RESEARCH PROGRAM ON Policies, Institutions, and Markets
CGIAR
Led by IFPRI

METHODS FOR MEASURING WOMEN'S EMPOWERMENT

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PIM SYNTHESIS BRIEF OCTOBER 2020

Women's empowerment is of paramount importance for multiple development goals. However, it is much easier to discuss the importance of empowerment than it is to define the methods and tools needed to measure it. This requires research focused on the conceptual understanding of *how* we should measure women's empowerment, in a variety of facets, and the creation of tools and methods for doing so.

The teams under Flagship 6: Cross-Cutting Gender Research and Coordination of the CGIAR's Research Program on Policies, Institutions, and Markets (PIM) led by IFPRI have been working to address this need and to develop a range of methods for improving gender analysis in agricultural research. The Standards for Collecting Sex-Disaggregated Data for Gender Analysis published by PIM colleagues in 2014 (Doss and Kieran) have been widely adopted across CGIAR. Much research has focused on how to measure women's ownership and control over assets, including women's land rights, along with a strong emphasis on how to analyze decision-making within a household.

This brief summarizes key contributions of this work to the discussion around the measures and methodologies for evaluating women's empowerment, including approaches to cognitive testing and determining who to interview.

KEY FINDINGS

- Standardized tools, like the Women's Empowerment in Agriculture Index (WEAI), are especially useful in answering questions at the household and individual levels.
- Experimental methods can explore household decision-making processes, providing information on how and why certain individuals are making the decisions.
- Using qualitative and quantitative approaches together is needed to untangle complex, local definitions of asset ownership, including women's land rights.
- Respondent selection is critical; husbands and wives often respond differently to questions about who makes decisions, and this lack of concordance provides additional information.
- There is a need for clear indicators of tenure security. Having one's name on a land title does not necessarily guarantee secure tenure.
- Cognitive interviewing is particularly helpful when collecting data on women's empowerment, given the complexity of the concept and the diverse ways in which empowerment is understood and interpreted in different contexts.
- Time use surveys are useful for understanding gender disparities in time burdens, and for designing effective policies and programs to address such disparities. 24-hour recall methods are still an important, and continually developing tool, especially in rural settings.

Measuring women's empowerment in agriculture

Standardized tools for measuring women's empowerment generate comparable research across contexts. The Women's Empowerment in Agriculture Index (WEAI), launched in 2012, and its variants are a significant contribution to the current methodologies for understanding women's empowerment. The WEAI is an aggregate index that summarizes women's empowerment in five domains for a given population, based on data collected from both women and men decision-makers in the same household. It allows for high-level comparisons across a portfolio, and at the same time, can be used for household, individual, and intrahousehold analysis.

Subsequent versions of the WEAI include the Abbreviated WEAI (A-WEAI), a condensed version that covers the same five domains, and the project-level WEAI (pro-WEAI), which is designed for project use. Comparisons across the different versions is possible using the A-WEAI indicators, which are nested in all the WEAI versions. As of September 2020, 56 countries and 108 organizations were using some version of the WEAI. The wide adoption of the WEAI demonstrates the value of a standardized instrument that captures multiple dimensions of empowerment.

Household decision-making

While women's role in household decision-making is one component of empowerment, husbands and wives often respond differently to questions about who makes decisions, and the lack of concordance provides important information. A body of PIM research explores how to understand different responses. Ambler et al (forthcoming) find that the different responses are consistent with a story of asymmetric information within the household. Extended households in which couples live with one set of their parents may have different patterns of decision-making, which will influence outcomes (Kieran et al. 2015). Ongoing research in Nicaragua is developing further methods to understand how differential response within households relates to the adoption of climate-smart agricultural practices (Muriel et al. 2019).

Initiatives to include women in household decision-making may improve agricultural outcomes. In Morocco, researchers using a mixed methods approach found that sensitizing men to gender equality and soliciting women's participation in decision-making can improve agricultural outcomes (Najjar et al. 2019).

It is useful to understand the "*why*" surrounding who makes which household decisions. In Senegal, researchers used a series of vignettes that described the reasons why a particular household member might be the one to make the decision. This methodology showed a link between the rationale for choosing the decision-maker and both production and consumption decisions of the household. They find that outcomes that are often attributed to the gender of the decision-maker may be more accurately attributed to the structure of the decision-making process within the household and the norms associated with the process within the community (Bernard et al. 2019).

***Who* within the household receives information may also affect the outcomes of household decisions.** Ongoing research in Uganda is using videos of male and female commercial farmers to explore the links between the gender of the model farmer and the gender of the household member receiving the information on agricultural decisions. Preliminary results show that targeting women with

the intervention has a positive effect on various empowerment domains and agricultural production. The effects of the role model's gender are more complex, but the study finds reductions in unilateral decision-making by men when shown a woman role model (Van Campenhout et al. forthcoming).

Measuring asset use, control, and ownership

Asset ownership is an important dimension of women's empowerment, and increasing evidence suggests that *who* owns the assets within households affects a range of household decision outcomes. Until recently, household surveys only measured assets at the household level, yet assets are not owned by households, but by people. Thus, there is need to identify ways to assess individual level ownership. Tension always exists between identifying approaches that are both locally relevant, with appropriate definitions, and internationally comparable (Doss et al. 2020). By linking the ownership response to a person listed in the household roster, it is possible to analyze asset ownership by a range of individual characteristics, including gender, age, and marital status.

Qualitative analyses also provide insights into the complex dynamics between empowerment and asset ownership. Using qualitative data in combination with household survey data on assets has shown that different answers from husbands and wives about ownership and control over assets often mean that they have a different understanding of the concepts. For example, an evaluation of a project providing cattle to households in Mozambique found that women said they controlled the income from milk sales when making purchases even though they consulted with the husband beforehand. Men's understanding of controlling the income did not include such consultation (Johnson et al. 2013). In Nepal, women indicated that having property rights gave them greater status and some leverage, but some level of empowerment was needed to exercise these rights (Pradhan, Meinzen-Dick, and Theis 2018).

To understand the relationships between women's land rights, agricultural productivity, and food security, we need to consider ownership, use, and control. In many developing countries there is a mosaic of land use patterns and tenure arrangements, with much of the land not formally owned. Analyzing nationally representative data from six African countries, Slavchevska et al. (forthcoming) demonstrate that often different people hold ownership, management, and economic rights (control over output) for a single plot. Effective programming will need to know which rights are held by which people.

Doss and Meinzen-Dick (2020) identify **four elements of tenure security that are critical for understanding women's land rights**:

1) Completeness of the bundles of rights — whether the same person holds the various rights.
2) Duration of the rights — whether they are short- or long-term.
3) Robustness of the rights — whether there is agreement on who holds them and whether they are enforceable.
4) Whether the rights are held individually or jointly and the relationships among the rights holders.

There is strong evidence that women's land rights are correlated with women's bargaining power and decision-making on consumption, human capital investment, and intergenerational transfers. Fewer studies have analyzed the associations between women's land rights and credit, technology adoption, and agricultural productivity (Meinzen-Dick, Quisumbing, Theis, and Doss 2017).

Other methods for data collection

Significant advances have been made in using information and communications technology (ICT) to collect gender-disaggregated data and leveraging mobile network metadata to examine women's economic empowerment. Data from mobile phone records provide revealed patterns of communication and behavior, as well as a potentially cost-effective alternative to reported communication in surveys (Slavchevska et al. forthcoming). Ongoing research in Colombia is specifically looking at the feasibility of using cellphone data to collect gender indicators and has identified important challenges for survey design and sampling under such conditions (Garcia et al. 2019; Twyman et al. forthcoming in 2020).

Cognitive interviewing

Conducting cognitive interviews before a survey is rolled out to the field can help clarify translations, identify ambiguous phrasing, and help improve data quality overall. Collecting information on empowerment is particularly challenging because empowerment is a complex, multidimensional concept: translating these abstract concepts into local languages is difficult. Cognitive interviewing is an applied qualitative approach for understanding the cognitive challenges that may result in response errors (Willis 2005).

Cognitive interviewing was used in the pilot studies that developed the A-WEAI (Malapit et al. 2017). More recently, Lambrecht et al. (2020) conducted cognitive interviews to test the pro-WEAI in Myanmar, which is a very different setting compared with the South Asian context where the WEAI was piloted. They find that questions on instrumental and collective agency were well understood, but questions on intrinsic agency were challenging because they were abstract and hypothetical.

The initial round of cognitive interviews is extremely valuable because it helps catch the more serious sources of response errors. While two rounds of testing would be preferable, it is worth doing even if a second round is not feasible. Cognitive interviews should be organized well in advance of planned field work to allow for sufficient time for analysis and for implementing improvements to the questionnaire.

Time use

Measuring time use is one way to make women's work visible and to understand the relationship between time use and empowerment. Traditional gender norms typically assign greater responsibility for domestic chores and care work to women. These tasks tend to be invisible because they are often unpaid and undervalued, and yet they may result in heavy work burdens for women and limit whether and how women can engage in other productive activities (Seymour et al. 2020).

One approach to measuring the duration of different activities is a 24-hour recall time diary, where a heavy work burden beyond a given threshold is interpreted as time poverty (and therefore disempowering) (Alkire et al. 2013). Recent studies (Malapit et al. 2017 and Seymour et al. 2020) show that such diaries work better than a stylized one-week time use module and that agricultural settings are well-suited for time diaries because respondents do not usually have a set schedule, which makes recall beyond 24 hours difficult. These diaries are best structured by inviting the respondent to narrate their day, avoiding ambiguous reference periods, and using locally salient events to facilitate recall.

Time use data can help investigate the linkages between time use and nutrition outcomes. Seymour et al. (2019) construct time poverty measures and examine whether women facing both time and income poverty face greater obstacles in achieving better nutrition. Overall, the authors find little evidence that women's time poverty is associated with nutrition outcomes but hypothesize that this is a

consequence of the difficulty in defining and operationalizing the concept of time poverty. Meanwhile, Padmaja et al. (2019) find that women and men have different time use patterns and burdens, and that changes in time commitments have complex impacts on the nutrition of women and children.

Relying on time allocation inferred from labor input data, Komatsu et al. (2019) find that increased work effort in agriculture can adversely impact nutrition, but this could be offset by improved agricultural productivity. To adequately capture energy expenditure, they recommend collecting data that measures the intensity, duration, and frequency of time use for different activities, in addition to individual-level food consumption.

Other facets of time use are also important. Time data that captures durations of activities is not sufficient to understand the quality of time, including work effort (e.g., simultaneous activities, energy expenditure), control over time, or affect (e.g., well-being, stress, emotions) (Seymour et al. 2020).

Concluding remarks

A vital component of PIM's gender research agenda has been to equip researchers with the tools that help understand women's empowerment, the processes that underlie it, and how it is linked with other outcomes.

An internationally validated standardized tool such as the WEAI allows researchers to more accurately compare results across many different contexts — contributing to the understanding of women's empowerment in a broader sense — and can also be used alongside qualitative methods to understand the meanings of empowerment in local contexts.

Experimental methods that unpack the household decision-making process enable researchers to go beyond the question of *who* is making the decision in the household, providing information on *how* and *why* certain individuals are making the decisions. Knowing which rights are held by which people is essential for effective programming.

Even with these advances in research, there are still limitations to the understanding of the optimal methods to measure women's empowerment and which tools are best suited for which contexts.

Going forward, One CGIAR must maintain a concerted effort toward producing high quality tools and innovative methods in the pursuit of improving our definitions and understanding of women's empowerment.

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ACKNOWLEDGMENTS

Research summarized in this brief has been undertaken as part of the CGIAR Research Program on Policies, Institutions, and Markets (PIM) led by IFPRI and supported by the CGIAR Trust Fund and through bilateral funding agreements. Authors are grateful to Katrina Kosec and Evgeniya Anisimova for valuable editorial and publication support.

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