Measuring Women Empowerment: An Application of the Women Empowerment in Agricultural Index in Northern Ghana

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**Motivation**

If women and men can fully develop their abilities as economic and social individuals, by having equal access to inputs, financial resources, participatory practices, and autonomy in their decisions, the productivity of labor in the agricultural sector would increase, and production in developing countries would raise by 2.5 to 4 percent (FAO 2011).

**Objectives**

- To apply an innovative instrument that measures women’s empowerment in agriculture in Northern Ghana.
- To determine what mechanisms motivate the agricultural sector to be more inclusive towards women in Ghana.
- To find correlations between women empowerment and demographic variables.

**Background**

Although numerous authors have argued that one of the mechanisms of agricultural economic growth is an agricultural sector that is more inclusive and equitable toward women, there have been few attempts to create a tool to measure the levels of equity among individuals in agriculture. (Seguinon 2012; Behrman 2012).

Women empowerment has been measured using proxy variables like education and income, equity like ration of girls to boys in education, or the Gender Gap Index, these can be argued not to be good proxies of the gender disparity in agriculture because they don’t provide a direct measure of inequality between genders and do not allow for heterogeneities between different sectorial groups.

Therefore there was a need to create a women empowerment index that is a survey based that focus on daily women’s decision making, control over productive resources and income, leadership, and time allocation. This index should be able to track and identify key areas in which women (and men) lack empowerment.

**Women Empowerment Index in Agriculture (WEAI)**

The WEAI is constructed using two weighted sub-indexes developed by Akire et al. (2013): 

\[ EWI = a + (SDE) + (1 - a) + (GPI) \]

(1) The Five Domain Empowerment Index (SDE); and (ii) The Gender Parity Index (GPI). Both range from zero to one and the higher the values the greater the level of empowerment.

The SDE constructs an empowerment score for each woman in the sample. The score is an summation of the level of achievement in ten indicators grouped into five domains (Table 1). Specific questions relating to each indicator have been developed with closed-ended scaled qualitative responses.

**Table 1. Composition of the Five Domain Empowerment Index and Weights**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Indicator</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>Input in productive decisions</td>
<td>1/10</td>
</tr>
<tr>
<td></td>
<td>Autonomy in production</td>
<td>1/10</td>
</tr>
<tr>
<td></td>
<td>Resources, participatory practices, and autonomy in their decisions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Over use of income</td>
<td>1/5</td>
</tr>
<tr>
<td></td>
<td>Leadership Group member</td>
<td>1/10</td>
</tr>
<tr>
<td></td>
<td>Speaking in public</td>
<td>1/10</td>
</tr>
<tr>
<td></td>
<td>Time workload</td>
<td>1/10</td>
</tr>
<tr>
<td></td>
<td>Leisure</td>
<td>1/10</td>
</tr>
</tbody>
</table>

**Data**

We used a recent comprehensive database constructed from a population-based survey collected in Northern Ghana in 2012. The sample included districts in the Northern, Upper West, and Upper East Regions.

**Data Summary**

- 4,990 respondents and 2,556 households where both male and a female were present.
- 1,602 households completed all of the modules for the female and male components.
- 2,316 females and 2,674 males, completed all questions.

**WEAI Results**

- 72.50 percent of the women in Northern Ghana are disempowered.
- The average inadequacy score of disempowered women is about 41 percent, indicating that despite the high disempowerment among these women.
- Women experience adequate achievement in about 59 percent of the domains in the Five Domain Empowerment (SDE) sub-index.
- On average, 81.11 percent of the women are experiencing gender disparity and the average empowerment gap is 26.79 percent.
- The average WEAI for the sample is estimated at approximately 0.71.

**Regression Results**

- Being a female and being married are factors that contribute to the disempowerment of women in Ghana.
- On average, women that self-reported being Muslim would have a higher CI therefore a lower WEAI score than those that are not Muslims.
- Not being able to read and write in English contributes to the disempowerment score of a person. On the other hand, the CI score, for males and females, decreases with age, with higher level of consumption and being married, thus all these variables are positive correlated to empowerment.

**Key Findings from WEAI in Northern Ghana**

- Women in rural northern Ghana are disempowered according the WEAI, they have a 72.5 % empowerment level.
- On average, 41% of disempowered women experience adequate achievement in approximately 59% of the 10 indicators in the WEAI index.
- The major source of disempowerment comes from access to and decisions about credit.
- Women are more satisfied than men with their leisure time consumption to the workload load they have, they are also being able to take production decision in an independent manner.
- The biggest disparity between men and women comes from purchase, sale or transfer of assets.
- Some demographic factor that contribute to the disempowerment of women in Ghana are: being married, and not know how to write or read in English.

**CONTACT INFORMATION**

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**Table 2: Women’s Empowerment in Agriculture Index**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Male Disempowerment</th>
<th>Female Disempowerment</th>
<th>Male WEAI</th>
<th>Female WEAI</th>
<th>CI</th>
<th>HCI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.927</td>
<td>0.867</td>
<td>0.714</td>
<td>0.714</td>
<td>0.618</td>
<td>0.714</td>
</tr>
</tbody>
</table>

**Figure 1:** Contribution of each indicator to disempowerment in Rural Northern Ghana sample.