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Qualitative Methods for Gender Research in Agricultural Development

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ABSTRACT

The rise of mixed methods approaches to development-oriented research has brought new attention to qualitative research methods. This paper describes the use of qualitative approaches to illuminate gender relations in agricultural development research and project implementation. For gender research, qualitative methods can be particularly helpful in illuminating how men and women view their lives. Drawing on literature about social science methods and linking it to recent examples of qualitative methods employed in research and development projects, the paper argues for greater precision in key concepts of gender research, starting with sex and gender. From the many possible qualitative methods used in development work, the paper focuses on several common observational (both direct and participatory) and interview techniques, the latter including key informant and group interviews and focus group discussions. Researchers use various techniques to gather different types of information, for example, mapping techniques to understand men's and women's different types of knowledge about their environment and eliciting in-depth information on a single topic with key informants. In a brief discussion of the analysis of qualitative data, the paper notes that informant responses are not "the truth" but need to be assessed against other sources of data. Finally, there is a short discussion of how qualitative data have been used in comparative work. The paper concludes that the results of good qualitative research on gender relations can help identify the locally specific pathways needed to achieve gender-transformative development approaches.

Keywords: gender, qualitative research, mixed methods, agriculture, key informant interviews, group interviews, focus group discussions

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1. INTRODUCTION

Qualitative research methods and the data collected and analyzed as a result have a long and influential history in shaping development theory and practice, particularly in the field of gender and development. An early example is found in the work of Esther Boserup and in her pioneering book, *Woman's Role in Economic Development*. Her 1970 study, which became a legitimizing charter for focusing on women in development, relied heavily on ethnographic studies by anthropologists who had documented rural communities in Africa, Asia, and Latin America, observing and recording the daily lives of both the women and men living there.

As the field of development studies grew, however, a greater reliance was placed on the collection and analysis of quantitative data, eclipsing the contributions of qualitative studies. While quantitative studies remain dominant, there has been an increasing appreciation of the influence of culture in development (Serageldin and Taboroff 1994; Wolfensohn et al. 2000; Walton and Rao 2004) and for the value of using qualitative methods to explore it. A growing number of studies using mixed methods is bringing new attention to some forms of qualitative research.

This paper looks at the characteristics of qualitative research and its use in illuminating gender relations in agricultural development research and project implementation both on its own and in conjunction with quantitative approaches in studies using mixed methods. It begins with a close reading of the concepts of sex and gender to create a common vocabulary for the rest of the paper, and also to emphasize the importance of definitional rigor in qualitative approaches. The paper then provides an overview of some commonly used qualitative research methods and explores their use in selected research studies. The final section of the paper takes up the question of whether or to what extent qualitative research can produce comparative results.

2. IS THERE SOMETHING SPECIAL ABOUT STUDYING GENDER?

It has become a common understanding both among the general public as well as in the development community that there is a difference in the meaning of the terms *sex* and *gender*. The term *sex* is generally seen as referring to the "facts" of biology, that is, the way in which human beings distinguish between males and females, typically a dichotomous characterization of human beings that is universally recognized.[1] The term *gender* is used to refer to the social meaning given to those "facts," particularly as they reflect socially acceptable roles and responsibilities that are differently associated with men and women.[2] Biology cannot explain the variation we see in what men and women do in different parts of the world. By contrast, the concept of gender allows us to accept the diversity of social roles and responsibilities that women and men have in different cultural settings: that women harvest cassava in eastern but not western Nigeria, or that women make baskets in some parts of Kenya, while men make baskets in other locations. Local people may explain this gendered division of labor in terms of supposedly "natural" biological characteristics, but they are analytically explicable only in terms of cultural or social conventions.

English is fortunate in having a clear way to distinguish these concepts linguistically, in the words *sex* and *gender* but also in the use of the words to describe people. To talk about people in terms of their biology, we have the labels "males" and "females." To talk about people in terms of their social roles, we have the labels "men" and "women."

Distinguishing between sex and gender in a more consistent manner is a needed path toward achieving a *science of gender* in international development work (Box 2.1). Recognition that gender categories are socially constructed and relational provides an entry point for promoting change in attitudes about what men and women can do, supporting changes in the kind of behaviors that they actually perform. For example, while it is true that only biological females can bear a child[3]—a fact of their sex—men and women can take on the responsibilities for caring for that child in their gendered roles. Or consider the statement often heard in interviews about women and the environment that "women are better managers of the environment than men are." This is not, of course, a function of their biology, but of the social situations in which they find themselves: relative to men, rural women are often quite dependent on environmental resources, such as fuelwood, and thus may be more concerned about managing them in a sustainable manner. Whether and to what extent women may be attentive to sustainable land and water use cannot be assumed and needs to be researched.

[1] In nature, biological sex is not always dichotomous, even though culturally we frequently present it to be so. Fausto-Sterling identifies five different sexes: males, females, and three types of *intersexes*, the latter having different combinations of male and female characteristics (for example, testes and ovaries or other genitalia). She says, "I would argue further that sex is a vast, infinitely malleable continuum that defies the constraints of even five categories" (1993, 20).

[2] For many social theorists, the line between sex and gender is not clear-cut. Yanagisako and Delaney (1995, 9) argue that feminist analysis illuminates that what appears to be "natural"—including the idea of nature itself—is actually a cultural construct. They use the field of kinship as an example of this point. Different cultural ideologies each base their views of kinship on an understanding of the biology of reproduction, yet categorize groups of relatives in different ways.

[3] Although not all women can or do bear children.

Box 2.1 Blurred boundaries

The title of the gender policy approved by the United States Agency for International Development (USAID) in 2012, *Gender Equality and Female Empowerment Policy*, illustrates the problems surrounding the use of *sex* and *gender*. Despite debate over the use of these terms in the months prior to its release, the Agency chose to link the biologically based word *female* to the eminently social process of empowerment, stating "This policy deliberately uses the term 'female' empowerment, as opposed to women's empowerment, to include girls and adolescents" (USAID 2012, 3). While one could argue this is a useful political strategy, it is not easily defensible if one is trying to build a systematic approach to gender analysis. A use of the phrase *women's and girls' empowerment* would have made the case for supporting the social process of strengthening women's rights at any age more clearly and more powerfully. Decisions like this, when used by key donors or implementing organizations, influence the work of others in the field, contributing to an impression that the field of gender and development is not rigorous.

Source: USAID (2012, 3).

While the concepts may seem clear and relatively simple to comprehend, their application is another matter, and the lack of rigor in the field is problematical. In development studies and gender research alike, the terms *sex* and *gender* are not systematically used, resulting in confusion about which behaviors are biological and unchanging and which are social and open to change. It is not a simple semantic issue because using the terms *males* and *females* describes static and universal characteristics; describing "men" and "women" allows for discussions focused on diversity and change. In general, it is helpful for readers of research reports to use the terms *men* and *women* whenever the discussion is about people performing activities in a social setting and doing so according to their social or cultural norms and beliefs. For example, it has become acceptable in development writing to use the terms *women farmers* and *women household heads* when describing what these farmers do or the responsibilities conferred on them in their role as heads of households. At the same time, it is still acceptable to use the terms *male* or *female* if, as in a survey form, the interviewer collects data only on the single variable of sex isolated from other social characteristics that are, in all likelihood, addressed through other questions about income, ethnicity, or occupation. When writing up the results, however, one needs to be attentive to whether the statements refer solely to the sex-disaggregated data or to a more contextual statement about men and women in their social roles. In a pioneering review of agricultural censuses, the Food and Agriculture Organization of the United Nations (FAO) gave this useful explanation and recommendation, although it has not been regularly followed:

> *Sex-disaggregated data* refer to the collection of data by physical attributes, whereas *gender-disaggregated data* are analytical indicators derived from sex-disaggregated data on social and economic attributes. These concepts are used interchangeably although this is not correct from a technical point of view. (FAO 2005, vi)[4]

Because there is no agreed-on definition of what would constitute gender-disaggregated data, this paper recommends using the terms *sex-disaggregated data* to refer to the data collected and *gender analysis* to refer to the explanations of men's and women's behaviors emerging from analysis of that data. Noting that "it is indispensable" to collect data from men and women, and not only from women alone, Doss and Kieran (2013) identify the key types of sex-disaggregated data needed to conduct a gender analysis.

The topics of sex and gender in development work and whether or when to use quantitative or qualitative methods are linked to two other long-standing historical debates. The first is the debate as to whether the same methods can be used to study both *nature* (the physical world) as well as *culture* (the social world). In this debate, there are those who use similar methods to study both, whereas others have

[4] The CGIAR and other agricultural organizations for many years referred to any data about males and females as "gender-disaggregated" data, whereas USAID used the term *sex-disaggregated data*; however, neither consistently follow the practice described in the FAO quotation.

argued that social phenomena require study by different methods, because of the shared property of consciousness between the observer and the observed, even if such methods can still be scientific and rigorous. Some take an even more extreme position, arguing that the study of social life must use philosophical or literary methods rather than scientific ones.[5]

In development research and implementation, *context* is a helpful shorthand for describing a range of conditions that are often assumed to be isolable from the topic being researched, from the current policy environment, climate variability, and rates of exchange for local currency to the laws (or lack of them) around marriage, inheritance, or gender-based violence. If we take seriously, however, the position that gender is socially constructed, then the context in which gendered behavior and beliefs are embedded becomes itself an important topic of the research, not something separable from it.

A second debate centers on the role of culture in the development process. The dominant view among development practitioners for many years was that cultural practices and values among peasants, fishing folk, and pastoralists in the developing world were an obstacle to their own development, where their so-called traditions got in the way of more modern production systems of farming, fishing, and livestock raising. An alternative view emerged and gained traction in the 1990s that argued people's own understandings of their world, their indigenous knowledge, were important assets that could be harnessed to support improvements in their living situations.

Qualitative methods are well suited to exploring context and cultural difference, drawing on the tools and techniques developed by social historians and anthropologists, among others, to make visible beliefs and practices otherwise taken for granted and unanalyzed. Participatory research methods drew on such established qualitative research techniques to capture these local voices. This is important in gender research because peoples' understandings of their own gender identities and their societies' gender categories are among the most fundamental types of "taken for granted" knowledge. Yanagisako and Delaney talk about *naturalization*, a process of making beliefs about a subject appear to be "natural, inevitable, and even god-given" (1995, 1). Although referring in this quote to power, they also discuss how the construct of naturalization is helpful for understanding beliefs about gender that are so often framed not only as natural but as universal, even when uniquely local in their expression. The converse of naturalization is to problematize a topic, a belief, or a practice, exposing it to investigation. Effective qualitative research methods are those that can expose what people may think is natural as actually being a social practice, opening it up for discussion and creating the potential for change.

Arizpe and Aranda describe the use of naturalization (although before that term was coined) in the preference for hiring women to process and pack strawberries in Mexico. The use of women is locally explained by women's greater (and supposedly "natural") dexterity by plant managers and the women themselves. Arizpe and Aranda offer a more complex analysis of the social and economic, not biological, factors that are at play in keeping women in these lower-paid, usually seasonal jobs:

> Why does the strawberry agroindustry predominantly employ women? It is true that the jobs of removing stems and selecting strawberries require a manual dexterity that men do not usually achieve, *but this is not the main reason that the industry employs women*. In the region of Zamora, agroindustry cannot compete with the wages paid in the United States in order to attract and retain migrant male labor. At the same time there is a large population of young women who have very few alternatives for work. The strawberry plants do not have to compete with urban wages for women workers, since the emigration of women from the region is not frequent; male emigration largely covers the deficit in the budget of most peasant families. Moreover, the great majority of young women in peasant families have access only to paid domestic work or to wage labor on the land, both of them unrewarding jobs. Therefore, the main reason for employing women is that they can be paid much lower wages than those stipulated by law, and can be asked to

[5] A useful overview of this debate can be found in Gordon's (1991) *The History and Philosophy of Social Science*. In this paper, the terms *nature* and *culture* are set off by quotes because some social scientists have problematized the relationship or existence of boundaries between the two (see footnote 2).

> accept conditions in which there is a constant fluctuation in schedules and days of work. (1981, 470; emphasis added)

Discussions about the definition of *gender* refer not only to its social construction but also to its relational character. In the development literature, especially in gender trainings, this is usually expressed as the concept of gender being about men and women and their relationship to each other. Beyond clarifying that *gender* does not equal a focus of attention solely on women, the emphasis on the relationship aspect of gender invites exploration of the different ways that men and women are conceptualized in society. Are men and women seen to occupy equal but separate spheres? Or are men and women in a hierarchical relationship, where the activities of one are perceived as having greater value than the other? Understanding the relational dimensions of gender necessarily involves attention to concepts like equality and difference, power and inequality, and their meanings in different contexts. These questions can be investigated using the tools of qualitative research, discussed next.

3. QUALITATIVE RESEARCH METHODS IN A MIXED METHODS APPROACH

Qualitative research tends to play a supplementary rather than defining role in development research and in the formulation of development hypotheses. It can be particularly useful in gender research for agricultural development, however, because ideas about gender are so closely linked to local social practices and beliefs. In-depth, exploratory interviews, whether with key informants or groups, can help illuminate concepts such as well-being, status, self-esteem, empowerment (or disempowerment), vulnerability, issues of social differentiation, social norms, and, most important, self-perceptions by individuals and communities of what it means to be a man or a woman in a given society. Probing follow-up questions with a key informant can move beyond stereotypical answers and explore, for example, the nuances of gendered dimensions of use, control, and ownership of assets and how they differ across a community. Adato (2008) describes the use of survey and ethnographic techniques in evaluations of conditional cash transfer programs in several countries, noting that the qualitative research clarified the impact of the program from the participants' perspectives and in their own words and raised new questions for further study. In another example, research conducted under the Gender, Assets, and Agriculture Project (GAAP), co-led by IFPRI and the International Livestock Research Institute (ILRI),[6] used focus group discussions to disentangle the complex dimensions of ownership of assets such as land, cattle, and other livestock, or other property in several countries, questioning not only who (men or women) had rights to use or sell the assets but also how men and women perceived these rights and responsibilities. Qualitative research can inform different types of gender research (Box 3.1).

Box 3.1 Types of gender research

Research conducted under the umbrella of "gender-responsive research" is understood to yield data and analysis to assist in designing agricultural interventions that are able to meet the needs of men and women and to reduce rather than exacerbate any existing gender disparities (see, for example, CIMMYT 2014, 33; CGIAR Research Program on Water, Land, and Ecosystems 2014).

Gender-focused research has the primary goal of expanding knowledge about both men's and women's behaviors, values, constraints, and opportunities. It seeks to document, for example, men's and women's different types of work; areas of knowledge; patterns of time allocation; use of, control over, and ownership of diverse productive assets; and levels of participation in the community or in agricultural value chains, among other aspects of social life.

Gender-informed research uses information such as that generated by gender-focused research about gender relations, roles, and responsibilities in investigating other questions. In agricultural research, a gender-informed research question might be, "How can women's access to land be expanded to increase their opportunities to grow new varieties of potatoes?" (Rubin and Spieldoch 2013).

The likelihood of achieving gender-transformative outcomes, where men and women are both helped while gender roles are changed to become more gender equitable, is assumed to be greater when the research activity explicitly identifies and addresses gender-based constraints or strengthens gender-based opportunities or both.

Sources: CIMMYT (2014); CGIAR Research Program on Water, Land, and Ecosystems (2014); Rubin and Spieldoch (2013).

"Stand-alone" qualitative methods, such as many rapid appraisal techniques, allow researchers to quickly explore new themes among a wide range of informants. In-depth interviews with key informants can help answer the "why" questions that illuminate the reasons people give for what they believe and for what they do, especially when norms differ from actual practice. They are also useful for exploring variations within specific contexts or among subgroups within communities. Qualitative research illuminates how people attribute meaning and interpret their lives (Box 3.2).

[6] See http://gaap.ifpri.info/.

Box 3.2 Strengths of good qualitative work

- Explores the "why" and the meaning of behaviors and belief
- Probes diversions between beliefs and actual practices
- Offers flexibility to ask about or follow up interesting or emerging lines of inquiry
- Captures informants views in their own words, clarifying how they understand social categories
- Allows some interview types (such as group interviews or focus group discussions) to provide a great deal of information in a short time and at relatively low cost.

Source: Adapted from Bernard (2006).

Qualitative inquiry can inform the construction of quantitative surveys, and survey results can be further questioned on the "hows" and "whys" through the use of open-ended interviews and focus group discussions. Qualitative studies can supplement the results of larger-scale quantitative household surveys by collecting data on different topics as well as by informing survey participants about survey results and checking whether they resonate with peoples' views, a process of ground truthing.[7] Bernard (2006, 386) describes it this way:[8]

> Ethnography [using a range of qualitative methods] produced ideas for policy recommendations and for the content of a questionnaire. The questionnaire data illuminated and validated many of the things that the ethnographer learned during participant observation. Those same survey data produced anomalies—things that didn't quite fit with the ethnographer's intuition. More ethnography turned up explanations for the anomalies. And so on. Ethnography and survey data combined produce more insight than either does alone.

Mixed methods were used in a Mozambique project studied as part of GAAP. Researchers administered two household surveys to collect data on household dairy production and food security, sex-disaggregated data on asset ownership, and agricultural labor data. Later they used focus groups to explore "local understandings of assets and asset ownership, and gendered roles in dairy production" (Johnson et al. 2013, 26). The focus group discussions revealed that men and women had different understandings of what it meant to "control" income. When women talked about "controlling" income from milk sales, they often meant that they only made purchases after first consulting their husbands. Men did not report similar practices of consultation with their wives over the income that they received from milk sales. Women also explained that they worked harder and longer to feed and care for the project-provided cattle, but that the benefits of extra milk for their families made the added labor worthwhile (Johnson et al. 2013).

A similar mixed methods approach was used in GAAP research in Bangladesh with a CARE project, "Strengthening the Dairy Value Chain Project." A comprehensive series of quantitative surveys collected information on land and assets, as well as on asset value and ownership. Researchers conducted focus groups with project beneficiaries on topics including asset ownership, access to resources, and decision making about dairy production and dairy-related income. The qualitative research revealed a difference in the spheres of authority of husbands and wives over milk intended for sale or for home consumption. Husbands typically made some decisions about milk sales and also handled dairy-related income and investments. Wives handled the process of milk marketing, deciding how much to sell to

[7] The term *ground truth* originated in the earth sciences and referred to the process of confirming the validity of data through a field check or "on the ground." It can refer to the practice of either (1) sharing survey or other analytical results with people in and around the communities where the survey data were collected and monitoring their reactions, or (2) conducting qualitative interviews on the same topics as addressed in a survey and comparing the results.

[8] Bernard was describing Miller's 1997 research on gender and sexual harassment in the US Army. For "ethnography/ethnographer," the reader can in this case substitute "qualitative research/qualitative researcher."

other families and how much to milk collectors. Wives also decided on the allocation of milk within the home (for example, to children or to adults) (Quisumbing et al. 2013, 22–23). These findings presented a more nuanced picture of intrahousehold decision making than had emerged from the survey data.

It is hard to overestimate the importance of understanding as much as possible about the context in which the research will be conducted to inform the framing of research questions. Familiarity with the existing literature on gender issues prior to embarking on any new study is a critical step. There is now a voluminous body of work on gender-related topics in nearly every discipline. The contemporary compartmentalization of research, however, means that it is easy to limit one's background research to one's own discipline, and there is a tendency for those in development to overlook relevant work of academics, or even for those from one institution to miss the value of work produced by another, especially if it is from a few years earlier. Given the interdisciplinary character of much of the gender research, and the importance of understanding change over time, researchers should seek out qualitative and quantitative studies from across the social sciences to become aware of the relevant arguments of experts. These studies of previous work can and should be reviewed and analyzed as part of a background literature review. The results of this work can provide important insights and help generate hypotheses for further research. In addition, sources such as life histories presented through oral history, biography, autobiography, and other types of personal interviews can illuminate the perspectives of people who are the focus of the research.

4. SELECTED QUALTITATIVE RESEARCH METHODS[9]

Qualitative research consists of two broad types of methods for collecting data: observational and interactive. Observational techniques include direct and participant observation. Interactive techniques encompass all forms of interviews, as well as some other participatory activities with members of the research community, such as mapping, ranking, and sorting activities, among others. A participant observer who is a resident of the community may employ a wide range of observational and interactive techniques. The discussion that follows is not exhaustive; it describes some of the more common methods documented in research reports by gender researchers in the CGIAR and other development organizations.

Observational Techniques

Direct Observation

Direct observation refers to evidence or data collected as a result of firsthand observation: watching what people actually do but without engagement with the people themselves. It can be a useful first step in gaining an understanding of the common conditions or practices in a field site. Direct observation can involve detailed recording procedures, documenting physical movements, expressions, and utterances. It documents what people actually do, often in contrast to what they may report about their activities. In the past, direct observation was recorded by hand, later captured by film and video, which today can be digital, enormously facilitating the documentation and validity of coding each behavior. In development work, more casual direct observation can still be useful: for example, informants may be asked whether men or women or both perform different agricultural tasks. Their responses can be checked against direct observation in village fields, which may reveal a different gendered pattern of behavior.

Direct observation has been frequently, though not always, shown to be more accurate than reports that people give about their remembered behavior. In a now-classic study in anthropology, Ricci et al. (1995) tested the accuracy of recollection compared with direct observation, finding that informants incorrectly reported their behavior 56 percent of the time only one day after being observed. More recent comparative studies, in the fields of health and nutrition, have also found direct observation to be better at capturing frequency and intensity of behaviors (Bernard 2006, 435).

Time allocation studies can also be conducted through direct observation, although they are more commonly approached through interviews asking for 24-hour recall. Using direct observation, researchers living in a village have taken note of what people were doing at different times of the day, building up a composite picture of what activities are taken and by whom. This type of study requires carefully structuring the observations to ensure that all relevant people are observed at appropriate intervals (Bernard 2006, 428).

A pilot study carried out under the drought-tolerant maize in Africa project implemented by CIMMYT looked at seed purchasing from the perspectives of both agro-input dealers and farmers. To study consumer behavior, Kandiwa piloted an investigation in which she and her colleagues observed men's and women's seed-purchasing behavior. The research team had permission to sit in the stores of agro-input dealers in Kenya to observe the interactions between the agro-input shop staff and the men and women consumers. They recorded which seeds were purchased, whether additional inputs were also purchased, and whether additional advice on crop production was requested or provided to men or to women or both. Preliminary results reveal the following:

[9] This section draws on the work of numerous sources on qualitative methods, including Bernard (2006); Crane and Angrosino (1992); Denzin and Lincoln (1994); Marcus (1998); and the Royal Anthropological Institute of Great Britain and Ireland (RAI) (1967).

- Women are deeply involved in decision making on improved maize seed adoption, but they make up one-third (compared with the two-thirds who are men) of the individual clients served by agrodealers.
- Women's visits to the agrodealers do not vary significantly by day of the week or whether it is a market day in that area.
- The proportion of women who visit the agrodealers varies by location. More rural, smaller markets show a more equal distribution of men and women purchasing seeds from agrodealers, perhaps a result of easier access by women to shops in localities nearer to their homes.

Supplementary interviews with consumers helped explain that key factors influencing seed choice are a consumer's knowledge and available free time (Kandiwa, Badstue, and Tegbaru 2014). The research reveals that there are great opportunities for better targeting of information and seed technologies to bridge gaps between men and women consumers in seed access and adoption.

There are several limitations to the practice of direct observation. Reports of observed behavior can be biased by a researcher's expectations, capabilities, or personal attributes, such as age and sex (DeWalt and DeWalt 2011). Gender identity can sometimes expand and other times limit the scope of direct observation for men and women. On the one hand, the experience of being a man or a woman allows the researcher to bring that perspective to his or her observation practice. On the other hand, a woman may find it difficult to observe in some of the places that men congregate, and men may be prohibited from meeting with women at certain times or without other family members present.

Behaviors can also be influenced by the presence of the observer. This may be a conscious decision by those being observed, on the one hand, to refrain from behaviors that are perceived to reflect badly on them or conversely to actively engage with the observer.[10] Some researchers have argued that observation can unconsciously affect the behavior of others.[11]

Another drawback of direct observation lies in its inability to provide an explanation of the meaning of the behavior observed because the same activity can have different meanings (Geertz 1973). A researcher studying women's participation in community meetings, for example, observes women attending a village meeting together with their husbands. The researcher observes that the women do not voice their views. What does this behavior mean? Is it a sign of a subordinate status? Or fear of punishment? Maybe the couple discussed their joint position ahead of time and agreed that the husband's higher social standing at that meeting justified his speaking out. Perhaps these women honestly share their husbands' views and have nothing to add. To understand the possible meaning of the women's silence, the observer would need to attend many meetings on various subjects to gain a comparative perspective and also conduct interviews with both the women and the men, exploring with them different explanations of their behavior.

Participant Observation

Participant observation is one of the hallmarks of qualitative methods. It allows the researcher to "learn by doing," ideally to achieve the same familiarity with another context as if it were one's own, gaining the "insiders' perspective," by experiencing, observing, and recording information about others' lives. A participant observer typically becomes a resident in the local community, spending months or even years there. It is time and labor intensive. Participant observation can yield qualitative and quantitative data: photographs, recordings, narratives, notes, and more (Bernard 2006, 344). Because of the depth of

[10] I remember observing a ritual while doing research in Tanzania. Realizing that I was also recording the music being played, the villagers interrupted the ritual multiple times, asking me to play the tape. They sang along with the recording, commented on it, and extended the duration of the event by many hours!

[11] Interestingly, Zwane et al. (2011) found that being surveyed can also influence post-survey behaviors on the topic that was being studied.

knowledge gained, participant observation can be invaluable for challenging initial research assumptions and can lead to more nuanced and more accurate hypotheses (DeWalt and DeWalt 2011).

Participant observation typically requires long-term presence in the field, so it is not commonly used in the type of agricultural research currently conducted by development organizations, but it has made important contributions in the past. McCorkle (2000) notes that anthropologists and rural sociologists who spent extended periods conducting participant observation research among small farmers across the globe contributed both methodologically and substantively to the development of the Farming Systems Research and Extension (FSR-E) approach:

> Work on producer decision making brought fresh, non-economistic decision modelling methods to FSR-E, ranging from qualitative and quasi-quantitative approaches derived from behavioural and cognitive anthropology, later incorporating expert systems technology. The modelling methods were used to elucidate not only producer decisions but also donor-agency decisions about funding for agricultural research and development. In the latter context, such methods thus provided social scientists with another policy analysis tool. FSR-E's increased attention to intra-household dynamics and gendered divisions of labor also caused anthropologists to bring sophisticated but streamlined methods of time allocation research to bear on these topics, as well as on other such as malnutrition. (2000, 307)

Interactive Techniques

To obtain locally grounded information similar to what emerges from participant observation but in a shorter time frame, researchers developed a number of other participatory techniques. Rural appraisal, rapid assessment procedures, and participatory rural assessments emerged in the 1970s and gained prominence in the 1980s. They have become common methods in development work today (Nolan 2002; Gurung and Leduc 2009) (Table 4.1). A common one is the transect walk: a systematic walk through a community, usually with a group of local people, to document the location and distribution of key resources, natural and built features in the environment, and different types of land use, including areas for farming and grazing. Researchers also use other types of community mapping. Taking time to walk around the community with its members helps identify the problems they associate with production and can help the researcher develop hypotheses for more intensive research using other methods of investigation. It could possibly lead to an understanding of their causes and potential solutions (FAO n.d.; World Bank n.d.). Conducting a transect walk with groups of men and women separately can reveal their different perspectives on the same resources and on agricultural and livestock activities.

Table 4.1 Using participatory tools for agriculture and gender research and analysis

Gender analysis step	Participatory tool
1. Identification or diagnosis of key issues	• Well-being ranking • Participatory map • Daily activity calendar • Transect walk • Seasonal calendar • Focus group discussion • SWOT analysis
2. Men's and women's division of labor	• Daily activity profile • Seasonal calendar • Transect walk • Focus group discussion
3. Gendered access and control over resources and benefits	• Resource mapping • Well-being ranking • Focus group discussion
4. Women's empowerment	• Mobility map • Stakeholder analysis • Level of participation • Power relations • Focus group discussion
5. Women's practical and strategic needs	• Venn diagram • Visioning exercise • Mapping of gender-based division of labor • Influence and importance matrix

Source: Adapted from Gurung and Leduc (2009).

One of the GAAP studies used a combination of participatory techniques to document men's and women's different priorities in asset acquisition. Drawing on interviews and focus group discussions, the team created a list of commonly owned assets in high- and lower-caste farming households in India. Using pictures of these assets as visual aids, men and women were asked about the assets that they owned, used, or had access to, as well as the value each asset had for them. Men and women displayed different patterns of ownership and different preferences for acquisition (Paris et al. 2013). The findings reveal that gender can be an important variable to consider ahead of time, for example, in the design of new technologies, or retrospectively, in their adoption.

Participatory mapping is another tool that has been successfully used to identify differences in men's and women's knowledge about their environment as well as differences in how they use it. One example is found in the recent work in Zambia by Estrada-Carmona (2014) as part of an Agriculture for Health and Nutrition project, which engaged both women and men to document the areas they utilized for crops and other food resources (such as fish) and why they made the choices they did. The study helps illuminate how gender differences shape opportunities for more diversified food production that can enhance nutritional outcomes.

Key Informant Interviews

Key informants are interviewed primarily to get detailed information about a specific, often specialized topic of interest to the researcher, as well as to identify other relevant informants (Box 4.1). They may be able to represent a larger group about a particular topic or be a person whose views are influential in a group, whether within the family, in the community, or on the national scene. Often key informants are gatekeepers to other knowledgeable people or other sources of information on the topic.

Box 4.1 Using key informant interviews in gender-related research

In a gender and value chain assessment, key informants could include representatives from firms or groups at each node in the chain, as well as particularly successful or unsuccessful producers. Such a range of key informants would together provide a holistic picture of the value chain. Interviews with agro-input suppliers, for example, will elicit information about their operations and the way in which gender issues shape their policies and practices. Questions on these topics might include the following:

- What positions are filled by staff who are men and by staff who are women?
- Why do you put men/women in those positions?
- How much are men/women paid in those positions?
- How well do men/women perform in those positions? [Depending on the responses received, ask…] Why do you think that men/women have these challenges/successes?

Responses to these questions can then be used to construct hypotheses about the factors that inhibit men or women from expanding their participation in activities along the value chain.

Source: Rubin, Manfre, Nichols Barrett (2009).

The choice of key informants will depend on the research question being investigated. In researching agricultural value chains, it makes more sense to talk with participants in the chain—for example, producers, processors, transporters—rather than primary school teachers or health workers. However, some people, such as local government officials or leaders of associations or community organizations, are important to include for their general knowledge of the community and to help in the identification of other possible interviewees. It is equally important to reach out not only to leaders but also to ordinary members of the community, to women as well as men, and young as well as old. The researcher needs to be attentive to bias in the pool of possible informants. It can be easy to speak to those who are most eager or most easily reachable, and miss those who are not on the main roads or in the largest and best-known institutions.

In conducting gender-related research, it is critically important to speak to men and women. Do not make the mistake of meeting only with women. Include men in your sample of informants, whether they are supportive or discriminatory in their views on women. Follow the lead of anthropologists and social historians to include informants of higher and lower status, different ethnic or religious groups, and different generations to ensure that you are getting information that reflects diversity among the group. Building a good understanding of the positions on which people disagree also helps in facilitating focus groups, as discussed in the section on focus group discussions below.

Interview questions with key informants are mostly open-ended to allow for wide-ranging exploration of a topic. Semistructured interviews follow an outline of questions prepared in advance in an interview schedule to gather information that the researcher knows she or he wants to cover. Unstructured interviews, by contrast, are less formal, allowing for digression and exploration of a topic according to the flow of the discussion. Interviews with key informants often use both types. For example, the researcher may want to learn about men's and women's jobs at an agricultural processing plant. She makes an appointment to meet with the plant manager. After spending an initial 15 minutes in the plant manager's office asking questions from an interview schedule prepared in advance, the research accompanies the manager on a tour of the plant, asking questions about the people and procedures as they encounter them. As some of these situations may be new to the researcher, her questions during this phase do not follow a prearranged structure as it would not have been possible to identify all the relevant questions in advance.

Group Interviews

Researchers conduct group interviews using a semistructured interview schedule with several people at the same time, ranging from small sessions with only three or four people to larger ones with ten or more. It is a good way to get information from a larger number of people and in a shorter time than is possible with key informant interviews. However, if the group is too large, it is difficult for a single interviewer to manage the dynamics and information, and the focus of the session is often lost in side conversations or a lack of participation. Ideally, everyone involved in a group interview will participate actively.

Compared with interviews with key informants, which often follow paths not initially envisioned, the interview schedules used in a group interview are more targeted and focused. The group interview schedule can employ different types of questions, just as in a key informant interview. Background research will inform the choice of conducting group interviews with men and women separately or in mixed groups. If the research is expected to clarify differences between men's and women's views on a particular topic, having each in a separate group is usually better. If the research focus includes understanding the dynamics of how men and women interact with or react to different views, then working with a mixed group will be appropriate. If the topics to be discussed are somewhat sensitive, then be sure to find out if it is appropriate to use a man to interview a group of women, or vice versa.

Group interviews are helpful for quickly creating a broad picture of general practice or for drilling down into the diversity of views within a group, for example, about the range in women's ability to own land, how they obtained their land, or what rights they have over the land. As group interviews are primarily extractive in character, in this example, the process would quickly generate a lot of data, perhaps on the local names for different types of land, whether women or men have rights to dispose of the land, to use it for different purposes, and so on. The data so obtained provide a general picture but will typically need to be examined in greater detail by another method, such as key informant interviews, focus groups, or a structured survey.

Focus Group Discussions

Focus group discussions are a type of group interview with a defined and narrow focus. They provide a rich and in-depth perspective on a well-defined topic. The focus group, unlike a survey, allows individuals to hear from other participants in the group in a way that creates new ideas and sometimes influences previously held opinions. Unlike in a group interview, however, in the focus group the respondents are encouraged to reconsider and revise their views, so that in the process of their interactive discussion they actively shape the research results while clarifying, for both themselves and for the facilitators, areas of similarities and difference. They can surface new ideas as a result of their unplanned responses. In this way, the goal of the focus group is not to identify one "right" answer but to see which views are more widely held and to clarify their meaning (Rubin and Herstad 2009).

Although in development work any group interview may be labeled a focus group, in the more restricted definition the focus groups are used to test a finding or position within a group. Focus group discussions can be organized quickly and are thus able to provide input on rapidly changing events. They are much less expensive to run in comparison to large-scale surveys or quasi-experimental research methods such as random controlled trials, and they generate a great amount of data in a short amount of time compared with the participant observation process described earlier. As a result, focus group discussions have become a preferred and sometimes the only tool of qualitative data collection.

But focus group discussions are more than getting a group of people together to talk. The researcher organizes the discussion around a set of three questions, listed below, to help structure the respondents' views:

1. What are your experiences with [a topic, for example, landownership]?
2. What are the challenges to changing peoples' attitudes towards or behaviors around [for example, landownership]?
3. What actions can be taken to [for example, to increase women's landownership]?

It is critical to have good leaders or facilitations (researchers and research assistants or enumerators) of a focus group discussion to achieve valid, meaningful information from the process. All the facilitators should train together to ensure consistency across the way that facilitation in different groups is handled. The facilitators need to be able to get the participants talking, to bring out a range of perspectives, to follow up on comments so that they move beyond simple stereotypes, and to review and gain concurrence about the positions expressed by the group in the summary period.

Researchers used focus group discussions as one method in a gender audit process for USAID/Tanzania that also included a survey of all staff. The focus group discussions followed a series of exploratory group interviews with staff members from different departments. This was complemented by a quantitative survey given to all staff members in the country office. The focus group methodology allowed the investigators to ground truth the results of the surveys by first presenting the results and asking for group members' reactions to the results, and then eliciting suggestions about ways that the organization could improve (in this case) its support for women's equality without creating backlash. The focus groups confirmed that there was wide general awareness of USAID's mandate for gender integration in its programming at that time and that the work environment between men and women in the mission was supportive of gender equality. The focus group discussions also revealed information that had not been addressed by the larger survey, including confusion over the terms sex and gender and how they related to their own work. In addition, staff members expressed a strong desire for greater clarification of their own roles and responsibilities in achieving a more equitable organization (Rubin and Missokia 2006).

Of course, the choice of methods depends not only on the type of question to be researched but also considerations including the level of skill of the researcher, the amount of time and funding available to do the research, and the conditions within the field site. When only a short time is available, rapid assessments may be the only possible option. With more funds and more time, more intensive participatory efforts can be put in place. A skilled facilitator can get great results with a series of focus group discussions, but a less experienced researcher may get better results with a semistructured key informant or group interview that does not encourage interaction among the subjects.

5. APPROACHES TO ANALYSIS

Both text and numbers can be further analyzed using qualitative or quantitative methods (Table 5.1).

Table 5.1 Qualitative and quantitative data analysis

Data/analysis	Qualitative	Quantitative
Qualitative	Using qualitative analysis methods on qualitative data such as interpretive textual studies	Using qualitative methods on quantitative data to search for and present meaning in the results of quantitative processing
Quantitative	Using quantitative analysis methods on qualitative data—"turning words into numbers"	Using quantitative methods on quantitative data, for example, performing statistical and mathematical analysis of numeric data

Source: Bernard (2006, Table 16.1).

It is most common for qualitative data, collected primarily as text or images, to be analyzed using qualitative methods. Qualitative researchers argue that the data to be analyzed already reflect an analytical process. Interview responses, for example, even if digitally recorded, are still shaped by the interaction of the subject and the researcher (Clandinin and Connelly 1994; Marcus 1998), sometimes shifting the direction of the research inquiry. Huberman and Miles (1994) underline this point in their description of three linked components of qualitative data analysis: (1) data reduction, (2) data display, and (3) data verification and conclusion drawing. Data reduction involves shaping the final set of materials for analysis. This is a continuous, iterative process that occurs throughout the qualitative research process. In ethnography, for example, researchers take a holistic approach to data collection, but as they narrow down their research question, perhaps to decision making about agricultural production, they would put to one side the information they might have collected about pregnancy and childbirth. Data display is a process of organizing the data and looking for relationships, often using a range of organizing techniques such as diagramming networks, matrixes fill with text, or written syntheses, scenarios, or summaries. The final stage of conclusion drawing involves comparing and contrasting, sorting, clustering, and documentation.

The deliberate consideration of qualitative data described above further emphasizes that informant responses are not "the truth" but need to be assessed against other information collected by the researcher or already documented in the literature. For example, interviews with agricultural input suppliers in East Africa frequently present responses such as "women are more creditworthy" or interviews with producer associations in the same region profess that women make the best treasurers because "women are more honest." These statements are presented as fact, and often as "natural" facts, linking women's characteristics with their sex as well as their social roles. Yet further questioning always reveals other social considerations that give a different picture: women are thought to be more creditworthy than men but are inevitably given smaller loans because they have no collateral and because they are outside the social relationships the input supplier can use to put pressure on the debtor. When asked, women say they pay back their loans promptly so that they can get another, because they fear being in debt, or because their spouses or other relatives will harm them if they do not (Rubin, Manfre, and Nichols Barrett 2009).

Text can also be counted, and when the dataset is large and the sampling rigorous, it can be analyzed statistically. The quantitative analysis of qualitative data has been vastly increased through the use of computer software developed for this purpose. To analyze text, researchers for many years used an array of manual methods to identify patterns and to find meaningful associations of topics and phrases. Today much of this work can be simplified with the use of qualitative data software programs such as ATLAS.ti and NVivo, among others. Analysis or interpretation of quantitative results can also be treated to qualitative inquiry, providing information about context, looking at outliers, and questioning about the researcher-subject relationship (Guba and Lincoln 1994).

6. IS COMPARISON POSSIBLE USING QUALITATIVE STUDIES?

There is a long history of comparative studies using qualitative methods across many social science disciplines, including anthropology, sociology, history, and political science, in addition to the classic work by the economist Esther Boserup mentioned at the start of this article. Beginning in 1874 and continuing to the late 1960s, RAI compiled and published *Notes and Queries on Anthropology*, a compendium of questions for ethnographic researchers to ask in the field with an explicit goal of developing comparisons among groups with different cultural practices. In its nearly 400 pages, the guide covered topics in physical anthropology; social anthropology (consisting of descriptions of social relations, political organization, and economic behavior, as well as ritual and belief, a varied range of topics on knowledge, and documentation of language); material culture (documentation of, for example, objects, games, and art); and a short section on techniques for successfully filming, labeling, and preserving materials (RAI 1967).

As envisioned by its authors, the purpose of *Notes and Queries* was to act as an "*aide-memoire* to the trained anthropologist doing field work, and also to stimulate accurate observation and recording." The introduction further cautioned that while theoretical perspectives were important to guiding one's research, the presence of the long list of reminders would help the researcher avoid his (or her) own bias in the research process, ensuring that the researcher collected information that might be contrary to his or her theoretical orientation (1967, 27).

The Human Relations Area Files (HRAF) (http://hraf.yale.edu/), initiated by a consortium of universities in 1940s and since then maintained at Yale University (and more recently placed online), was developed as a system to take the myriad and massive amount of information generated by ethnographic work, including that created by scholars following the queries list from RAI, and to organize it so that information drawn from many different cultural groups could be compared. Scholars identified and indexed information from ethnographic texts according to the Outline of Cultural Materials developed by Peter Murdock and others at Yale University. The data were used to test hypotheses correlating to different traits or activities.

There have been many criticisms of the HRAF, including the general concerns raised above about ethnographer bias and data quality (Bernard 2006) and complaints that comparisons were ahistorical. Others criticized the files for trying to compare different units of analysis in different settings. In addition, given that the source material was largely compiled at a time when there was little research on women as actors in their own right in societies, and gender relations as an area of inquiry did not exist, the HRAF have not featured as a good source of cross-cultural work on gender issues and are not commonly used in anthropological research today.

Over the past 30 years, researchers from universities and development organizations have produced thousands of small-scale qualitative studies on gender-related issues in agriculture, many of which World Bank, IFAD, and FAO (2008) compiled (with other quantitative studies) into a thematically oriented *Gender in Agriculture Sourcebook* a few years ago. But researchers looking to compare and extract lessons from this large pool of reports on or about gender relations in agriculture face some of the same problems as the HRAF in assessing data quality and bias. In addition, it is not clear how to pull information from the local studies to easily assist with plans to scale up and out.

In part to address this dilemma, a group of CGIAR researchers are participating in an effort initiated in 2014 to create a more useful body of comparative data through a study of gender norms and their relationship to implementation of agricultural development interventions. The methodology is based on an early study on gender norms conducted by the World Bank (Boudet, Petesch, Turk, and Thumala 2012). The Global Study on Gender Norms and Capabilities for Agricultural Innovation uses a standardized approach codified in a lengthy guidance manual to permit comparison across regions, crops, and cultural systems to identify "broad patterns in the role of gender norms in innovation and adaptation" (Neno 2014). The reality of different field situations, however, can interfere with the clarity of a single set

of questions. One of the researchers described in a blog that both the research team, despite its methodological training, and the respondents struggled with some of the questions. She says:

> Retrospective and abstract questions are particularly challenging. For example, asking the farmers to compare women's situations today to 10 years ago, resulted in responses like, "a woman today has more decision making power than she had 10 years ago because then she was very young." Since we were part of the Global Study, we could not simply drop these questions. We had to accept the fact that we may not have reliable and valid data in relation to every aspect of the study (Lodin 2014).

Another approach to enhancing the value of these many locally specific gender and agricultural studies could be to initiate a series of what some anthropologists have referred to as controlled qualitative comparisons. Researchers would need to be more explicitly attentive to identifying and documenting their own positions as researchers, explaining how their personal characteristics of age, gender, ethnicity, or nationality situate them in the study, and then making a "careful selection of a specific and limited set of cases to be compared under identical conditions" (Gingrich 2002, 232). Such an approach would require a corresponding reevaluation of the rigor of local studies presentation of gender-related data and analysis, but it would not automatically dismiss their local specificity as being irrelevant for illustrating general themes.

7. CONCLUSION

The field of gender and agriculture is at an exciting point today. The past five years, in particular, have seen a large increase in support of both gender-focused and gender-informed research by major donors and other supporters of agricultural development. The growing body of work employing mixed methods approaches in gender-related agricultural research, particularly across the research programs of the CGIAR and other development organizations, reveals how using qualitative and quantitative methods of data collection and analysis can enhance our understanding of how to address gender inequalities in development (GAAP 2014; Quisumbing et al. 2014).

Several challenges remain. First, qualitative and quantitative gender researchers and development practitioners need to agree about the subfield's use of key terms and concepts and to employ those terms more precisely. The confusing uses of *male* and *female*/*men* and *women* or *gender-disaggregated* rather than *sex-disaggregated data* described earlier are some examples, but there are others. Achieving this consistency may require problematizing some of the assumptions now commonplace in gender work and looking at them anew, to make it possible to achieve a more rigorous "science of gender."

Second, the quality of qualitative work on gender can be strengthened. This may require the development of new training programs in qualitative methods that focus on gender issues in agriculture. Short courses such as those being developed by CIMMYT or the forthcoming joint program of Cornell University and Makerere University (Gender-Responsive Researchers Equipped for Agricultural Transformation [GREAT]) are an important start in this direction, especially if they are attentive to the need for developing consensus around basic issues. Coursework should address the process of data collection as well as analysis. Such programs could give a boost to younger researchers now entering the research system, as well as refresh the knowledge of those who have been working in the field for some time.

Third, the expectations for qualitative gender analysis can be more clearly outlined. If, as stated earlier, the analysis of a focus group discussion or set of key informant interviews is more than the repetition of the informant's interesting quotations, what should it look like instead? Qualitative gender researchers can enhance the work of others by writing more about the methods they use and the challenges that they have encountered.

Fourth, greater attention is needed on how to successfully integrate mixed methods approaches on gender so that the result is the exponential effect of combining methods reflected by the label of "Q^2." Adato makes this point well in her accounting of her mixed methods work on conditional cash transfers.

> There needs to be good integration of methods. In many cases where good qualitative and quantitative research is being carried out, the two are not well integrated. This is often due to professional biases in the context of resource constraints, that is, the tendency not to appreciate the methods of other disciplines as much as one's own, and in the context of time and resource constraints, not to prioritize integration … Furthermore, the disciplinary compartmentalization embodied in professional peer-reviewed journals provides disincentives for integrated publications. Even the terminology of quantitative and qualitative "components," as researchers often refer to them in practice, signifies separation rather than integration.… The ideal format for integration would be iterative stages of research and analysis, with qualitative and quantitative research each used for identification of issues to be investigated with or interpreted based on the other method in several alternating rounds (2008, 21).

Finally, there is the important research question of what it means to do comparative gender research. How can qualitative researchers contribute to making useful and meaningful comparisons about gender relations in different farming systems or different regions that could help in achieving current goals for the scaling up of proven agricultural technologies, especially those that are designed to close the gender productivity, asset, income, or nutrition gaps?

Qualitative research can provide the rich and detailed picture of gender relations in its multilayered effort to describe and give meaning to the context in which men and women live their lives together. If we hold qualitative gender research to higher standards of precision and analysis, then it will

be easy to see the value in articulating the local and the specific meanings associated with being a man or a woman in any particular place.

Perhaps it is helpful to think about parallels between gender relations and agriculture as both are in many ways context specific. Development researchers and practitioners agree that to improve yield performance, agricultural development interventions are designed to make changes in farming systems. They improve soil quality with fertilizers, plant quality with improved seeds, agricultural practices, herbicides, and pesticides, and water availability through irrigation and flood control. All of these agricultural interventions are context specific.

The renewed interest in gender issues in agriculture is grounded in the recognition of the critical roles of men and women in strengthening smallholder productivity so that rural households can adequately provision themselves and continue to supply the growing populations around them. At the same time, development institutions have, through recent policies and proclamations, taken the position that gender equality is its own critical and necessary goal to achieve. Success in this task will require researchers to find interventions to transform gender disparities into conditions of gender equality. Qualitative methods provide an important key for uncovering the local- and gender-specific knowledge on which these gender-transformative approaches will rest.

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