



## 12<sup>th</sup> UKFIET International Conference on Education and Development, 10-12 September 2013

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### Symposium / Round Table Conference Paper Cover Sheet

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Paper title: Measuring Gender in Education: CARE's Gender Equitable Index

#### Abstract:

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### **Measuring Gender in Education: A Retrospective and a Re-visioning**

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## Measuring Gender in Education: CARE's Gender Equitable Index (GEI)

*By*

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Submitted for the

12<sup>th</sup> UKFIET International Conference on

Education and Development:

10-12 September 2013

## ***Abstract***

This paper examines the Gender Equitable Index (GEI), which was developed, revised, and piloted cross-nationally by CARE International and its collaborating partners. Revisions to the tool were completed in November 2012, focusing the tool to measure changes in perceptions of gender equality for individuals between the ages of 10-12, 13-17, and adults (18+). The quantitative tool is being used to complement another tool that is specific to measuring educational outcomes and equality in education processes, CARE's Common Indicator Framework for Education (CIF). The paper reviews the process of instrument development and discusses the potential benefits and pitfalls for using this tool to measure both individual and program impact related to gender and education post-2015.

## **Introduction**

CARE's work in education seeks to address the barriers to girls' personal advancement; develop community support that creates a conducive environment for them to thrive; and extend and create opportunities for girls to improve their situation and that of others in their communities. The education effort driven and implemented by CARE aims to use education as a platform to promote girls' empowerment and ultimately promote equality in society.

CARE views an empowered girl as "an active learner in school, and a confident actor in her family and community. She has an expansive view of her possibilities, and lives in a community that supports her progress and her goals—indeed, her rights". CARE recognizes that gender norms and practices play a pivotal role in defining if and how girls access their rights and attain a fulfilling life in their communities. Our work in education and girls' empowerment seeks to address the barriers to girls' personal advancement

and develop the community and structural support systems that promote gender equality and allow for equal opportunities to engage and participate in development at all levels.

Recognizing the role that men, women, boys and girls play in empowerment and specifically the education of girls, CARE has continued to pay attention to facilitating changes at the social and structural levels of society, creating the building blocks that will secure and sustain the empowerment of all learners and all members of society. Uncovering the different layers of gender norms that define social and political interactions and systems and being able to measure or articulate the changes taking place is of great interest to CARE. In an attempt to deconstruct the barriers that keep girls from accessing education and from participating in decision making processes, CARE has worked to contextualize education measures that not only capture parity in education and the educational attainment of girls and boys, but has also designed indices and frameworks that investigate and capture the equality in and through education processes, both within and outside of the classroom.

## Measuring changes in gender in education at CARE

A recent UNGEI report on gender analysis in education (UNGEI, 2012) recommends that:

*Accurate and in-depth data collection is integral to a successful gender analysis. Data should include both qualitative and quantitative information in order to measure all aspects of gender inequality within a society or sector. A holistic approach must also include multiple levels of analysis, including both institutional and community levels.*

This paper examines one such alternative gender measurement tool that in combination with other comprehensive monitoring and evaluation tools will promote the analysis of gender dynamics and track changes in the perceptions of gender norms over time.

Gender equality in education is a construct that has been progressively broken down and defined and incorporated in development practices in the sector. Globally, increased attention is being paid to going beyond gender parity measures in education to ensuring that girls and boys are receiving the same quality of learning and educational outcomes (UNGEI, 2012). Likewise, CARE's understanding of gender equality in education has been evolving. The development of CARE's Common Indicator Framework for education (CIF) in 2008 enabled the intentional monitoring of equality in CARE's education programs. The CIF comprises of a set of four key constructs – educational attainment, quality, equality, and girls' empowerment – and an additional three sets of indicators under each key construct that are meant to illuminate whether and in what ways girls have access to and experience learning both within and outside of the classroom environment. The CIF attempts to investigate and strengthen the "equality" indicator construct of the education sector (Adolwa & Meagher, 2009; Miske, Meagher, & DeJaeghere, 2010). The CIF's "equality" indicator assesses girls' and boys' educational opportunities and perceptions of the education processes (.e.g. teachers' gender sensitivity in the classroom). In 2009, CARE developed an additional tool to monitor changes in the perceptions of gender equality and the demonstration of gender equitable outcomes in society. The Gender Equity Index (GEI), a quantitative tool, complemented the Common Indicator Framework (CIF) in investigating the changes in gender perceptions among boys and girls.

CARE's 2009 GEI tool was modeled after Instituto ProMundo's Gender-Equitable Men (GEM) scale, which has 24 items, was designed for older adolescents and men and was initially tested in three countries (Brazil, India and Ethiopia). CARE's GEI was originally designed to measure boys' (10-14 years old) perceptions of gender in their homes, schools, communities and broader society. The GEI comprised of 45 items with two response options (Agree, Disagree) and measured three dimensions of gender equity –

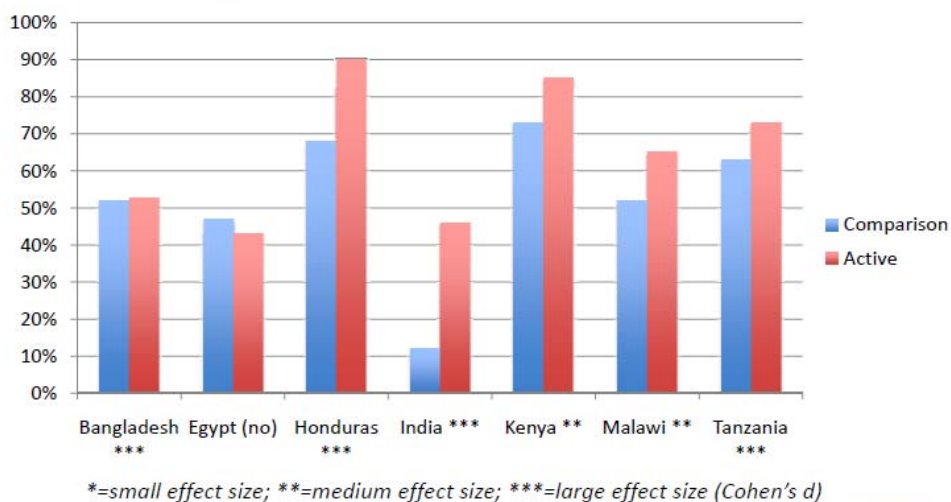


equality of rights, gendered social norms, and attitudes about gendered responsibility –assessed in the index of: 1) care-giving and domestic roles), 2) education, 3) work and leadership, 4) leisure and social networking, 5) emotions and help-seeking behavior, 6) prevention and reproductive health decision making, 7) boy-girl dating relationships , and 8) violence. The GEI was tested and implemented in eight countries - Bangladesh, Egypt, Honduras, India, Kenya, Malawi, Tanzania, and Yemen – between January 2009 and December 2012. Baseline data and end line evaluations with comparison groups were conducted by an external evaluator, Miske Witt and Associates.

Results from the endline evaluations conducted in 2011 indicated that in most countries, boys and girls who participated in CARE’s education and leadership initiatives demonstrated greater appreciation of the equality of rights and had more positive changes in their perceptions of gendered responsibilities and gendered social norms, than did their non-participating peers (CARE USA, 2012). The responses to the items on this scale were intended to capture the underlying beliefs about norms between girls and boys or men and women and not necessarily an individual’s attitude about these issues. The results indicated that in four out of five countries there were statistically significant positive differences between girls and boys in the active groups and those in the comparison groups on gendered social norms.

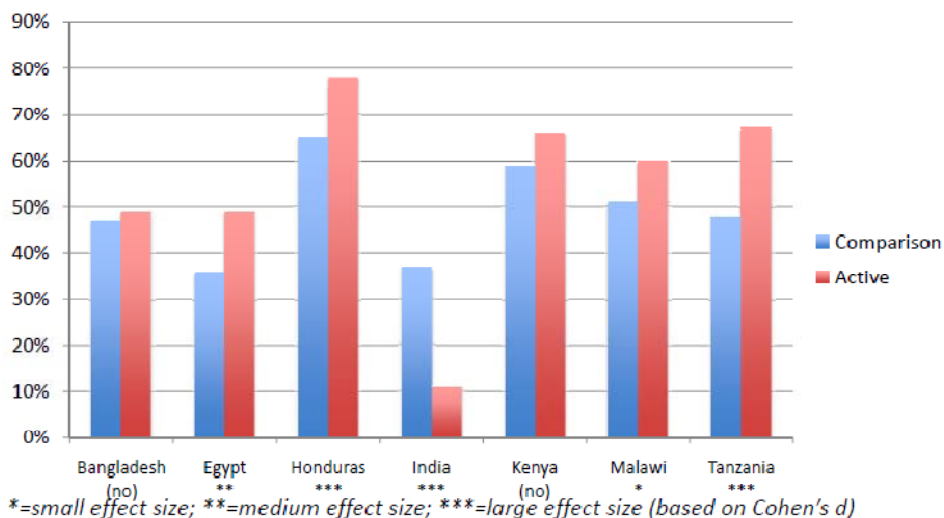
## Social relations

### Positive change: Gendered social beliefs - Girls (GEI)



## Social relations

### Positive change: Gendered social beliefs - Boys (GEI)



## *The Evolution of the GEI*

CARE's commitment to program quality and gender integration has been a driving force in promoting the development of effective tools and approaches to keep uncovering the underlying causes of poverty. Research has demonstrated that without addressing social and gender inequalities and the power dynamics driven by inequitable gender norms, development investments will fail or remain unsustainable. The case has been made for the utilization of mixed methods approach to social research, utilizing both quantitative and qualitative tools to measure change and triangulating it to validate the change across different layers of society (Rao & Kellerher, 2005; Subrahmanian, 2007). With this in mind, and with the promise of the potential of the GEI tool, CARE continued to invest in its review, revision and refinement.

In 2011, CARE commissioned the University of Minnesota (UMN) to conduct a psychometric testing of girls' and boys' responses from several countries where the GEI was used to collect baseline data. The purpose of conducting the psychometric tests was to discern whether empirical data from a cross-national sample of boys and girls confirm the dimensions of gender equity as proposed in the models. In addition, psychometric tests would help in determining which items measure the underlying dimensions of the indices, and which items do so reliably across a large cross-national sample. Finally, from this analysis, decisions could be made about which items effectively assess attitudes toward gender equity. The intent of such testing was to inform the development of an index for future data collections on similar populations that was reliable and that measured the intended dimensions of gender equity. GEI data from India, Honduras and Malawi were used for these analyses. The analysis conducted on the GEI sought to answer three main questions:

- 1) Do the items on the index assess the 8 constructs or pathways toward gender equity as proposed in the model?



- 2) If so, how reliably do these items capture boys' responses to these constructs?
- 3) Which items best capture the dimensions of gender equity reliably, and which items are not measuring the construct or are not doing so reliably?

Based on the results of the psychometric analyses, UMN provided CARE with a rationale and suggestions for refining the instrument for use with adolescent girls and boys in developing countries contexts.

Implications from these analyses were that fewer items and more specific, shorter items were useful in reliably measuring gender equity.

In 2012, CARE contracted Miske Witt and Associates (MWAI) to refine and strengthen the Gender Equitable Index based on the recommendations made by UMN from the psychometric analyses and the lessons learned from using the tool in education and girls' leadership initiatives over four years in eight countries. MWAI developed and field-piloted three versions of the GEI tools for ages 10-12, 13-17, and adults (18+) in three countries, Bangladesh, India and Burundi. MWAI analysed the data using exploratory factor analysis and reliability testing initially on an individual country basis and then using comparisons across countries. A common scale was then developed and tested by factor analysis in each site and for reliability. The new scale was then tested for female and male groups. This led to the development of the revised GEI with a common scale in terms of structure, number of items and scoring.

The new scale has 15 common items and uses four response options (disagree strongly, disagree somewhat, agree somewhat, agree strongly) to allow for greater variance. It has three new versions for three different age groups and has common items which are worded slightly differently for age appropriateness. The tool has a singular focus measuring only one dimension of gender equity. It allows for comparisons across different age groups and sexes, and, considering limitations, between contexts.

Additionally, the tool tested reliably for reliably for 2 out of 3 countries for the adolescent groups (10-12 and 13-17) and for three out of three countries for the adults' category (18+). The process of revising the GEI tool also made it possible to report on a GEI "score" (index).

The gender equity score equals the sum of an individual's answers to the general gender equity questions, minus the absolute value of the difference between the sum of his/her answers to the female questions and the sum of his/her answers to the male questions. This means that the most inequitable score an individual can achieve is zero, while the most equitable score an individual can obtain is 36, as follows:

<p>The most equitable score would be: <math>36 -  12 - 12  = 36</math> The most inequitable score would be: <math>9 -  12 - 3  = 0</math> or <math>12 -  3 - 12  = 0</math></p>
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## Potential Uses and limitations of the GEI

The GEI will continue to evolve as CARE learns new methods of measuring progress along the gender equity continuum of change. The revised tool has considerable strengths:

- It is simple and has fewer items (15 questions).
- It can be used with both girls and boys at pre-adolescence and middle adolescence, and with post-adolescent youths/adults. As such, it is a useful tool to measure inter-generational changes in gender-equity perceptions over time (longitudinal studies).
- It measures a single dimension of gender equity, and makes it possible to triangulate data to get at the depth of changes in gender perceptions due to program interventions (impact measurement).
- The tool can be scaled and compared across different contexts.

- The GEI is highly adaptable to support impact measurement in cross-sectoral initiatives beyond education.

Despite its strengths, the GEI has its limitations. While the findings from the reliability testing of the GEI tools for the different age groups did not produce ideal results, all three sets show promise. In field testing of the adult 18+ tool, adequate sample sizes were not obtained across all three countries to have sufficient confidence in the findings from the reliability testing. Additional piloting in the future has the potential to produce highly reliable tools for measuring perceptions of gender equity among boys, girls, and adults. It is important to note that there has not yet been any validity testing of the tools (although it is planned for) and the analyses conducted thus far did not explore the possible presence of gendered differences among the individual items within the tools. Consequently, in their current iteration, it is unclear how the tools might work differently for boys and girls or men and women.

Given the current limitations of the tools, CARE strongly recommends that the tools be used judiciously and only for the production of aggregated group averages rather than for individual-level scores. The data should only be compiled to show gender equity scores grouped together by categories such as school, community, or region.

As such, CARE recognizes the following:

- Not be utilized as a stand-alone tool – requires triangulation with other sources of information.
- Literacy level:
  - Use with illiterate respondents will require further development
  - Literacy requirement limits use with out of school children

- Only for literate 10-12 year olds
- Tool for ages 18+ requires further testing
- Should be adapted and pre-tested before using in a new context

The current iteration of the instruments should not be used

- to compare scores across individuals;
- to compare scores between boys and girls OR men and women;
- to rank individuals according to their individual GEI scores;
- with non-literate respondents.

## Conclusion

The Gender Equitable Index (GEI) is a valuable tool for assessing the impact of interventions on perceptions of gender equity. Since the GEI instruments were designed for different age ranges, starting with pre-adolescents, it is a rare example of a tool that allows for simple measurement of changes in gender perceptions with children and older adolescents, thus being adequate for use in longitudinal studies. The GEI is also a rare example of a tool rigorously tested in a range of developing contexts and allowing for at least a degree of cross-contextual comparison of results. Although the tool was designed initially for use in impact assessment of education and leadership programs, it holds great potential for use in a range of sectoral and cross-sectoral initiatives, such as programs on adolescent sexual and reproductive health, prevention of violence and governance. CARE and its partners continue to invest in its development and adaptation, and in further validity testing.

## References

Aikman, S. and Unterhalter, E. (2005). Introduction. In *Beyond Access: Transforming Policy and Practice for Gender Equality in Education*, ed. S. Aikman and E. Unterhalter. Oxford: Oxfam

Adolwa, J., & Meagher, M. (2009). *Beyond Gender Mainstreaming: Pressing for Development Education Impact at Multiple Levels*, UKFIET 2009

CARE USA (2013). *Girls' Leadership Development in Action: CARE's Experiences from the Field*.

CARE USA (2012) Data Analysis Report: An analysis of CARE's Girls' Education and Empowerment Measurement Tools: Common Indicator Framework; Gender Equitable Index; Girls Leadership Index/Youth Leadership Index. Prepared by Miske Witt & Associates, Inc, November 2012

CARE USA (2011). Report on the Girls Leadership Index and the Gender Equitable Index: An Analysis of the Indices Using Data from Three Countries by Joan Dejaeghere and Brooke Krause, University of Minnesota

Miske, S., Meagher, M., & DeJaeghere, J. (2010). Gender Mainstreaming in Education at the Level of Field Operations: The Case of CARE-USA's Indicator Framework. *Compare: A Journal of Comparative and International Education*.

Rao, A., & Kellerher, D. (2005). Is There Life After Gender Mainstreaming? . *Gender and Development* 13, no. 2.

Subrahmanian, R. (2007). *Gender in Primary and Secondary Education: A Handbook for Policy-makers and Other Stakeholders*. London: Commonwealth Secretariat

UNGEI. (2012). *Gender Analysis in Education*. UNGEI.

[http://www.ungei.org/resources/files/Gender\\_Analysis\\_in\\_Education.pdf](http://www.ungei.org/resources/files/Gender_Analysis_in_Education.pdf)