</li> <li>4. &lt;C/F&gt;Work-related opportunities, discrimination, skill utilization, work relationships (Anand et al. 2009)</li> <li>5. &lt;C&gt;Freedom from seizure/search (Anand et al. 2009)</li> <li>6. &lt;C/F&gt;Income, ability to earn income, cost saving (Clark and Qizilbash 2008; Grunfeld et al. 2011; Schischka et al. 2008)</li> <li>7. &lt;F&gt;Owning assets (washing machine, car, clothing, livestock ...) (Azevedo and Robles 2013; Clark and Qizilbash 2008)</li> <li>8. &lt;F/C&gt;Debt, access to credit (Clark and Qizilbash 2008)</li> <li>9. &lt;C/F&gt;Access to infrastructure (roads, electricity, ICT, ...) (Clark and Qizilbash 2008; Grunfeld et al. 2011)</li> <li>10. &lt;C&gt;Ability to manage community funds; financial services (El-Harizi and Klemick 2007)</li> <li>11. &lt;F&gt;Living in pleasant environment (Van Ootegem and Verhofstadt 2012)</li> </ol>	<ol style="list-style-type: none"> <li>1. '1: no chance of finding work—4: good chance of finding work' (Clark and Qizilbash 2008)</li> <li>2. '1: complete independence from others—4: no independence from others' (Clark and Qizilbash 2008)</li> <li>3. 'For which...reasons, ...have you not bought your home?' (Anand et al. 2009)</li> <li>4. 'To what extent does your work make use of your skills ... (7: all the time—1: never)' 'do you ...find it easy or difficult to relate to your colleagues at work? (7: very easy—1: extremely difficult)' (Anand et al. 2009)</li> <li>5. 'How likely...you will be stopped and searched by the police... (7: extremely likely—1: extremely unlikely)' (Anand et al. 2009)</li> </ol>

The numbers in the middle and right columns correspond

Anand et al. (2009) collected primary data, but the questions were the same as the BHPS

Sophie Mitra et al. (2013) incorporated both secondary and primary data

El-Harizi and Klemick (2007) measured capacity at the community level, which includes organizing themselves and solving problems

2012), and freedom of speech and religion (e.g., Anand et al. 2009; Biggeri et al. 2006). The lack of this capability often results from a lack of basic education or access to education in the context of economic development and gender inequality. Measurements such as educational attainment or literacy rate may not be new for education programs, but by situating these measurements as a proxy of capabilities, the same data point to the conditions and institutional arrangements for achieving complex functionings related to senses, thought, and imagination.

### Emotions

Emotional capability is associated with social interaction and emotional development without fear or traumatic

events (Nussbaum 2001). The operationalization of this capability often relies on social activities such as interactions with friends (e.g., Brandolini and D'Alessio 1998; Schischka et al. 2008) and the ability to focus or concentrate (Anand et al. 2009). These measurements may not be common in the social sector, but they seem to capture a significant portion of improved well-being at the individual level (Watts and Ridley 2007).

### Practical Reason

Nussbaum defines the capability of practical reason as 'being able to form a conception of the good and to engage in critical reflection about the planning of one's life' (79: Nussbaum 2001). Measurement includes having a

conception of a good life (Anand et al. 2009) and the ability to achieve positive outcomes in one's lifetime (Anand and van Hees 2006). This capability may also be closely related to perceived well-being and decision-making power (UN Development Programme 1995), and it is operationalized as such using both primary (e.g., Anand and van Hees 2006; Chiappero-Martinetti 2000; Trani and Bakhshi 2008; Van Ootegem and Verhofstadt 2012) and secondary data (Anand et al. 2005). The deprivation of this capability may occur on both the macro- and micro-levels. Challenging social contexts, such as conditions of unrest or discrimination, may discourage people from planning their lives, whereas a lack of education and information may deprive people of the ability to critically conceive of and plan their future. This capability is measured for child education, vocational training, and community empowerment programs.

### Affiliation

The affiliation capability is related to the freedom of assembly and freedom from any form of discrimination (Nussbaum 2001). Scholars have operationalized this capability in terms of membership in sociocultural organizations (Wagle 2014) and self-respect (Anand et al. 2005). The primary data cover a range of issues such as respect for and from others (e.g., Anand et al. 2009; Clark and Qizilbash 2008), personal belief and integrity (e.g., Anand and van Hees 2006), discrimination (Anand et al. 2009), and community participation (e.g., Qizilbash and Clark 2005). This capability is measured not only to analyze social and cultural factors that promote or hinder programs but also to show the increased individual well-being that results from community participation and education/training programs.

### Other Species

Nussbaum defines the other species capability as 'being able to live with concern for and in relation to animals, plants, and the world of nature' (80: Nussbaum 2001). It is the most controversial capability on the list (Nussbaum 2001). The other species capability has been measured using indicators such as concern for other species (Anand et al. 2009) and information about sustainable farming (Grunfeld et al. 2011). At the country level, Bérenger and Verdier-Chouchane (2007) used CO<sub>2</sub> emissions as a proxy measure. The protection of this capability is related to ecology and the protection of endangered species.

### Play

Nussbaum defines the capability of play as 'being able to laugh, to play, to enjoy recreational activities' (80: Nussbaum 2001). The operationalization of this capability relies on leisure activities or time (e.g., Anand et al. 2009; Biggeri et al. 2006; Chiappero-Martinetti 2000) and access to sports facilities (e.g., Van Ootegem and Verhofstadt 2012). Its measurements are observed in education, health, and community empowerment programs as both benchmarks for and results of improved well-being.

### Control over One's Environment (Political and Material)

The capability of control over one's environment is divided into two aspects. The political aspect is related to political participation and rights, and the material aspect is related to employment without discrimination and to material wealth and property ownership (Nussbaum 2001). Political capability has been measured in terms of political freedom and participation (e.g., Baliaoune-Lutz 2004), fair elections (e.g., Wagle 2014), and other rights (e.g., Clark and Qizilbash 2008). These measurements are taken at the macro-level and show the political climate and conditions of various countries.

The employment dimension includes employment status (e.g., Dubois and Trani 2009), job prestige (e.g., Brandolini and D'Alessio 1998), and work-related opportunities (e.g., Anand et al. 2009). These measurements are often used not only to evaluate vocational training programs but also to show individuals' general well-being status. Material wealth and property ownership have been measured as income or wealth (e.g., Battiston et al. 2013; Klasen 2000), home and land ownership (e.g., Clark and Qizilbash 2008; Santos 2013), and the ownership of other assets, such as vehicles (e.g., Azevedo and Robles 2013; Trani et al. 2011). Although these measurements may already be common, listing the ownership of assets instead of household income data seems to help identify the less privileged groups in a community.

### Discussion and Conclusion

This study provides practical guidance on what capabilities measures look like for measuring social value. We have brought together measures from the multi-disciplinary, applied literature on the capabilities approach. Through the literature review, we identify various scales, proxy data, and questions to measure capabilities that can be used by managers and evaluators in the social sector either to assess the impacts of a program or to supplement existing tools

that may lack information on the target beneficiaries. We do not offer a step-by-step guide to using the capabilities approach to evaluate a program/project. Interested readers are referred to examples such as Gigler (2006) and Ridley and Watts (2014).

The advantages of the capabilities approach, including incorporating the beneficiary's perspective, broadening the scale of inquiry to include the social context, and utilizing a broad and holistic view of the beneficiary's life, are important dimensions that can improve the measurement of social value. Currently, most social value assessment tools are heavily focused on converting non-monetary values into monetary values, including intangible effects and long-term effects into a current monetary value. Managers and evaluators are required to engage in a great deal of estimate work based on the most available data, yet converting complex longitudinal values into a single value may not be without cost. This challenge may have been a cause of frustration for all the stakeholders in the social sector, such that true social values are not captured with current assessment tools, and there must be a better way to assess and convey what a project can and has achieved in a more holistic way.

The capabilities approach essentially offers a set of principles to underpin measurement. The emphasis that the capabilities approach places on individuals' freedom to choose the outcomes that they desire and that are expressions of their values (rather than solely those that are desired by program administrators) provides a substantial basis for assessing social impact from a holistic perspective of well-being while acknowledging institutional changes and constraints. The capabilities approach also has the potential to address the desire among both scholars and practitioners for an impact measurement that approaches the "real" impact because it allows for the complexity of interventions to be captured by acknowledging the different levels and types of resources that individuals may possess and the different values that may be used to express these resources.

The purpose of this study is to introduce the capabilities approach to the social sector field and to show through a literature review what the approach may look like when it is applied to social value measurement. We sincerely hope that the collection of the scales, questions, and literature can help managers and evaluators incorporate some of the measurements into assessments and evaluations.

Yet as we mentioned, the capabilities approach is not a panacea, and capabilities approach scholars have been actively refining its theory and operationalization. Measuring capabilities instead of achieved functionings is difficult, especially when only secondary data are available. Which capabilities/functionings should be measured or are more important is still debated, and managers and

evaluators should be aware of each society's context. A lack of capabilities may have clustering effects as well as cumulative effects. Some capabilities may be a precondition for another capabilities/functionings and thus may significantly influence a person's well-being. Managers and evaluators should be aware of these limitations, especially when they design assessments or evaluations. However, these limitations should not be considered deterrents for incorporating the approach into social value measurement, and we hope managers and evaluators see the benefits of the capabilities approach as a social value assessment tool, even considering these limitations.

We also hope that the lists of literature and databases are helpful for scholars to collect and analyze social sector programs using the capabilities approach. The limitation of this study's literature search is that we could only search academic literature databases. We knew that there were many organizations that had applied the capabilities approach to assessments or evaluations, yet collecting organizational reports in a systematic way as well as analyzing them would have changed the scope of this study. If we accumulate enough experience in applying the capabilities approach to evaluating projects or assessing social impacts, we would be able to contribute to the advancement of the capabilities approach itself.

In sum, the capabilities approach does not neatly resolve all the limitations of the current impact measures. Its potential is that it offers firmer principles and broader quality-of-life measures that both encourage and provide a path for the integration of social factors in impact measurement. We hope that this study helps nonprofits and social enterprises incorporate the capabilities approach into program evaluations and in turn helps nonprofits and social enterprises show their real social impacts.

#### Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no conflict of interest.

#### References

- Alkire, S. (2007). Choosing dimensions: The capability approach and multidimensional poverty. Chronic Poverty Research Centre Working Paper No. 88.
- Alkire, S., & Santos, M. E. (2013). A multidimensional approach: Poverty measurement & beyond. *Social Indicators Research*, 112(2), 239–257.
- Anand, P., Hunter, G., Carter, I., Dowding, K., Guala, F., & Van Hees, M. (2009). The development of capability indicators. *Journal of Human Development and Capabilities*, 10(1), 125–152.
- Anand, P., Hunter, G., & Smith, R. (2005). Capabilities and well-being: Evidence based on the Sen-Nussbaum approach to welfare. *Social Indicators Research*, 74(1), 9–55.

- Anand, P., & van Hees, M. (2006). Capabilities and achievements: An empirical study. *The Journal of Socio-Economics*, 35(2), 268–284.
- Anich, R., Biggeri, M., Libanora, R., & Mariani, S. (2011). Street children in Kampala and NGO's actions: Understanding capabilities deprivation and expansion. In M. Biggeri, J. Ballet, & F. Comim (Eds.), *Children and the capability approach* (pp. 107–136). New York: Pulgrave Macmillan.
- Arvidson, M., & Lyon, F. (2014). Social impact measurement and non-profit organisations: Compliance, resistance, and promotion. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 25(4), 869–886.
- Azevedo, V., & Robles, M. (2013). Multidimensional targeting: Identifying beneficiaries of conditional cash transfer programs. *Social Indicators Research*, 112(2), 447–475.
- Baliamoune-Lutz, M. N. (2004). On the measurement of human well-being: Fuzzy set theory and Sen's capability approach (pp. 22 pages): World Institute for Development Economic Research (UNU-WIDER), Working Papers: UNU-WIDER Research Paper RP2004/16.
- Baliamoune-Lutz, M. N., & McGillivray, M. (2006). Fuzzy well-being achievement in Pacific Asia. *Journal of the Asia Pacific Economy*, 11(2), 168–177.
- Batana, Y. M. (2013). Multidimensional measurement of poverty among women in Sub-Saharan Africa. *Social Indicators Research*, 112(2), 337–362.
- Battiston, D., Cruces, G., Lopez-Calva, L. F., Lugo, M. A., & Santos, M. E. (2013). Income and beyond: Multidimensional poverty in six Latin American Countries. *Social Indicators Research*, 112(2), 291–314.
- Bérenger, V., & Verdier-Chouchane, A. (2007). Multidimensional measures of well-being: Standard of living and quality of life across countries. *World Development*, 35(7), 1259–1276.
- Biggeri, M., Libanora, R., Mariani, S., & Menchini, L. (2006). Children conceptualizing their capabilities: Results of a survey conducted during the First Children's World Congress on Child Labour. *Journal of Human Development*, 7(1), 59–83.
- Brandolini, A., & D'Alessio, G. (1998). *Measuring well-being in the functioning space*. In Paper Presented at the General Conference of the International Association for Research in Income and Wealth, Cracow, Poland.
- Chiappero-Martinetti, E. (2000). A multidimensional assessment of well-being based on Sen's functioning approach. *Rivista Internazionale di Scienze Sociali*, 108(2), 207–239.
- Clark, D. A. (2005). Sen's capability approach and the many spaces of human well-being. *The Journal of Development Studies*, 41(8), 1339–1368.
- Clark, D. A., & Qizilbash, M. (2008). Core poverty, vagueness and adaptation: A new methodology and some results for South Africa. *The Journal of Development Studies*, 44(4), 519–544.
- Comim, F. (2008). Measuring capabilities. In F. Comim, M. Qizilbash, & S. Alkire (Eds.), *The capability approach: Concepts, measures and applications*. New York: Cambridge University Press.
- Comim, F., Qizilbash, M., & Alkire, S. (2008). *The capability approach: Concepts, measures and applications*. New York: Cambridge University Press.
- Dubois, J.-L., & Trani, J.-F. (2009). Extending the capability paradigm to address the complexity of disability. *ALTER-European Journal of Disability Research/Revue Européenne de Recherche sur le Handicap*, 3(3), 192–218.
- El-Harizi, K., & Klemick, H. (2007). Measuring and accounting for community capabilities in Kordofan, Sudan. IFPRI Discussion Paper.
- Gigler, B.-S. (2006). Enacting and interpreting technology—from usage to well-being: Experiences of Indigenous Peoples with ICTs. In H. Rahman (Ed.), *Empowering Marginal Communities with Information Networking* (pp. 124–164). Hershey: IGI Global.
- Grunfeld, H., Hak, S., & Pin, T. (2011). Understanding benefits realisation of iREACH from a capability approach perspective. *Ethics and Information Technology*, 13(2), 151–172.
- Klasen, S. (2000). Measuring poverty and deprivation in South Africa. *Review of Income & Wealth*, 46(1), 33–58.
- Kuklys, W., & Robeyns, I. (2004). Sen's capability approach to welfare economics.
- Lechman, E. (2014). Human poverty—measuring relative deprivation from basic achievements. A comparative study for 144 world countries in the time span 1990–2010. In GUT Faculty of Management and Economics Working Paper Series A (Economics, Management, Statistics) No 11/2013 (11).
- Lecy, J., Schmitz, H., & Swedlund, H. (2012). Non-governmental and not-for-profit organizational effectiveness: A modern synthesis. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 23(2), 434–457.
- Lelli, S. (2001). Factor analysis vs. fuzzy sets theory: Assessing the influence of different techniques on Sen's functioning approach. In Center for Economic Studies Discussions Paper Series.
- Maas, K., & Liket, K. (2011). Social impact measurement: Classification of methods. In R. Burritt, S. Schaltegger, M. Bennett, T. Pohjola, & M. Csutora (Eds.), *Environmental Management Accounting and Supply Chain Management* (Vol. 27, pp. 171–202). Dordrecht: Springer.
- Maier, F., Meyer, M., & Steinbereithner, M. (2014). Nonprofit organizations becoming business-like: A systematic review. *In Nonprofit and Voluntary Sector Quarterly*, 45, 64–86.
- Mitra, S. (2013). Towards a multidimensional measure of governance. *Social Indicators Research*, 112(2), 477–496.
- Mitra, S., Jones, K., Vick, B., Brown, D., McGinn, E., & Alexander, M. (2013). Implementing a multidimensional poverty measure using mixed methods and a participatory framework. *Social Indicators Research*, 110(3), 1061–1081.
- Mulgan, G. (2010). Measuring social value. *Stanford Social Innovation Review*, 8(3), 38.
- Murtaza, N. (2012). Putting the lasts first: The case for community-focused and peer-managed NGO accountability mechanisms. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 23(1), 109–125.
- Nussbaum, M. (2001). *Women and human development: The capabilities approach*. New York: Cambridge University Press.
- Nussbaum, M., & Sen, A. (1993). Introduction. In M. Nussbaum & A. Sen (Eds.), *The quality of life*. New York: Oxford University Press, USA.
- Polonsky, M. J., & Grau, S. L. (2008). Evaluating the social value of charitable organizations: A conceptual foundation. *Journal of Macromarketing*, 28(2), 130–140.
- Qizilbash, M. (2002). Development, common foes and shared values. *Review of Political Economy*, 14(4), 463–480.
- Qizilbash, M., & Clark, D. A. (2005). The capability approach and fuzzy poverty measures: An application to the South African context. *Social Indicators Research*, 74(1), 103–139.
- Ridley, B., & Watts, M. F. (2014). Using the capability approach to evaluate the well-being of adult learners with disabilities. In L. Florian (Ed.), *The Sage Handbook of Special Education* (Second Edition ed., pp. 421–434). London: SAGE Publications Ltd.
- Robeyns, I. (2003). Sen's capability approach and gender inequality: Selecting relevant capabilities. *Feminist Economics*, 9(2–3), 61–92.
- Robeyns, I. (2005). The capability approach: A theoretical survey. *Journal of Human Development*, 6(1), 93–114.
- Robeyns, I. (2006). The capability approach in practice. *Journal of Political Philosophy*, 14(3), 351–376.

- Roche, J. M. (2013). Monitoring progress in child poverty reduction: Methodological insights and illustration to the case study of Bangladesh. *Social Indicators Research*, 112(2), 363–390.
- Santos, M. E. (2013). Tracking poverty reduction in Bhutan: Income deprivation alongside deprivation in other sources of happiness. *Social Indicators Research*, 112(2), 259–290.
- Sarkodie, A. O., Agyei-Mensah, S., Anarfi, J. K., & Bosiakoh, T. A. (2014). Education and employment outcomes in Ghana through the lens of the capability approach. *Etude de la Population Africaine*, 28(2), 797–815.
- Schischka, J., Dalziel, P., & Saunders, C. (2008). Applying Sen's capability approach to poverty alleviation programs: Two case studies. *Journal of Human Development*, 9(2), 229–246.
- Sen, A. (1992). *Inequality Reexamined*. Cambridge: Harvard University Press.
- Sen, A. (1993). Capability and well-being. In M. C. Nussbaum & A. Sen (Eds.), *The Quality of Life*. New York: Oxford University Press.
- Sen, A. (2004). Capabilities, lists, and public reason: Continuing the conversation. *Feminist Economics*, 10, 77–80.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14(3), 207–222.
- Trani, J.-F., & Bakhshi, P. (2008). Challenges for assessing disability prevalence: The case of Afghanistan. *ALTER—European Journal of Disability Research/Revue Européenne de Recherche sur le Handicap*, 2(1), 44–64.
- Trani, J.-F., Bakhshi, P., & Rolland, C. (2011). Capabilities, perception of well-being and development effort: Some evidence from Afghanistan. *Oxford Development Studies*, 39(4), 403–426.
- Trani, J.-F., Biggeri, M., & Mauro, V. (2013). The multidimensionality of child poverty: evidence from Afghanistan. *Social Indicators Research*, 112(2), 391–416.
- UN Development Programme. (1990). *Human Development Report 1990. Concept and Measurement of Human Development*. New York: Oxford University Press.
- UN Development Programme. (1995). *Human Development Report 1995. Gender and Human Development*. New York: Oxford University Press.
- Van Ootegem, L., & Verhofstadt, E. (2012). Using capabilities as an alternative indicator for well-being. *Social Indicators Research*, 106(1), 133–152.
- Wagle, U. R. (2009). Capability deprivation and income poverty in the United States, 1994 and 2004: Measurement outcomes and demographic profiles. *Social Indicators Research*, 94(3), 509–533.
- Wagle, U. R. (2014). The counting-based measurement of multidimensional poverty: The focus on economic resources, inner capabilities, and relational resources in the United States. *Social Indicators Research*, 115(1), 223–240.
- Watts, M., & Ridley, B. (2007). Evaluating musical dis/abilities: Operationalizing the capability approach. *International Journal of Research & Method in Education*, 30(2), 149–162.
- Willems, J., Boenigk, S., & Jegers, M. (2014). Seven trade-offs in measuring nonprofit performance and effectiveness. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 25(6), 1648–1670.
- Wolff, J., & De-Shalit, A. (2007). *Disadvantage*. New York: Oxford University Press.
- Yu, J. (2013). Multidimensional poverty in China: Findings based on the CHNS. *Social Indicators Research*, 112(2), 315–336.



Reproduced with permission of copyright owner. Further reproduction prohibited without permission.