

The Development of Gender-Responsive Indicators:

Towards a Participatory Approach

BY MICHÈLE AMACKER, ISABELLE SCHLAEPFER,
CHRISTINE BIGLER AND ANDREA GRAF

ABSTRACT

There is an increasing level of importance around evidence-based policy making and a growing interest in big data in the field of gender equality. Most of the research has been about the amount of data, so much less is known about the quality of data that is needed to be transformative and which indicators should be selected. Poorly selected indicators often lead to the representation of simplified social realities and tend to reproduce gender stereotypes. Thus, one of the biggest challenges in big data is the development of quantitative and qualitative gender-responsive indicators that take into account the contextual interpretation of concepts such as well-being and the social realm of beneficiaries. Given this background, the aim of this paper is to highlight the importance of the indicator development and selection process as a crucial step towards gender equality. We argue that a participatory research approach, involving the social contexts of involved stakeholders and target groups, offers a promising way to collaboratively improve indicators. This approach allows the development of indicators, which measure policy impacts from an all-inclusive gendered perspective and consider the complexity of programme implications and social conditions.

KEYWORDS

Big data, gender-responsive indicators, participatory research approach, evidence-based policy making

Big data in social science has recently become a major area of interest and enjoys a growing popularity. Improved technologies, such as high performing ‘super’ computers, allow the collection of an immense amount of information and the analysis of high volume data. Although big data exists in different forms and contexts, we focus in this article on big data in the field of gender equality in development and humanitarian projects. Within this context, we refer to big data as merged, cross-national data sets, which became a popular form within research and practise to compare the impact of policy and programme outputs and countries’ performance on gender equality. Generated mainly through interviews and surveys by applying social research methods, merged sex/gender disaggregated data gets analysed through the lenses of overarching concepts such as ‘empowerment’ or ‘gender equality’, usually in combination with aggregated indexes such as the ‘personal wellbeing index’ (International Wellbeing Group 2013) or the ‘global gender gap index’ (World Economic Forum 2016). The goal of these gender-sensitive indexes is to compare gender equality and gender mainstreaming across the globe. Exemplarily, in 2015, the Bill & Melinda Gates Foundation collaborated with the Bill, Hillary & Chelsea Clinton Foundation to publish the ‘no ceiling report’.¹ This report gathered and gauged 850,000 gender-related data points about gender development from over 190 countries spanning a 20-year period. The comparison merged data from the United Nations, the World Bank, and other research and non-profit organisations. Researchers and policy-makers ascribe great promises to this shift towards big data. Indeed, big data analysis generates ‘hard figures’ and offers, at first sight, clear evidence and comparable results, and unveils policy failures and poor outputs related to gender

mainstreaming, gender equality, and personal wellbeing.

Considering this, there is an increase in the amount of literature that critically examines the growing importance of big data, unveiling two crucial aspects. Firstly, previous studies have dealt with a more general focus on analytical challenges that big data sets cause. For example, Tinati et al. (2014) assessed how the overflow of big data generates methodological challenges for social science to analyse and how these challenges could be solved. Moreover, research on the subject has been concerned with existing data gaps within big data generally and particularly about gender equality. For instance, a report based on an online discussion involving various researchers and practitioners published by OECD (2014) shows that despite the growing amount of data, a significant lack of information still exists on women’s socio-economic empowerment, violence against women, and women’s civil and political participation. Secondly, some researchers critically examine that big data analyses, together with expanding the sample size towards the whole population, leads to a new way of doing research and proclaims the ‘end of theory’: “Rather than using data to test theory, the data themselves become the source of theory, revealed using big data techniques” (Spratt & Baker 2015: 15).

With this flourishing debate around the overflow of and gaps within big data, we claim that the research to date has tended to focus on the amount of data rather than its quality and potential for social transformation. Despite the importance of gender-sensitive big data, far too little attention has been paid to the potential as gender-responsive that goes ahead of the generation of global indexes. Gender-sensitive indicators are crucial to reliably measure the impacts of a programme or policy (Wroblewski, Kelle & Reith 2017b). For gender

equality a serious weakness still exists with most gender-sensitive indicators within global indexes, in the sense that they are little context-related and poorly address the roots of inequality generated by unequal norms, roles and imbalanced power relations, and consequently corrective action is rarely developed. Moreover, it is important to see that indicators themselves embrace the power to foster transformation if carefully developed as gender-responsive (Wroblewski, Kelle & Reith 2017a: 2). Considering the increased importance of evidence-based policy making in development and humanitarian projects, “data have never been more important for defining and measuring priorities” (OECD 2014: 1). Thus, there is an immense pressure on development research and projects to generate “quantifiable and ‘objectively verifiable indicators’ that allow regions to be compared” (Bell & Morse, cited in Fraser et al. 2006: 115). However, there is a need for sound gender-responsive indicators, which “address the causes of gender-based inequities, and include ways to transform harmful gender norms, roles and relations” (World Health Organization 2011: 42).

Hence, the main question is which indicators can reveal the transformative potential they embrace and how they reveal this, so they can stimulate social change and show their transformative potential for gender equality. We argue that the process of indicator development per se can stimulate social change, and claim a participatory approach that offers a promising way to collaboratively generate gender-responsive indicators, and hence, significantly contribute to the quality of global indexes. A participatory approach takes into account the lived experience and social contexts, and integrates local knowledge of different stakeholders and target groups: it ensures the active involvement of women and other marginalised groups in the methodological process of indicator development and selection (Lecoutere 2016). “Spelling out what

exactly people are being enjoined to participate in, for what purpose, who is involved and who is absent” (Cornwall 2008: 281) is thus of crucial importance. It facilitates to develop quantitative and qualitative indicators, which measure policy impacts from an all-inclusive gendered perspective, consider the complexity of programme implications and social conditions, and uncover the causes of imbalances between women and men, but also diminishes the power relations between researcher and research subjects (Cornwall 2003).

The article has been organised in the following manner. In the first section, we demonstrate the importance of a critical reflection on indicators by turning to the challenges of measuring gender equality in development and humanitarian projects. The next section examines the consequences of poorly developed indicators on gender equality. After that, in section three we discuss the transformative potential of gender-responsive indicators. Section four shows how a participatory approach can be used to develop gender-responsive indicators which enable the reliable measurement and collection of valid qualitative and quantitative data. Throughout the article, we use different cases and share lessons learned to better illustrate and to support our argument, based on our own research experiences and advisory services for development organisations.

CHALLENGES OF MEASURING GENDER EQUALITY

Even though gender is currently a central component of many development projects, a critical focus on gender and indicators is of crucial importance (Neck & Erich 2017). Measuring gender-equality imposes several research challenges that get easily overlooked (Neck & Erich 2017: 218). This is particular true for the development and application of global indexes.

First, due to constraining factors such as

limited financial resources and time pressure, gender analyses tempt data scientists and policy analysts to simply apply universal templates and general indicators, without anchoring them in a specific context for application. Such indicators suffer from taking a ‘top-down’ approach to gender equality:

(...) superimposing particular (culturally specific, some might suggest) frames of reference and barely allowing for broader participation in agenda setting or implementation. A simplifying worldview is thus projected onto diverse development situations (Cornwall 2003: 1326).

Second, gender analyses often pretend that measuring is a merely technical exercise. However, measurement embraces a political dimension (Wroblewski, Kelle & Reith 2017a: 4):

It reflects the priorities of those who hold the purse strings rather than those of partner countries or those intended to benefit from projects (Demetriades 2007: 2).

Indicators have become part of the routine of development programme management (Lin, L’Orange & Silburn 2007: 27), but there is always a political negotiating process about what information is gathered and which indicators will be used.² This political process has a significant impact on the figures produced. However, it potentially leads to omission of proposed indicators, as they are seen as not useful or they are ignored as irrelevant.

Third, gender analyses are often produced by quantitative methods only. They are:

(...) important for measuring progress, raising awareness of issues, improving the evidence base for decision-making and helping to identify which issues need to receive immediate and future priority-attention (Lin, L’Orange & Silburn 2007: 27).

While they unveil important gender disparities, they do not offer an in-depth understanding of social processes, power relations and origins of gender inequality in a specific context. They seem to generate hard evidence on gender equality, but “it is not always easy to know why particular changes have happened” (Demetriades 2007: 2). Mixed-method approaches of integrating qualitative indicators would complement quantitative approaches of examining causes of gender inequality, but they often get ignored instead of integrated. However:

(...) qualitative approaches (...) foreground the presence of both the respondent and the researcher, which highlights the fallibility of all data collection by emphasising their role in its ‘co-creation’ (Camfield, Crivello & Woodhead 2009: 8).

Finally, the setting of where data collection takes place is rarely reflected, even though it contains a high potential for biased data, especially in cross-cultural comparisons. Various indexes for cross-country comparison of gender discrimination exist, among others, the most prominent indexes are the following: The Global Gender Gap Index, the Social Institution & Gender Index (SIGI) and the Gender Equality Index. All indexes classify countries in terms of their disparities between women and men, through various indicators, and rank them differently. This can be demonstrated with the example of Rwanda: The SIGI and the Gender Equality Index ranks Rwanda in the middle of all classified countries. The Global Gender Gap Index shows a different picture: here Rwanda ranks in the top five worldwide (World Economic Forum 2015; OECD 2014; European Institute for Gender Equality 2015). The data collection setting affects the type and nature of the ‘realities’ portrayed, and therefore have fundamental implications for analyses. Surveys and interviews rely mostly on the household level, but it is often unknown who ex-

actually was surveyed within the household, raising questions such as: Was the respondent a woman, or was it her husband? How many household members were present during the interview? The gender of respondents has a significant impact on the answers given, and should not be carelessly subsumed under ‘household’. Moreover, directly posed questions in surveys are often inappropriate to uncover sensitive issues. Violence against women, for example, can hardly be explored by standardised surveys, because they don’t catch lived experiences, feelings, and values. Furthermore, broad concepts such as ‘empowerment’ and ‘wellbeing’ are difficult to translate in various languages, because certain concepts only exist in western societies (Schmidt & Bullinger 2010; White 2016). But even if a term finds an equivalent expression in another language, the related concepts are not culture-neutral and get interpreted differently in a specific cultural context (White 2010).

Consequently, poorly designed indicators have significant implications for the data generated, to which we now turn.

CONSEQUENCES OF POORLY DEVELOPED INDICATORS FOR GENDER EQUALITY

The consequences of poorly developed indicators for gender equality are crucial. First, they might hinder social change and reconstruct deeply founded gender roles and relations. Due to a lack of contextual anchoring, they may sediment inequalities, because inefficient and inadequate programmes and interventions might be detected, but not truly improved. As an example, ‘Time Use Data’ measures how everyday activities is differently allocated. This data “draws on a broader base of empirical evidence than is usual in studies of social change” (CTUR 2017). If designed as gender-responsive, they can demonstrate power asymmetries and gender imbalances,

as gendered time poverty is a significant constraint in achieving gender equality. However, creating contextual and gender-responsive ‘Time Use’-indicators is complex and resource intense.

Second, without regard to contextual programme settings, indicators produce analyses which represent a simplified and homogenous world, mostly from a western-centric point of view, which do not mirror complex social realities wherein programmes take place. However, concepts such as ‘wellbeing’, ‘empowerment’ and ‘gender equality’ are circumstantial and depend on cultural contexts, which can only be fully understood through context-sensitive interpretation (Bigler 2016). Our experiences and literature demonstrate that especially sensitive gender issues – such as gender based violence – must be carefully investigated to minimise harm and risk, especially to respondents, but also research and project staff. As such, depending on the cultural context, adequate language, sensitive data-collection methods and sampling is crucial to represent complex realities (Ellsberg & Heise 2005).

Third, because analyses often veil the political process behind the indicator development, results get used for political appeasement rather than to hold policy-makers accountable. While hard figures might show achievements in gender equality, a closer, in-depth analysis would allow a more nuanced understanding of social realities by presenting the various, differentiated layers of presumed successful programmes. For example, the World Economic Forum publishes the gender gap index every year. This index measures national level gender disparities and compares 144 countries worldwide. The gender gap index consists of four indicators: Economical Participation, Political Empowerment, Education Attainment, and Health. In the report from 2016, the central African country Rwanda ranks fifth out of this global comparison, higher than many richer, and especially western, coun-

tries. Rwanda is ranked in the top ten in Economical Participation and Political Empowerment (World Economic Forum 2016). It seems from a global scale that the gender equality has nearly been achieved in Rwanda. During the same time span, a study on the gendered dimensions of the rural labour market applied a mixed-method design, showing a more nuanced picture of the economic participation of women and men.³ In terms of law and policies, gender equality in Rwanda seems to be reached. Women have the same right to work and in many governmental organizations, women are present. But the bulk of its population – over 70 percent – lives in rural areas and are dependent on agriculture, which provides different implications for women in the rural labour market than it does for men. Due to its mixed-method design, the study was able to show that the rural labour market is highly gendered. Women are mainly represented in the lowest paid jobs, and care of children hinders women's participation in the paid labour market. Moreover, almost all paid employment in rural areas is on a daily basis. If a woman has to bring her child to the workplace because she cannot shift the care work to another institution or person, her salary gets reduced. Furthermore, it is difficult for pregnant women or women with a small baby to find paid employment (Bigler et al. n.d.). Similarly, a study by Camfield et al. (2009) shows inconsistencies in the majority of the cases when numerical scores from respondents about their satisfaction get compared to the oral answers they gave in interviews. For the authors, the experiences from this mixed-method-research underpins the necessity of careful interpretation of data outside the contexts in which they were gathered (Camfield, Crivello & Woodhead 2009: 19).

It is crucial to develop relevant gender indicators by considering the challenges and consequences of measuring gender equality and embedding them in the con-

texts where they are applied so they can stimulate social transformation. This is the subject of the next section.

THE TRANSFORMATIVE POTENTIAL OF GENDER-RESPONSIVE INDICATORS THROUGH PARTICIPATION

Gender-responsive indicators stimulate social change towards gender-equality (WHO 2011: 42). Thus, they can make influential contributions to development projects, programmes and policies in mainly three ways. First, gender-responsive indicators are not just a tool for advocacy to help in agenda-setting and making the case for action by highlighting key issues (Demetriades 2007: 1). They also help overcome power asymmetries and gender imbalances in the social context where the programmes take place. Hence gender-responsive indicators not only evaluate outcomes of gender-focused and gender mainstreaming interventions, but grasp the roots of inequalities and address fundamental elements of imbalances between women and men. Second, gender-responsive indicators are important to hold policy-makers accountable for their lip services, by providing important corrections to official statements on gender equality. Third, they help to inspire social change through the data gathering process, and thus empower women as much as sensitise men (Demetriades 2007: 1).

As such, gender-responsive indicators produce data that informs actions, budgeting, planning, policies, and financing of future development projects in a holistic way:

[I]t is especially important to become familiar with and be responsive to the specific gender dynamics and social and cultural reference points that prescribe the roles of men and women in any given society (UN Women 2012).

To achieve this goal, there is a need to de-

velop gender-responsive indicators that produce contextual, reliable, and valid quantitative and qualitative data.

To collect valid data in a reliable way, gender-responsive indicators consider the importance of the contextual setting in which a programme is implemented and the complexity of social realities, relations and processes of the people that are affected. This goal can be achieved by the incorporation of participatory techniques to develop indicators. "Participatory methodologies are based on the principle that men and women should be the agents of their own development" (Moser 2007: 15). Contrary to indicators which are simply developed in a top-down, standardised 'one-size-fits-all' approach, which are inappropriate for true social transformation, gender-responsive indicators should be developed by engaging with those whose needs are addressed by the interventions. From both men and women, they capture "people's experiences, opinions, attitudes and feelings" (Demetriades 2007: 1) to better understand their views and perceptions on the causes and consequences of inequalities and imbalances. Broad concepts such as wellbeing, empowerment, and equality can then get contextualized and anchored in the various realities in which individuals live their experiences. In engagement and mutual exchange of target groups and other stakeholders, "decisions about what should be measured and what indicators should be used" (Moser 2007: 15) can be developed. A participatory approach contains various methods, such as focus group discussions, including verbal and visual tools, such as drawing gender diamonds or problem trees, and "scoring, ranking, mapping, calendars, timelines and diagrams" (Moser 2007: 15). Interpretation of concepts and personal assessments by women and men can then be integrated in the development of quantitative and qualitative indicators for the actual study.

A participatory approach was applied in a

research project in Rwanda which not only allowed the collection of qualitative data, but also informed the development and selection of quantitative indicators to complement and refine the 'personal wellbeing index', a widely used index which contains various standardised indicators (International Wellbeing Group 2013).⁴ One of the main goals was to examine the wellbeing of women and men engaged in the rural labour market of Rwanda. The process involved a two-step course of action. In the first step, the various stakeholders of the rural labour market, such as different employment groups, agri-businesses, national and local government offices, agriculture co-operatives, researchers from local research institutes and NGOs were mapped. The mapping process was based on focus-group discussions. Two gender-mixed focus-group discussions with members of agriculture cooperatives took place. Moreover, seventeen interviews with leaders of all groups have been conducted. A better understanding of the rural labour market and the division of labour between women and men was gained. Based on that qualitative mapping, in the second step, twenty-five semi-structured interviews with female and male workers in the rural labour market were conducted. The respondents were asked about their personal definition of wellbeing and lived experiences, to gain a better understanding of how wellbeing was interpreted, and which factors influence wellbeing positively or negatively. The results from that participatory process helped to refine the 'personal wellbeing index'. Standardised quantitative indicators of the index were complemented with context-sensitive, gender-responsive indicators and integrated into the questionnaire. The survey involved 560 households; half of the respondents were women, the other half men. Thanks to the previously applied participatory approach, it was thus possible to contextualise the results and to fully capture all dimensions of wellbeing (Creswell

2014; Creswell & Clark 2011). In that sense, it was possible to measure wellbeing in a reliable and valid way, and to catch the roots of gender inequalities and power relations in the specific context and social realm of women and men without having to abandon the standardised index, but instead complement it (Bigler et al. n.d.).

Similar experiences have been gained during a research project in rural Nicaragua on sustainable housing and livelihood reconstruction after Hurricane Mitch (Graf 2012).⁵ It is necessary to involve the target group from the beginning of a project in order to discuss research questions and the meaning of terms such as 'development', 'well-being' or 'empowerment'. Moreover, questions such as who will benefit from the project and to what extent, and how it will be measured, got raised. Elements of the Participatory Rural Appraisal (PRA) was applied to establish a common and gender-responsive view of the target population on well-being and its measurement in a participatory way (Graf 2012: 200). As such, the definitions and indicators got successfully anchored in the cultural and socio-economic realities of rural women and men.

CONCLUSION

Gender-responsive indicators are a key issue that helps to evaluate the outcome and impact of development programmes and policies for women and men, understand the sources of power inequalities, and stimulate social change. One of the biggest challenges, however, is the development of quantitative and qualitative gender transformative indicators which consider the multi-dimensional aspects of broad concepts and the social realm of women and men. This is in particular true for global indexes which examine gender inequality. Surprisingly, research has mostly been carried out on the amount of data, but much less is known about the selection and development process of gender-responsive indicators.

We have aimed to highlight the importance of the indicator development process as a crucial step towards social change. We have argued that a participatory research approach offers a promising way to collaboratively improve indicators. By engaging stakeholders and target groups of both genders into the development process of qualitative and quantitative indicators, broad concepts, such as wellbeing, can be understood from an all-inclusive gendered perspective, which considers the complexity of programme implications and social conditions, and foster transformation within indicator development process.

Michèle Amacker is an Assistant Professor at the Interdisciplinary Centre for Gender Studies, University of Bern, Switzerland. She is an expert in qualitative and mixed-method designs and her special interest is in poverty and precariousness from a gender perspective.

Isabelle Schlaepfer is a PhD fellow at the Humanitarian & Conflict Response Institute, University of Manchester, UK. Her research focuses on humanitarian governance, policy analysis and evaluation from a critical gender perspective by applying quantitative and qualitative methods.

Christine Bigler is a PhD fellow at the Interdisciplinary Centre for Gender Studies, University of Bern, Switzerland. Her research focus is the rural labour market, specifically the gendered dimension of paid and unpaid work and wellbeing by applying mixed-methods.

Andrea Graf is a researcher and consultant at the Interdisciplinary Centre for Gender Studies, University of Bern, Switzerland. She is specialised in gender mainstreaming processes and results-based monitoring and evaluation in development cooperation organisations and her research areas include transdisciplinary approaches to gender and care work.

NOTES

1. Additionally, big data exists in mainly to two other forms. First, big data can be self-produced through social media and the internet by people who post pictures and text messages, tweets, and blog entries. For instance, Twitter registered 500 million tweets per day in the year 2014 (Spratt & Baker 2015: 7–8). This kind of big data can be described as dynamic because it captures social activity in real time and over time (Tinati et al. 2014: 664). Data2x, a collaboration project between the United Nations Foundation, the William and Flora Hewlett Foundation as well as the Bill & Melinda Gates Foundation, explores big data with the purpose of advancing gender equality. Similarly, big data gets promoted by the Global Pulse, an initiative of the United Nations Secretary-General on big data, which seeks to raise awareness for the potential of big data for scientists, governments, and decision-makers. Big data is seen as a tool to observe changes in personal wellbeing, and “to get real-time feedback on how well policy responses are working” (United Nations Global Pulse 2016). Second, big data may exist passively, process-generated, resulting from everyday-life activities (Wroblewski, Kelle & Reith 2017a: 4–5). For instance, Spratt and Baker (2015: 7) mention data such as from sensors in homes and records of economic transactions, which get collected automatically or through administrative processes.
2. It is important to mention that there is a general difference in the usability of global indicators such as the Sustainable Development Goals which are inherently political because they are produced with a political intention for global change and gender-responsive indicators, used as a transformative tool. We would like to thank our anonymous reviewer for raising this point.
3. For further information, see: www.fate.unibe.ch (last access: 10/01/2017).
4. The project was a collaboration between the Interdisciplinary Centre for Gender Studies at the University of Bern, Switzerland; the International Centre for Tropical Agriculture, Kigali, Rwanda; and the Rwandan Agriculture Board. This study is part of FATE, a research project that examines and compares how the increasing commercialisation of agriculture and the transformation of rural labour markets affect the men and women working in these markets in Bolivia, Laos, Nepal and Rwanda. For further information, see: www.fate.unibe.ch (last access: 10/01/2017).
5. The project *Towards Sustainable Disaster Preparedness. The Role of Local, National and Global Responses in Enhancing Societal Resilience to Natu-*

ral Hazards in India and Nicaragua was conducted by the Department of Social Anthropology and Cultural Studies, University of Zurich, and was funded by the Swiss National Science Foundation.

ACKNOWLEDGEMENTS

We especially want to thank Olga Vinogradova and Christina Hausammann for their thoughtful inputs and comments.

BIBLIOGRAPHY

- Bell, Simon & Morse, Stephen (2003): *Measuring Sustainability: Learning from Doing*. Earthscan, London.
- Bigler, Christine (2016): *Wellbeing Measurement*. Interdisciplinary Centre for Gender Studies, University of Bern, Bern.
- Bigler, Christine; Amacker, Michèle; Ingabire & Birachi, Eliud (forthcoming): Rwanda’s Gendered Agricultural Transformation Leads Women Into Precarious Work Arrangements, in: *under review*.
- Camfield, Laura; Crivello & Woodhead, Martin (2009): Wellbeing Research in Developing Countries: Reviewing the Role of Qualitative, in: *Social Indicators Research* 2009/90(1).
- Centre for Time Use Research (2017). *Towards a New Science of Everyday Life*. Available at: <https://www.timeuse.org/research/current>, accessed 14/05/2017.
- Cornwall, Andrea (2003): Whose Voices? Whose Choices? Reflections on Gender and Participatory Development, in: *World Development* 2003/31(8).
- Cornwall, Andrea (2008): Unpacking ‘Participation’: Models, Meanings and Practices, in: *Community Development Journal* 2008/43(03).
- Creswell, John W. (2014): *Research Design: Qualitative Quantitative, and Mixed Methods Approaches*. Sage Publications, Los Angeles.
- Creswell, John W. & Clark, Vicki L. Plano (2011): *Designing and Conducting Mixed Methods Research*. Sage Publications, Los Angeles.
- Demetriades, Justina (2007): *Gender Indicators: What, Why and How?* BRIDGE, London.
- Ellsberg, Mary & Heise, Lori (2005): *Researching Violence Against Women. A practical Guide for Researchers and Activists*. World Health Organization, PATH, Washington DC.
- European Institute for Gender Equality (2015): *Gender Equality Index 2015. Measuring Gender*

- Equality in the European Union 2005-2012*. European Institute for Gender Equality, Italy.
- Fraser, Evan D.G.; Dougill, Andrew J.; Mabee Warren E.; Reed, Mark & McAlpine, Patrick (2006): Bottom Up and Top Down: Analysis of Participatory Processes for Sustainability Indicator Identification as a Pathway to Community Empowerment and Sustainable Environmental Management, in: *Journal of Environmental Management* 2006/78(2).
 - Graf, Andrea (2012): Unaffordable Housing After Natural Disasters and Its Consequences, in: Jennifer E. Duyn Barenstein & Esther Leemann (eds.): *Post-Disaster Reconstruction and Change*. CRC Press, Boca Raton.
 - International Wellbeing Group (2013): *Personal Wellbeing Index: 5th Edition*. Australian Centre on Quality of Life, Deakin University, Melbourne.
 - Lecoutere, Els (2016): Participatory gender-responsive monitoring of women land rights: empowering and smart, in: *Development in Practice* 2016/26(7).
 - Lin, Vivian; L'Orange, Helen & Silburn, Kate (2007): Gender-Sensitive Indicators: Uses and Relevance, in: *International Journal of Public Health* 2007/52(S1).
 - Moser, Annalise (2007): *Gender and Indicators: Overview Report*. BRIDGE, London.
 - OECD (2014): *SIGI Methodological Background Paper. Social Institutions Gender Index*. OECD Development Centre's Social Cohesion Unit, Paris.
 - Schmidt, Silke & Bullinger, Monika (2010): Cross-Cultural Quality of Life Assessment Approaches and Experiences from the Health Care Field, in: Ian Gough & J. Allister McGregor (eds.): *Wellbeing in Developing Countries. From Theory to Research*. Cambridge University Press, Cambridge.
 - Spratt, Stephen & Baker, Justin (2015): *Big Data and International Development: Impacts, Scenarios and Policy Options. Evidence Report No 163*. Institute of Development Studies, University of Sussex, Brighton.
 - Tinati, Ramine; Halford, Susan; Carr, Leslie & Pope, Catherine (2014): Big Data: Methodological Challenges and Approaches for Sociological Analysis, in: *Sociology* 2014/48(4).
 - United Nations Global Pulse (2016) *Harnessing Big Data for Development and Humanitarian Action*. Available at: <http://www.unglobalpulse.org/about-new>, accessed 09/01/2017.
 - United Nations Women (2012). *Ensuring Gender-Responsiveness*. Available at: <http://www.endvawnow.org/en/articles/306-ensuring-gender-responsiveness.html>, accessed 14/05/2017.
 - White, Sarah C. (2010): Analysing Wellbeing: A Framework for Development Practice, in: *Development in Practice* 2010/20(2).
 - White, Sarah C. (2016): Introduction: The Many Faces of Wellbeing, in: Sarah C. White & Chloe Blackmore (eds.): *Cultures of Wellbeing. Method, Place, Policy*. Palgrave Macmillan, London.
 - World Health Organization (2011): *Gender Mainstreaming for Health Managers: A Practical Approach*. Department of Gender, Women and Health. World Health Organization Geneva.
 - World Economic Forum (2015): *The Global Gender Gap Report. Insight Report. 10th Anniversary Edition*. World Economic Forum, Geneva.
 - World Economic Forum (2016): *The Global Gender Gap Report. Insight Report*. World Economic Forum, Geneva.
 - Wroblewski, Angela; Kelle, Udo & Reith, Florian (2017a): Einleitung: Gleichstellung Messbar Machen, in: Angela Wroblewski & Florian Reith (eds.): *Gleichstellung Messbar Machen. Grundlagen Und Anwendungen von Gender- und Gleichstellungsindikatoren*. Springer VS, Wiesbaden.
 - Wroblewski, Angela; Kelle, Udo & Reith, Florian (2017b): *Gleichstellung Messbar Machen. Grundlagen Und Anwendungen von Gender- Und Gleichstellungsindikatoren*. Springer VS, Wiesbaden.