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FOOD SECURITY IN PRACTICE

Using Gender Research in Development

by Agnes R. Quisumbing and Bonnie McClafferty



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Washington, DC

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Foreword

While gender equality is a basic human right, and closing the gender gap is key to achieving many development objectives, development practitioners and advocates concerned with achieving gender equality are often constrained by the lack of information to justify targeting limited resources toward closing the gender gap.

In keeping with the purpose of IFPRI's *Food Security in Practice* series, this practitioners' guide bridges the gap between research and practice by providing up-to-date, relevant information on why and how gender issues, when taken into account, can improve the design, implementation, and effectiveness of development projects and policies. IFPRI's work on gender and intrahousehold issues has already influenced programs, such as conditional cash transfers in Latin America, by contributing to the growing evidence that households do not make decisions as one, and that resources controlled by women lead to improved child outcomes. IFPRI's gender research has also contributed to a wider acceptance by policymakers that paying attention to decisionmaking processes within the household is essential to the success of development interventions.

For IFPRI's research to have continued impact on policies and programs, it needs to be communicated in accessible, understandable terms to its ultimate users—policymakers and technical personnel

in multilateral or bilateral aid agencies, nongovernmental organizations, and developing-country governments. This practitioners' guide presents key research findings from IFPRI's gender and intrahousehold program in the framework of project and policy cycles. The authors took the additional step of field-testing the guide among practitioners in Africa, Asia, and Latin America to see whether the findings were relevant outside the study countries. Finally, the authors conducted a workshop among Washington, D.C.–based practitioners and policymakers to see how the findings related to the policy cycle. Thus, the guide reflects the insights, comments, and suggestions of the ultimate users of this research.

I hope that this guide—by presenting rigorous technical evidence in support of gender-targeted programs and policies—will contribute to fairness in development and convince policymakers and practitioners that paying attention to gender issues will make their programs and policies more effective in reaching their ultimate development objectives.

Joachim von Braun
Director General, IFPRI

Preface

This guide offers a nontechnical presentation of research findings from IFPRI's multicountry research program on gender and intrahousehold issues, along with implications and key questions for integrating gender research findings into project cycle and policy decisionmaking processes. The volume draws on work undertaken by IFPRI and its collaborators in developing and developed countries since the early 1990s. It presents empirical evidence—based on IFPRI's field research using both quantitative and qualitative techniques—on the ways in which gender and intrahousehold issues affect the success of development interventions, and then shows readers how to incorporate the findings effectively into development programs. The guide—its findings, format, and presentation—has been field-tested in workshops with practitioners in Kathmandu, Nairobi, Guatemala City, and Washington, D.C.

Most of the empirical research was funded by the U.S. Agency for International Development (USAID) Office of Women in Development under Grant No. FAO-0100-G-00-5020-00, “Strengthening Development Policy through Gender Analysis: An Integrated Multicountry Research Program.” This grant funded primary data collection in Bangladesh, Ethiopia, Guatemala, and South Africa, and supported the work of IFPRI collaborators in Ecuador, Ghana, Indonesia, Nepal, the Philippines, and Zimbabwe. The studies in Ghana and Indonesia (Sumatra) were funded under a grant from the U.K. Department for International Development (DFID). Other donors contributing to the program's research were the Danish International Development Agency (Danida), the Government of Japan, the Government of Mexico, the Swedish

International Development Cooperation Agency (Sida), the World Health Organization, and the World Bank.

We thank the Government of Norway for providing the funding for this synthesis activity, especially Ruth Haug of the Agricultural University of Norway for her enthusiasm and support for gender research at IFPRI. We also thank Hari K. Upadhyay, Madan Prariyar, and the staff of the Center for Environmental and Agricultural Policy Research, Extension, and Development (CEAPRED) for organizing the Nepal workshop; Vicki Wilde, Pauline Bommert, the CGIAR Gender and Diversity Program, and the World Agroforestry Center for organizing the Kenya workshop; and Maggie Fischer and the *Instituto de Nutrición de Centro America y Panamá* (INCAP) for organizing the Guatemala workshop. Kathy Alison of Training Resources Group, Inc., facilitated the Washington, D.C., workshop. Manohar Sharma joined us in Nepal and John Maluccio in Guatemala to help us answer many difficult and challenging questions from the field. We are indebted to the workshop participants who spent many hours reading and annotating the documents and participating actively in discussions during the in-country workshops. We thank Ruth Meinzen-Dick and an anonymous referee for useful comments, Oscar Neidecker-Gonzales for his help in translating the presentation for Guatemala, Lourdes Hinayon and Jay Willis for producing the many iterations of this document, and Jay Willis for producing the final document. Last, we thank our husbands, Joel Villaseñor and Eric McClafferty, for minding hearth, home, and children when our travels took us to workshops all over the world.



1. The Importance of Using Gender and Intrahousehold Research to Inform Projects and Policies

This book is designed for technical personnel and policymakers in national government and international agencies, and nongovernmental organizations (NGOs), as well as other development practitioners who face the task of addressing gender issues in development projects and policy. Practitioners may ask why they should address gender issues in development. First and foremost, gender equality is a basic human right—with value in and of itself. Second, many disparities in development outcomes arise from gender differences (see Box 1). Third, the task of addressing gender inequality is made even more urgent by the reality of its significant effects on the efficiency and welfare outcomes of project or policy interventions.

Gender issues are central to the attainment of development goals and poverty reduction. They play a prominent role in the United Nations Millennium Development Goals (MDGs), which have been commonly accepted as a framework for measuring development progress. Of the eight goals, four are directly related to gender: achieving universal primary education, promoting gender equality and the empowerment of women, reducing infant and child mortality, and improving maternal health. Gender also plays an important role in goals related to reducing poverty and eradicating hunger; combating HIV/AIDS, malaria, and other diseases; and ensuring environmental sustainability. Given these linkages, it is difficult to see how it would be possible to meet the MDGs without addressing gender.

The poverty reduction agenda, in particular, would benefit from paying attention to gender issues. One study (Klasen 1999, cited in

World Bank 2001) estimates that if the countries in South Asia, Sub-Saharan Africa, and the Middle East and North Africa had addressed their gender gap in schooling similarly to East Asia—which began tackling the issue in 1960 and closed the gap by 1992—their income per capita could have grown by 0.5–0.9 percentage points

Box 1. The Nature of Gender Differences

Gender differences arise from the socially constructed relationship between men and women (Oakley 1972). Sex differences, on the other hand, are biological and innate. The roles that men and women play in society show similarities and differences across classes and societies. Since the definition of men's and women's roles is specific to space and time, gender divisions cannot be checked off from lists (Moser 1989). Gender differences affect the distribution of resources between men and women and are shaped by ideological, religious, ethnic, economic, and social determinants (Moser 1989). Being socially rather than innately determined, this distribution can be changed through conscious social action, including public policy.

IFPRI's gender and intrahousehold research program treats gender as an important determinant of the distribution of rights, resources, and responsibilities within the household but recognizes that it is not the only factor. Age, birth order, relationship to the household head, and position of the household in society (for example, whether low or high caste) are some of the factors that also influence the allocation of household resources.

higher per year, representing substantial increases over actual growth rates. Simulations from comparable studies using nationally representative samples from Egypt (1997) and Mozambique (1996) have shown that mothers' education is crucial to poverty reduction (Datt and Jolliffe 1998; Datt, Simler, and Mukherjee 1999). In Egypt, increasing mothers' schooling from "none" or "less than primary" to "completed primary schooling" reduces the proportion of the population below the poverty line by 33.7 percent. Similarly, increasing by one the number of adult females per household that have completed primary schooling in Mozambique leads to a 23.2 percent decrease in the proportion of the population living below the poverty line. In both of these country studies, female education had a much larger impact on poverty than other factors, including male education. Similar examples can be found for productive resources other than education (for example, land). The systematic inclusion of gender issues in poverty reduction strategy papers (PRSPs), prepared by developing countries through participatory processes involving domestic stakeholders and external development partners (such as the World Bank and International Monetary Fund), could enhance the effectiveness of poverty reduction strategies, particularly in countries where gender disparities among the poor are most pronounced.

How can research informed by a gender perspective—commonly called "gender research" for brevity—contribute to practitioners' and policymakers' efforts to reduce poverty and attain other development objectives? Practitioners are often knowledgeable about general development issues or about issues related to a specific technical field, but they lack understanding and resources on how to integrate

gender issues effectively into the development and design of specific projects and public policy. Many of these practitioners may not be convinced of the importance of gender issues to the success of an intervention, or they may be confused by changing approaches to addressing gender issues in the context of development.¹ In some fields, such as education, health, village water supply, and rural development, the importance of gender is already fairly widely accepted, but in the so-called hard sectors such as transportation and infrastructure, which many planners consider to be gender-neutral, practitioners may need to be convinced of the importance of gender. They may view gender as an imposition from international donors or as an administrative requirement; hence, for these practitioners, "efficiency" arguments are paramount. Even where practitioners are interested in the equity aspects of gender or are trained in gender analysis, they can lack guidance on how to apply such analysis to their work. Thus, without technical knowledge in specific fields, the ability of practitioners to design and implement effective projects or policy may be limited. Cost factors may also influence project managers' willingness to incorporate gender issues into their planning and implementation processes (see Box 2).

This guide aims to reach both types of practitioners. Grounded in field research undertaken by the International Food Policy Research Institute (IFPRI) as part of its multicountry program on gender and intrahousehold issues, the guide first provides empirical evidence on the effects of gender and intrahousehold issues on development intervention outcomes. It then guides the reader on how to effectively incorporate the findings into development projects. Because the

¹ See Moser (1989) for a critical review of different policy approaches to "women in development" from a gender planning perspective.

² For a more focused approach to methodologies for gender analysis in agriculture, see Feldstein and Jiggins, eds. (1994).

Box 2. The Costs of Doing Gender Research: Is It Worth It?

Practitioners often balk at the perceived high costs of gender research. Yet a wide range of studies can be done, with a corresponding wide range of costs. In IFPRI's experience, a number of modalities are compatible with gender research, with costs increasing depending on the level of detail, as the following examples show:

- The Bangladesh household survey on the micronutrient impact of new agricultural technologies was fielded at a cost of approximately \$50 per household per visit, for four visits. For close to 1,000 households, this amounted to \$200,000 in 1996–97. This study was very detailed, however, and obtained information on production, incomes earned by individual household members, household and individual food consumption, total household expenditure, plus blood hemoglobin levels using finger prick techniques. Most studies do not require this level of detail. The modules for collecting information on assets at marriage and women's empowerment were only a small part of one survey round.
- Part of the IFPRI research program consisted of a competitive small grants program, in which collaborators could add a series of questions on gender issues to ongoing studies. The maximum grant amount awarded was \$20,000.
- Qualitative studies done as part of IFPRI's gender and intra-household research program cost \$10,000 to \$50,000.

These were all systematic, research-focused studies, conducted from 1995 to 2000. Nevertheless, much can be learned from short field visits, particularly when accompanied by a local expert who is sensitive to gender issues. The bottom line is that some attention to gender issues—even very informally—is likely to pay off in terms of the relevance and usefulness of projects to beneficiaries.

research examined the circumstances under which gender affected policy outcomes, the guide will also enable development practitioners to determine when gender issues are likely to be critical to a project's success and when their importance may be secondary to other factors. For the specialist on gender issues, the guide provides new information on the relevance of gender analysis and research in a range of policy areas. While a wide range of topics are covered, this technical guide will be most useful to practitioners in agriculture, health, nutrition, education, and rural development.

The guide complements training manuals and toolkits on gender analysis and the project cycle, such as those published by Oxfam (Williams 1994), the Centre for Development and Population Activities (CEDPA 1994), the World Bank, and the International Fund for Agricultural Development.² Like the other technical guides in IFPRI's Food Security in Practice series, such as *Methods for Rural Development Projects* (Hoddinott 2001), what distinguishes this volume from others is its origins in field research using both quantitative and qualitative techniques and, in many cases, research-oriented project evaluation. A useful companion volume is the book, *Household Decisions, Gender, and Development: A Synthesis of Recent Research* (Quisumbing 2003), which contains more detail on the IFPRI studies. This volume should be viewed as a guide to gender research for practitioners, not a “how-to” or training manual for specific projects. Practitioners looking for “how-tos” and checklists are advised to consult the previously mentioned training manuals and toolkits.

It can be argued that conditions within countries may be so different as to make it difficult to draw generalizations related to gender. This is true. Recognizing that gender issues are location-specific and culture-bound, different chapters were field tested in Asia, Africa,

and Latin America, and feedback was sought from development practitioners and policymakers as to its relevance and usefulness in their respective country settings. Workshops were also conducted in Washington, D.C., to elicit feedback from a group of policymakers and development practitioners working on gender issues. These opportunities for feedback and review have added depth and grounded the research findings in the realities of development work.

THE IMPORTANCE OF HOUSEHOLDS IN INFLUENCING THE ALLOCATION OF RESOURCES AND DEVELOPMENT INTERVENTIONS

We begin with the assertion that gender considerations can affect the allocation, targeting, and control of resources and, thus, policy and project outcomes. An understanding of how resources are allocated within households can profoundly affect policies associated with the design and implementation of development projects. For projects, on the other hand, incorporating research findings into the design, implementation, monitoring, and evaluation of specific projects can increase their effectiveness.

In investigating intrahousehold resource allocation, IFPRI has developed a conceptual framework that takes account of interactions occurring between policy and program design and implementation; level, flow, use, and intrahousehold control of resources; and relevant policy outcomes, all of which exist within and are conditioned by a given legal framework and set of social and cultural institutions. Hence, within IFPRI's framework, policy and program instruments—such as agricultural development projects (irrigation management schemes, fragile lands management schemes),

employment programs (public works), credit programs, programs to decrease micronutrient malnutrition, and family planning programs—interact with a household's level, flow, use, control, and allocation of resources—land, labor, capital, time—to affect the household's consumption of various goods and services—such as food, education, health inputs, and family planning.

Control of resources within the household—particularly women's control of resources—is determined not only by social and cultural institutions but also by factors such as women's access to labor markets, paid employment, and other productive resources. The impact of policies and interventions, filtered through the often mysterious and opaque institution of the household, results in outcomes such as changes in the stock of natural resources; adoption of new technology; levels of food security, nutrition, health, and fertility; and ultimately the individual well-being of household members. The social, cultural, and legal environment is the umbrella under which these allocation decisions and policy and development project impacts are realized.

Household Decisionmaking and Policy

Why are intrahousehold resource allocation patterns and processes potentially important for policy and projects? Without taking intrahousehold allocation *patterns* into account, resources may be erroneously targeted to households based on the assumption that the worst-off individuals come from households with the lowest welfare. If households “protect” the consumption of adults relative to preschoolers with the result that individual food adequacy (intake relative to requirements) is better for adults than for preschoolers, attempts to target undernourished preschoolers based on

household-level food consumption indicators may be highly inefficient and wholly inaccurate. Further, resources can be poorly targeted across household types if intrahousehold inequalities across household types are not accounted for. There are many households where certain members, often women or children, do not receive sufficient food even though the average calorie intake for all household members would place the family well above the poverty line on a food poverty ranking scale. Haddad and Kanbur (1990) demonstrate that the calorie adequacy rankings of various socioeconomic and geographic household groups can change when individual- rather than household-level food consumption information is used. The extent to which individuals within households are “food insecure” would not be reflected in aggregated data on households or household groups. Such potential improvements in targeting need not be restricted to food consumption programs. Where food consumption data already exist, say from national surveys, similar household food poverty rankings could be conducted in prospective areas for targeted assistance.

The *processes* by which intrahousehold patterns are determined can affect policy and projects in several ways, predicated on the manner in which households behave. Consider the effect of public income transfers to households. The unitary household model, which assumes that the household has a single decisionmaker and pools its resources, predicts that the impact of household transfers will be unaffected by the identity of the recipient of the transfer. In contrast, the collective household model recognizes that individuals within households have different preferences and do not necessarily pool resources, so the welfare effects of a transfer may be quite different

depending on whether the recipient is male or female. In addition, the responses of nonrecipients of transfers must be considered. If households compensate for the transfer by reallocating resources away from the recipient, the intended effect of the transfer may not be realized. For example, the nutritional benefit of a feeding program may be weakened if parents reduce the amount of food given to the child at home or share supplements targeted to at-risk individuals with other household members. Only the collective model explicitly incorporates the effects of household behavioral processes on the success of projects or policies.

Adherence to the unitary model, which has led many policymakers to believe that the identity of the recipient of the benefits of policy interventions does not matter, can give rise to the failure to adopt particular policies, and unintended costs arising from policies that are adopted. Dramatic examples of these failures are the nonadoption of new technologies or practices to retard environmental degradation (see Box 3), and the adoption of mandated new farming patterns that make the target group worse off. At worst, adherence to the unitary approach may allow the persistence of projects or programs that reinforce and perpetuate unequal power relationships within the household. Thus, challenging the assumption that the self-declared household head³ has detailed knowledge of the activities and preferences of other household members may lead to better policy.

Finally, using the unitary model for policy guidance disables powerful policy levers. This is perhaps the least understood drawback of the unitary approach. Under the unitary model, policymakers affect intrahousehold resource allocation through changes in prices. By

³ The household head is the primary decisionmaker of the household, whether male or female. In many household surveys, however, the household head is assumed to be the husband.

Box 3. Technology Adoption, by Male and Female Farmers

Where new technologies are associated with “male” crops or activities, women may be less likely to adopt new crops or technologies unrelated to their specific activities. In some pastoral societies, women’s responsibilities are dairying and small stock, while crop cultivation is the domain of men. Indeed, female farm managers are less likely to rear livestock in Tanzania (Appleton et al. 1991). In agricultural areas of Zambia, female farmers are less likely to use oxen in cultivation (Jha, Hojjati, and Vosti 1991) because plowing is traditionally a male activity. However, women may more readily adopt technologies related to tasks they perform, especially if the extension agent is female. Evidence from Kenya suggests that female farmers are equally likely to apply technical advice from extension agents and even more likely to adopt relatively complex practices such as top dressing, chemical use, and stalk borer control (Bindlish and Evenson 1993).

Most studies on technology adoption find that more educated farmers are more likely to adopt high-valued crops with longer maturation periods. A study cited in Appleton et al. (1991) on the adoption of coffee in Kenya is a case in point, whereby better-educated females are more likely to adopt coffee. Universal primary education for

female farmers has higher marginal effects on the probabilities of adopting coffee than increasing the educational level of all farmers because of the generally lower female education levels in Africa.

Other simulations by Burger and Gunning suggest that female decisionmakers are unresponsive to increases in early adoption by male farmers. This is consistent with other findings that previous awareness and adoption of the technology—particularly by farmers of the same sex—also increased the probability of coffee adoption. The significance of gender-specific copying effects highlights the need not only for female extension agents to work with female farmers but also for female farmers to demonstrate the new technology to other farmers. The importance of cooperatives and extension in promoting technology adoption emphasizes the need for provision of support infrastructure to rural areas.

Most of the studies reviewed also suggest that farmers with larger areas cultivated and higher values of farm tools are more likely to adopt new technology. To the extent that female farmers may have less education, less access to land, and fewer tools, they may be less likely to adopt new technologies.

simply subsidizing the price of food, for example, food consumption by young children—often the most vulnerable household members in terms of undernutrition—can be increased. A collective view of the household suggests that additional policy levers are available to the policymaker, often with a very long reach. Examples include changes in access to common property resources and credit, eligibility for public works schemes, cultural attitudes toward the consumption of certain types of food for certain individuals (such as dietary

restrictions for household members who are ill), and attitudes toward family planning. The collective model recognizes that providing credit directly to women rather than men may be more effective because women’s spending preferences differ. Similarly, using the collective view of household behavior, food subsidies would not be considered the only way to improve child nutrition because increasing the mother’s access to resources through a credit scheme or income transfer program may be more effective.

In recent years, policymakers have used the findings from intra-household research to design programs that aim to change household behavior by transferring income directly into the hands of women, as illustrated by Mexico's PROGRESA (*Programa de Educación, Salud y Alimentación* [National Program for Education, Health, and Nutrition]).⁴ The receptiveness of policymakers both to designing and to implementing such programs, as well as to using experimental or quasi-experimental methods of evaluation, has increased our understanding not only of how households make decisions but also of how policy can affect them. Moreover, the success of microcredit programs targeted to women, exemplified by the Grameen Bank in Bangladesh, has stimulated a new generation of projects that target technologies to women. Attention to gender issues also enables policymakers to anticipate the potential adverse outcomes of programs targeted to women—for example, leakages occurring when women obtain credit for their husbands or when husbands and other household members object to the time women spend attending program activities. It is

hoped that as more interventions are designed to address intrahousehold issues there will be greater interaction between projects, policy, and research.

Bargaining Power as an Alternative Paradigm of Household Behavior

Although the internally differentiated household was described, analyzed, and widely accepted in mainstream anthropology from the mid-1970s, it took at least a decade for mainstream development economists to take notice (Jackson 2005). Challenges from economists to the traditional model of household behavior and proposals of alternative models that bear closer resemblance to reality came from studies in the 1980s that suggested that men and women systematically spend income under their control in different ways.⁵

These studies have added to the evidence rejecting the traditional paradigm of the unitary model of household behavior in favor of the

⁴ In 2002, PROGRESA was absorbed by a new public conditional cash transfer program called *Oportunidades*.

⁵ These studies included Guyer (1980), Tripp (1982), Pahl (1983), and studies from different countries (for example, Papohunda 1988) in the volume edited by Dwyer and Bruce, eds. (1988). A series of studies on agricultural commercialization and nutrition in developing countries also found that income controlled by women is more likely to be spent on food than is income controlled by men (Kennedy 1994). Evidence that men and women may have different production priorities can be found in the work of Dey (1985) and von Braun and Webb (1989) on irrigated rice in The Gambia, Jones's (1983) formal model of intrahousehold conflict and husband's and wife's gains from cooperation based on work in the Cameroon, Mukhopadhyay's (1984) decision model of the sexual division of labor for household tasks, Hill's (1963, 1978) description of Fante women's entrepreneurial behavior, and Gladwin's (1975, 1982) models of women's marketing and farming decisions. Implications of these differences for project design are discussed by Cloud (1983). These and other studies from Sub-Saharan Africa are reviewed in Gladwin and Macmillan (1989). By the mid-1990s, economists appeared to be developing a considerable level of interest in the issue of the unitary household, an issue that had preoccupied feminist anthropology for a decade at least and to which the research by Chris Udry and others in Burkina Faso (1996) was particularly important and continues to be heavily cited (Jackson 2005). IFPRI played an important role in bringing together current research on gender and intrahousehold issues—and in catalyzing future research—through a 1992 conference, the proceedings of which produced a publication comprising 30 policy briefs derived from the papers presented and, some time later, a book (Haddad, Hodinott, and Alderman 1997).

⁶ See Strauss and Thomas (1995); Haddad, Hodinott, and Alderman (1997); and Behrman (1997) for reviews.

⁷ We recognize that the "household," defined as a group of individuals who co-reside, cook together, and share living expenses may not be the appropriate unit of analysis in all cases. Bargaining models can be modified to take into account the important role of the extended family or lineage in many cultures, as in Foster and Rosenzweig (2002) on household partition in Bangladesh. Our studies in Ghana and Sumatra (Quisumbing, Estudillo, and Otsuka 2004) examine the role of the extended family in allocating lineage land between men and women, and across generations.

collective model, which allows for differences of opinion regarding economic decisions among household members.^{6,7} This raises the possibility that in the event of disagreement, resolution may depend on the relative bargaining power of individuals within the household (Manser and Brown 1980; McElroy and Horney 1981). However, the concept of bargaining power is elusive. Rather than making any claims to measure power itself, researchers have attempted to gain greater understanding of the determinants of bargaining power, including:

- (1) control over resources such as assets, (2) factors that influence the bargaining process, (3) mobilization of interpersonal networks, and (4) basic attitudinal attributes.

Economic analysis of bargaining power has tended to focus on economic resources that do not depend on an individual's labor supply decisions as a major determinant of bargaining power. These include assets (for example, Doss 1996; Thomas, Contreras, and Frankenberg 1997; Quisumbing 1994), unearned income (Schultz 1990; Thomas 1990), or transfer payments and welfare receipts (Lundberg, Pollak, and Wales 1997; Rubalcava and Thomas 1997). The threat of an individual withdrawing from the household and taking his or her assets grants the owner of those assets power over household resources. The implications of such threats are in part dependent on community norms and divorce laws. Indeed, Thomas, Contreras, and Frankenberg (1997) use assets at marriage as an indicator of bargaining power because in most of Indonesia, spouses can take what they brought into the marriage with them in the event that the marriage dissolves.

Factors that can influence the bargaining process include legal rights, skills and knowledge, access to labor markets, the capacity to acquire information, education, and bargaining skills. Some of these influences are external to the individual (for example, legal rights), but many of them are highly correlated with human capital or education. In some instances, domestic violence can be used to extract resources from spouses or their families, as in the case of dowry-related violence in India (Rao 1997; Bloch and Rao 2002). Individuals can also mobilize personal networks to improve their bargaining power. Membership in organizations, access to kin and other social networks, and "social capital" may positively influence a person's power to affect household decisions. Last, basic qualities and attitudes that affect bargaining power include self-esteem, self-confidence, and emotional satisfaction. While the economic literature has not dealt extensively with this aspect, the success of group-based credit programs such as the Grameen Bank has been attributed in part to its group-based empowerment approach. Many NGOs have explicit empowerment objectives that go beyond economic means to include legal awareness, political participation, and use of contraception (Schuler, Hashemi, and Riley 1997).

AN OVERVIEW OF IFPRI'S GENDER AND INTRAHOUSEHOLD RESEARCH PROGRAM

The objective of research conducted under IFPRI's Gender and Intrahousehold Research program and presented in this guide was to test whether or not intrahousehold allocation of resources affects the outcomes and consequences of policies, thereby generating information to assist in the development of effective policies, programs, and projects. Central to this objective is developing a better

understanding of how households actually behave—that is, whether they adopt unified preferences and pool resources, per the unitary household model, or whether individuals within the household differ in their preferences, rights, resources, and responsibilities, per the collective household model. The five-year study, beginning in 1995, collected primary household data in Bangladesh, Ethiopia, Ghana, Guatemala, Indonesia, the Philippines, and South Africa. Additional work was undertaken in eight other countries. The last empirical study undertaken was also the program’s most comprehensive in terms of country coverage, incorporating Demographic and Health Survey data from 36 countries. All in all, 9 IFPRI researchers, 20 associated researchers, and over 30 collaborating institutions and individuals in the developed and developing world participated in the research program. In the IFPRI study countries alone, over 6,000 households in the developing world provided insight as to how poor households make decisions, divide resources, and cope to secure their livelihoods. The sample sizes and data collected are provided in Appendix A, while the key studies undertaken by the research program are summarized in Appendix B. As previously mentioned, the companion volume to this guide, *Household Decisions, Gender, and Development: A Synthesis of Recent Research* (Quisumbing 2003), contains more detail on the IFPRI studies.

Methods and Data

Recognizing the cultural specificity of intrahousehold allocation processes, the studies in Bangladesh, Ethiopia, Guatemala, Mexico, and South Africa involved both qualitative and quantitative components. The qualitative studies in Bangladesh, Guatemala, Mexico, and South Africa were designed collaboratively by in-country social scientists and IFPRI researchers. For Ethiopia, qualitative village studies had already been conducted by sociology and anthropology graduate students and were made available to IFPRI’s researchers.⁸ The surveys in Ghana and Indonesia followed a round of extensive community interviews, while the fieldwork in the Philippines was conducted with an in-country collaborator who had previous experience in the study villages. The qualitative studies were extremely valuable in informing the design of the quantitative survey modules, especially on assets at marriage (the indicator chosen to measure bargaining power in all the countries [see Box 4]), social capital, and measures of women’s empowerment. For example, IFPRI researchers used lists of assets at marriage suggested by the qualitative work to create a quantitative survey module to elicit information on the quantity and values of assets at marriage.⁹ A comparable methodological framework was then applied to the

⁸ Around the time the three-round panel survey was conducted in 1994/95, a set of 15 village studies using qualitative methods was undertaken by anthropology students from Addis Ababa University in all Ethiopian sites (Bevan and Pankhurst 1996). The 1997 survey drew heavily from the qualitative studies. In Bangladesh, a qualitative study on the gender impact of new agricultural technology (Naved 2000) was conducted between the third and fourth survey rounds. In South Africa, a study of shocks and coping behavior was conducted by an anthropologist prior to the second round of the panel survey in KwaZulu-Natal (Cross, Mngadi, and Mbhele 1998). In Guatemala, a qualitative study and an operations research evaluation of the community day-care centers were conducted prior to the quantitative survey (Ruel, de la Brière, and Hallman 2000). Qualitative studies were also conducted in Indonesia (Frankenberg and Thomas 2001) and Mexico (Adato et al. 2000).

⁹ As much as possible, both husbands and wives were interviewed, and interviews were conducted separately where issues were potentially contentious. In Bangladesh, separate male and female teams interviewed husbands and wives, respectively. In most countries, the person responsible for the relevant decision was interviewed (for example, the plot manager when the survey was about agricultural production or the wife when the survey module was about food preparation). Nevertheless, biases can result when one spouse answers for the other. Frankenberg and Thomas (2001) examine the validity of cross-reporting in their work on the Indonesian Family Life Survey.

countries to test whether men's and women's assets at marriage had different impacts on a variety of household-level and individual level outcomes in the context of very different social and economic conditions. Few previous studies have been systematically replicated over a range of conditions, making generalizations across societies difficult. Details of the sample design and variables collected are presented in Appendix Table A1.

Box 4. Assets at Marriage in Different Cultures

Although the IFPRI research program used a variety of measures of bargaining power—including indicators of women's status (Smith et al. 2003a) and cash transfers targeted to women (Skoufias 2005)—most of the studies collected primary data on assets at marriage (or at the time of union formation) as an indicator of bargaining power within households. Human capital (education and experience) and assets at marriage are attractive indicators of bargaining power for several reasons. First, even though they may be a result of marriage market selection, they are clearly exogenous to decisions made *within* marriage. Second, in many cultures marriage is one of two key occasions during an individual's lifetime when substantial assets are transferred across generations (the other is the death of the parent). Third, assets transferred at marriage may have a symbolic meaning over and above their economic value. Guyer (1997, 123) argues that such assets are imbued with value through cultural processes that are "much larger than the household or family, extending over much larger frames than the life cycle." Last, assets transferred at marriage are an important determinant of the *current* stock of assets that men and women control.

FINDINGS FROM IFPRI'S RESEARCH PROGRAM

The general findings of IFPRI's Gender and Intrahousehold Research program (discussed in turn below) have been shown to hold beyond specific country settings. The more detailed research results (discussed in the next chapter) are more context-specific but serve to illustrate the general findings. Detailed discussions of the methodologies used are contained in the supporting documents listed in the references.

Households Do Not Act as One When Making Decisions

In an overwhelming majority of cases from a wide range of developing countries, the conventional wisdom that men's and women's resources have the same effects on household decisionmaking is rejected. Results indicate that household members have different preferences and do not pool their resources. Discounting the possibility that development interventions can be targeted to more than one person within a household potentially decreases the effectiveness of interventions (Quisumbing and Maluccio 2000).

Application of a common methodological framework to a number of countries provides further evidence of the limitations of the unitary household model. This is true for outcomes at the household level (Quisumbing and Maluccio 2000, 2003a), the plot level (Alderman et al. 1996), and the individual level (Quisumbing and Maluccio 2003a; Hallman 2000; Smith et al. 2003a; Adato et al. 2000). Of course, in certain instances men's and women's decisions on resource alloca-

tion will have similar results. Individuals may also agree on many household decisions. However, this doesn't justify the assumption that decisions are always made based on consensus. The identity of the transfer recipient *does* affect the ultimate outcome of the intervention. Rejecting the unitary model has implications for the design of policies aiming to transfer resources—whether information (such as agricultural extension), education, food, or cash—to households. The most consistent effect across countries is that resources controlled by women tend to increase expenditure shares on education relative to resources controlled by men; however, the pathways through which men's and women's resources affect individual outcomes differ across the country case studies because of differences in social, cultural, and economic contexts. The differential effect of parental resources on children of different gender provides further evidence that households in developing countries do not act as one.

Share of Resources Depends on Bargaining Power Within the Household

The inequality in resource distribution between men and women has both economic and social consequences, although the specific consequences differ across countries and cultures (Quisumbing 2003).

The collective model predicts that “bargaining power” determines the share of resources allocated to an individual within a household. While the concept of bargaining power is elusive, progress has been made in measuring some of the determinants of bargaining power. Regardless of the measure chosen, the distribution of power and resources within the household almost always favors men. In four countries—Bangladesh, Ethiopia, South Africa, and Indonesia—

Quisumbing and Maluccio (2003a) find that men bring more assets to marriage, both in terms of physical and human capital, than do women. Smith et al. (2003a) use data from 40 Demographic and Health Surveys in developing countries to construct an index of women's relative decisionmaking power within the household and of societal gender inequality. They find that women tend to be less educated than their husbands, with the difference being greatest in South Asia, where women also marry younger, and the smallest in Latin America, where women marry older. Differences in the preferred numbers of girls and boys by region are similarly largest in South Asia and smallest in Latin America, and it is also in South Asia where boys are most preferentially treated with respect to preventive health care. Preference toward sons tends to be greater in countries where women have less decisionmaking power. Based on these measures, Smith et al. ranked countries in terms of women's decisionmaking power and societal gender inequality. The results show that women have lowest status in South Asia, followed by Sub-Saharan Africa, and then Latin America and the Caribbean.

Increasing Resources Controlled by Women has Beneficial Effects on Agriculture, Health, and Nutrition

In agriculture, if resources are inefficiently allocated within the household, their redistribution, in favor of women, increases yields or leaves them unchanged, meaning that equity gains can be achieved without sacrificing efficiency (Quisumbing 2003). Improvements in women's status and increases in the resources controlled by women are associated with increased allocations toward education and improving

child health and nutrition (Quisumbing and Maluccio 2000; Hallman 2000). Social networks may also be an important resource that women can use to help mitigate the impact of adverse shocks (Maluccio et al. 2002). Finally, investment in women—particularly in education—is key to poverty reduction and income improvement (Datt and Joliffe 1998; Datt, Simler, and Mukherjee 1999).

If the unitary model of the household with its assumption of pooled resources were to be believed, whether resources were controlled by the man or the woman would be irrelevant. IFPRI's research, however, not only shows that the effects of men's and women's control over resources differ but also that increasing women's control of resources or decisionmaking power has favorable effects on a number of important outcomes, such as education, child nutrition, and the well-being of women themselves. Research shows that reducing inequalities in human capital (that is, education), physical capital, and current inputs between male and women farmers in Sub-Saharan Africa has the potential to increase agricultural productivity by 10–20 percent (Alderman et al. 1996; Quisumbing 1996). The greater a woman's asset holdings at marriage, the larger the share the household spends on children's education (Quisumbing and Maluccio 2000). In Bangladesh, a higher share of women's assets is associated with better health outcomes for girls (Hallman 2000). And improvements in women's decisionmaking power within the family and society can significantly reduce child malnutrition rates (Smith et al. 2003a).

Women may invest in other forms of capital besides physical assets. Social capital—features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit—differs between men and women.

Evidence from South Africa suggests that while women's social capital networks are wider than men's, they mobilize fewer economic resources. Women's contacts also tend to be among women, and men's among men. While both men's and women's membership in groups is associated with increased household income, household welfare responds more strongly to women's group membership (Maluccio et al. 2002; Maluccio, Haddad, and May 2003).

Finally, investment in women's education has among the farthest-reaching effects. One of the biggest sources of agricultural productivity increases could lie in simply providing universal primary schooling to women in Sub-Saharan Africa. Simulations using data from women farmers in Kenya (Mooock 1976) suggest that yields could be increased by 25 percent if all women attended primary school (Quisumbing 1996). A study by Smith and Haddad (2000) using cross-country data found that increases in women's education have made the greatest contribution to reducing the rate of child malnutrition, being responsible for 43 percent of the total reduction. Improvements in women's status, proxied by the ratio of female to male life expectancy, make up 12 percent. Improvements in food availability came in a distant second to women's education, contributing 26 percent to the reduction rate. If women are able to work off the farm, investments in girls' schooling result in higher probabilities of employment in the nonagricultural sector and higher lifetime incomes (Quisumbing et al. 2004). Otherwise, the returns to women's education in rural areas will remain low, further dampening parental incentives to invest in girls' education. Programs that reduce the price of schooling, especially for girls, reduce the opportunity costs of girls' schooling for parents. Hence, providing conditional cash transfers to

increase girls' school attendance may have far-reaching effects on women's status by equalizing women's and men's human capital. There may be added benefits as well: in Bangladesh, there is some evidence that the Food for Education Program led to delayed marriage, with important implications for women's life opportunities (Arends-Kuenning and Amin 1998, cited in Smith et al. 2003a).

Local Norms and Statutory Laws Both Determine Women's Rights

Despite legal reform, what often determines women's property rights in practice is how laws are interpreted and implemented at the local level (Fafchamps and Quisumbing 2002). Local custom, however, can evolve in response to changing economic incentives (Quisumbing et al. 2001b).

In the past 20 years, the gender gap has been closing in many areas. The greatest improvements have been in increased opportunities for investing in and using human capital, while the smallest have been in securing women's rights to property and other forms of natural and physical capital. Legal and institutional frameworks provide the basis for women to lay legitimate claim to these types of assets. Property rights are especially important in determining women's fallback options should they be divorced or widowed and, indirectly, their bargaining power within marriage. The relative importance of norms and statutes varies across countries and is also influenced by women's social class, education, and urban or rural location. In many cases, particularly in rural areas, customs may be more important than statutes.

In Ethiopia, for example, the share of household assets (land and livestock) brought to the marriage by a woman is a key determinant of her share in the event of divorce (Fafchamps and Quisumbing 2002). Moreover, while many countries have promulgated statutory laws to reform discriminatory customary practices, they have often had unintended side-effects or have never been implemented. If women are poor and uneducated, they may not be aware of the provisions of the law.

Technologies that increase the demand for women's labor may improve their bargaining power and strengthen their claim over land (Quisumbing et al. 2001a). Such trends can be supported by legislation that strengthens women's land rights. Men and women should be equally qualified to acquire land titles. Women also need to be made aware of their legal rights and empowered to claim them, for example, through legal literacy campaigns. However, attempts to increase women's incomes or agricultural productivity by equalizing men's and women's land rights will only succeed if other constraints facing women are also addressed.

Increasing Women's Resources Helps Achieve Successful Development Outcomes

Innovative measures to increase women's resources include credit programs targeted to women, programs designed to increase girls' educational attainment, and community day-care programs and income transfers targeted to women. These programs have had positive effects on women's earning and decisionmaking ability, as well as on child nutrition and educational outcomes (Sharma 2001; Ruel et al. 2002; Skoufias and McClafferty 2001).

Public policies to increase women's resources and improve women's status are of two types, those that aim to eradicate discrimination and those that explicitly target women to redress differences in terms of status (Smith et al. 2003a). The second type of program has been shown to be effective not only in improving outcomes related to women's earnings (Ruel et al. 2002; Ruel et al. 2006), decisionmaking power, and status within the household (Adato et al. 2000) but also a range of outcomes related to children, including diet (Ruel et al. 2002; Ruel et al. 2006), nutrition, and others (Skoufias 2005; Maluccio and Flores 2005).

The effects of public policies to eliminate discrimination are more difficult to evaluate over the short term; a longer-term perspective is essential. The IFPRI study that tracked gender differences in land inheritance and education over three generations in the Philippines, Ghana, and Sumatra shows that policies to eradicate discrimination may increase lifetime incomes for women and provide benefits to their families over the long term (Quisumbing, Estudillo, and Otsuka 2004). As more data sets with repeated observations become available (that is, panel data sets), researchers and policymakers will be able to examine the extent to which reduced gender inequality has enabled individuals and households to improve their well-being over time.

Finally, unless evaluations are undertaken with a broad set of indicators and deliberately elicit participants' views, success can easily be underestimated because the true impact of the intervention was on a process that evaluators did not measure. For example, evaluation of technology transfer programs in Bangladesh found only modest contributions to household income (Bouis et al. 1998). But it was not the vegetable technology package per se that increased women's bargaining power within the household but

rather its being targeted to women and to credit provided by NGOs (also targeted to women). New opportunities for women to earn income outside the home strengthened their position in society and the community (Naved 2000; Hallman et al. 2002). In the evaluation of a large income-transfer program in Mexico (Adato et al. 2000), the findings from the qualitative study were essential to the accurate interpretation of results from the quantitative study. Changes resulting from the program were too subtle to be fully captured by the quantitative questionnaire, even when the quantitative analysis found that the program significantly affected couples' decisionmaking in a few key areas. Policymakers need to be aware of the unintended consequences of interventions—such as the impact on use of time and childcare (Paolisso et al. 2001; Cooke 2000)—which become more apparent when intrahousehold allocation processes are considered.

USING PROJECT AND POLICY CYCLES AS FRAMEWORKS FOR INCORPORATING GENDER RESEARCH

The main task of this guide is to show how the research findings summarized above can inform the design and implementation of development projects and policy. To this end, project and policy decisionmaking cycles are used as points of departure, illustrating the relevance of the findings at different stages of the processes. To begin, information required to address gender issues in local- or national-level project cycles must be identified (Table 1).

Table 1. Information needs for integrating gender and intrahousehold information into the project cycle

| Project cycle stages | Location | Data needs | Processes | Analytical tools or implementation approaches | Outcome indicators |
|---|-----------------|---|--|---|---|
| Needs assessment and problem identification | National | <ul style="list-style-type: none"> • Gender-disaggregated indicators at national level • Ethnographic studies on gender differences | <ul style="list-style-type: none"> • Gender sensitive analysis of secondary data • Analysis of large household surveys • Consideration of complex structures of caste and class ethnicity | <ul style="list-style-type: none"> • Statistical and econometric techniques • National consultations with key stakeholders • Review of ethnographic studies | <ul style="list-style-type: none"> • Gender-disaggregated poverty profile (or similar outcome) • Identification of national priorities |
| | Local | <ul style="list-style-type: none"> • Gender disaggregated indicators at local level | <ul style="list-style-type: none"> • Consideration of separate community consultations for men and women | <ul style="list-style-type: none"> • Participatory rural appraisal, rapid rural appraisal • Going beyond consultation • Problem causing and problem solving (PCPS) | <ul style="list-style-type: none"> • Identification of community priorities, by gender |
| Project design and appraisal | National | <ul style="list-style-type: none"> • Cost–benefit estimates under alternative scenarios (include effectiveness parameters) | <ul style="list-style-type: none"> • Project appraisals • Feasibility studies • Assessments | <ul style="list-style-type: none"> • Budget analysis at national or regional level • Budget components can be broken up by gender or gender impact • Projections and simulations (can be gender-disaggregated) | <ul style="list-style-type: none"> • Project implementation plan (include objectives, proposed results, operating manuals, field instruments, calendar of operations, and so on) |
| | Local | <ul style="list-style-type: none"> • Cost–benefit estimates for various components (include effectiveness parameters) | <ul style="list-style-type: none"> • Consultative project appraisals • Community assessments | <ul style="list-style-type: none"> • Resources, constraints, personnel to be disaggregated by gender • Men only and women only groups can be asked about possible interventions they would like to have | <ul style="list-style-type: none"> • Project implementation plan (include objectives, proposed results, operating manuals, field instruments, calendar of operations, and so on) |

(TABLE 1. CONTINUED)

Table 1. Information needs for integrating gender and intrahousehold information into the project cycle (CONTINUED)

| Project cycle stages | Location | Data needs | Processes | Analytical tools or implementation approaches | Outcome indicators |
|-----------------------------|-----------------|---|---|---|--|
| Implementation | National | <ul style="list-style-type: none"> • Baseline data disaggregated by gender | <ul style="list-style-type: none"> • Policy implementation by responsible government agencies, NGOs, and PVOs | <ul style="list-style-type: none"> • Degree of centralization/ decentralization will depend on type of project • Targeting or phasing in of project as needed | <ul style="list-style-type: none"> • Process and outcome indicators (see monitoring and evaluation) and indicators to capture women's empowerment |
| | Local | <ul style="list-style-type: none"> • Baseline data | <ul style="list-style-type: none"> • Development and implementation of staffing and training plan • Determination of operational budget • Start-up or pilot activities • Undertake activities | <ul style="list-style-type: none"> • Attention to gender balance of staff • Attention to gender balance of clients • Recording of gender balance depending on activity | <ul style="list-style-type: none"> • Process and outcome indicators (see monitoring and evaluation) |
| Monitoring and evaluation | National | <ul style="list-style-type: none"> • Gender-disaggregated data on provision, use coverage, impact of new interventions • Baseline data | <ul style="list-style-type: none"> • Design and implementation of evaluation (formats to include the ability to disaggregate by gender) | <ul style="list-style-type: none"> • Impact evaluations using nationally representative samples, household surveys, collecting gender-disaggregated data • Mid-term and ex post evaluation should be considered | <ul style="list-style-type: none"> • Evaluation of impact of project, cost-effectiveness, equity, sustainability, and impact |
| | Local | <ul style="list-style-type: none"> • Gender-disaggregated data on provision, use, coverage, impact of new interventions • Baseline data | <ul style="list-style-type: none"> • Design and implementation of evaluation | <ul style="list-style-type: none"> • Operations research • Impact evaluations • Participatory evaluations using focus groups (separately for men and women) | <ul style="list-style-type: none"> • Evaluation of impact of project, cost-effectiveness, equity, sustainability, and impact |

Source: Compiled by authors from various sources.

Note: NGO indicates nongovernmental organization; PVO indicates private voluntary organization.

While the project cycle may differ across organizations, for the purposes of exposition, in this guide a development project is determined to have four primary phases (Figure 1):

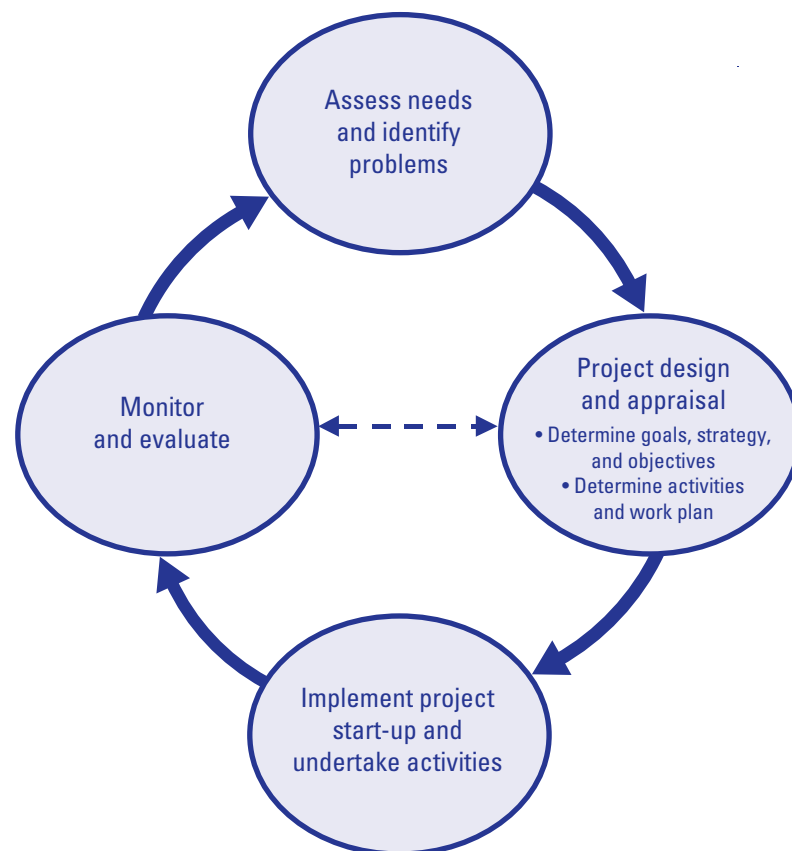
1. needs assessment and problem identification,
2. project design and appraisal,
3. project implementation and monitoring, and
4. evaluation.

Like the project cycle, the process of policymaking also has recognized phases:

1. agenda setting,
2. policy formulation,
3. adoption,
4. implementation, and
5. assessment.

“Unpacking” policymaking and project development into distinct stages allows gender research to be tackled within manageable analytical units that facilitate an understanding of information use within and across government and nongovernmental institutions. This approach is also useful in light of the growing tendency to outsource different aspects of the project cycle. Use of phases and cycles supports the decisionmaking process in terms of who gets what information, when, and in what form.

Figure 1. Project life cycle



Source: Adapted from CEDPA (1994).

Gender Research Informing Projects

The level at which needs assessments are undertaken and monitoring and evaluation systems established depends on the nature of the project. A policy intervention that aims to improve the competitiveness of a country's export products through price policy, for example, would have very different indicators compared with a community-based agricultural export program, even if the objectives were similar. According to the Centre for Population and Development Activities framework (CEDPA 1994), for community-based projects, the project cycle, first, must begin with needs assessment, second, is an ongoing process whereby the results of monitoring and evaluation must feed back into problem identification, and, third, is sequential; hence, certain activities (like the development of project objectives, indicators, and activities; undertaking financial planning; and establishing record keeping protocols) must be completed before the commencement of project activities.

Table 1 shows how data, analyses, and methods pertaining to gender and intrahousehold issues can inform the project cycle. Each phase is defined at national and local levels, since the type of information required at each not only differs but also requires different information gathering techniques—greater use of national data, published statistics, or household surveys compared with direct consultation with local stakeholders.

Needs Assessment and Problem Identification

Needs assessments range from exercises involving community members who are asked about their problems and suggested

solutions to them, possibly in a focus group discussion, to formal poverty assessments using nationally representative household data, such as those conducted by the World Bank. Because a number of development outcomes are expected to differ systematically by gender regardless of the scale of the exercise—or the resources required—it is important to include gender as one of the criteria for gathering and analyzing data. At the national level, important advances have been made through the compilation of statistics such as the Human Development Index and the Gender Empowerment Index by the United Nations Development Programme (UNDP). Other statistics gathered routinely by most countries include the population's age and sex distribution, life expectancy, nutritional status, maternal mortality rates, employment distribution by sector and sex, school enrollment rates by age and sex, political representation by gender, and so on. Official statistics, however, tend to understate women's involvement in productive activities (Dixon 1982) and often do not reflect gender realities. Detailed household surveys, such as the Living Standards Measurement Surveys conducted by the World Bank and the Demographic and Health Surveys, provide a wealth of gender-disaggregated data. Baseline data for needs assessment and problem identification should also include culture-specific information on gender roles and inequality. This information is usually absent from typical household surveys and can be more cost-effectively gathered from qualitative research exercises. Ethnographic studies that give a more accurate picture of gender relations, as well as field work at the local level, will be important indicators of the different resources, responsibilities, and constraints among men and women. Whether through formal household surveys or qualitative assessments, information can be gathered on the following topics: wealth and

assets of men and women, income and risk profiles, (individual or community) perceptions of problems and needs, time budgets and activities of men and women, crops or livestock grown by men and women, education and health services, community and political participation, and so on. Rapid appraisal techniques for food security analysis, such as concept definition, community mapping, wealth ranking, food security rating, and timeline analysis, are discussed in Bergeron (2001).

Project Design and Appraisal

Ideally, needs assessment and problem identification should influence project design. Omitting gender considerations in the design phase leads to problems in implementation. Solutions to the problem are identified, assessed, and prioritized based on the constraints and needs already determined and the resources available to the implementing agency, including institutional capacity and know-how. In this way, the components of the project are eventually constituted in preparation for implementation. Decisions need to be made as to whether the project will focus on a single goal or attempt to meet multiple objectives. Targeting of the intervention is also discussed at this stage. Finally, the design needs to incorporate lessons-learned from previous interventions.

Gender considerations will affect such aspects as the relative priority given to needs and solutions, the choice among different approaches to a particular problem, the need for and nature of the targeting mechanism used, the gender balance of project staff, and the involvement of different stakeholders as participants.

Implementation, Monitoring, and Evaluation

Effective project implementation is the test of good program design. At all levels of implementation, project objectives must be linked to budgets, activities, and timelines, with clear identification of the persons responsible for purposes of accountability. Project implementation includes planning, monitoring and supervision, allocation of resources, and evaluation (CEDPA 1994). Ongoing monitoring and evaluation are so critical to improving project performance during the implementation phase that it is perhaps most useful to tackle these three components together. If nothing else, good monitoring can inform adjustments to the implementation plan and self-monitoring by target groups should certainly be considered. Part of the process is identifying indicators of project performance and, where important, collecting or reporting these by gender. For a more detailed discussion of monitoring and evaluation in development projects, see Carletto and Morris (2001).

For monitoring and evaluation to be useful inputs to program implementation, they must be treated as routine information-gathering activities. At the project or facility level, it is important to set up systems for gathering data on a routine basis. Reporting systems can collect sex-disaggregated data. For example, use data at health facilities could include the age and sex of children and adults using the local health facility as well as sex-disaggregated information on the types of diseases reported and treated. Two key components of a good impact evaluation study are the availability of accurate baseline information and a properly thought-out control group, allowing before–after and with–without comparisons (Carletto and Morris 2001). Comparing the beneficiary group

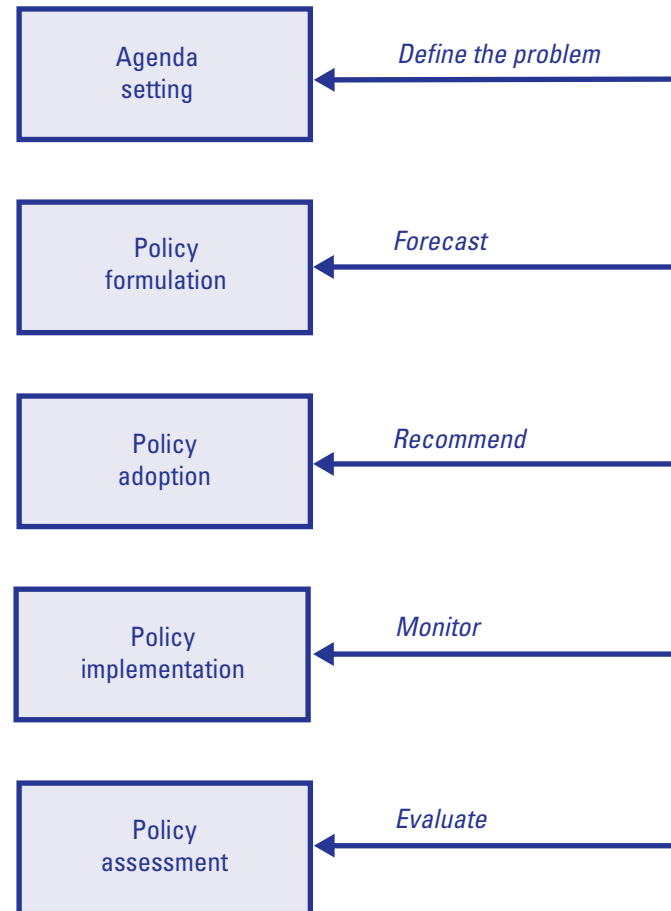
before and after the intervention or comparing differences between the beneficiary group and another group that did not receive the intervention is necessary as a control for external factors that are likely to contaminate the evaluation results. As Carletto and Morris argue, involving the evaluation team at the earliest stages of project design is the most suitable way of ensuring a proper and accurate evaluation without the need for more complicated statistical techniques—although statistical techniques can be used *ex post* to address some of these issues. Different approaches used in the program evaluation of the different country case studies will be illustrated in the chapters that follow.

Gender Research Informing Policy

As project cycles turn, so does policy. The phases of policymaking, like project development, benefit from and rely on a supply of policy relevant knowledge. The information needs presented in Table 1 are not restricted to project design and development. On their own, well-designed and implemented projects have little hope of improving lives if they are limited by ill-defined and uninformed policy. Therefore, information is also crucial for informed decisionmaking throughout policy development cycles.

Several frameworks have been developed within the policy sciences to examine how knowledge is incorporated into policymaking. To some extent, all of these frameworks are incomplete because policymaking is not as rational or distinct as a framework might suggest. Information inches its way into the process at several points in time, influenced by a multitude of policy actors. Harold Lasswell, the architect of the policy sciences, emphasizes that

Figure 2. Research and the policymaking process



Source: Adapted from Dunn (1994).

policy processes are complicated and replete with social processes, decision processes, and problem orientation issues. It therefore follows that the use of information in the context of policymaking is not clear-cut. Nevertheless, as with the project cycle already discussed, a framework is useful to break the policymaking process down into phases for analysis. The policy analysis framework highlighted here is used heuristically rather than prescriptively—that is, as an aid to learning, not a rule. Certainly no one stage occurs in isolation of the others—an “agenda setter” or “policy formulator,” as such, does not exist. However, by placing the research in the context of policy stages, the application of gender research findings to policy formulation can be explored, thereby refining the type of information gathered, interpreted, and used to formulate questions in direct response to concerns about policy impact on human welfare. Figure 2 shows how research fits into the different stages of the policymaking process.

The policy agenda comprises the set of subjects and problems on which policymakers and others involved in the policymaking process are focused. During the *agenda setting* phase, issues are brought into focus and problems structured. At this time, gender research is a useful input in both structuring policy problems and challenging the assumptions that underlie problems. It helps to define problems by diagnosing their causes, mapping possible solutions, presenting conflicting views of problems, and designing new options. Hence, during this phase, research can also generate proposals for policy change. For example, a minister of health might endorse a program that will provide nutritional supplements to pregnant women and children. Yet little is known about how individuals or households would benefit from such an intervention. A gender perspective could be to conduct a retrospective analysis

of a similar program that used various mechanisms to reach the target population effectively; this would provide invaluable information for appropriately structuring policy problems. National- and local-level indicators disaggregated by gender can provide key information for structuring of gender-relevant problems.

Policy formulation takes place after a well-structured problem has been included in the policy agenda. During this phase, officials scrutinize the policy options proposed. Once again, gender research can inform the development of policies by predicting the most probable outcomes within households or across individuals given the adoption of a certain policy. Lessons from research on differences in the use of health care services by women of different classes suggest whether the target group is likely to take the nutritional supplements. Using research, it is also possible to predict that women from households of a certain age–sex composition will be more (or less) likely to attend prenatal screenings regularly. Another factor of importance during the policy formation stage is the inherent cost differences in reaching different target groups—gender research can provide estimates.

Research enriches policy recommendations during the *policy adoption* phase by allowing the estimation of levels of risk and uncertainty, the identification of externalities and spillovers, and the specification of implementation criteria. Gender and intrahousehold research can be used to compare the effectiveness of different types of interventions. For example, what is the better method of improving children’s long-term nutritional status—the implementation of health care interventions or the promotion of education for girls? Gender disaggregated baseline data should be gathered to inform

the monitoring and evaluation of policy adoption, thereby allowing quantification of the effects of different interventions.

The monitoring of one policy can inform the later implementation of another. Hence, the consequences of adopted policies need to be evaluated carefully to inform future *policy implementation*. Continued monitoring of selected indicators of women's health, income/productive resources, and welfare, for example, during policy implementation can assess the degree to which certain policies have an unexpected inequitable gender effect. Gender analysis identifies the unintended consequences of policies or programs and reveals unseen obstacles to effective policy implementation.

Finally, in *policy assessment*, gender research lets policymakers know where policy outcomes have diverged from optimal scenarios. In this case, analysis incorporating gender can provide information

that evaluates discrepancies between expectations and reality, as experienced by communities, households, and individuals.

ORGANIZATION OF THE GUIDE

The presentation of the research findings in Chapter 2 is organized around the four stages of the project cycle and the major research findings relevant to each stage. Table 2 maps IFPRI's specific research findings into the general findings and the stages of the project cycle. Chapter 3 combines a presentation of the implications of the general research findings with a list of questions that project planners and policymakers may want to consider when contemplating a new project or policy.

Table 2. Using IFPRI’s intrahousehold research findings in development projects

| Project cycle | IFPRI research findings |
|---|---|
| Needs assessment and problem identification | <p>Households do not act as one when making decisions.</p> <ul style="list-style-type: none"> • Households may not pool resources, including information. • Men and women may have different preferences and perceptions about needs. |
| | <p>One’s share of resources depends on bargaining power within the household.</p> <ul style="list-style-type: none"> • There are pronounced disparities in resource control and outcomes between men and women. • Women bring fewer assets and human capital to marriage than men. • Women inherit less land than men because inheritance systems reflect relative contributions of men and women to farming. However, inheritance systems are changing. • Men and women accumulate different forms of social capital, and to different degrees. Men tend to have narrower networks than women, but mobilize more resources. |
| | <p>Both local norms and statutory laws determine women’s rights.</p> <ul style="list-style-type: none"> • Local norms and customary law are important determinants of women’s rights. • When formal membership in groups is limited, women may use informal mechanisms. |
| Project design and appraisal | <p>Increasing resources controlled by women benefits families.</p> <ul style="list-style-type: none"> • Improving women’s status and increasing resources controlled by women increases household allocation toward education and improved child health and nutrition. • Household welfare responds more to women’s social capital since women participate more in groups. |
| | <p>Project design features also have gender implications.</p> <ul style="list-style-type: none"> • Criteria for group membership and operational procedures may limit women’s participation. • Dissemination and targeting of technology has gender implications. • Cultural influences may limit women’s participation in projects. • Policies and external forces can change traditional norms. • Strengthening women’s land rights through titling or legal reform is not enough—other constraints faced by women also need to be addressed. |
| | <p>Innovative ways to increase women’s resources have made projects successful.</p> <ul style="list-style-type: none"> • Additional resources to households can increase school attendance, particularly girls’. • Cash transfers to mothers can improve human capital outcomes of children. • Cash transfers to mothers can increase women’s role in household decisions. • Programs that involve women in groups and community activities can provide opportunities for empowerment. • Including men in initial project meetings can increase acceptance of projects. • Providing affordable, quality childcare in the community can relieve constraints to women’s employment. |
| Project implementation and monitoring | <p>Build gender-sensitive monitoring into project design and implementation.</p> <ul style="list-style-type: none"> • Targeting mechanism may be critical for project success; quota targeting may conflict with program objectives. • Gender issues in staffing may be critical for project acceptability. • Participants and service providers need to understand project objectives related to gender and intrahousehold issues. |
| Evaluation | <p>Paying attention to gender issues in program evaluations can improve performance and general development impacts.</p> <ul style="list-style-type: none"> • Paying attention to gender in operational evaluations can enhance monitoring and evaluation of projects. • Evaluation must make use of gender-disaggregated process and outcome indicators. |



2. Gender and Intrahousehold Aspects of Food Policy: Research Findings for Development Projects

The general research findings presented in Chapter 1 were drawn from a series of rigorous studies conducted across countries, sectors, and cultures. In this chapter, readers will find detailed discussions of specific findings that collectively contribute to those general research conclusions. Conclusions have been grouped according to their use within the project cycle framework. Some findings, for example, are most appropriately considered during the first phase, project needs assessment, while others are most effectively applied to project design or evaluation. We hope that using the project cycle framework will add value and utility to the research findings.

ADDRESSING GENDER IN NEEDS ASSESSMENT AND PROBLEM DEFINITION

Needs can be assessed and problems identified from the national level, all the way down to the community level, though the associated data needs and methodologies used will differ. Whether gender will play an important role in designing projects and policies is a matter

to be determined during needs assessment and agenda setting. If, for example, gender disparities are widespread in a particular society, it will be crucial to obtain inputs from male and female stakeholders during the needs assessment phase. In such societies, women may attend meetings but not speak, or attend but be expected to agree with their husbands. If women are inhibited in expressing their views with men present, it may be critical to elicit these views in separate fora—though this may be difficult in a project rather than a research context. If gender disparities are not as pronounced, other factors that contribute to higher inequality or differences in poverty outcomes (say, race or social class) may be more important to consider in undertaking the needs assessment and subsequent project design.¹⁰ In defining the kind of project needed and wanted in a particular village or setting, the policymaker or project designer will need basic information such as the community's overall problems and needs, its existing resources, and the community members' preferences (CEDPA 1994). This will include traditional knowledge, local resources, and technical expertise. In the design of agricultural projects, paying attention to cultural differences in farming systems may be essential to a project's success (see Box 5).

¹⁰ When gender disparities are deep rooted and historical, stakeholders may not even be aware of them. For example, subservience to husbands may be considered “virtuous” and “normal” by women. Under these circumstances, it may take an outsider to alert the stakeholders to disparities. This is probably where change-agents in society (policymakers, intellectuals, NGOs, and users of manuals such as this) play an important role.

Box 5. Farming Systems and Gender Roles

Farming systems can be classified into three general types: (1) extensive, land-surplus systems; (2) intensively cultivated, labor-surplus systems with a unimodal farm size distribution; and (3) dualistic systems with different factor intensities between large and small farms (Boserup 1970; Lele 1986). These types have usually been associated with Africa, Asia, and Latin America, although there are, of course, variations. These systems coexist with different family structures: the polygamous societies of Africa, in which there is less congruence between women's interests and their husbands'; and the monogamous extended/nuclear family type in Asia and Latin America, with agricultural decisionmaking primarily by men.

Unlike the unified "family farm" in Asia, in most of Sub-Saharan Africa, households hold several granaries or purses, controlled by men or women depending on different but complementary responsibilities to the household (Dey 1985). Women tend to be involved more heavily in the production of traditional food crops, while men contribute more labor to cash crops. While women are now increasingly involved in cash crop cultivation (for example, cocoa in Ghana, see Quisumbing et al. 2001a), the traditional patterns of specialization can be traced to customary rights and obligations of men and women. In most African societies, women have a traditional obligation to produce subsistence food crops for home consumption and to perform household maintenance activities such as fetching fuel and water. Traditionally, men have cultivated cash crops, the sale of which provides cash to meet nonsubsistence obligations to wives and children. Men are obligated to provide the land and to be responsible for housing, taxes, ceremonial and religious obligations, and at least part of the school fees. In most patrilineal societies, men are responsible for surplus accumulation, usually in the form of cattle. This is linked to longer term security, which may often be achieved through the exchange of cattle for additional wives (with concomitant increments in household labor supply) and through sale of cattle in

times of crop failure (Kumar 1987). In many African countries and ethnic groups, both men and women also have the right to cultivate a personal field on their own from which they meet certain obligations to the household and their personal expenses.

In contrast to the heavy involvement of female family labor in African agriculture, particularly food production, male family labor dominates in Asian farming systems. Men typically provide the labor in land preparation, with women providing auxiliary labor in hand operations, such as planting (particularly transplanting rice seedlings), cultivation and crop care (notably weeding). Hired labor is also important in Asia, where both male and female casual laborers account for a significant proportion of labor input. The casual labor market in much of Africa is still relatively small and mostly male.

In Latin American agriculture, there is a gender division of labor in both industrialized crop production and peasant farming (Ashby 1985). In the large farm sector, women are hired as wage laborers for such nonmechanized tasks as coffee harvesting and cotton picking, or work with men as members of migrant family laborers doing piece work. Regional differences in the tasks men and women perform depend on the local supply of male and female wage labor and the substitutability of male and female labor in the large farm sector. In the peasant subsector, the significance of women's participation in family farming systems varies widely across Latin America, with ethnicity and across regions (Deere and Leon 1987). Women's agricultural participation is much more important in the Andean countries and Central America than in the Southern Cone. Cultural factors (strength of Hispanic versus Indian traditions); social class (whether income comes from land or wages); labor market conditions; and the degree of market integration of the peasant economy affect the degree of flexibility in the gender division of labor. When men work off the farm, women have taken on more male-dominated tasks.

Households Do Not Act As One When Making Decisions

RESEARCH FINDING NO. 1: HOUSEHOLDS MAY NOT POOL RESOURCES

A study by Alderman et al. (1996), drawing on original research by Udry (1996), uses an extremely detailed farm-level agronomic data set from six villages in Burkina Faso to examine whether the allocation of productive resources within the household is efficient. An important characteristic of the farming systems in these villages, as in much of Sub-Saharan Africa, is that different members of the household simultaneously cultivate the same crop on different plots. It is therefore possible to test whether a difference in who controls the plots (the man or woman of the household) is reflected in how resources are allocated across those plots. If the household were (Pareto) efficient in production, yields should be the same on all plots planted to the same crop within a household in a given year (controlling, of course, for plot characteristics).

The study found that a household's plots planted to the same crop, on similar plots, in the same year have significantly lower yields when controlled by women than when controlled by men. On average, yields are about 18 percent lower on women's plots. Large gender differences in yields, however, do *not* imply that women are less efficient cultivators than men. In fact, research indicates that plots controlled by men have higher labor inputs by both men and children than do plots controlled by women. Plots controlled by women have labor inputs primarily from the women themselves. Nonhousehold labor (unpaid exchange labor) is used more intensively on plots controlled by men. Moreover, virtually all manure (fertilizer) is concentrated on the plots controlled by men. The gender yield

differential, apparently, is caused by the difference in the intensity with which measured inputs of labor and fertilizer are applied on plots controlled by men and women rather than by differences in the efficiency with which these inputs are used. This analysis found that the output of women's plots, and therefore total household output, could be increased by between 10 and 20 percent by reallocating actually used factors of production between plots controlled by men and women in the same household. Total household output would increase because the current allocation of resources is inefficient.

RESEARCH FINDING NO. 2: MEN AND WOMEN MAY HAVE DIFFERENT PREFERENCES, AND THUS DIFFERENT PERCEPTIONS, ABOUT RESOURCE NEEDS

Another study based on similar data from Burkina Faso (Smith and Chavas 1999) analyzes the production impact of a 60 percent increase in the price of cotton and a 120 percent increase in the price of fertilizer—which occurred during 1982–85—taking into account both the differences in the bargaining power of husbands and wives and differences in their spending preferences arising from gender-specific expenditure responsibilities. Typically, wives were responsible for food processing and preparation, and care of elderly and ill family members. The study concludes that, in West African households that do not pool their resources, the difference in spending preferences between women and men reduces the responsiveness of agricultural supply to price changes. The analysis predicts that Burkinabé households in which husbands and wives have different spending preferences will have a cotton supply response 25 percent lower than households whose members have identical preferences. This suggests that the effects of intrahousehold preference differences may be quite

significant quantitatively. It can thus be added to the list—along with market failure, poor infrastructure, and risk aversion—of potential structural constraints to agricultural supply response in West Africa.

Women Usually Control Fewer Resources Than Men, and Thus Women Have Less Bargaining Power Within the Household

RESEARCH FINDING NO. 3: PRONOUNCED DISPARITIES EXIST BETWEEN MEN AND WOMEN IN RESOURCE CONTROL AND OUTCOMES

The example of gender differences in poverty measures.

Quisumbing, Haddad, and Peña's (2001) comparisons of poverty measures of men and women in 10 developing countries show evidence

that women, as well as households headed by women, are slightly over-represented among the poor. While female-headed households are worse off in terms of a number of poverty measures, these differences are statistically significant in one-fifth to half of the data sets, depending on the poverty measure used. Poverty measures are also higher for women than men; these differences are significant in a smaller proportion of the datasets (about a fifth to a third). The two study countries where women are consistently worse off than men, using a number of poverty measures, are Ghana (rural areas) and Bangladesh.

While it is often assumed that female-headed households are disproportionately poor, a more striking result from IFPRI's research is that there are many more women living in poverty in male-headed households and fewer men living in poverty in female-headed households (Table 3). Indeed, because female-headed households account for a small proportion of the population, their contribution

Table 3. Poverty profiles for male- and female-headed households and males and females, based on the 33rd percentile consumption per equivalent adult of the combined distribution

| Country | Profile category | Share of households (percent) | Share of group below the poverty line (percent) | Share of poverty (percent) |
|---------------|------------------|-------------------------------|---|----------------------------|
| Botswana | MHH | 41.9 | 34.3 | 43.9 |
| | FHH | 58.1 | 31.6 | 56.1 |
| | Total | 100.0 | 32.7 | 100.0 |
| Côte d'Ivoire | MHH | 91.9 | 32.9 | 91.0 |
| | FHH | 8.1 | 37.1 | 9.0 |
| | Total | 100.0 | 33.2 | 100.0 |

| Profile category | Share of persons (percent) | Share of group below the poverty line (percent) | Share of poverty (percent) |
|------------------|----------------------------|---|----------------------------|
| Males | 43.9 | 34.7 | 46.0 |
| Females | 56.1 | 31.9 | 54.0 |
| Total | 100.0 | 33.1 | 100.0 |
| Males | 48.3 | 33.6 | 49.0 |
| Females | 51.7 | 32.7 | 51.0 |
| Total | 100.0 | 33.1 | 100.0 |

(TABLE 3. CONTINUED)

Table 3. Poverty profiles for male- and female-headed households and males and females, based on the 33rd percentile consumption per equivalent adult of the combined distribution (CONTINUED)

| Country | Profile category | Share of households (percent) | Share of group below the poverty line (percent) | Share of poverty (percent) | Profile category | Share of persons (percent) | Share of group below the poverty line (percent) | Share of poverty (percent) |
|------------|------------------|-------------------------------|---|----------------------------|------------------|----------------------------|---|----------------------------|
| Ethiopia | MHH | 90.6 | 33.1 | 90.1 | Males | 50.2 | 32.1 | 48.5 |
| | FHH | 9.4 | 35.1 | 9.9 | Females | 49.8 | 34.3 | 51.5 |
| | Total | 100.0 | 33.3 | 100.0 | Total | 100.0 | 33.2 | 100.0 |
| Ghana | MHH | 70.7 | 31.1 | 67.2 | Males | 49.1 | 32.4 | 48.1 |
| | FHH | 29.3 | 36.7 | 32.8 | Females | 50.9 | 33.7 | 51.9 |
| | Total | 100.0 | 32.7 | 100.0 | Total | 100.0 | 33.1 | 100.0 |
| Madagascar | MHH | 89.9 | 32.7 | 86.8 | Males | 51.7 | 32.1 | 50.3 |
| | FHH | 10.1 | 44.3 | 13.2 | Females | 48.3 | 33.9 | 49.7 |
| | Total | 100.0 | 33.9 | 100.0 | Total | 100.0 | 33.0 | 100.0 |
| Rwanda | MHH | 88.9 | 33.2 | 91.2 | Males | 48.6 | 32.9 | 47.7 |
| | FHH | 11.1 | 25.8 | 8.8 | Females | 51.4 | 34.1 | 52.3 |
| | Total | 100.0 | 32.4 | 100.0 | Total | 100.0 | 33.5 | 100.0 |
| Bangladesh | MHH | 91.8 | 28.6 | 83.7 | Males | 50.0 | 32.1 | 48.6 |
| | FHH | 8.2 | 62.4 | 16.3 | Females | 50.0 | 33.9 | 51.4 |
| | Total | 100.0 | 31.4 | 100.0 | Total | 100.0 | 33.0 | 100.0 |
| Indonesia | MHH | 91.7 | 30.8 | 86.1 | Males | 50.2 | 31.1 | 47.6 |
| | FHH | 8.3 | 55.0 | 13.9 | Females | 49.8 | 34.5 | 52.4 |
| | Total | 100.0 | 32.8 | 100.0 | Total | 100.0 | 32.8 | 100.0 |
| Nepal | MHH | 93.2 | 32.2 | 91.0 | Males | 51.0 | 32.8 | 50.3 |
| | FHH | 6.8 | 43.8 | 9.0 | Females | 49.0 | 33.7 | 49.7 |
| | Total | 100.0 | 33.0 | 100.0 | Total | 100.0 | 33.2 | 100.0 |
| Honduras | MHH | 90.7 | 33.0 | 90.8 | Males | 49.0 | 31.6 | 47.0 |
| | FHH | 9.3 | 32.6 | 9.2 | Females | 51.0 | 34.3 | 53.0 |
| | Total | 100.0 | 33.0 | 100.0 | Total | 100.0 | 33.0 | 100.0 |

Source: Quisumbing, Haddad, and Peña (2001).

Note: Numbers may not add up to 33.0 due to rounding errors. MHH indicates male household head; FHH, female household head.

to aggregate poverty is small compared with the overall contribution of women to poverty. Hence a sole focus on female-headed households may lead to the neglect of the majority of poor women who live in poor male-headed households.¹¹

The example of cross-country differences in women's status.

Smith et al. (2003a) use data from 36 developing countries collected for the Demographic and Health Surveys (DHS) to construct an index of societal gender inequality and women's relative decisionmaking

power within the household.¹² This compilation of the surveys shows that women tend to be less educated than their husbands, with the difference being greatest in South Asia and smallest in Latin America. Women marry at younger ages in South Asia and at older ages in Latin America. Based on these measures, the study ranked countries in terms of women's decisionmaking power and societal gender inequality. The analysis indicates that women in South Asia have the lowest status, followed by women in Sub-Saharan Africa, then Latin America and the Caribbean (Table 4).

Table 4. Status of women, by region and country

| Region/country | Women's relative decisionmaking power | | Societal gender equality | |
|---------------------------------|---------------------------------------|------|--------------------------|------|
| | Mean | Rank | Mean | Rank |
| South Asia | 33.0 | 1 | 49.1 | 1 |
| Sub-Saharan Africa | 37.0 | 2 | 57.2 | 2 |
| Latin America and the Caribbean | 42.7 | 3 | 61.2 | 3 |
| Bangladesh | 29.7 | 1 | 55.0 | 9 |
| India | 33.3 | 3 | 48.3 | 2 |
| Nepal | 32.1 | 2 | 47.7 | 1 |
| Pakistan | 34.8 | 8 | 49.0 | 3 |
| Benin | 41.0 | 28 | 56.0 | 13 |
| Burkina Faso | 37.2 | 16 | 61.3 | 32 |

(TABLE 4. CONTINUED)

¹¹ Focusing only on female-headed households often also neglects the differences among such households. For example, households headed by women whose husbands have migrated elsewhere but send regular remittances are likely to be much better off than households headed by widows.

¹² The index of household gender inequality comprises four measures: (1) whether the woman works for cash income; (2) the woman's age at first marriage; (3) the percentage age difference of the woman and her partner; and (4) the difference in years of education of the woman and her partner. The index of societal gender inequality comprises four measures: (1) the difference in age-adjusted weight-for-age Z-scores for girls and boys under five years old; (2) the percentage of children under five years old who are female; (3) the difference in age-adjusted vaccination scores of girls and boys under five years old; and (4) the difference in years of education of adult men and women.

Table 4. Status of women, by region and country (CONTINUED)

| Region/country | Women's relative decisionmaking power | | Societal gender equality | |
|--------------------------|---------------------------------------|------|--------------------------|------|
| | Mean | Rank | Mean | Rank |
| Cameroon | 37.8 | 18 | 58.8 | 23 |
| Central African Republic | 38.1 | 19 | 53.8 | 8 |
| Chad | 33.7 | 4 | 55.5 | 11 |
| Comoros | 37.0 | 15 | 59.1 | 26 |
| Côte d'Ivoire | 35.0 | 10 | 55.6 | 12 |
| Ghana | 40.5 | 27 | 53.6 | 7 |
| Kenya | 39.2 | 22 | 57.0 | 15 |
| Madagascar | 39.8 | 26 | 59.9 | 27 |
| Malawi | 34.9 | 9 | 53.6 | 6 |
| Mali | 33.8 | 6 | 57.5 | 18 |
| Mozambique | 33.8 | 5 | 57.3 | 17 |
| Namibia | 42.4 | 33 | 63.5 | 36 |
| Niger | 33.9 | 7 | 60.2 | 28 |
| Nigeria | 35.5 | 13 | 57.5 | 20 |
| Rwanda | 43.5 | 36 | 58.9 | 25 |
| Senegal | 35.3 | 11 | 61.1 | 30 |
| Tanzania | 39.3 | 23 | 58.8 | 24 |
| Togo | 39.5 | 24 | 52.8 | 4 |
| Uganda | 35.5 | 12 | 53.2 | 5 |
| Zambia | 35.8 | 14 | 55.3 | 10 |
| Zimbabwe | 39.0 | 21 | 57.5 | 19 |
| Bolivia | 42.0 | 32 | 56.1 | 14 |
| Brazil | 43.4 | 35 | 62.3 | 35 |
| Colombia | 43.2 | 34 | 61.3 | 31 |
| Dominican Republic | 39.6 | 25 | 61.5 | 34 |
| Guatemala | 37.7 | 17 | 58.2 | 22 |
| Haiti | 41.7 | 31 | 57.9 | 21 |
| Nicaragua | 38.2 | 20 | 61.4 | 33 |
| Paraguay | 41.6 | 30 | 60.4 | 29 |
| Peru | 41.4 | 29 | 57.1 | 16 |

Source: Smith et al. (2003a).

Note: The lower ranking countries are those with lower status of women.

It is not surprising that sons are preferred in countries where women have lower status. Differences in the preferred numbers of girls and boys by region are largest in South Asia and smallest in Latin America. Boys are also most preferentially treated in South Asia with respect to preventive health care.

The example of intrahousehold food distribution in Bangladesh. Micronutrient malnutrition is a serious problem in developing countries. It is well established that micronutrient requirements are greater for women and children because of their respective needs for reproduction and growth. Unfortunately, however, women and children suffer most from micronutrient deficiencies. A study by IFPRI and its collaborators of the micronutrient implications of new agricultural technologies in Bangladesh (Bouis et al. 1998) finds that preschoolers appear to be favored in intrahousehold distribution of food, particularly preschool boys, who receive a disproportionate share of animal and fish products—the most expensive sources of energy, accounting for a high percentage of foods purchased at the margin as income increases. Adult women tend to receive disproportionately lower shares of micronutrient-rich preferred foods. Although the energy intakes of adult women are, of course, substantially greater than those of preschool children, consumption of animal and fish products is about equal between adult women and preschool boys. Thus, any project that attempts to reduce micronutrient malnutrition will have to pay special attention to the needs of women and girls.

RESEARCH FINDING NO. 4: WOMEN BRING FEWER ASSETS AND LESS HUMAN CAPITAL TO MARRIAGE THAN MEN

The example of men's and women's assets and human capital at marriage. In six developing countries in Africa, Asia, and Latin America—Bangladesh, Guatemala, Ethiopia, Mexico, the Philippines, and South Africa—men bring more land and assets to marriage than their wives (Table 5). Wives also tend to be younger than their husbands, which conveys greater bargaining power to husbands. Gaps in education, however, are less severe. Analysis of trends in *differences* between husbands' and wives' ages, years of education, and assets at marriage (Quisumbing and Hallman 2005) shows that in four of the six countries, age differences between husbands and wives have decreased—a move toward increasing equality, since seniority and experience may give husbands a bargaining advantage over their wives. The husband–wife gap in age at marriage has not decreased in the Philippines or South Africa, the two countries where women's age at marriage is already the highest among the study countries. In three of six countries, the husband–wife gap in schooling attainment at marriage has also decreased, showing that human capital at marriage is becoming more equal. The exceptions are Guatemala and the Philippines, where the difference in years of schooling has not changed over time, and Ethiopia, where the difference is increasing. In the Philippines, there is no gender gap in schooling in this generation (see Table 5), while in urban Guatemala, women are

¹³ Although the gender gap in schooling worldwide has decreased over time, girls' primary enrollment rates have leveled off in Sub-Saharan Africa at around 54 percent. Absolute levels of female enrollment and schooling remain lower in Sub-Saharan Africa than in other developing regions, with female secondary enrollment rates of 14 percent in 1995 (World Bank 2001).

likely to be more educated than women from rural areas, and thus male–female education gaps in urban areas are likely to be smaller. The disturbing trend in Ethiopia is consistent with the leveling off of enrollment rates for girls and the persistent gender gaps in education in Sub-Saharan Africa, a consequence of the lack of improvement in public educational facilities and the high opportunity costs of education for girls.¹³

The distribution of assets at marriage continues to favor husbands. In three of the six countries, the husband–wife asset difference has not changed over time. It therefore continues to favor husbands and has even increased in the two Latin American countries. The only country where the assets-at-marriage gap has decreased is Ethiopia, probably due to the change in land policies as a result of collectivization. Most men obtain land from the Peasant Association (PA)—not their parents—prior to marriage (Fafchamps and Quisumbing 2002). Women occasionally receive land from the PA, suggesting a political willingness to depart from rural norms in the allocation of land to women (Gopal and Salim 1999). Increasingly, transfers at marriage are favoring men in Bangladesh, while the gap in transfers at marriage is decreasing in South Africa.

These trends have important implications for the distribution of power within marriage. The reduction of husband–wife gaps in age and schooling indicates a potential improvement in the balance of power within the family, but asset ownership continues to favor husbands. These findings mirror changes in investment in human capital and asset ownership worldwide (Quisumbing and Meinzen-Dick 2001). In general, investment in women’s human capital has improved markedly in the past 25 years: life expectancy has increased 20 percent faster for women than for men, fertility rates have declined, and gaps in educational attainment have begun to

Table 5. Assets at marriage and human capital of husband and wife

| Region/country/human capital indicator | Husband | Wife |
|---|----------|----------|
| Asia | | |
| Bangladesh (rural) | | |
| Age at marriage | 23.8 | 15.0 |
| Years of schooling | 2.3 | 1.7 |
| Value of assets at marriage (1996 taka) | 32,146.0 | 2,542.9 |
| Value of transfers at marriage (1996 taka) | 4,258.7 | 10,333.5 |
| Philippines (rural) | | |
| Age at marriage | 25.1 | 22.2 |
| Years of schooling | 6.3 | 6.3 |
| Land area at marriage (hectares) | 0.5 | 0.2 |
| Value of nonland assets (1989 pesos) | 761.8 | 463.3 |
| Africa | | |
| Ethiopia (rural) | | |
| Age at marriage | 26.3 | 17.9 |
| Years of schooling | 1.7 | 0.7 |
| Value of assets at marriage (1997 birr) | 4,584.0 | 1,918.0 |
| South Africa (rural and peri-urban) | | |
| Age at marriage | 28.5 | 23.2 |
| Years of schooling | 5.2 | 5.1 |
| Count of assets at marriage | 2.1 | 0.7 |
| Value of transfers from this family at marriage (1998 rand) | 36,272.4 | 6,435.4 |
| Latin America | | |
| Mexico (rural) | | |
| Age at marriage | 23.3 | 18.4 |
| Years of schooling | 3.2 | 3.0 |
| Owned land at marriage (1 if yes) | 0.13 | 0.00 |
| Asset score | 0.02 | 0.01 |
| Guatemala (urban) | | |
| Age at marriage | 22.6 | 19.9 |
| Years of schooling | 7.2 | 6.0 |
| Value of assets at marriage (1999 quetzals) | 5,226.8 | 727.4 |

Source: Quisumbing and Hallman (2005).

close. However, gender gaps in physical assets and resources that women can command through legal means continue to persist. This is due in large part to social and legal mechanisms that do not give women equal rights to own and inherit property, particularly land (Crowley 2001; Gopal 2001). Persistent differences in assets in favor of men have important implications for household well-being and the welfare of future generations because recent findings show that increasing women's status and control of assets has favorable effects on child nutrition and education (Smith et al. 2003a; Quisumbing and Maluccio 2003a; Hallman 2000; see Research Finding No. 9).

**RESEARCH FINDING NO. 5:
LAND INHERITANCE SYSTEMS OFTEN REFLECT RELATIVE CONTRIBUTIONS OF MEN AND WOMEN TO FARMING; HOWEVER, INHERITANCE PATTERNS ARE CHANGING**

The example of land inheritance in Ghana, Indonesia, and the Philippines. A study in Ghana, Indonesia (Sumatra), and the Philippines examined the distribution of land inheritance between sons and daughters over two generations (Quisumbing, Estudillo, and Otsuka 2004). Table 6 shows that men typically inherit more land than women; however, this reflects the relative contribution of male and female labor in agriculture. Men inherit more land than women in both the parents' and children's generations in the Philippines, where farming is much more male-labor intensive. In Sumatra, however, where "matrilineal inheritance" has traditionally been practiced, mothers bequeath land to their daughters. In Kerinci, a district of Sumatra, where both men and women work more or less equally on lowland paddy fields and upland agroforestry fields, matrilineal inheritance seems to be evolving toward "bilateral inheritance," whereby men and women inherit both types of land

roughly equally. In Bungo Tebo, another area of Sumatra, where men work primarily on rubber agroforests and women specialize in lowland paddy production, men inherit rubber fields. In Ghana, where "uterine matrilineal inheritance" has traditionally been practiced, the property of a deceased man is transferred to his sister's sons and not his own biological children, such that men inherit more land than women in both the parents' and children's generations. However, land inheritance systems are changing. In Ghana, wives and daughters began to acquire land ownership through gifts from the husband or father provided they help establish cocoa agroforests

Table 6. Distribution of land inheritance between men and women, parent and child generations

| Household members and form of resource (hectares) | Men | Women |
|---|--------|-------|
| Ghana (Akan) | | |
| Area inherited by parents | 2.3** | 0.9 |
| Inherited land of children | 1.3** | 0.9 |
| Indonesia (Sumatra) | | |
| Kerinci | | |
| Inherited paddy of parents | 0.22 | 0.34 |
| Inherited forest land of parents | 0.75 | 0.64 |
| Bungo Tebo | | |
| Inherited paddy of parents | 0.14 | 0.14 |
| Inherited forest land of parents | 1.06** | 0.16 |
| The Philippines | | |
| Inherited land of parents | 0.58** | 0.22 |
| Inherited land of children | 0.26** | 0.10 |

Source: Quisumbing, Estudillo, and Otsuka (2004).

Note: ** indicates that the differences between males and females are significant.

(see Research Finding No. 7). It is no mere coincidence that, at present, women contribute about 30 percent of the labor required in cocoa farming and own nearly 30 percent of cocoa land.

The traditional inheritance systems in these study sites, however, may be fairly unique. The “patrilineal inheritance” system, in which land is bequeathed from a father to his sons, is more dominant in the developing world as a whole. In the case of the other three inheritance systems—that is, the Philippines’ bilateral system, Sumatra’s matrilineal system, and Ghana’s uterine matrilineal system—women have both interest in and influence on land inheritance of one type or another. Thus, men and women negotiate to whom particular pieces of land should be transferred. In contrast, women in patrilineal communities are often excluded from land inheritance decisions altogether, as it is usually a small number of men who have decisionmaking authority in the inheritance of family land (namely the father and his sons). Micro-level studies in South Asia show significant pro-male bias in patrilineal societies: women have less access to land (Agarwal 1994), tend to receive significantly less schooling than men (Meier and Rauch 2000), and receive significantly less food intake and provision of medical care (Haddad et al. 1996).

RESEARCH FINDING NO. 6:

MEN AND WOMEN ACCUMULATE DIFFERENT FORMS OF SOCIAL CAPITAL, TO DIFFERENT DEGREES; WOMEN TEND TO HAVE WIDER NETWORKS THAN MEN BUT MOBILIZE FEWER ECONOMIC RESOURCES

The example of social networks in South Africa. A recently collected panel data set of 1,200 households interviewed in 1993 and 1998 in KwaZulu-Natal, South Africa’s largest province, shows that men and women invest in different forms of social capital (Maluccio, Haddad, and May 2000; Maluccio 2001). Qualitative studies conducted in the survey communities found that men and women tend to accumulate social capital in different ways (Cross, Mngadi, and Mbhele 1998). Social networks can be classified into two types: the individual’s *bound network* includes his or her kin or relatives, who are connected by strong obligations based on kinship roles, while the *achieved network* includes all the members of an individual’s personal list of contacts, who are gained through experience and not through being born into a web of kinship.¹⁴ In addition to personal networks based on past experience, membership in institutionalized groups and community-based organizations often serves as the basis for voluntary help between individuals.

Both types of networks seem to fulfill different functions: bound networks help to limit downward mobility in the face of shocks, while achieved networks help with upward mobility. Bound networks may be especially important for women, who often bear the burden of

¹⁴ The distinction between bound and achieved networks is not always clear. Households must often make a conscious decision as to their degree of commitment to a bound network and to specific network members. In order to cultivate a relationship with a certain relative, an individual may have to invest time and resources (looking after children, helping to build a house, helping with farm work, and so on). Consequently many effective network linkages to family members may not be very different in practice from achieved linkages.

crisis situations more than men, particularly for consumption crises.¹⁵ Women, however, have less effective economic options to fall back on. Women's social capital networks are wider than those of men but less deep, in that women's networks mobilize fewer economic resources. Women's social contacts also tend to be among other women, while men's are among men.

Findings from the quantitative survey support those of the qualitative study. Women are more likely to be members of any group than are men. In 1993, 30 percent of women and 23 percent of men reported belonging to a group of any kind. By 1998, the proportion of women belonging to any group had increased to 39 percent, while the proportion for men had increased to 29 percent. Women tend to be concentrated in religious groups (29.4 percent compared with 20.3 percent for men) and financial groups (14 percent versus 6.8 percent for men). Women, however, tend to belong to same-sex groups, while men are more likely to belong to mixed groups. Men also tend to have longer tenure in groups. Other characteristics such as performance and meeting attendance do not differ by gender.¹⁶

Women also have wider family networks. Adult men and women are equally likely to report that their parents would help them in an emergency. However, more adult women report that children would be likely to help, especially in rural areas. Twenty percent of rural

women say that their children would help them compared with only 12 percent of rural men. In urban areas, 22 percent of women and 20 percent of men say that their children would help—not a significant difference. These potential networks correspond to the percentage of those reporting remittance receipts: 13 percent of adult women in rural areas report receiving remittances compared with only 2 percent of men.

Both Local Norms and Statutory Laws Determine Women's Rights

RESEARCH FINDING NO. 7:

ALTHOUGH LEGAL REFORM AND REFORM OF THE MARRIAGE CODE MAY HAVE CHANGED WOMEN'S LEGAL RIGHTS, CUSTOMARY LAW AND LOCAL NORMS DO NOT EXIST IN ISOLATION; NEITHER ONE ALONE DETERMINES WOMEN'S RIGHTS

The example of customary laws in Ethiopia, where increasing women's control of assets is as important as increasing the share of resources brought to marriage.

Marriage is an important social and economic event in Ethiopia. Since it typically marks the beginning of a new farm production

¹⁵ Bound networks do not only prevent downward mobility; different household members can be contacted for different kinds of assistance. A woman may call on her sister for food or clothing for her children, while the household may ask an uncle for a loan to start a business or construct a house.

¹⁶ The importance of mixed versus single-sex groups will vary across locations. Discussions at our Nairobi workshop revealed that in 1999–2000, 60 percent of women and 40 percent of men were members in Central Kenya's tree fodder groups. Mixed groups formed 76 percent; women-only groups, 15 percent; and men-only groups, 9 percent. It is speculated that the high percentage of mixed groups stemmed from the recognition of their high performance rates because they are able to draw on the complementary skills of men and women. While it is often said that this is unlikely in societies where men and women are highly segregated—in Bangladesh, for example, most credit groups are single-sex only—recent evidence from India, a similarly sex-segregated society, suggests that mixed groups may help empower women by teaching them how to interact with men and by exposing them to a larger skill set than single-sex groups (Koolwal 2005).

unit, the bride and groom bring start-up capital with them in the form of land, oxen, livestock, household utensils, and grain stocks. The newlyweds supply the great majority of their assets themselves, with grooms bringing more than 10 times as much “start-up capital” as brides (Fafchamps and Quisumbing 2002). Contrary to the preconception that marriage is the time at which parents endow their offspring with farmland, most of the land contributed by grooms was already theirs prior to marriage. This finding may be specific to Ethiopia, given that the state nominally owns all land. User rights to land are supposed to be allocated by PAs, the local administrative unit in rural areas. Indeed, of the land user rights held by the household, two-thirds actually come directly from the PA. Family is thus not the dominant source of land for surveyed households. Of the land that comes from the family, however, most ultimately comes from the husband’s parents. As previously mentioned, however, women occasionally receive land from the PA, suggesting a political willingness to depart from rural norms in the allocation of land to women (Gopal and Salim 1999). Because of the important role of the PAs in land allocations, Ethiopia may be atypical compared with other parts of Africa in terms of the way women acquire property.

What determines the distribution of control and ownership of productive assets—land and livestock—between husbands and wives? A study based on survey data from approximately 1,500 households in 15 villages across Ethiopia examined the distribution of assets between husbands and wives in the case of marital dissolution through death or divorce (Fafchamps and Quisumbing 2002). Contrary to what is often assumed in empirical work on intrahousehold issues, the evidence shows that ownership of assets, control within marriage, and disposition upon death or divorce only partially overlap. Rules regarding divorce and inheritance vary

across locations, with more patriarchal rules prevalent in the Muslim and Protestant south, and more egalitarian rules prevailing in the Orthodox Christian north. Results show that location accounts for 79 percent of the explained variation in rules of disposition upon divorce. That is, the disposition of assets is governed by location-specific norms. Moreover, communities may have their own ways of protecting women and other vulnerable groups.

Disposition of assets upon death or divorce only loosely depends on individual ownership during marriage, and assets brought into marriage have little impact on disposition upon death but matter in the case of divorce. Control over productive resources tends to be centralized in the hands of the household head—whether male or female and irrespective of ownership at or after marriage. Having control over productive assets has a strong effect on disposition rules in the sense that the spouse with greater control gets a larger share upon divorce or death, even taking into account the assets brought to the marriage by each spouse. This finding is important because it brings to light another way to increase women’s bargaining power: increasing women’s *control* of assets is just as important as increasing the *share* of resources they bring to marriage.

The example of women’s land rights in western Ghana, where customary law has evolved to be more beneficial to women.

In the most active cocoa-growing areas of Ghana, communal tenure has been evolving to more individualized forms (Quisumbing et al. 2001a). The dominant ethnic group in these villages is the Akan, which has traditionally followed uterine matrilineal inheritance. Although communal land tenure aims to provide equitable access to land for all households, women’s land rights in the region are weaker than those of men, as is often the

case under customary land tenure systems. For example, in the Akan matrilineal system, a woman and her children were not entitled to inherit from her husband if he died intestate (that is, without a valid will), since his property would revert to his matrilineal relatives.

Communal land tenure institutions may evolve toward greater individualization and more secure individual land rights because of population pressure and the need to intensify agricultural production. The Akan households in the region, for example, have granted relatively strong individual ownership rights to those who plant trees. Under such institutional rules, a community member who has acquired family land through inheritance and allocation may have strong incentives to plant trees in order to obtain secure land rights. Some researchers argue that such evolutionary changes have detrimental effects on women's traditional land rights. Recently, however, husbands have increasingly begun to transfer land to their wives and children as an "inter vivos" gift—meaning a gift while the husband and recipients are still living—after the family, especially the wives, have helped to plant trees. This is the most important method of land acquisition for women, and a significant departure from traditional inheritance customs. Such inter vivos transfers are termed gifts in the study areas and individual rights on such land are firmly established.

Men can also acquire land through gifts, but the importance of tree planting as a prerequisite for receiving gifts appears to differ by gender. Men had to plant only 20 to 25 percent of a parcel of land with cocoa trees before the land was transferred as a gift, while women had to plant between 40 and 50 percent of land before acquiring it as a gift.

Legal reform has also provided women with a means of obtaining their husband's land in the event that he dies intestate.¹⁷ The individualization of land tenure institutions was strengthened further by the Intestate Succession Law (PNDCL 111) in 1985, which provides for the following division of the farm: three sixteenths to the surviving spouse, nine sixteenths to the surviving children, one eighth to the surviving parent, and one eighth in accordance with customary inheritance law. However, the common interpretation of the law is one-third each for the spouse, children, and the maternal family.

This example has shown that both customary law and statutory law have evolved to grant women stronger land rights—but it may be an unusual example. Customary law may be more influential in rural than in urban areas, thus it may be more binding for poorer, less-educated women than for educated, middle-class women who are more likely to be aware of the provisions of statutory law.

¹⁷ In our Guatemala workshop, participants mentioned that laws were recently introduced to redress gender imbalances. They cautioned that, while promulgation of statutory laws is necessary, it is an insufficient condition for change. The trend toward decentralization in Central America implies that it is important to reach not only national policymakers but also decentralized decisionmakers at the local level.

RESEARCH FINDING NO. 8:

WHERE FORMAL MEMBERSHIP IN GROUPS IS LIMITED, WOMEN OFTEN RESORT TO INFORMAL MECHANISMS TO MEET THEIR NEEDS; FORMAL MEMBERSHIP IN GROUPS INCREASES WOMEN'S BARGAINING POWER, WHILE PARTICIPATING THROUGH INFORMAL MECHANISMS CREATES DEPENDENCE ON OTHERS

The example of water users' associations in South Asia.

Evidence from water users' organizations in India, Nepal, Pakistan, and Sri Lanka shows that women's participation in these organizations is much lower than men's, despite high female involvement in irrigated agriculture and agricultural decisionmaking (Meinzen-Dick and Zwarteveen 1998). The few documented cases of a higher female involvement in water users' organizations were attributed to women-only organizations managing groundwater pumps or areas where men were absent or not interested for other reasons.

Barriers may directly or indirectly prevent women's participation in organizations, or the women themselves may not recognize the value of participation.¹⁸ For example, the most easily recognized gender-based barriers to participation stem from membership rules that directly or indirectly exclude women. These either stipulate that only formal right holders to irrigated land can become members (Sri Lanka) or require head-of-household status in order to be eligible for membership, or sometimes a combination of both (Nepal). Since men tend to occupy these categories more often than women, most women are not considered eligible for membership.

Prevailing stereotypical ideas about the gender division of labor and about appropriate male and female behavior function as informal membership criteria. In Sri Lanka, Nepal, Pakistan and India, ideas that only men are farmers and interested in irrigation, along with the traditional male domination in public decisionmaking are factors that underlie the absence of women in water users' organizations. In addition, women are thought not to be capable of participating in meaningful ways (partly because they are less educated) and they are assumed to be busy with other, more appropriately female activities. Social norms prescribing women to confine their activities to a small geographical area may also effectively exclude women from becoming members of water users' organizations. In addition to these formal and informal membership criteria, the process through which new water users' organizations are formed in management transfer programs is often gendered, partly as a result of pre-conceived notions of planners about who are to be considered users, and partly because of the organizing process itself.

In spite of not formally being members or participating in meetings, women may play other roles in organizations, or in carrying out collective action—for example, in conflict resolution, monitoring and enforcement of rules, carrying out water distribution tasks, and assisting their husbands to perform their own tasks. Such nonformal and less recognized ways of participation in water users' organizations may provide important entry points for identifying realistic ways to make water users' organizations more gender equitable. That female nonmembers succeed in getting their needs

¹⁸ Workshop participants noted that benefits to women's participation in groups vary across and within countries. In Kenya, for example, group affiliation by women is high, and participation is higher in rural rather than urban settings.

met indicates that not all irrigation management decisions pass through the formal organization. In almost all cases reviewed, women said that if they needed anything specific to be said at water users' meetings, they would either tell their husband or try to send a male relative. Likewise, many women indicated that they received information about decisions taken at water users' organization meetings through their husbands or male relatives. When access to irrigation services is negotiated within the domain of the household, women's success in obtaining services geared to their needs will partly depend on the extent to which their specific water needs are complementary to, shared with, or in conflict with those of their husbands and male relatives, and on their bargaining position in household interactions.

The use of indirect means to obtain water resources is consistent with women's strategies for gaining access to other resources, such as land and trees. But gaining access through such indirect means neither provides much control over the resource, nor the ability to make decisions regarding its management. Relying on connections to access the resource increases women's dependence on others, whereas independent rights to resources can raise women's standing and bargaining power. Nevertheless, these socially nuanced means of access are critical to actual patterns of resource use and should not be neglected in research or policies. These results may also be culture-specific: in parts of Southeast Asia, such as Indonesia and the Philippines, women are regular members of irrigation associations. In parts of Indonesia, for example, the opposite situation applies in that women normally manage village water supply (Brown 2000). The only exception was found in one village where women organized the high-income-generating dairy industry and men volunteered to manage water to free up women's time.

ADDRESSING GENDER IN PROJECT DESIGN

Addressing gender issues in project design is justified if resulting gains can be demonstrated in project outcomes. For example, does it make sense to increase women's productive assets or to target interventions to women? Is gender a critical part of the solution to a development problem? The evidence in this section shows that addressing gender issues in the project design phase does provide clear gains in project performance and development outcomes.

Relative to Men, Increasing Women's Resources Benefits Families

RESEARCH FINDING NO. 9:

IMPROVING WOMEN'S STATUS AND INCREASING RESOURCES CONTROLLED BY WOMEN INCREASES HOUSEHOLD ALLOCATIONS TOWARD EDUCATION AND IMPROVED CHILD HEALTH AND NUTRITION

The example of assets at marriage. Assets at marriage account for a substantial portion of the assets that a woman will control during her lifetime. Although women bring far fewer assets to the marriage, these assets play a significant role in household decision-making, particularly on the allocation of household expenditures to food, education, health, and children's clothing. In Bangladesh and South Africa, for example, increasing the share of assets controlled by women increases educational budget shares (Quisumbing and Maluccio 2003a). In Bangladesh, a higher proportion of pre-wedding assets held by the mother decreases the morbidity of girls (Hallman 2000).

The example of reduction in child malnutrition rates. In a recent IFPRI study, the underlying determinants of food security are considered against data on underweight children from 63 developing countries during 1970–95, representing 88 percent of the developing world’s population (Smith and Haddad 2000). The research results show that increases in women’s education have made the greatest contribution to reducing the rate of child malnutrition, being responsible for 43 percent of the total reduction. Improvements in women’s status, proxied by the ratio of female to male life expectancy, make up 12 percent. Improvements in food availability came in a distant second to women’s education, contributing 26 percent to the reduction rate.

The availability of data from 40 Demographic and Health Surveys made possible the construction of a more nuanced index of women’s status (Smith et al. 2003a, see Research Finding No. 4). Analysis using this new measure finds that women’s status has a significant, positive effect on children’s nutritional status in Africa, Asia, and Latin America. Women’s status improves child nutrition because women with greater status are better cared for themselves, have better nutritional status, and provide higher quality care to their children. However, the strength of the influence of women’s status differs widely across the regions. It has the most influence where it is the lowest. The strongest effect is found in South Asia, followed by Sub-Saharan Africa, while the weakest effect is in Latin America and the Caribbean.

In South Asia, increases in women’s status have a strong influence on long- and short-term nutritional status, leading to reductions in both stunting (low height-for-age) and wasting (low weight-for-height). The malnutrition costs of inequality between women’s and men’s status in the region are high. If such status were

equalized, the prevalence of underweight children under three years old would drop by approximately 13 percentage points, representing a reduction of 13.4 million malnourished children. As in South Asia, women’s status in Sub-Saharan Africa has positive effects on both the long- and short-term nutritional status of children. The costs of gender inequality in that region are not as high as those of South Asia, but they are still substantial. An equalization of gender status is estimated to lead to a reduction in the region’s malnutrition prevalence of nearly 3 percentage points, which translates as a reduction of 1.7 million malnourished children under three years old. Latin America and the Caribbean exhibits quite a different pattern. Women’s status has a positive effect only on children’s short-term nutritional status. The effect of increasing women’s status on child nutrition is only strong for households in which women’s relative decisionmaking power is very low.

One final important finding of the study is that in all three regions, women’s relative decisionmaking power has a stronger positive influence on child nutritional status in poorer households than in rich ones. Efforts to improve child nutritional status through the means of improving women’s status are likely to be most effective when targeted to poor households.

In sum, this study shows that taking the policy decision to improve women’s status results in tangible improvements to poor people’s livelihoods. Reaping these benefits requires the incorporation of improved women’s status as an objective in the design of projects. Not only does a woman’s nutritional status improve but also the nutritional status of her young children. Improving women’s status today is a powerful force for improving the health, longevity, capacity, and productivity of the next generation of young adults.

RESEARCH FINDING NO. 10:

SOCIAL CAPITAL INCREASES HOUSEHOLD WELFARE, BUT HOUSEHOLD WELFARE RESPONDS MORE TO INCREASES IN WOMEN'S SOCIAL CAPITAL IF WOMEN PARTICIPATE MORE IN GROUPS

The example of social capital and household welfare in South Africa. Social capital—features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit—differs between men and women. One way of measuring the benefits of investing in men's and women's social capital is to examine the impact of “stocks” of social capital held by men and women on household welfare. A proxy for household welfare is total consumption expenditure, the sum of the household's expenditures on goods and services. Why would the effect of social capital differ by gender? First, social capital may be analogous with assets at marriage and other variables that affect bargaining power and may have differential effects by gender. Second, even if women and men belong to the same groups, they may derive different benefits from membership. Finally, men and women may belong to different groups altogether.

Regressions using data from South Africa show that in 1993, neither men's nor women's membership in groups was a significant determinant of per capita household expenditures. In 1998, after the abolition of apartheid, both women's and men's membership in groups positively affected household expenditure, and to the same degree. However, because women's participation is greater, the elasticity is greater for women's social capital—that is, the percentage increase in per capita household expenditure is greater for a percentage increase in women's group membership compared with men's.

Put in a different way, those with stocks of either social or human capital in 1993 appear to have benefited from them over time. The structural and other changes in the South African economy appear to be changing the returns to various factors, possibly indicating greater levels of efficiency. While returns to social capital were less or insignificant compared with returns to schooling in 1993, they are about equal in 1998. Thus, the impact of social capital on per capita expenditures appears to be as important as the impact of human capital.

Project Design Features Also Have Gender Implications

RESEARCH FINDING NO. 11:

CRITERIA FOR GROUP MEMBERSHIP AND OPERATIONAL PROCEDURES MAY LIMIT WOMEN'S PARTICIPATION

The example of water users' organizations in South Asia. In South Asia, more formal participation of women in organizations will not happen automatically and cannot be left to local communities (Meinzen-Dick and Zwartveen 1998). External pressure, guidance, and intervention will often be required, and explicit financial, technical, and legal support is crucial. Existing knowledge points to some possible ways to enhance female participation. A first step involves the definition of membership rules: instead of allowing one member per household, both male and female members of households could be considered eligible for membership. Attention needs to be paid to such details as the timing, location, and structure of formal meetings, which should reflect the importance of women's participation and allow for their opinions to be taken seriously. The traditional way meetings are conducted or users are organized

often restricts women from participating, speaking, or being listened to. Even many “participatory” approaches to eliciting community objectives (for example, discussion groups, transect walks, mapping exercises) may have inherent barriers that deter women from articulating their interests and needs. Functional literacy training can be instrumental in overcoming women’s own feelings of incompetence and inhibitions to speak up at meetings, especially in areas where there is a large gender gap in literacy, and where literacy has become an important indicator of an individual’s abilities to deal with the outside world. Increasing women’s experience with meetings in other types of organizations may also increase their confidence and ability to participate. In Bangladesh, India, and Nepal, separate women’s organizations have been identified as a successful strategy for empowering women both within households and communities. Through women’s organizations, women may become more visible at the community level as well, and community decisionmaking processes may begin to shift away from their male-oriented practices to include women and their concerns.

RESEARCH FINDING NO. 12:

THE DISSEMINATION AND TARGETING OF TECHNOLOGY HAS GENDER IMPLICATIONS; CULTURAL FACTORS CAN LIMIT WOMEN’S PARTICIPATION IN, AND GAINS FROM, AGRICULTURAL DEVELOPMENT PROJECTS

The example of new agricultural technology dissemination in Bangladesh. An IFPRI study examined three NGO programs in Bangladesh promoting the production of polyculture fish and commercial vegetables through various credit and training programs: (1) commercial vegetable production in Satoria; (2) polyculture

fish production in household-owned ponds in Mymensingh; and (3) polyculture fish production in group-managed ponds in Jessore. In Satoria and Jessore, technologies were introduced through NGO programs targeted exclusively to women, who are provided training and credit (Bouis et al. 1998). In Mymensingh, extension agents provide training to relatively better-off households and training with credit to relatively poorer households. The agents target both men and women, but men more often than women. Both a four-round quantitative survey and a qualitative study were conducted for this study.

The quantitative study (Bouis et al. 1998) found that although the new technologies studied are apparently highly profitable compared with rice, they contribute rather modestly to overall household incomes. Because of the high profitability of the polyculture fish and commercial vegetable production on a per acre basis, the potential exists for much higher impact on household income, if the land devoted to production and other inputs were increased. Clues to some of the constraints to such expansion by adopting households can be found in the findings of the qualitative study.

The qualitative study (Naved 2000) found that for most women, income gains from the adoption of the improved vegetable seeds were not substantial. Moreover, even though women were targeted under the project, their ability to benefit was limited, first, because the land tenure system is not in their favor, and, second, because the strict enforcement of *pardab* prevents women’s direct involvement—that is, their ability to negotiate in the market for labor and other inputs, cultivate the land, or sell the produce. Thus, their male representatives gain de facto control over the land and its produce. Further, the gender division of workspace validated by the system of *pardab* even prevents women from growing vegetables

on the cultivable land owned by the family. Some women were able to implement the new technology on their homesteads—the traditional domain of female activities—thus, avoiding conflict with traditional norms or the existing division of labor and workspace by gender. However, because use of the new technology was limited to the homestead plots, the resulting production and income were both quite small. Expansion of vegetable production beyond the homestead to agricultural land would not increase women’s control of income, since income is also separated by gender (income from agricultural land is exclusively “men’s income,” while income from the homestead is exclusively women’s). The adoption of fish production technology by women’s groups appeared to promise better results by challenging the gender division of workspace. However, women were still reluctant to increase the size of the operation if doing so would require a substantial increase in their mobility and make them work farther away from their houses.

Nevertheless, technologies targeted to women had positive impacts on women’s empowerment. Significant differences were reported in freedom of movement, freedom from physical violence, and political knowledge/awareness between women in adopting households and those in similar but nonadopting households. For all three types of outcomes, adopting women have “better” measures than women in households deemed likely to adopt but not yet having done so. In the previous year, adopting women were more likely to have visited friends/relatives outside the village, to have attended an NGO training or program, and to have known the names of political leaders at the local, state, and national levels; they were also less likely to have been beaten by their husband or a family member (Hallman et al. 2002).

Improvements, however, depended on how the programs were structured. In one district, ownership of ponds was transferred to individual women, and in another, to groups of women. Though

the income earned by an individual woman was by no means greater than income earned by those implementing the improved vegetable technology, the group fishpond project had some important advantages. First, it encouraged groups of poor women to actively participate in production—involving men at different stages, but never ceding control to them. This could occur because the “negotiation” took place at a higher level than the household, such that men had to negotiate with groups of women who were backed by an NGO. Thus, men did not have direct access to the income. Another important dimension of fish production by groups of women is that it challenged the traditional gender division of labor and workspace. Involvement of women in production outside the home initially met with negative reaction from the community, but when the project proved successful in bringing financial returns, women’s position within households and communities was strengthened. However, when the fishpond groups dissolved (which they did in a substantial number of cases), negative outcomes occurred, such as loss of trust and social capital. This highlights the importance of extension personnel in delivering programs, especially group-based programs.

RESEARCH FINDING NO. 13: WOMEN’S PARTICIPATION IN AGRICULTURAL PROJECTS MAY HAVE UNINTENDED CONSEQUENCES ON TIME USE

The example of a vegetable production program in Nepal.

A recent paper (Paolisso et al. 2002) uses data from fieldwork conducted in Nepal to examine the impact of a project designed to commercialize vegetables and fruits—the Vegetable and Fruit Cash Crop Program (VFC)—on male and female time allocation. Beginning in the late 1980s, farmers throughout Rapti were encouraged to commercialize their vegetable and fruit production to

generate income and meet growing demand for fruits and vegetables. Development assistance was provided by the Rapti Development Project (1985–95). Within the project’s concentration on agriculture, the VFC program was developed to focus exclusively on vegetable and fruit commercialization.

The overall goal of the VFC program is to increase the commercial value of the vegetable and fruit production and raise household incomes of targeted farmers. The VFC program provides production inputs, training, and technical assistance to both male and female farmers. The specific vegetables and fruits provided vary according to agroclimatic conditions and existing agricultural practices. Before the program, the households grew small amounts of vegetables and fruits for home consumption. However, the varieties grown and the technologies used did not produce vegetables and fruits of the quality and variety that would make them commercially viable. The VFC program was successful in its efforts to target both male and female farmers given that household participation in the program led to an increase in the time spent growing vegetables and

fruits by both the head male and head female within each household (Table 7). In this context, the head male and head female are the primary male and female household decisionmakers, respectively. The response of head women’s labor to VFC ranges from 55 to 3 minutes per 12-hour period for households with one, two, and three preschoolers respectively. VFC participation increased head male time in vegetables and fruits more than for head females (ranges from 64 to 24 minutes). These responses are large, given that they are averages over one year.

For the 101 households with more than one preschooler, VFC participation resulted in an increase in time spent on vegetable and fruit production by both men and women, an increase in time spent on care of children under five years old by women, a decrease in time spent on cereal and livestock production by both men and women, and a moderate decrease in time spent caring for children under five years old by men. For these households, the trade-offs associated with VFC participation do not seem to be particularly detrimental to the care of children under five years old. For the 67 households with one

Table 7. The impact of participation in the Vegetable and Fruit Cash Crop Program on the time allocation of head males and females in households, by the number of children aged 0 to 4.9 years

| Marginal impact of Vegetable and Fruit Cash Crop Program (VFC) participation (minutes) | Impact of program participation on time allocation, based on number of children aged 0 to 4.9 years | | | | | | |
|--|---|------|------|--|---------------------------|-----|------|
| | Head male decisionmaker | | | | Head female decisionmaker | | |
| | 1 | 2 | 3 | | 1 | 2 | 3 |
| Vegetable and fruit cultivation | 64 | 44 | 24 | | 55 | 29 | 3 |
| Cereals and livestock | -19 | -114 | -209 | | 64 | -38 | -140 |
| Care to children under five years old | -64 | -33 | -2 | | -77 | 4 | 85 |
| Leisure | -8 | 88 | 184 | | 0 | 0 | 0 |

Source: Paolisso et al. (2001).

Note: In this context, the head male and head female are the primary male and female household decisionmakers, respectively.

preschooler, the trade-offs seem more important. In these households, preschoolers receive less care from their parents, who spend more time on cultivation activities—the cash crop in particular, but also the food crop. Why might VFC have a less severe effect on time spent caring for preschoolers when there is more than one in the household? First, when the household has more than one preschooler, the mother is more likely to recognize the benefits gained from her care, based on her experience with the older preschoolers. Second, the mother with more than one preschooler in residence is more likely to have received nutrition education and behavior change messages from nutrition professionals in the community. Third, two preschoolers in residence are likely to be more effective in demanding care than one, since it is well known that caregivers are responsive to preschooler communication signals and more preschoolers provide more signals.

Is there scope for a behavioral change intervention such as a communications program to increase time spent by parents in care for preschoolers in this vulnerable set of households? While the nonwork (leisure) time of men increased as a result of VFC participation, women's leisure time was unaffected. Thus in the short run there is perhaps scope for protecting childcare time by reducing leisure time. This is not to say that leisure time is unimportant, particularly for the women on whom the preschoolers primarily depend, but at least VFC participation has not increased overall work time burdens. In the medium run, benefits may well accrue to unborn preschoolers if VFC participation empowers women. Although the incomes earned from the local sale of VFC products are quite small, they represent the first opportunity for women to earn and retain income without leaving the community. This may have far-reaching impacts on the ability of women to exert their own preferences in a wide range of activities—including an increased allocation of resources to children.

RESEARCH FINDING NO. 14:

POLICIES AND EXTERNAL FORCES CAN HAVE A SIGNIFICANT IMPACT ON TRADITIONAL NORMS THAT DETERMINE WOMEN'S CONTROL OVER ASSETS

The example of assets in rural Ethiopia. The Ethiopia study conducted by IFPRI and colleagues from Oxford University and Addis Ababa University suggests that despite the importance of local norms, policies can also affect women's control of productive assets, which is important in determining the distribution between husbands and wives in the case of divorce. For example, in their land allocation function, local administrations have been willing to grant user rights to women, albeit reluctantly perhaps. This is so even though in local custom, women rarely inherit land from their lineage. The government's "land to the tiller" policy thus allowed—or may even have facilitated—the attribution of user rights over land to women. This attribution, however, nearly always results from conditions internal to the household, such as marital separation or death of the husband; in most cases, women's access to land remains conditional on the absence of a suitable male household head.

RESEARCH FINDING NO. 15:

STRENGTHENING WOMEN'S LAND RIGHTS THROUGH TITLING OR LEGAL REFORM IS NOT ENOUGH—OTHER CONSTRAINTS FACED BY WOMEN ALSO NEED TO BE ADDRESSED

The example of female cocoa farmers in Ghana. It is often argued that insecure tenure underlies women's low productivity in agriculture, and that granting secure tenure through land titling or legal reform would automatically increase women's agricultural productivity. Quisumbing et al. (2001a) investigate this by estimating the proportion of area planted to cocoa and the yield per unit of

cocoa-planted area by cocoa farmers in Ghana (controlling for determinants such as gender for a female parcel owner as well as the tenure status of the plot, among others). The dummy for a female parcel owner has a negative but insignificant effect on the proportion of area planted to cocoa, suggesting that there is no significant difference between male and female parcel owners with respect to tree planting. However, the importance of previous tree planting as a prerequisite for receiving gifts appears to differ by gender. Men had to plant only 20 to 25 percent of a parcel of land with cocoa trees before the land was transferred as a gift, while women had to plant between 40 and 50 percent of land to cocoa before acquiring it as a gift.

Yields on female-owned parcels, however, are less than those on male-owned parcels. This indicates that, controlling for differences in land tenure and accounting for unobserved differences across plots, female parcel managers obtain lower yields on their cocoa plots. This finding is similar to that of Udry's (1996) study on Burkina Faso, which finds lower yields on maize plots cultivated by women within the same household. While this may indicate that women face greater credit and labor constraints, it also suggests inefficiencies in intrahousehold resource allocation, since the household could have increased aggregate yields by reallocating resources across male- and female-managed plots. It may also indicate that female parcel owners may concentrate more on the food crops grown on cocoa plots than on cocoa itself. Thus, even if female farmers have the same degree of land tenure security as men, other constraints may still prevent them from realizing equal yields on their farms.

Innovative Ways to Increase Women's Resources Have Made Projects Successful

RESEARCH FINDING NO. 16:

PROVIDING ADDITIONAL RESOURCES TO HOUSEHOLDS CAN INCREASE CHILDREN'S SCHOOL ATTENDANCE, ESPECIALLY GIRLS'

The example of the Food for Education program in Bangladesh. Many children from poor families in Bangladesh do not attend school either because their families cannot afford expenses such as books or supplies, or because the children contribute to their family's livelihood and cannot be spared. Under the Food for Education (FFE) program, a free monthly ration of foodgrains becomes an income entitlement, enabling a child from a poor family to go to school. The family can consume the grain, thus reducing its food budget, or it can sell the grain and use the cash to meet other expenses. By 2000, the FFE program covered 17,811 public and private primary schools, accounting for about 27 percent of all primary schools in Bangladesh. Of 5.2 million students enrolled in schools with FFE programs, about 40 percent (2.1 million students) receive foodgrains through FFE, benefiting about 2 million families. In total, the FFE program distributes about 24,000 metric tons of grain (mostly wheat) per month. Each household is entitled to receive either 15 or 20 kilograms of grain per month, depending on the number of children attending primary school. Households with primary-school-age children become eligible for FFE rations if they meet at least one of four targeting criteria. To maintain their eligibility, children must attend 85 percent of classes each month. The program costs \$0.10 per student per day, totaling \$77 million in 2000.

In September and October of 2000, IFPRI conducted a survey of a number of primary schools with and without the FFE program and collected information from FFE foodgrain dealers and program implementation officials. A cross-section of households was interviewed, including program beneficiaries and nonbeneficiaries. IFPRI researchers used a variety of qualitative and quantitative methods to evaluate the program (Ahmed and del Ninno 2001).

The study found that the FFE program had been successful in increasing primary school enrollment, promoting school attendance, and reducing dropout rates. The enrollment increase was greater for girls than for boys, indicating that the marginal increase in family resources was devoted to increasing investment in girls. This is an achievement, given the degree of gender bias in Bangladeshi society. Student enrollment in FFE schools increased by 35 percent, per school, during the two-year period from the year before the start of the program to the year after its introduction. Enrollment of girls increased by a remarkable 44 percent. For boys, the increase was 28 percent. In contrast, enrollment in non-FFE schools increased by only 2.5 percent per school during the period. The benefits from such a program could be far-reaching in terms of the status of women through the equalization of women's and men's human capital. Staying in school longer can lead to delayed marriage, with important implications for women's life opportunities. The FFE program resulted in greater increases in attendance for girls even if the program was not gender-targeted. Other approaches to increasing investment in human capital have used explicit gender targeting, as the experience in Mexico illustrates.

RESEARCH FINDING NO. 17:

PROVIDING CASH TRANSFERS TO MOTHERS CAN IMPROVE HUMAN CAPITAL OUTCOMES OF CHILDREN, SUCH AS SCHOOL ATTENDANCE, HEALTH, AND NUTRITIONAL STATUS

The example of PROGRESA in Mexico. PROGRESA began in August 1997 for the purpose of fighting extreme poverty in the rural areas of Mexico (for a synthesis of the evaluation results, see Skoufias and McClafferty 2001, and for a fuller treatment, Skoufias 2005). Unlike other programs, PROGRESA's multisectoral focus provided an integrated package of education, nutrition, and health services to poor families. Rather than simply being a cash transfer program, PROGRESA requires active participation by the recipient households in exchange for benefits.¹⁹ At the end of 1999, the program covered approximately 2.6 million families, or about 40 percent of all rural families, and one-ninth of all families in Mexico. At that time, the program operated in almost 50,000 localities, in more than 2,000 municipalities and 31 states. PROGRESA's budget of approximately 777 million Mexican pesos in 1999 was equivalent to 0.2 percent of Mexico's gross domestic product—slightly less than 20 percent of the Federal Government budget for poverty alleviation. Mexico implemented an effective program that has served as a model for programs across Latin America in countries such as Argentina, Brazil, Colombia, Honduras, and Nicaragua.²⁰

In order to reach poor households, PROGRESA selects communities using a marginality index based on census data. Then, within the selected marginal communities, households are chosen using

¹⁹ The original intent was to coordinate with other programs providing income and employment opportunities, but in practice this did not happen. The lack of employment and income opportunities for beneficiary communities has been one of the biggest drawbacks of making PROGRESA the center of Mexican poverty policy.

²⁰ For an evaluation of the impact of Nicaragua's *Red de Protección Social*, see Maluccio and Flores (2005).

socioeconomic data collected for all households in the community. The education component of PROGRESA was designed to increase school enrollment by making education grants available to pupils' mothers, who are then required to have their children attend school regularly. In localities where PROGRESA operates, households characterized as poor with children enrolled in grades 3–9 are eligible to receive these educational grants every two months. The levels of the grants were determined taking into account, among other factors, what a child would earn in the labor force or contribute to family production. The educational grants are slightly higher at the secondary level for girls, given their propensity to drop out at earlier ages.

In the area of health and nutrition, PROGRESA brings basic attention to health issues and promotes health care through free preventive interventions, such as nutritional supplements, and education on hygiene and nutrition as well as monetary transfers for the purchase of food. Receipt of monetary transfers and nutritional supplements is tied to mandatory health care visits to public clinics. This aspect of the program emphasizes targeting its benefits to children under five years and pregnant and lactating women. At the time of the initial PROGRESA implementation, it was administered by the Ministry of Health and by IMSS-Solidaridad, a branch of the Mexican Social Security Institute, which provides benefits to uninsured individuals in rural areas.

Nutritional supplements are given to children aged four months to two years and to pregnant and breastfeeding women. If signs of malnutrition are detected in children aged two to five years, nutritional supplements are also administered. The nutritional status of beneficiaries is monitored by mandatory visits to the clinic and is more frequently monitored for children five years old or younger, or for pregnant and lactating women. Upon each visit, younger

children and lactating women are measured for wasting, stunting, and weight-for-age. An appointment monitoring system is set up, and a nurse or doctor verifies adherence. Every two months, health care professionals submit a certification of beneficiary visits to PROGRESA, triggering the receipt of a bimonthly cash grant intended mainly to provide food support.

Unlike previous social programs in Mexico, a unique feature of this nationwide anti-poverty program is its targeting of transfers to mothers. The deliberate decision to give transfers directly to the mother was motivated by the growing literature that finds that resources controlled by women are more likely to be manifested in greater improvements in child health and nutrition than resources controlled by men. The concentration and value of this transfer in the hands of the mother and the enormous scale of the program—2.6 million families in extreme poverty as of the end of 1999 or almost 40 percent of all rural families in Mexico—suggest that the likely impact of the program in altering the balance of power within Mexican families is significant.

The majority of the evaluation findings suggest that PROGRESA's combination of education, health, and nutrition interventions into one integrated package has significant impact on the welfare and human capital of poor rural families in Mexico. The initial analysis of PROGRESA's impact on education shows that the program has significantly increased the enrollment of boys and girls, particularly of girls—above all, at the secondary school level (Schultz 2000). However, similar impacts on attendance rates have not been found. Most of the increase in school enrollment for boys result from their working less. Evaluation finds that enrollment of girls in secondary school has increased by as much as 14 percent. The results imply that children will have, on average, about 0.7 years of extra schooling

because of PROGRESA, although this effect may increase if children are more likely to go on to senior high school as a result of the program. Taking into account that higher schooling is associated with higher levels of income, the estimations imply that children benefiting from PROGRESA could have 8 percent higher lifetime earnings due to the education benefits they received.

As a result of the program, both children and adults have also experienced improvements in health. Specifically, children receiving PROGRESA's benefits had a 12 percent lower incidence of illness as a result of the program's benefits and adults reported a 19 percent decrease in sick or disability days. In the area of nutrition, PROGRESA has had a significant effect on reducing the probability of stunting for children aged 12 to 36 months. Although these efforts to improve health and education are greatly appreciated by beneficiaries, focus groups also found that what women want most are work opportunities and work skills (Adato and Mindek 2000). Hence, while PROGRESA's health and education interventions are an essential part of combating poverty in rural Mexico, they should not shift emphasis away from programs that seek to facilitate women's employment.

RESEARCH FINDING NO. 18: CASH TRANSFERS TO MOTHERS CAN INCREASE WOMEN'S ROLE AND AUTONOMY IN HOUSEHOLD DECISIONS

The example of cash transfers increasing women's household decisionmaking power under PROGRESA. The provision of transfers to women through PROGRESA is an example of the public provision of resources to a particular member of the household, which the intrahousehold literature predicts will increase that person's bargaining power and influence decisionmaking. A quantitative analysis of household decisionmaking patterns analyzed

women's responses to questions regarding who should make certain decisions within the household as the dependent variable. The possible responses were husband alone, wife alone, or both spouses jointly, and the decisions were seeking medical attention for the child; telling the child to attend school; giving the child permission to go out; making expenditures on children's clothing, food, household repairs, and durable purchases; and disposing of women's extra income (de la Brière and Quisumbing 2000).

The results show that characteristics of husbands and wives are the most consistent determinants of decisionmaking patterns. The husband is more likely to be the sole decisionmaker if his wife is less educated, has less work experience prior to marriage, does not speak Spanish, or speaks an indigenous language. Husbands who speak an indigenous language are also more likely to be the single decisionmaker, indicating that women's roles may be more traditional in indigenous societies. Among poor households that are eligible for participation in PROGRESA, residing in a PROGRESA locality did not have as strong an effect on decisionmaking as the individual characteristics of husbands and wives. However, transfer amounts received by the wife decrease the incidence of husbands' sole decisionmaking for five of eight outcomes. These outcomes are medical treatment, child school attendance, child clothing expenses, food expenditures, and major household repairs. The change in decisionmaking patterns is consistent with PROGRESA's focus on primary health care, nutrition, and education, and its objective of empowering women to participate more fully in household decisionmaking.

One of the most noteworthy outcomes is the effect of PROGRESA transfers on decisions regarding the use of women's extra income. PROGRESA transfers have a small but significant negative effect on the probability that the woman will let her husband decide how to spend her additional income. The significance of the monetary transfers

confirms the belief that transfers targeted to poor women have the potential to change decisionmaking patterns within households.

The example of cash transfers increasing autonomy under PROGRESA. In addition to the quantitative study, qualitative research, conducted in six states, was based on 23 focus groups involving 230 women: 80 beneficiaries, 80 nonbeneficiaries, and 70 *promotoras* (beneficiaries elected by other beneficiaries to liaise between PROGRESA offices and communities).²¹ While the focus groups indicate that participation in PROGRESA did not notably alter the domains of decisionmaking, there are four ways in which respondents suggested that PROGRESA could increase women's autonomy with respect to household expenditure decisions (Adato and Mindek 2000): (1) a woman does not need to ask her husband for money whenever she needs something, she can make independent purchases with money from PROGRESA; (2) with this additional household income, the woman has more confidence in her ability to determine whether there is enough money to buy things she thinks they need, whereas when her husband held the money, he was in a better position to judge; (3) if with PROGRESA there is more money available for the family to spend on food, which is part of the woman's domain, she can now make more decisions about such expenditures even if the types of decisions have not changed; and (4) PROGRESA money may potentially increase the domain of women's decisionmaking in some instances.

²¹ *Promotoras* are beneficiaries elected by other beneficiaries to serve as a liaison between PROGRESA offices and communities. They receive training and communicate regularly with beneficiaries about the program.

²² *Pláticas* are monthly health talks that beneficiaries are required to attend as a condition of receiving grants.

RESEARCH FINDING NO. 19: PROGRAMS THAT INVOLVE WOMEN IN GROUPS AND COMMUNITY ACTIVITIES CAN PROVIDE OPPORTUNITIES FOR WOMEN'S EMPOWERMENT

The example of community activities and meetings under PROGRESA. While PROGRESA's assistance centers on the individual beneficiary rather than involving local organizations, the program does include activities where women gather in groups and have the opportunity to communicate with each other (Adato and Mindek 2000). There are monthly meetings with *promotoras*, the official purpose of which is conveying program-related information to beneficiaries. Meetings are limited to this purpose in most communities, but some also provide a space for women to talk about other concerns and problems. There are also health *pláticas*, where health issues of importance to women are discussed,²² and *faenas*—communal work activities not officially associated with PROGRESA but organized by doctors or *promotoras* and often involving beneficiaries. In addition, these collective activities, along with the trips women make to collect their cash transfers, are opportunities for women to leave their homes and communities without their spouses.

Promotoras and beneficiaries described personal changes that constitute empowerment, including increased freedom of movement, self-confidence, and opening women's minds (Adato and Mindek 2000). The types of changes reported fall into three categories: (1) women leave the house more often; (2) women have the oppor-

tunity to speak to each other about concerns, problems, and solutions; (3) women are more comfortable speaking out in groups. Such changes were more pronounced for *promotoras* than beneficiaries, though some beneficiaries had similar experiences. Some beneficiaries reported no such changes, however. These reported changes suggest the importance of these collective activities as ways in which PROGRESA can potentially contribute to longer term social development, even if in small ways. They also suggest the importance of structuring programs to provide women with opportunities to discuss issues and share solutions, rather than leaving this to chance, as was the case with PROGRESA. Another way that PROGRESA contributes to women's empowerment is through subject matter conveyed via the health *pláticas*. In general, beneficiaries describe "knowing more" through their participation in the areas of sanitation, nutrition, illnesses and other health-related issues. They also report changes in women's relationships with men as a result of information learned, for example, in the area of family planning.

Focus groups also found strong evidence of new social tensions between female beneficiaries and nonbeneficiaries because friends and neighbors often see themselves as equal and do not understand the basis for the differentiation, or disagree with it.²³ In some cases these tensions have led to a reduction in certain kinds of collective activities, with potentially negative implications for social capital (Adato 2000).

The research thus suggests that women benefit from a new recognition of their importance in the family; new freedom of movement; and some increased confidence, awareness, and

knowledge, without paying a major price in terms of intrahousehold harmony. Nevertheless, the changes in intrahousehold relations brought about by the program appear to be modest. This should not come as a surprise or disappointment, however, as change in this domain is necessarily slow, as well as complex, as women make strategic choices involving challenge, conformity, and accommodation. PROGRESA gives women new resources and information with which to approach these complex choices (Adato and Mindek 2000).

**RESEARCH FINDING NO. 20:
INCLUDING MEN IN INITIAL PROJECT MEETINGS HAS
HELPED INCREASE THEIR ACCEPTANCE OF PROGRAMS
WITH HIGH WOMEN'S INVOLVEMENT**

Results from the focus groups show that most men accept women's participation in PROGRESA because the benefits help the husband too, and the family as a whole (Adato and Mindek 2000). For this reason, most men allow their wives to spend the time necessary to fulfill their PROGRESA requirements because the benefits they receive compensate. However, some men are unhappy with the time that women spend out of the house for their PROGRESA responsibilities. Women say they minimize conflict by making sure that their household responsibilities are taken care of before they leave the house. The inclusion of men in initial program meetings that explain activities and beneficiary responsibilities has been helpful in increasing men's acceptance of the program. Men's expectations of and attitudes toward women and girls affect the extent to which

²³ The program's targeting system includes certain households and excludes others based on a marginalization index computed from census data.

women are able to take advantage of PROGRESA's benefits and put into practice what they learn through participation. Issues women face include whether to keep their cash transfers, how to spend the money, whether their girls should go to school, and whether they can use the health services offered or act on what they learn in the health *pláticas* about family planning, cervical cancer tests, and so on. Women said that PROGRESA should offer education to adult men, specifically on the subjects of how to treat women and the family, birth control and family planning, domestic violence, education for couples, and the importance of health care for the entire family (Adato and Mindek 2000).

Involving men, however, is not without costs. A similar conditional cash transfer program in Nicaragua, *Red de Protección Social*, did not include men in the initial project meetings because running two assemblies and *pláticas* doubled their costs. The costs and benefits of including men in these programs will have to be carefully evaluated.

RESEARCH FINDING NO. 21:

PROVIDING AFFORDABLE, QUALITY CHILDCARE IN THE COMMUNITY CAN RELIEVE CONSTRAINTS TO WOMEN'S EMPLOYMENT

The example of the *Hogares Comunitarios* program in Guatemala City. With increasing urbanization, the percentages of women participating in the labor force and of single mothers acting as household head have increased. Reliable and affordable childcare alternatives are thus becoming increasingly important in urban areas. The *Hogares Comunitarios* program (HCP) was established in Guatemala City in 1991 in direct response to the increasing need

of poor urban dwellers for substitute childcare. This government-sponsored pilot program was designed as a strategy to alleviate poverty by providing working parents with low-cost, quality childcare within their communities.

In the HCP model, a group of parents elects a woman from their neighborhood to act as the caretaker mother, which implies that she will care for up to 10 children in her home, 12 hours a day, 5 days a week. During their stay in the *hogar* (day care center), the children receive care and affection, hygiene, early child stimulation, and food (two meals and two snacks). The program provides initial training for the caretaker mothers and furniture, cooking equipment, and supplies for 10 children. On a monthly basis, the program gives approximately US\$1 per child per day to the caretaker for the purchase of food, gas, and educational materials. The program also gives the caretaker an incentive of \$3 per child attended per month, complemented by a \$5 per child monthly contribution from the parents.

IFPRI carried out an evaluation of the HCP in 1998 in the urban slums of Guatemala City (Ruel et al. 2006). The evaluation included both an operations (or process) evaluation and an impact evaluation (see Boxes 4 and 5 for a detailed description of the evaluation methods).

The impact evaluation found that beneficiary mothers tended to be slightly less educated, have fewer assets, and live in lower quality housing than mothers from the random sample (working or nonworking) (Table 8). Beneficiary mothers were also much more likely to be single—40 percent compared with 29 percent of working mothers and 17 of all mothers from the random sample. Household size was smaller among beneficiary mothers, but their mean number of preschoolers was higher, resulting in a higher dependency ratio than for women from the random sample.

Table 8. Characteristics of families participating in the *Hogares Comunitarios* Program compared with families from a random sample

| Characteristics | Beneficiary mothers | | Working mothers from random sample | | All mothers from random sample | |
|---|---------------------|---------|------------------------------------|---------|--------------------------------|---------|
| | | | | | | |
| CHILD (2 to 5 years) | | | | | | |
| Age (months) | 3.5 | (0.9) | 3.7 | (1.1) | 3.6 | (1.1) |
| Height-for-age z-scores (mean) | -1.6 | (1.0) | -1.4 | (1.2) | -1.3 | (1.1) |
| Stunted ^a [HAZ < -2] (percent) | 33 | | 29 | | 27 | |
| MOTHER | | | | | | |
| Age (years) | 28.3 | (5.7) | 30.5 | (7.6) | 28.8 | (7.9) |
| Years of schooling (years) | 5.3 | (3.2) | 5.9 | (3.9) | 5.8 | (3.7) |
| Single mothers (percent) | 40.2 | | 29 | | 17 | |
| MATERNAL EMPLOYMENT | | | | | | |
| Currently working (percent) | 100 | | 100 | | 37 | |
| Works at home (percent) | 0 | | 28 | | | |
| Type of employment | | | | | | |
| Salaried (percent) | 87.6 | | 50.6 | | | |
| Type of job | | | | | | |
| Itinerant vendor (percent) | 6.6 | | 26.5 | | | |
| Small factory/business (percent) | 62.5 | | 22.1 | | | |
| Domestic work (percent) | 0 | | 23.5 | | | |
| Clerical work (percent) | 0 | | 8.4 | | | |
| Money brought home in past 30 days from up to three jobs (dollars) ^b | 139 | (63) | 107 | (93) | | |
| Number of medical, social security, and vacation benefits (mean) | 4.4 | (2.2) | 2.2 | (2.6) | | |
| HOUSEHOLD | | | | | | |
| Household size (number of people) | 4.2 | (1.5) | 5.3 | (2.3) | 5.2 | (2.1) |
| Number of preschoolers | 1.9 | (0.8) | 1.6 | (0.7) | 1.5 | (0.7) |
| Value of assets per capita (dollars) | 1,155 | (2,618) | 1,359 | (1,763) | 1,516 | (2,469) |
| Housing arrangement | | | | | | |
| Lives in room (percent) | 56.8 | | 33.5 | | 36.0 | |
| Lives in house (percent) | 22.4 | | 44.6 | | 44.8 | |
| <i>Number of observations</i> | <i>259</i> | | <i>504</i> | | <i>1,363</i> | |

Source: Ruel et al, (2006). Notes: Standard deviations are shown in parentheses.

^a Stunting is defined as height-for-age z-scores < -2.

^b The average exchange rate during the study period was six quetzales (Q6) = US\$1.

Children of beneficiary mothers were more likely to be stunted and had lower height-for-age Z-scores than children from the random sample. Since stunting is a cumulative indicator of long-term growth retardation, it is likely that these children had suffered chronic growth retardation throughout their young childhood (possibly even starting in *utero*) as a result of a combination of factors, including poverty, food insecurity, poor health, and poor maternal care. Beneficiary mothers, on the other hand, were more likely than other working mothers to be employed in the formal sector, work in factories, and receive work-related social and medical benefits. The income of beneficiary mothers in the previous month was also 30 percent higher than the income of working mothers from the random sample.

Thus, the program appears to be reaching its targeted population: poor families with working parents, and especially single mothers with childcare responsibilities. It is likely that the program supports single mothers in engaging in more formal, and possibly more stable employment (because it provides reliable and affordable childcare 12 hours a day), giving them a higher wage and greater number of social and medical benefits. The low coverage of the program—only 3 percent of working mothers in the random sample used the program—seemingly results from lack of supply rather than low demand.

Among nonbeneficiary families, the most commonly used childcare arrangements involved household and extended family members. Even compared with these informal alternatives, the HCP was one of the lowest cost alternatives, ranking second after resident household members. Nonresident relatives were more costly than the HCP, as were neighbors, other private arrangements, and formal childcare. The impact evaluation also found that the program

is having a significant and positive impact on children's nutrient intake and dietary diversity: on average, children participating in the program consume 20 percent more energy, protein, and iron, and 50 percent more vitamin A than children in the control group. Moreover, a greater proportion of the key micronutrients (iron and vitamin A) consumed by beneficiary children is derived from animal products, which are a more bioavailable (easily absorbed and used) form. Because the home diet of beneficiary children is also slightly more nutritious compared with the control group, the net nutritional impact of the program is positive and significant.

ADDRESSING GENDER IN PROJECT IMPLEMENTATION AND MONITORING

The first practitioner's guide in this series, *Methods for Rural Development Projects* (Hoddinott, ed. 2001), argues that measurement of performance of development projects is key to improving them and to increasing their impact on rural poverty. Monitoring should be a conscious and regular effort, integrated into project implementation. Several chapters in Hoddinott, ed. (2001) outline the information requirements, methods, and techniques for monitoring and evaluating food security and nutrition interventions; hence this information is not repeated here. In this guide, the focus is the gender implications of project implementation and monitoring as revealed by IFPRI's gender research program. Targeting mechanisms, levels of staff training, the gender composition of staff, and even the extent to which service providers understand project objectives may have an important effect on the project's success in reaching its beneficiaries and, thus, the project's overall performance.

Build Gender-Sensitive Monitoring Into Project Design and Implementation

RESEARCH FINDING NO. 22:

TARGETING MECHANISMS MAY BE CRITICAL FOR PROJECT SUCCESS; POORLY DESIGNED QUOTAS CAN PROVIDE INCENTIVES TO PROJECT STAFF TO PRESSURE CERTAIN GROUPS TO SEEK LOANS WITHOUT ENSURING THAT PROJECT OBJECTIVES ARE ACHIEVED

The example of a fishpond extension program in

Mymensingh. One of the three agricultural technologies studied by IFPRI in Bangladesh was a polyculture fish production program in Mymensingh (Bouis et al. 1998). The Mymensingh fishpond program covers three types of farmers: demonstration farmers, credit farmers, and contact farmers. The credit farmers are supposed to be landless or marginal farmers owning up to 100 decimals of land.²⁴ Among the credit farmers, 30 percent are mandated to be women by the production program's donor, Danida. Despite the explicit female quota, women are only minimally involved in the program. For example, the female credit farmers from one village did not know the size of production or the income from sales. None owned a fishpond. In order to achieve the target for female beneficiaries, the extension officer talked to their husbands without involving the women. The women do not know clearly what was discussed between them. Once the men were convinced of the benefits of fish cultivation, they prepared papers indicating that the women had pond leases. Thereafter, the women—either accompanied by their husbands or adult sons—attended training and then went to the bank with the

extension worker to receive a loan. Ultimately, the men carry out the project-related activities, and the women's role is limited to feeding the fish. The men also decide when to catch the fish, calling on fishermen to catch and sell the fish in the market. The women were not even aware of the size of the catch. Finally, the extension worker and male family members deposit the returns from the sale of the fish in the bank, so the women were also unaware of how much money was received or deposited (Naved 2000). Had a gender-sensitive monitoring system been in place, project implementers would have taken note of women's effective participation in the project (or lack thereof), not simply the number of women to whom loans were disbursed.

RESEARCH FINDING NO. 23:

GENDER ISSUES IN STAFFING MAY BE CRITICAL FOR PROJECT ACCEPTABILITY

The example of gender issues in providing health training

under PROGRESA. The operational evaluation of PROGRESA (Adato, Coady, and Ruel 2000) revealed that health education is widely available and very popular among beneficiaries, *promotoras*, and health professionals. However, one issue raised in the qualitative studies was the problem of male doctors giving lectures on the pap smear test or on family planning, which makes women uncomfortable. Some clinics have already taken measures to have these themes discussed by female staff members. In some cases, however, it appears to fall on the *promotoras*, who do not necessarily feel (and are not) qualified for this assignment.

²⁴ 247.1 decimals = 1 hectare; hence 100 decimals constitute less than half a hectare.

RESEARCH FINDING NO. 24:

PARTICIPANTS AND SERVICE PROVIDERS MAY NOT NECESSARILY UNDERSTAND PROJECT OBJECTIVES, ESPECIALLY AS THEY RELATE TO GENDER AND INTRAHOUSEHOLD ISSUES; CONFLICTS OF CULTURAL VALUES WITH PROJECT OBJECTIVES MAY HAVE NEGATIVE CONSEQUENCES FOR PROJECT PERFORMANCE

The example of nutritional supplements under PROGRESA.

The distribution and intake of the nutritional supplement by the targeted group seems to be the most serious operational problem of PROGRESA's health component (Adato, Coady, and Ruel 2000).

The targeted infants and young children receive only a fraction of the nutrients that the program intends to provide. Part of the problem is that many mothers run out of supplement and fail to refill immediately. But a more serious problem is the sharing of the supplement within the household. Food sharing is strongly entrenched in Mexican culture and is basic to their hospitality principles. As noted by one doctor, families do not hesitate to offer him a glass of supplement when he visits, even though it is clearly against the program rules.

ADDRESSING GENDER ISSUES IN EVALUATION

Evaluation is the part of the project cycle that enables project implementers to learn from implementation experience. While evaluation is a part of “internal learning,” external organizations are often interested in establishing the impact of a project on its beneficiaries. Paying attention to lessons learned in evaluations can increase the impact of an intervention. IFPRI's gender research

program did not explicitly test the effectiveness of different evaluation methodologies; however, the lessons learned from evaluating different projects emphasize the need to adopt a gender perspective in conducting evaluations. Thus, this section does not, strictly speaking, consist of research findings, but rather, lessons learned from various project evaluations.

Paying Attention to Gender in Evaluations Can Improve Project Performance and General Development Impact

RESEARCH FINDING NO. 25:

PAYING ATTENTION TO GENDER ISSUES IN OPERATIONAL EVALUATIONS CAN ENHANCE MONITORING AND EVALUATION OF HUMAN CAPITAL AND EMPLOYMENT PROJECTS

Operational evaluations aim to identify program elements with procedural problems, the sources of these problems, and solutions to them for the purpose of improving program performance (Adato, Coady, and Ruel 2000). This requires a broad perspective of the operational environment, which includes all the policy and other actors and stakeholders who can influence the operational performance of the program or are affected by it. The operational evaluation of PROGRESA included four groups of stakeholders: beneficiaries, *promotoras*, school directors, and health-clinic staff. The operational evaluation of health care providers included program staff, beneficiary parents, caretakers, and social workers. In conducting both evaluations, IFPRI used a mix of quantitative and qualitative data collection methodologies. Process indicators are a natural component of operational evaluations, but project

implementers may gain additional insights by paying attention to women's special needs and constraints.

The example of parents' demanding more flexible care

in Guatemala. Focus groups found that beneficiary parents were generally happy and positive about the program, extremely appreciative of the excellent work of the caretakers, and grateful to the program for its assistance (Ruel et al. 2006). They also indicated that the cost of the service was low compared with alternatives, but they would be unable to pay more. They also had a number of suggestions for the program that relate to the often-conflicting roles and responsibilities of beneficiary mothers:

1. *Include Saturday care.* The large majority of beneficiary mothers work on Saturdays, at least until midday or 2 p.m. This is clearly an important issue for the program to consider, because benefits may be significantly reduced if parents have to pay expensive childcare costs on weekends.
2. *Provide health services and assistance when children are sick.* Most parents risk losing their employment if they are absent more than one day per month. Therefore, they have few alternatives when their child is sick and unable to attend the *bogar*. In addition, because of their employment, neither the program caretakers nor the parents themselves are able to take the child to the health center during opening hours (daytime).
3. *Include more than one young infant per bogar.* The program currently cannot include more than one young infant

per *bogar* because of the high ratio of children to caretaker. However, this problem is especially acute for women who are single breadwinners and do not have maternity leave benefits—the overwhelming majority of women in the urban slums of Guatemala City. Even when maternity benefits are provided, they usually cover only the very first few weeks of the child's life. Although the current program does not have the capacity to include more than one young infant, it may be worth considering an additional childcare modality. For example, a similar type of subsidized program, adapted to the needs of young infants, could be established to specifically target low-income working parents with young infants.

RESEARCH FINDING NO. 26:

VARIOUS EVALUATION METHODS CAN BE USED; BUT THEY SHOULD USE GENDER-DISAGGREGATED PROCESS AND OUTCOME INDICATORS

IFPRI's evaluations of various programs used a number of evaluation methods. These methods are summarized in Boxes 6 to 9. Notable in these evaluations is a design choice that is appropriate to the program being evaluated as well as the collection of information on gender-disaggregated inputs, processes, and outcomes. In all cases, this involved designing special modules that focus on gender issues and the use of quantitative and qualitative techniques. It is important to note that, whichever method is chosen, its ability to yield information on gender will depend on the inclusion of gender-disaggregated process and outcome indicators.

Box 6. IFPRI's Evaluation of PROGRESA in Mexico

The strength of the PROGRESA evaluation lies in its methods. Three key factors contribute to its rigor: (1) the quasi-experimental design used for the evaluation of the program; (2) the collection of repeated observations on households and their members before and after the program; (3) the analytical approaches used in determining whether PROGRESA has had an impact; and (4) triangulation of quantitative and qualitative data.

For a proper evaluation of the impact of a program, it is necessary to observe a group of households that are similar to beneficiary households in every respect possible other than benefiting from the program. In the case of PROGRESA, where the evaluation was conceived from the outset as part of the program's design, the solution to this evaluation problem is achieved by random assignment of localities into treatment and control groups. Annual fiscal constraints and logistical complexities associated with the operation of PROGRESA in very small and remote rural communities did not permit the program to cover all eligible localities at once. Instead, the program covers localities in phases. PROGRESA's quasi-experimental design takes advantage of sequential expansion to select a comparable or control group from the set of localities that, while eligible for the program, have yet to be covered by it. This practice offers the opportunity to conduct a scientifically rigorous evaluation of whether the program has had an impact, and if so, of the size of this impact on beneficiary households.

The quasi-experimental design of the evaluation combined with the availability of repeated observations on households and their members before and after the program can provide the most reliable answer to the question of whether the program has an impact or not. By examining changes over time within treatment and control localities (that is, comparing difference-in-difference), evaluators can control for characteristics that do not change over time within treatment and control localities,

as well as for characteristics that change over time and are common to control and treatment areas.

To evaluate impact, researchers conducted formal surveys, structured and semistructured observations and interviews, focus groups, and workshops with a series of stakeholders, including beneficiaries, local leaders, local and central PROGRESA officials, health clinic doctors, nurses and assistants, and schoolteachers. Specifically, the sample used in the evaluation of PROGRESA consists of repeated observations (panel data) collected for 24,000 households from 506 localities. The data used in the evaluation were collected between November 1997 and November 1999. The communities were located in the seven states that were among the first to receive PROGRESA benefits: Guerrero, Hidalgo, Michoacán, Puebla, Querétaro, San Luis Potosi, and Veracruz. Of the 506 communities, 320 were designated as treatment and 186 as control communities.

Gender issues were incorporated into the design of the PROGRESA evaluation in two ways. First, in addition to individual-level outcome variables, the baseline household survey collected information on a number of indicators of household decisionmaking and attitudes toward women. Successive survey rounds repeated these questions so that changes in patterns of decisionmaking could be discerned. Moreover, IFPRI designed a special module on assets at marriage and family background that was included in the March 1999 survey round. This module aimed to collect information on factors that may affect the bargaining power of the husband and wife within the household. Complementary to this, a qualitative study focusing on women's empowerment and gender issues was conducted in six states. It was based on 23 focus groups involving 230 women: 80 beneficiaries, 80 nonbeneficiaries, and *promotoras* (community mobilizers) from 70 communities.

Source: Skoufias and McClafferty (2001); Adato and Mindek (2000); Skoufias (2005).

Box 7. Methodology for Operational Evaluation of the *Hogares Comunitarios* Program in Guatemala

Operational research (also referred to as *process evaluation*) is concerned with studying the processes by which programs are implemented and interventions are delivered to beneficiaries. The main purpose of such evaluations is to identify as early as possible any shortcomings in the process that may affect the effective delivery of the intervention and thus its potential impact on the desired outcomes (Blumenfeld 1985). The main goal is to generate the necessary information to enable program planners and implementers to design and test potential solutions to improve program delivery, leading to the timely implementation of corrective actions (Ruel, Arévalo, and Martorell 1996; Adato, Coady, and Ruel 2000).

Objectives

The specific objectives of the operational evaluation of the *Hogares Comunitarios* program were to

- review and evaluate the *operational* aspects of the program;
- evaluate the *quality of delivery* of the interventions; and
- evaluate the level of *satisfaction with, and the attitudes toward, the program* of the caretakers, the beneficiary parents, and the social workers (direct supervisors of the caretakers in the field).

Methods

The study was carried out in all *hogares* operating at the time of the study in the urban slums of three *municipios* (townships) of Guatemala City. The methods used included

1. semistructured interviews with caretakers to collect quantitative information on program implementation and operations (n = 206);
2. semistructured eight-hour observations in *hogares* to gather both qualitative and quantitative information on the quality of care and service delivery and the time allocation of caretakers and their helpers (n = 183: some *hogares* had been closed by the time of the observations and only single *hogares* [with a maximum of 10 children], as opposed to multiple *hogares* [with 20–30 children], were included); and
3. focus-group discussions to gather qualitative information on the attitudes, opinions, and the level of satisfaction of the beneficiary parents, caretakers, and social workers (two focus-group sessions were organized in each *municipio* for beneficiary parents and caretakers, respectively, and one focus group was carried out with all 12 social workers responsible for the *hogares* included in the study; the focus group discussions were able to get at the often conflicting roles and responsibilities of both the beneficiary mother as well as the mother caretaker).

Box 8. Methodology for the Impact Evaluation of the *Hogares Comunitarios* Program in Guatemala

1. IMPACT EVALUATION

Design

The impact evaluation was carried out in one *municipio* of Guatemala City (Mixco). A cross-sectional design with two comparison groups was used. The first group consisted of beneficiary children 2–5 years of age who were attending the *hogares* on a regular basis. The control group, which included nonparticipating children and their households, was selected by individually matching neighborhood children with beneficiary children based on their age (+ 3 months) and maternal employment (all mothers from both groups worked outside the home). It was originally hoped that control children could be selected from waiting lists available in the *hogares* (to minimize self-selection bias), but this proved logistically impossible because of the informality of the waiting lists. Control children were therefore selected by surveying houses in the area to identify eligible children.

Sample size

Sample size calculations revealed the need to include 60 *hogares* and 5 participating children per *hogar* to detect a difference of 15 percent in individual energy intake between beneficiary and nonparticipating children, using a power of 80 percent and an alpha level of 5 percent. Thus, the target sample size was 300 children in each group. This sample size was judged adequate because it also allowed the detection of differences as small as 10 percent in other outcomes, such as maternal earnings, with a power greater than 90 percent. In practice, a sample size of 259 pairs was achieved.

Data collection methodology

1. Household survey methodologies were used to collect data on a variety of child, maternal, and household sociodemographic characteristics. These included household composition, consumption/expenditure, labor force

participation of mothers and other household members, household nonlabor income and productive assets, childcare arrangements, and family history and social networks.

2. Two methods were used to determine child nutrient intake: a direct weighing method carried out on weekdays in the daycare setting (during 10-hour observations), and recall methods to assess weekend and morning and evening diets (before and after the 10-hour observations).

3. Standard measurement and standardization techniques were used to determine maternal and child anthropometry (weight and height).

2. RANDOM SAMPLE

Design

A random sample of households from Mixco with children aged 0–7 years was used.

Sample size calculations

A sample of 1,266 households was found necessary to detect a program effect of 25 percent on women's decision to enter the labor force. The actual sample size was 1,363 households.

Data collection methodology

An abbreviated survey was used, which collected information on household composition, labor force participation (of the mother only), household nonlabor income and productive assets, and childcare arrangements (Monday to Friday only). The random sample survey took gender issues into account by obtaining indicators of bargaining power within the household, family history and social networks of mothers, and indicators of women's access to labor markets. Anthropometric measurements of mothers and all children 0–7 years of age were taken. Household consumption/expenditure and children's dietary intakes were not measured in the random sample due to the large sample size.

Box 9. Using Quantitative and Qualitative Methods to Evaluate Agricultural Technologies in Bangladesh

Using Quantitative Methods for “With” and “Without” Comparisons

The Bangladesh case study is an example of a quantitative survey based on a with–without comparison of households that received the new technologies and a comparable group of households that did not. In each of the three sites, selection of households for the survey was preceded by a census of households in villages where NGOs had introduced the technology, and comparable villages where the NGO was operating but had not yet introduced the technology. The villages where the NGO had not yet introduced the technology form the control villages in this study. In each site, three groups of households were selected: adopting households (members of the NGO under study), likely adopter households in the villages where the technology was not yet introduced, and a cross-section of all other nonadopting households representative of the general population in the villages under study. A comparison of the adopting or treatment households in the villages where the technology has been introduced with the control households would be valid if characteristics of the treatment and control households were similar. Comparisons of means of several variables indicate that, apart from technology adoption, the two groups are very similar. For households in each of these groups, a four-round survey collected detailed information on production and other income earning activities by individual family member; expenditures on various food, health, and other items; food and nutrient intakes by individual family member; time allocation patterns; and health and nutritional status by individual family member. In the second round, information on parental and sibling background was also collected for both the husband and wife. In the fourth survey round, a special module on assets at marriage of husband and wife and on female empowerment was administered to female respondents.

Between the second and third survey rounds, a parallel study using qualitative methods was also conducted in a pair of villages (one adopting or program village, and one nonadopting or control village) in each of the three sites to elicit group members’ views on the effects of the NGOs and the new technologies on incomes, education and health of children, women’s status and empowerment, among other factors (Naved 2000). The methods used in this study are described below.

Using Qualitative Before–After Comparisons

In many cases, project evaluators want to obtain information on whether conditions have changed after the implementation of an intervention but feel that quantitative techniques are unsuitable because outcomes are not readily measured quantitatively, or because of time and cost constraints. Moreover, quantitative baseline data may not exist, making such studies impossible. Qualitative research methods have thus become an increasingly important form of impact evaluation. They have the flexibility to allow respondents to offer interpretations and choose themes that broaden the scope of the research and deepen understanding of the social processes. Moreover, qualitative methods help researchers understand the culture, perception, attitudes, and opinions of people and to explore the interpretations of different phenomena by people—that is, to gain the “emic” perspective. Also, qualitative methods may enable the evaluator to learn something about program inputs and the process through which programs are implemented, two factors that are highly relevant to program outcomes but are more difficult to study using conventional survey techniques.

The Bangladesh study included a qualitative study that used a range of data collection techniques, including key informant

(BOX 9. CONTINUED)

Box 9. Using Quantitative and Qualitative Methods to Evaluate Agricultural Technologies in Bangladesh (CONTINUED)

interviews (KII), focus group discussion (FGD), case studies, trend analyses, impact flow, observation, historical profile, social maps, resource maps, Venn diagrams, and mobility maps (Naved 2000). Triangulation among various qualitative techniques was used to validate the information gathered. The study villages for the qualitative research were selected from among the villages covered by the quantitative survey. Only the program villages where

a complete village census has been conducted were considered for this study, which was supposed to enable researchers to combine qualitative and quantitative data for analysis and validation of the results. Focus group discussions were conducted for (mostly female) program participants as well as their spouses to obtain different perceptions by gender. The table below illustrates the type of technique and the respective respondents.

Use of qualitative techniques for collecting different blocks of data

| Block | Technique | Who participated |
|---|--|---|
| Village profile | Transect Social map Resource map Crop calendar Event calendar Venn diagram Mobility maps Case study Focus group discussion | Team members Men from all socioeconomic categories Men from all socioeconomic categories Men from all socioeconomic categories Men from all socioeconomic categories Program participants Program participants Program participants and their spouses Spouses of program participants |
| Program profile | Key informant interviews Observation of group meeting Focus group discussion | Managerial staff of implementing agency Field level staff of implementing agency Field level staff of implementing agency |
| Income, control over income, savings and investment | Case study Focus group discussion Trend analysis Impact flow chart | Program participants and their spouses Program participants and their spouses Program participants and their spouses Program participants and their spouses |
| Distribution of benefits | Case study Trend analysis Impact flow chart Mobility map Focus group discussion | Program participants Program participants and their spouses Program participants and their spouses Program participants and their spouses Program participants and their spouses Spouses of program participants |



3. Weaving Gender Research into Project Design and Public Policy: Implications of the Research Results

The stages of the policymaking process and the project cycle are, effectively, an artificial construct used to facilitate our understanding of complex processes by breaking them down into their component parts. While allocating research findings to specific stages within the overall project cycle was helpful in generating practical and usable implications for development projects, policy is more complex, requiring systematic consideration and application of gender issues across the entire policymaking process. For this reason, project implications are presented within the phases of the project cycle, below, while integrated implications for policymaking follow thereafter. Text boxes within each section feature relevant questions for project managers' and policymakers' consideration, respectively.

IMPLICATIONS OF GENDER RESEARCH FOR PROJECT MANAGERS

NEEDS ASSESSMENT

Gender research can be integrated into project needs assessments. Research findings on the nonpooling of household resources and differences in men's and women's preferences challenge many simplifying assumptions made by project designers. Pronounced disparities in resource control and outcomes within households, and differences in men's and women's preferences and perceptions about

needs, may increase the complexity and design of a development project.²⁵ Nevertheless, project designers need to take these complicating factors into account at the very beginning of the policy or project cycle, or at the very least assess the extent to which reality diverges from the conventional wisdom.

Households Do Not Act as One When Making Decisions

- Both patterns of decisionmaking and allocation of productive resources within the household need to be empirically verified at the local level prior to the design of interventions. While a gender-disaggregated database would be ideal, detailed databases are rarely available in most project and policy contexts. In many cases, the only information on resource allocation is likely to come from qualitative studies, such as interviews with key informants, focus groups, and participant-observation.
- Views of men and women in the community must be solicited separately, especially in cultures where women do not feel free to speak out in the presence of men. However, other factors must also be considered that may mediate the effect of gender, especially in highly stratified societies. A woman belonging to a high social position may not represent the views of poor women well. Other distinctions should be captured, such as age, civil status, ethnic makeup, indigenous mixes, and urban versus rural locations.

²⁵ While project designers could turn to researchers for information about gender issues to consider in needs assessment, conventional research methods may fail to address gender. Many researchers are resistant to modifying their tried and tested methodologies to incorporate gender-sensitive data collection and analysis methods.

One's Share of Resources Depends on an Individual's Bargaining Power Within the Household

- When designing development projects in countries where poverty rates are higher for women, the nature and causes of poverty in female-headed households and for women in general must be taken into account.
- Focusing on female-headed households, without paying attention to the underlying cause of female-headship may be misleading. Further, a focus on female-headed households should not detract attention from the conditions of women in general, even those living in male-headed households.

Both Local Norms and Statutory Laws Determine Women's Rights

- It is important to know about the formal and informal organizations to which men and women belong and the criteria for membership. Needs assessments may gain from an investigation of the relative costs and benefits obtained from membership in these organizations.
- Project planners and implementers need to understand the degree of men's and women's reliance on formal versus informal mechanisms for getting their needs heard and met, and in coping with shocks.
- It is necessary to understand the actual and perceived barriers to participation in groups—that is, whether they stem from membership rules or perceptions about women's role in groups. For example, stereotypical ideas about men's and women's roles can function as informal membership criteria.

- Project planners need to be aware of the supportive roles women play in organizations, even when they are not formal members, as well as the informal channels they use to make their needs known. Planners should also examine the extent to which men's and women's needs are perceived as legitimate, and ascertain whether channels exist through which these needs can be made known to local authorities or governing bodies.
- It is important to understand the structure of existing groups and the roles of institutions in order to discern whether mixed or single-sex groups will be more effective in involving stakeholders in a particular intervention and whether gender approaches are institutionalized.
- Often, it is not legal ownership of a resource but its control that is important. The relationship between resource control and bargaining power needs to be understood. Women's bargaining power may be eroded in cases where women nominally own assets but transfer control of them to their husbands.

Understanding local norms and the application of customary law at the local level is important, especially in the event of conflicts or contradictions between customary law and national policy. Customary law can affect the ownership and use of land, control of other productive resources, access to credit, geographical mobility, and tolerance of domestic violence and sexual harassment. Project planners must ascertain which rules are followed, in practice, and what avenues are used to resolve conflicts among them. Project planners must also be aware of formal and informal institutions, such as inheritance, marriage, and other institutions that affect gender status, since this will affect the relative status of male and female project participants (See Box 10).

Box 10. Essential Needs Assessment Questions for Project Managers

At the start of a project, development practitioners should be gathering information that will inform and challenge project designers and diagnose potential problems. The questions in this section derive from the research findings presented in Chapter 2.

Households Do Not Act as One When Making Decisions

- What are the rights and responsibilities of men and women within the household? What is the gender division of labor and decisionmaking? Are there spheres of decisionmaking within the household?
- Do men and women have different perceptions about local needs and solutions to them? Do men and women have different perceptions about how to satisfy those needs?
- Who participates in community decisionmaking? Do women attend meetings? If so, do they get to speak and vote? Are their views taken into consideration, or are they expected to agree with their male relatives?
- Are women's and men's roles changing within the household and community?

One's Share of Resources Depends on an Individual's Bargaining Power Within the Household

- Are there gender disparities in poverty statistics, employment and incomes, health outcomes, nutritional status, women's decisionmaking power, and so on, as revealed by national-level statistics or household surveys, that justify a special attention to gender? If national statistics mask gender disparities, what does the ethnographic evidence reveal?
- Do project outcomes of interest differ markedly among individuals within the household based on gender, or are differences across different types of households more important?
- What is the evidence on men's and women's control of productive assets? Do women have the right to own land, to obtain credit in their own name, or to inherit property? What is the implication of differential control of resources on other development policy outcomes?
- Aside from differences in property rights, what other constraints do women face in achieving their objectives—for example, in increasing income or agricultural productivity?

Both Local Norms and Statutory Laws Determine Women's Rights

- To what kind of formal and informal groups or networks do men and women belong? What is their degree of participation in these groups? What do they gain from participation? What are the costs associated with participation?
- What are the formal and informal membership criteria for participation in groups? Do rules discriminate against specific groups due to lack of asset ownership, low class or caste, or gender? Are perceptions of men's and women's roles limiting factors in women's participation? Are men or women more likely to respond to formal or informal delivery mechanisms?
- How can membership rules be modified to make them more inclusive and representative of a community's different stakeholder groups (including women of different castes and classes)? How can the structure and conduct of meetings be changed to encourage participation?
- What are the channels through which men and women make their needs known? Are local authorities responsive to these needs? How important are social networks in articulating needs and having them met? Who are the gatekeepers in the community? How can they be convinced?
- Would single-sex or mixed groups be more effective in eliciting participation of marginalized groups, or are there other criteria (class, caste, ethnicity) for organizing groups? How effective are existing groups? How do they distribute benefits? Does inclusion of men have an effect?
- What are the local customs and traditions that define men's and women's property rights? How important is legal title, ownership at the time of marriage, control of the asset, or inheritance? What local bodies exist to resolve disputes regarding property rights? What is the composition of these bodies (by gender, caste, age, and so on)? Do men and women have equal access to these bodies and to legal means?
- Have there been significant departures from local tradition in the way property rights have been assigned or conflicts resolved? What were the special circumstances in each case? Do community members feel that traditions are changing? If so, in what direction?

PROJECT DESIGN AND APPRAISAL

IFPRI's research can help project planners identify constraints to implementing projects as well as predict the likely consequences of adopting them. For example, the finding that increasing resources controlled by women is associated with improved child health and nutrition may encourage designers of interventions to improve child nutrition to channel resources to women. The finding that different modes of disseminating and targeting technology may have different impacts on men and women may help project designers choose more effective targeting mechanisms (see Box 11).

Increasing Resources Controlled By Women Benefits Families

- Increasing women's control of resources (information, assets, and other economic resources) is key to attaining many desired project outcomes, such as increased education and improved health of children.

Project Design Features Also Have Gender Implications

- Women's participation in projects may have unintended consequences on time use. Women's time use needs to be adequately projected under different project scenarios.
- Cultural influences on women's adoption of new technologies, such as the gender division of labor or of space, must be considered in project design. Design features that do not challenge these constraints—such as growing vegetables on the homestead plot—enable more women to participate but may limit the long-run impact of the project. Project designers need to examine tradeoffs between acceptability and long-term

developmental objectives when designing projects that address social and cultural influences on women's participation.

- Program structure options—for example, targeting approaches that dictate whether the program is directed to individuals or to groups—may be key to project success. Some features of group-based programs may be essential in addressing women's issues. In male-dominated societies where women have extremely limited access to internal or external support networks, targeting programs to women as individuals without providing an alternative source of support may lead to the failure of the policy, program or project. At the same time, project designers must be aware of circumstances when targeting to groups may not work. In some countries, men and women do not want to form groups for fear that they may be politically controlled. Some types of organizations may also have acquired a bad reputation. While group activities have many benefits, particularly in women's credit programs, the merits of group versus individual participation should be carefully considered. Groups tend to be controlled by the dominant cultural group, so minority men or women may be reluctant to join.
- Possible constraints to women's participation in projects due to domestic responsibilities, or unintended effects on time spent on childcare or family relations must be considered in project design. This may mean holding group meetings during a time that does not conflict with a woman's domestic responsibilities, or making provisions for group childcare. Project designers may also want to seek husbands' cooperation when involving wives in a program, and locating meetings where women are more likely or able to attend.

Box 11. Essential Project Design and Appraisal Questions for Project Managers

Realistic appraisal of the constraints facing stakeholders is essential when attempting to forecast the outcomes of alternative types of interventions. Development practitioners will need to ascertain why programs may not work and if they might work for some groups but not the intended beneficiaries. Are the problems organizational, structural, social or political? There are many minefields in project appraisal; anticipating those related to gender should be an important part of project design. The following questions may help to that end.

Increasing Resources Controlled by Women Benefits Families

- When is it important to increase women’s control of resources, and how can it be done?
- Does gender targeting work in practice, or are there implementation issues that may not be anticipated at the design stage? What are the gender implications of program expansion or “scaling up”? Because all women are simply not the same, how can targeting be refined further for women of a specific group?
- What is the potential distribution of benefits and losses from the introduction of new technologies? Do technologies increase returns to women’s resources? How will new technologies interact with the existing structure of property rights?
- What are the constraints to increasing investment in human capital? Do they differ between girls and boys? What are the other demands on the time of children, and of parents—especially mothers?

Project Design Features Also Have Gender Implications

- How do the target beneficiary populations view poverty and their key problems and priorities? Do views differ between men and women? Does program choice and design respond to this? If not, what complementary programs are needed?

- What are the constraints to women’s participation in the program? Are there other tradeoffs, for example, time costs or reduced childcare time?
- What are the implications of targeting poor households in a community, versus targeting women in those households? Do female-headed households warrant special attention?
- What institutional arrangements do the women recommend?

Innovative Ways to Increase Women’s Resources Have Made Projects Successful

- What are the implications of targeting women for development projects? Will there be resistance from husbands and other household members?
- If a conditional cash transfer program is being considered, does a mechanism already exist for distributing transfers? Which form of transfer is likely to be more effective given infrastructure and other constraints in the project setting? Who within the household should receive the transfer? Which mechanism is less likely to be subject to leakages and corruption?
- In the case of conditional transfer and other programs, such as microfinance programs, that require behavioral change, how is compliance with behavioral objectives going to be assessed? Are these criteria reasonable and not biased against the poor or illiterate, bearing in mind that women are likely to have lower education and literacy than men?
- What are the most important constraints to women’s employment outside the home? Are they cultural, or do they have to do with lack of childcare?
- What aspects of childcare are important to working mothers? Distance from home or work place? Flexible hours? Affordability? Cultural acceptability? Quality of care?

- Increasing women’s participation in groups may involve changing the criteria for group membership as well as group operational procedures. This includes the definition of membership rules and details regarding membership dues and the timing, location, and structure of formal meetings.
- Barriers to women’s participation in groups can be reduced through literacy training and by increasing women’s exposure to group activities. Alternative project options that remove these barriers should be considered.
- Increasing women’s involvement in groups may improve the management of common property resources by giving them a say in the setting of rules regarding the management of the resource. It is easier to achieve compliance if stakeholders have a role in determining the rules of management.

While respecting local custom, project planners must be aware that interventions have the potential to alter the balance of power between men and women. Interventions must be designed in consultation with local communities so that attempts at legal reform will not have unintended effects.²⁶

Innovative Ways of Increasing Women’s Resources Have Made Projects Successful

- When designing human capital interventions, it is important to discover the constraints to increasing school attendance, retention rates, regularity of health visits, and so on. These constraints may be financial, social, or cultural—and they

may vary by gender. If the constraints are financial, conditional transfer programs may be viable. If cultural factors are important, information, communication, and education (ICE) activities should be incorporated into the program.

- If human capital outcomes are worse for women, design features can increase incentives selectively for girls—for example, through higher education subsidies for girls, which reduce the price of educating girls for parents, provisions for girls’ uniforms, and so on.
- The choice of vehicle for the transfer program needs to be carefully considered. Despite potential leakages, food-based transfers can be effective if infrastructure for food distribution already exists. Cash-based transfers, while less distortionary, may require a more sophisticated disbursement mechanism than is available in many poor countries. These options need to be carefully addressed to maximize the benefits of transfer programs.
- Targeting transfers to women has clearly worked in many settings; nevertheless, options should be evaluated carefully for possible leakages (to other household members) and risks of creating conflict within the household. Program staff should be aware of the possibility of these leakages and attempt to minimize them by consulting household members who may be affected. If leakages cannot be avoided—and indeed, in very poor households, women may feel bad denying these resources to other family members—project designers would do well to factor them into the cost of the project.

²⁶ In India, when the dowry system shifted from a familial obligation to provide a share of family property to daughters at marriage to a de facto right of the bridegroom’s family to demand compensation, the Dowry Prohibition Act was passed (1961). Although the law did not ban dowries, it prohibited gifts given or taken in consideration for marriage. Unfortunately, it also reduced the willingness of families to provide property to their daughters at marriage, while maintaining preferential rights of male members of joint families over inherited properties. In the end, daughters’ claims to family property were severely weakened (Gopal 2001).

- Conditional transfer programs can be potential avenues for empowering women if channeled through women. As with any intervention that can alter the balance of power within the household, unintended consequences must be carefully considered, even at the design phase. Making sure that men are at least briefed on the program and the benefits it will bring to the whole family is an essential requirement for the success of most programs primarily targeted to women.
- Helping women fulfill domestic responsibilities such as childcare may be important to increasing their participation in the labor force (and may also free some time of older siblings so they can attend school). Project designers should examine modalities that work well for working women in different settings (for example, urban versus rural and formal versus informal sectors).

PROJECT IMPLEMENTATION, MONITORING, AND EVALUATION

Monitoring provides policy-relevant knowledge that assists project managers in project implementation. Unintended consequences of projects need to be brought to light in order to remove obstacles and constraints. The research presented here highlights methods that can be used to capture the gender-disaggregated information that feeds back into projects and programs (see Box 12).

Paying Attention to Gender Issues in Program Evaluations can Improve Project Performance and Overall Development Impacts

- Community activities may yield benefits in terms of women's empowerment. While meetings for beneficiaries may be intended to transmit basic information about the program and answer questions, they may offer opportunities for women to communicate and share experiences, problems, and solutions. These opportunities can be encouraged or formally structured into program design.
- When comparing the costs and benefits of means-based household-level targeting versus other means of targeting (such as geographic targeting), mechanisms should be carefully considered, along with the potential for—and costs of—introducing social tensions among beneficiary and nonbeneficiary women within communities. If household targeting is to be used, communities' perspectives should be solicited as to what type of person is most in need. Communities should also be given an opportunity to appeal selection decisions.
- Obtaining husbands' cooperation may be critical to the success of programs that involve women. Husbands can be included in initial beneficiary meetings and in complementary interventions, such as adult education—especially on health and family planning issues.
- Implementation staff should check whether the tasks and responsibilities of service providers match their skills. Implementers should be realistic about the tasks assigned to providers given their level of training and competing demands on their time.

Box 12. Essential Implementation, Monitoring, and Evaluation Questions for Project Managers

Here, practitioners need to gather information to ascertain why outcomes are diverging from the optimal scenario. These questions attempt to uncover possible causes and lead development practitioners to identify implementation bottlenecks.

Paying Attention to Gender Issues in Program Evaluations can Improve Project Performance and General Development Impacts

- How important are collective activities in project implementation? Are local community organizers trained to use these as avenues to tackle broader issues outside the project related to stakeholders' needs (for example, using collective activities to empower women and provide venues so they can raise issues and discuss them with other women)? Is the project supportive of these activities?
- Do collective activities take up too much of participants' time to the detriment of their other activities, possibly increasing resistance to their participation? For example, husbands may complain about the time costs of collective activities for their wives if these activities are perceived to interfere with wives' domestic responsibilities.
- Do community members understand the basis of the beneficiary selection system, and have they had an opportunity to comment on or appeal the results? Is there evidence of social tensions between women resulting from household targeting and are efforts being made to reduce these?
- Have male family members been consulted in the design stage of the program, or at least before implementation?

- Do participants have strong preferences regarding the gender of providers? Given the usual shortage of women in trained positions, what can be done to respect the desires of participants given the staffing mix?
- Are there cultural norms or beliefs related to gender and intra-household issues that may work against project objectives?
- Do frontline providers and project staff fully understand the project objectives, especially as they relate to intrahousehold issues? Are they knowledgeable about the gender dimensions within communities and households?
- Are there mechanisms for getting feedback from different groups of, both male and female, stakeholders to improve implementation?

Build Gender-Sensitive Monitoring into Project Design and Implementation

- Are process and outcome indicators of program performance sensitive to gender-differentiated needs of different stakeholder groups?
- What methodologies for monitoring and evaluation are more effective in making sure that the views of, both male and female, stakeholders are heard?

- Project beneficiaries may have strong preferences for the gender of providers, a factor that should be taken into account when drawing up staffing plans.
- Faulty understanding of program objectives may weaken the project's effect, particularly with regard to such sensitive topics as gender relations and intrahousehold distribution. Providers must understand the objectives so they are better able to explain them to beneficiaries.

Build Gender-Sensitive Monitoring into Project Design and Implementation

- Quota-based targeting may have unintended effects if field workers—who may be evaluated based on the quota—attempt to meet it without paying attention to intrahousehold dynamics. Targeting based on one objective (gender equity) may at times run counter to other program objectives (say, increased yields or profits) if women do not have equal access to productive resources and if the project does not include specific provisions to equalize women's access to resources.
- All projects should include the collection of input, process, and outcome indicators—and, if these may vary between men and women, they should be sex-disaggregated. Such indicators are necessary for routine monitoring of project performance. Monitoring systems should also be designed and set up at the beginning of project implementation. However, the choice of evaluation method depends on the project's objectives, the scale of the project, and resources available for evaluation. Much of the gender-disaggregated information needed for

gender-sensitive monitoring and evaluation can be addressed with rapid and cost-effective assessment studies or by including additional questions in current research studies, while funders of large-scale projects with more resources will probably demand quantitative evaluations, particularly if they want to quantify the impact of the intervention. Even with limited resources, attention can be paid to gender issues.

- Increasingly, quantitative studies are being complemented by qualitative studies, which provide project planners with direct views from different stakeholders. Whether quantitative studies can do before–after comparisons, however, critically depends on the existence of baseline data. Therefore it is important for evaluators to be involved in project design, so that evaluation can be built into project implementation and the collection of monitoring indicators at the local level.
- Implementers should pay attention to feedback from male and female stakeholders in designing project modifications. The use of participatory methods can help to ensure their continued involvement—for example, extended day care hours to increase beneficiaries' time flexibility and hence the value of the program, or the accommodation of infants and sick children so that working mothers do not have to miss work. In some cases, no modification is good modification because programs may indeed be capturing the right outcomes if they have been sensitive to the gender implications of resource use within households. In the case of PROGRESA, the intervention's design—giving cash transfers to women—was not modified when the program expanded into urban areas because analysis indicated that giving resources to women improved children's outcomes.

IMPLICATIONS OF GENDER RESEARCH FOR POLICYMAKERS

Policymakers are a rather amorphous group. Who exactly is a policy formulator? Where does one find an agenda setter? Therefore, placing research findings within the policy analysis framework is an awkward fit. Informing policy is more of an art than a science. Thus, it is imperative for policymakers to consider gender and intrahousehold research findings as systemic—a lens through which the policy agenda is set. This involves asking pertinent questions, scrutinizing policy options, determining levels of risk, and monitoring policy outcomes. The knowledge, for example, that households do not act as one when making decisions applies to the entire policy process, not just an isolated stage. In fact, in confining the implications to one stage, opportunities to address inequity and improve gender outcomes may be lost. In this context, the implications of the research findings for policymakers are grouped together, making no distinction of stage or phase.

Households Do Not Act as One When Making Decisions

- Policymakers should not assume that the household impacts of policies will be the same, regardless of whether they are targeted to a man or a woman. Who receives tax credits, enrolls in social insurance programs, or receives income transfers may have different effects within the household.

One's Share of Resources Depends on an Individual's Bargaining Power Within the Household

- Development policies in countries where poverty rates are higher for women must take into account the nature and causes of poverty among female-headed households and among women in general.
- Policymakers should take care to avoid focusing only on female-headed households. It may be more useful to ascertain the conditions of women more generally, even those living in male-headed households.

Both Local Norms and Statutory Laws Determine Women's Rights Relative to Men

- Policymakers should examine the extent to which statutory laws regarding property rights discriminate against women. At the same time, they should be aware that legal reforms may be nullified by customary practice. Even countries with highly equitable legal systems may have local customs that discriminate against women.
- Even when a law is passed, it needs to be publicized, and administrative capability put in place. Policymakers need to pay attention to the implementation record of laws designed to eliminate gender discrimination.
- Changes in customary practice may catalyze changes in the legal system; grassroots initiatives potentially have a wider reach. In order to predict likely responses to proposed changes, policymakers need to pay attention to modifications in local norms in response to changing circumstances.

Policy Design Features also have Gender Implications

- To ensure appropriate policy choices, the priorities of target populations should be determined early in the design of anti-poverty policies.
- When forecasting policy impact, titling or other land legislation should be examined for its effect on women's land rights. Men and women should be equally qualified to acquire land titles. Women also need to be made aware of their legal rights and empowered to claim them. However, attempts to increase women's incomes or agricultural productivity by equalizing land rights will only succeed if other constraints facing women, such as limited access to credit, labor shortages, and lack of seeds and other inputs, are also addressed.
- Policymakers need to examine tradeoffs between acceptability and long-term development objectives when implementing policies whose success may be conditioned on social and cultural constraints to women's participation.
- Increasing women's involvement in groups may improve the management of common property resources by giving them a say in the setting of rules regarding the management of the resource. It is easier to achieve compliance if stakeholders have a role in determining the rules of management.
- Innovative ways to increase women's resources have made projects successful.
- When designing human capital interventions, it is important to ascertain the constraints to increasing school attendance, retention rates, regularity of health visits, and so on. These constraints may be financial, social, or cultural—and may

vary by gender. If the constraints are financial, conditional transfer programs may be viable. If cultural factors are important, information, communication, and education (ICE) activities should be part of the program.

- If human capital outcomes are worse for women, design features can increase incentives selectively for girls—for example, through higher education subsidies.
- The choice of vehicle for the transfer program needs to be carefully considered. Despite potential leakages, food-based transfers can be effective if infrastructure for food distribution already exists. Cash-based transfers, while less distortionary, may require a more sophisticated disbursement mechanism than is available in many poor countries. These options need to be carefully addressed to maximize the benefits of transfer programs.

Paying Attention to Gender Issues in Policy Evaluations Can Improve Policy Performance and Overall Development Impacts

Policymakers should invest in an information system that collects sex-disaggregated data to enable them to ascertain the gender-specific impact of policies, track progress in achieving the MDGs, and ensure consistency with other national development objectives. Thinking of evaluation at the start of policy implementation will enable implementers to establish the information system needed to track progress. However, the choice of evaluation method depends on the developmental objectives, the scale of the policy implementation, and resources available for evaluation. Even if resources are limited, evaluations can still pay attention to gender issues.

Build Gender-Sensitive Monitoring into the Policy Process

Policymakers should pay attention to feedback from male and female stakeholders when proposing changes to existing policies and interventions. In some cases, no modification is good modification because policies may be achieving the desired outcomes if they have been sensitive to the gender implications of resource use within households. In the case of PROGRESA, the intervention's design—giving cash transfers to women—was not modified when the program expanded into urban areas because IFPRI's analysis indicated that giving resources to women improved children's outcomes (see Box 13).

Box 13. Essential Questions for Policymakers

The science of public policymaking dedicates an entire study to problem definition. Hence, it is fitting that this volume present questions that can, and in many cases should, give rise to problem definitions. Rochefort and Cobb (1994) emphasize that the description of a given policy problem can affect its rise or fall on the government agenda. Likewise, the questions leading to the determination of the exact meaning of a given issue, its level of significance, or its policy implications can influence whether that issue is perceived as, and eventually becomes, a policy issue. Like policymaking, policy questions are value-laden and untidy. However, it is hoped that the questions presented here can add a level of rationality to various points within the policy process and increase the likelihood of successful program operation. If nothing else, as pointed out by Heineman et al. (1990), the questions arising from research, in this case IFPRI's research on gender and intrahousehold resources allocation, can add a degree of enlightenment to relevant policymaking.

Households Do Not Act as One When Making Decisions

- What is the concept of the family or the household in national ideology? Do policymakers recognize that there may be different actors within the household?

One's Share of Resources Depends on an Individual's Bargaining Power Within the Household

- Are there gender disparities in poverty statistics, employment and incomes, health outcomes, nutritional status, women's decisionmaking power, and so on, as revealed by national-level statistics or household surveys, that justify a special attention to gender?

(BOX 13. CONTINUED)

Box 13. Essential Questions for Policymakers *(CONTINUED)*

- What is women's legal status in this society? Are women allowed to own property, inherit property, and borrow money in their own names? Do laws on property rights treat men and women equitably? Does this differ across ethnic and religious groups?
- What are the provisions of marriage or family law, and what resources do women control in the case of marital dissolution?
- What are the social barriers that prevent or hinder women or men from participating in particular activities? What other social or customary aspects may enhance or limit participation?

Both Local Norms and Statutory Laws Determine Women's Rights

- Have there been any successful national policies or local-level interventions that have attempted to change property rights? What were the ingredients of their success? If there were failures, why did they fail?
- To what extent does local custom deviate from statutory law, particularly in the adjudication of property and marital disputes? How do existing laws help women (in particular those related to access to land)? Have there been efforts to publicize laws or make land registration available to women?
- What kind of legal institutions exist to adjudicate women's rights and overall human rights?

Relative to Men, Increasing Resources Controlled by Women Benefits Families

- Will there be political opposition to programs that transfer resources to women?

Policy Formulation and Implementation Also Have Gender Implications

- When will changes in national or macro policy have gender differentiated impacts?

Innovative Ways to Increase Women's Resources Have Made Projects Successful

- Under what circumstances will increasing women's resources be a cost-effective way of achieving project or policy objectives?
- What are the budgetary implications of programs that direct transfers to women? Should the additional costs be addressed through a special gender fund or be part of the general project budget?

Paying Attention to Gender Issues in Policy Assessment Can Improve Policy Effectiveness and General Development Impacts

- If a new policy has just been implemented, is it consistent with achieving the international development objectives such as the Millennium Development Goals? Is progress restricted to one sector, or does it recognize that these goals can best be achieved by exploiting linkages among sectors—especially true since gender issues cut across sectors?

Build Gender-sensitive Monitoring into Project Design and Implementation

- What methodologies are best for ascertaining policy impact? Do these methodologies allow for differential responses between men and women? Does the statistical system support gender-sensitive policy evaluation? What changes in the national statistical system need to be made?

Appendix A

Survey and Data Information

Table A1. Sample size and survey data collected

| Description | Bangladesh | Ethiopia | Guatemala | South Africa | Ghana | Indonesia | Philippines |
|--|--------------|--------------|------------------------|--------------|----------------|------------|--------------|
| SAMPLE SIZE | | | | | | | |
| Number of households | 955 | 1,399 | 1,340/550 ^a | 1,200 | 253 | 262 | 275 |
| Number of individuals | 5,541 | 9,483 | 9,000+ | 10,000 | 1,659 | 1,116 | 2,000+ |
| Number of communities/villages | 47 | 15 | 14 | 69 | 10 | 2 | 5 |
| Number of rounds | 4 | 4 | 1 | 2 | 2 ^b | 1 | 2 |
| DATA COLLECTED | | | | | | | |
| Income, expenditures, and nonland assets | | | | | | | |
| Household income by source [1] selected sources only | I[1] | I[1] | I | I | H[1] | I | I |
| Household income-generating activities (crafts, off-farm activities) | I | I | I | I | | I | I |
| Household value of consumed goods by commodity | H | H | H | H | H | H | H |
| Nonland assets [1] current assets [2] assets received at marriage | I[1,2] | H[1] I[2] | H[1] MF[2] | I[1,2] | MF[2] | MF[2] | H[1] I[2] |
| Housing | H | H | H | H | H | H | H |
| Land and agriculture | | | | | | | |
| Land operated or owned | I | I | | I | I | I | I |
| Agricultural production [1] inputs [2] outputs [3] by plot [4] by crop | H[1,2,3,4] | H[1,2,4] | | H[1,2,4] | H[1,2,3,4] | H[1,2,3,4] | H[1,2,3,4] |
| Livestock production | I | I | | H | H | | |
| Family background, marriage, and inheritance retrospective | | | | | | | |
| Family background | MF | MF | F | MF* | MF | MF | MF |
| Marriage histories | MF | MF | F | MF* | MF | MF | MF |
| Inheritance | MF | MF | F | MF* | MFC | MFC | MFC |
| Divorce/disposition of assets at divorce or death | MF | MF | | | MF | | |
| Household decisionmaking | I | I | I | I | | | |
| Food intake, health, and sanitation | | | | | | | |
| Food intake [1] 24 hour recall [2] 48 hour recall [3] direct weighing [4] preferences | I[1] C[4] | | C[2,3] | | | | |
| Morbidity and use of health services | I | I | I | I | | | |
| Anthropometry | I | I | FC | MF*C | | | |
| Care module | C | | C | | | | |
| Sanitation | HC | | HC | H | | | |

(TABLE A1. CONTINUED)

Table A1. Sample size and survey data collected (CONTINUED)

| Description | | | Bangladesh | Ethiopia | Guatemala | South Africa | Ghana | Indonesia | Philippines |
|---|--|--------------------------------------|------------|-----------|-----------|--------------|-------|-----------|-------------|
| Social capital, credit, and remittances | | | | | | | | | |
| Social capital and social networks | | | I | I | I | I | | | |
| Remittances | | | I | H | I | I | I | I | I |
| Credit and microenterprise | [1] sources [3] terms | [2] transaction [4] use | I[1,2,3,4] | I1,2,3 | I[1,2,3] | I[1,3] | | I[1] | H[4] |
| Credit given | [1] sources [3] terms | [2] transaction [4] use | I[1,2,3] | I[1,2] | | | | | H |
| Education, employment, and time use | | | | | | | | | |
| Employment | [1] | | I[2] | I[2] | I[1,2] | I[2] | I[1] | I[2] | I[2] |
| Occupation | [2] | | | | | | | | |
| Literacy | [1] | | | | | | | | |
| Educational attainment | [2] | | I[1,2,3] | I[2,3] | I[1,2] | I[2] | I[2] | I[2] | I[2] |
| School attendance | [3] | | | | | | | | |
| 24-hour time recall | | | MF | MF | | | | | |
| Time spent on household activities | | | I | I | | | | | |
| Other | | | | | | | | | |
| Shocks | | | ICm | HICm | | HCm | | | Cm |
| Women | [1] detailed employment history [2] fertility [3] mobility | | F[2,3] | | F[1] | | | | |
| Children borne | | | I | I | I | I | I | I | I |
| Nutrition knowledge | [1] | | F[1] | MF[2] | | | | | |
| Other knowledge | [2] | | | | | | | | |
| Blood for hemoglobin and vitamin A | | | FC | | | | | | |
| Violence | | | MF | MF | | MF | | | |
| Community data | [1] prices [3] rainfall | [2] NGO activity [4] institutions | [1,2,3] | [1,2,3,4] | [1] | [1,2,4] | [1] | [1] | [3] |
| Public works | | | | I | | | | | |

Note: C indicates children, preschooler, or index child; Cm, community; H, household only; I, individual information available; M, male household head; F, female household head or spouse of male household head; MF*, core respondents (includes other decisionmakers in household).

^a These are sample sizes of the two Guatemala surveys.

^b The data on land use were collected twice, one year apart. All other data were collected only once.

Appendix B

Study Summaries

The following summaries are drawn from the 2003 companion volume to this guide, *Household Decisions, Gender, and Development: A Synthesis of Recent Research*, edited by Agnes R. Quisumbing, which provides further information, including detailed citations and references for the material presented below.

B1. INTRAHOUSEHOLD ALLOCATION AND GENDER RELATIONS: NEW EMPIRICAL EVIDENCE FROM FOUR DEVELOPING COUNTRIES¹

Agnes R. Quisumbing and John A. Maluccio

Most economic research treats the household as a single agent, assuming that individuals within the household share the same preferences or that there is a household head who has the final say. This simple framework has proved immensely useful; despite a common misperception, it can explain many differences in well-being or consumption patterns *within* households. Nonetheless, recent empirical research demonstrates that this unitary household model is inappropriate in a variety of settings in both developed and developing countries.

Both theoretical concerns and empirical evidence have cast doubt on the unitary household model, spawning a variety of alternatives that focus on the individuality of household members. Among these are so-called collective models that allow differing preferences and

only assume that allocations result in Pareto-efficient outcomes, where it would not be possible to increase the welfare of one individual without reducing that of another. A common interpretation for collective models is that there is cooperative bargaining within the household. This study exploits that interpretation to construct and carry out a test of the unitary household model. The basic insight is that if preferences are different and bargaining occurs, household decisions will vary according to the relative strengths of individuals' bargaining power.

Measuring individual bargaining power can be quite difficult, however. Attempts to do so in the economics literature have focused on control over economic resources. Candidate proxies for bargaining power have included (1) public provision of resources to a particular member of the household and exogenous policy changes that affect the intrahousehold distribution of these resources; (2) shares of income earned by women; (3) unearned income; (4) current assets; (5) inherited assets; and (6) assets at marriage. Any of these measures might proxy for bargaining power if, for example, the threat of withdrawing both oneself and one's assets from the household grants the owner of those assets some power over household decisionmaking.

We choose assets at marriage as our indicator of bargaining power for several reasons. First, assets brought to marriage are determined before or at the time of marriage and are not affected by decisions made within marriage, even if they may be influenced by factors that led to this specific couple's being matched (marriage market selection). Second, in many cultures, marriage is one of

¹ For details, see Quisumbing and Maluccio (2000, 2003a, 2003b).

two key occasions during an individual's lifetime when assets are transferred across generations (the other is the death of the parent). Third, assets transferred at marriage may have a symbolic meaning over and above their economic value. Recognizing the cultural specificity of asset transfers and marriage customs, we designed and pretested survey modules on assets and related transfers at marriage in each of the study countries. In most of the countries, the household survey was informed by a qualitative study (Bangladesh, Ethiopia, South Africa) or by community interviews on marriage customs and transfers at the time of marriage (Sumatra). Using a broad definition of assets at marriage to include human capital, we

also treat the educational attainment of each spouse as a proxy for the human capital they each bring to the marriage.

We apply a single methodological framework to test the unitary model in four countries with very different social and economic conditions: Bangladesh, Ethiopia, Indonesia, and South Africa. Applying the common framework to the design and analysis of household surveys while paying attention to country-specific nuances has provided many important insights. For example, although women appear to bring far fewer assets to the marriage (Table B1.1), the role these assets play in household decisionmaking varies substantially across countries.

Table B1.1—Assets at marriage and human capital of husband and wife

| Country/Asset | Husband | | Wife | |
|---|---------|--------------------|-------|--------------------|
| | Mean | Standard deviation | Mean | Standard deviation |
| Bangladesh | | | | |
| Assets at marriage (1996 taka) | 81,929 | 145,584 | 7,064 | 8,472 |
| Transfers at marriage (1996 taka) | 4,053 | 15,014 | 5,856 | 11,646 |
| Years of schooling | 3.18 | 4.03 | 1.68 | 2.78 |
| Ethiopia | | | | |
| Land and livestock assets at marriage (1997 birr) | 2,739 | 7,188 | 461 | 2,023 |
| Total assets at marriage (1997 birr) | 4,194 | 8,272 | 978 | 2,424 |
| Years of schooling | 1.90 | 1.90 | 1.30 | 1.10 |
| Indonesia (Sumatra) | | | | |
| Area of paddy land (hectares) | 0.18 | 0.30 | 0.25 | 0.62 |
| Area of forestry land (hectares) | 0.90 | 1.64 | 0.42 | 1.03 |
| Years of schooling | 6.83 | 3.60 | 6.23 | 3.40 |
| South Africa | | | | |
| Count of assets at marriage | 2.10 | 1.60 | 0.72 | 0.97 |
| Years of schooling | 5.22 | 3.78 | 5.03 | 3.53 |

Specifically, we test whether assets brought to marriage by each spouse have differential effects on household- and individual-level outcomes. The household-level outcomes are expenditure shares of food, education, health, children's clothing, and alcohol and/or tobacco.² The individual-level outcomes are two measures of educational attainment: the deviation in the child's completed schooling from the cohort mean, which measures how well the child is doing relative to other children the same age, and years of schooling completed.³

The results for the expenditure share analysis show that, on the whole, the unitary household model is rejected in all four countries (Table B1.2). This finding is stronger in the Asian countries than in the African ones, however. Across countries, the most consistent effect is that higher relative resources controlled by women tend to increase the shares spent on education. Although it is tempting to say that

mothers are more altruistic than fathers, this behavior may have a sound economic basis. Since women are younger at marriage and expect to live longer, they may invest in the education of their children more heavily because they are more likely to rely on them for old-age support. Furthermore, in societies where key assets that assure lifetime consumption-smoothing are controlled by men, women may attempt to meet the same long-term needs with other instruments, such as investment in the human capital of healthy and educated children.

To explore how the increased resources devoted to education play out in the household, we examine educational outcomes for children (as mentioned above, we examine both years of schooling completed and the deviation of the child's schooling from the cohort mean). The results for both schooling outcomes provide further evidence against the unitary household model. The patterns underlying the earlier results differ substantially, however, across the case studies.

² To test our model using household-level outcomes, we estimate the following expenditure function:

$$w_j = \alpha_j + \beta_{1j} \ln pcexp + \beta_{2j} (\ln pcexp)^2 + \beta_{3j} \ln size + \beta_{4j} \ln A_b + \beta_{5j} \ln A_w + \sum_{k=1}^{K-1} \delta_{kj} dem_k + \sum_{s=1}^S \varphi_{sj} z_s + e_j,$$

where w_j is the budget share of the j th good; $\ln pcexp$ is the natural logarithm of total per capita expenditures, and $(\ln pcexp)^2$ is its square; $\ln size$ is the natural log of household size; $\ln A_b$ and $\ln A_w$ are the natural logs of assets owned by the husband and wife, respectively; dem_k is the proportion of demographic group k in the household; z_s is a vector of dummy variables indicating location and survey round; e_j is the error term; and α_j , β_{1j} , β_{2j} , β_{3j} , β_{4j} , δ_{kj} , and φ_{sj} are parameters to be estimated. Controlling for levels of household income (as proxied by per capita expenditure), if the unitary model holds in a static framework, assets of husband and wife should have no effect on allocations, so $\beta_{4j} = \beta_{5j} = 0$. In a more general (for example, dynamic) framework, however, the equality of husband's and wife's effects to zero may not hold. We therefore use a more general version of the test of the unitary model, namely that the difference between the husband's and wife's asset effects is equal to zero.

³ We estimate the child's schooling outcome as a function of child characteristics (gender, age, and age squared) and parental characteristics at the time of marriage: education of the husband and wife and assets at marriage of the husband and wife. That is,

$$E_{ij}^* = \beta_0 + \beta_1 X_{cij} + \beta_2 X_{fj} + \beta_3 X_{mj} + \beta_4 G_{ij} \times X_{fj} + \beta_5 G_{ij} \times X_{mj} + e_{ij},$$

where E_{ij}^* is the educational outcome of child i in family j ; X_c is a vector of child characteristics such as sex, age, and age squared; G is the daughter dummy; X_f and X_m are vectors of exogenous father's and mother's human and physical wealth, respectively; and e_{ij} is the error term in each equation. Following some tests of the unitary model, which include both human and physical capital as assets brought to marriage, father's and mother's wealth at the time of marriage enter separately into the regressions.

Table B1.2—Signs of coefficients on male and female assets, expenditure share regressions

| Indicator | Bangladesh | Ethiopia | Indonesia | | South Africa (Africans only) |
|---|------------|----------|-----------|----------|---------------------------------|
| | | | Paddy | Forest | |
| Food share regression | | | | | |
| Wife assets | — | Positive | — | — | — |
| Husband assets | — | — | Negative | — | — |
| Wife–husband assets ^a | — | Positive | Positive | Positive | — |
| Education share regression | | | | | |
| Wife assets | Positive | — | Positive | — | Positive |
| Husband assets | — | — | — | Negative | — |
| Wife–husband assets ^a | Positive | — | — | — | Positive |
| Health share regression | | | | | |
| Wife assets | — | — | Positive | — | — |
| Husband assets | — | — | — | — | — |
| Wife–husband assets ^a | Negative | — | Positive | — | — |
| Child clothing share regression | | | | | |
| Wife assets | Positive | — | — | — | — |
| Husband assets | — | — | — | — | — |
| Wife–husband assets ^a | — | — | — | — | — |
| Alcohol and/or tobacco share regression | | | | | |
| Wife assets | — | — | — | — | — |
| Husband assets | — | Positive | Positive | — | — |
| Wife–husband assets ^a | — | Negative | Negative | — | — |

Note: Dash indicates not significant.

^aDifference between wife and husband asset coefficients.

In both Bangladesh and South Africa, evidence indicates that more assets in the hands of women have a positive impact on the educational budget shares. Yet in Bangladesh, father's schooling (for the 6- to 10-year-olds) and assets (for the 11- to 15-year-olds) has a negative impact on girls' schooling, whereas in South Africa, it is the

opposite. Father's schooling has a positive effect on girls' schooling, whereas mother's assets have a negative impact. In South Africa the pattern may be partly justified using the old-age security hypothesis outlined earlier—mothers favor sons who are more likely to provide for them—but in Bangladesh, different preferences are more likely

the underlying cause. Wealthier Bangladeshi fathers may attach a higher premium to marrying their daughters off earlier, an effect opposite that of better-educated mothers.

Nevertheless, programs designed to transfer assets to women should be carefully scrutinized. First, although more assets in the hands of women lead to higher budget shares for education, the beneficiaries of these gains in terms of girls versus boys are different across countries. These differences appear to be driven by both differences in preferences and underlying economic rationales—an understanding of which is an important ingredient in policymaking aimed at exploiting these differences. Second, different types of assets may have different implications for bargaining power if status or prestige is attached to a particular asset. Indeed, the special meaning or significance attached to ritual transfers, such as dowries or bride price, should act as a warning against designing asset-transfer interventions without paying attention to cultural contexts. Last, we must also remember the possibility of compensatory (or even retaliatory) action by nonrecipients.

The results also show that influences on intrahousehold allocation are operating at different levels, with different implications for policy. In the Ethiopian case, site-specific characteristics, ethnicity, and religious differences have a stronger effect than husband's or wife's assets. This finding shows that variations across communities and ethnic groups may be larger than variations in the asset position of men and women within those groups. In this case, legal reforms that affect property rights across groups might have a larger impact on intrahousehold allocation than redistribution within

each group. In the Bangladesh case, on the other hand, differences in asset positions of men and women within sites are large enough to warrant interventions to increase women's assets relative to men's.

B2. THE IMPORTANCE OF WOMEN'S STATUS FOR CHILD NUTRITION IN DEVELOPING COUNTRIES¹

Lisa C. Smith, Usha Ramakrishnan, Aida Ndiaye, Lawrence Haddad, and Reynaldo Martorell

One in every three preschool-age children living in developing countries is malnourished. This disturbing, yet preventable, state of affairs causes untold suffering and, given its wide scale, is a major obstacle to the development process itself. Volumes have been written about the causes of child malnutrition and the actions that can be taken to reduce it—ranging from community-based feeding programs to accelerated economic growth. Until recently, too little attention has been paid to an obviously relevant yet little noticed issue: the role that the capabilities and well-being of children's caretakers, usually their mothers, play in children's nutritional well-being. This issue is the subject of this study.

The study's overall goal is to understand the links between women's status and child nutrition in developing countries. Women's status is defined as women's power relative to men's.² Compared with their higher-status counterparts, women with low status tend to have

¹ For details see Smith et al. (2003a, 2003b).

² Three aspects of the definition of women's status are worth noting. First, it is considered to be relative to men's status rather than absolute or relative to other women's status. Second, it is founded on the concept of power, defined as the ability to make choices. Third, the definition has an intrahousehold and an extrahousehold dimension—and thus takes into account the influence of customs and norms that may dictate differential roles, acceptable behaviors, rights, privileges, and life options for women and men.

weaker control over resources in their households, tighter constraints on their time, more restricted access to information and health services, and poorer mental health, self-confidence, and self-esteem. Yet these factors are thought to be closely tied with women's own nutritional status and the quality of care they receive and, in turn, children's birth weights and the quality of care provided to children.

The study sets out to answer three main questions, focusing on South Asia, Sub-Saharan Africa, and Latin America and the Caribbean. First, is women's status an important determinant of child nutritional status in the three regions? Second, if yes, what are the pathways through which improved status operates? The particular pathways considered are women's own nutritional status, the quality of care for women, and the quality of care for children.³ The specific caring practices analyzed are prenatal and birthing care for women; breast-feeding and complementary feeding of children; health-seeking behaviors for children, including illness treatment and immunization; and the quality of children's substitute caretakers. The third question the study sets out to answer is, why is South Asia's child malnutrition rate so much higher than Sub-Saharan Africa's? The wide gap in the regions' malnutrition prevalences has recently been termed the "Asian Enigma," because, mysteriously, South Asia is performing better than Sub-Saharan Africa in many of the long-accepted determinants of child nutritional status. These determinants include national income, democracy, food supplies, health services, and education. One hypothesis suggests that the extremely low status of women in South Asia compared with Sub-Saharan Africa is at the root of the region's nutritional status gap.

To answer these questions, this report brings together data on

117,242 children under three years old from 36 developing countries. These data were collected under the auspices of the Demographic and Health Surveys. Table B2.1 lists the countries and the number of children and women in the study sample for each country. Two measures of women's status are employed. The first measure, at the household level, is women's decisionmaking power relative to their male partners, usually their husbands. This measure is based on four underlying indicators: whether a woman works for cash, a woman's age at first marriage, the age difference between a woman and her husband, and the education difference between a woman and her husband. The second measure, at the community level, is societal gender equality. It is based on girl–boy differences in nutritional status and preventive health care, as well as gender differences in adult education. This additional measure is included to capture the effects of gender discrimination that may face women when they leave their homes. In the case of the first measure, the study sample is restricted to women with husbands. The children included are only those in two-parent households. Both women's status measures are constructed by combining the underlying indicators into an index ranging from 0 (lowest status) to 100 (highest) using factor analysis. The main empirical technique is country fixed-effects multivariate regression, with controls for child, woman, and household characteristics. Separate analyses are carried out for each region. Two pathways through which women's status may affect child nutritional status—food security and maintenance of a sanitary health environment—are not considered in the study because of lack of data. Table B2.2 lists the measures of child nutritional status, women's nutritional status, and caring practices for women and children employed in the study.

³ According to the International Conference on Nutrition, "care" is defined as "the provision in households and communities of time, attention, and support to meet the physical, mental, and social needs of the growing child and other household members."

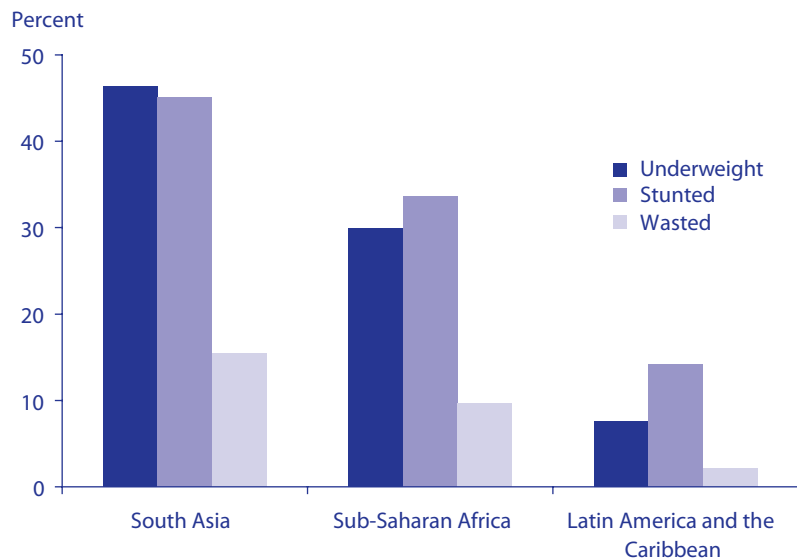
Table B2.1—Description of data sets employed and study sample sizes

| Region/country | Year of collection | Number of children | Number of women | Region/country | Year of collection | Number of children | Number of women |
|---------------------------|--------------------|--------------------|-----------------|--|--------------------|--------------------|-----------------|
| South Asia | | | | Nigeria | 1990 | 3,294 | 2,965 |
| Bangladesh | 1997 | 2,767 | 2,633 | Rwanda | 1992 | 2,285 | 2,085 |
| India | 1998 | 24,360 | 22,149 | Senegal | 1997 | 2,205 | 2,007 |
| Nepal | 1996 | 3,692 | 3,349 | Tanzania | 1996 | 2,692 | 2,459 |
| Pakistan | 1991 | 2,497 | 2,203 | Togo | 1998 | 3,218 | 3,010 |
| Total | | 33,316 | 30,334 | Uganda | 1995 | 3,032 | 2,625 |
| Sub-Saharan Africa | | | | Zambia | 1996 | 2,988 | 2,655 |
| Benin | 1996 | 2,199 | 2,043 | Zimbabwe | 1994 | 1,753 | 1,627 |
| Burkina Faso | 1993 | 2,398 | 2,283 | Total | | 55,502 | 50,515 |
| Cameroon | 1998 | 1,391 | 1,253 | Latin America and the Caribbean | | | |
| Central African Republic | 1995 | 1,921 | 1,716 | Bolivia | 1997 | 3,230 | 2,814 |
| Chad | 1996 | 3,235 | 2,958 | Brazil | 1996 | 2,004 | 1,793 |
| Comoros | 1996 | 841 | 729 | Colombia | 1995 | 2,254 | 1,979 |
| Côte d'Ivoire | 1994 | 2,504 | 2,297 | Dominican Republic | 1996 | 1,856 | 1,595 |
| Ghana | 1998 | 1,495 | 1,391 | Guatemala | 1995 | 4,816 | 4,052 |
| Kenya | 1998 | 2,410 | 2,129 | Haiti | 1995 | 1,370 | 1,201 |
| Madagascar | 1997 | 2,328 | 2,095 | Nicaragua | 1998 | 3,205 | 2,818 |
| Malawi | 1992 | 1,827 | 1,638 | Paraguay | 1990 | 1,925 | 1,551 |
| Mali | 1996 | 4,355 | 3,980 | Peru | 1996 | 7,764 | 6,915 |
| Mozambique | 1997 | 2,500 | 2,345 | Total | | 28,424 | 24,718 |
| Namibia | 1992 | 948 | 858 | Total from all three regions | | | |
| Niger | 1997 | 3,683 | 3,367 | | | 117,242 | 105,567 |

Table B2.2—Dependent variables of the study

| Variable |
|---|
| Child nutritional status |
| Child's height-for-age Z-score |
| Whether child is stunted |
| Child's weight-for-age Z-score |
| Whether child is wasted |
| Child's weight-for-age Z-score |
| Whether child is underweight |
| Proximal determinants of child nutritional status |
| Woman's nutritional status |
| Woman's body mass index |
| Whether woman is underweight |
| Whether woman is overweight |
| Prenatal and birthing care for woman |
| Whether woman received any prenatal care |
| Whether woman with any prenatal care had at least three visits |
| Number of months before birth at which woman had first prenatal visit (for women with any prenatal care) |
| Whether woman gave birth in a medical facility |
| Child feeding practices |
| Breastfeeding |
| Whether breastfeeding was initiated within one day of birth |
| Whether child 0–4 months is exclusively breastfed |
| Whether child 0–4 months did not receive anything from a bottle (last 24 hours) |
| Duration of breastfeeding (months) |
| Complementary feeding |
| Whether child 6–12 months has received complementary foods |
| Whether child >6 months received a high quality food in the last 24 hours |
| Number of times child >6 months received anything to eat in the last 24 hours |
| Health of and health-seeking behaviors for children |
| Whether child had diarrhea, fever, or cough in the last two weeks |
| Whether child with diarrhea was treated |
| Whether child has ever been vaccinated |
| Whether child received recommended vaccinations for his or her age |
| Caretaker of child |
| Whether child has adult caretaker while woman works |

Figure B2.1—Percentage of underweight, stunted, and wasted children, by region



Note: Stunting is low height-for-age; wasting is low weight-for-height.

Figure B2.2—Women’s status indexes, by region

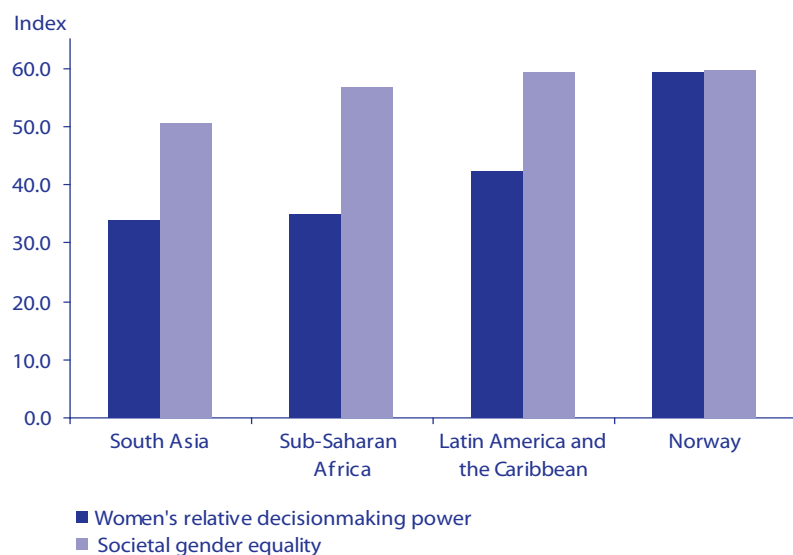


Figure B2.1 shows the percentage of underweight, stunted, and wasted children by region.⁴ By all measures, malnutrition is worst in South Asia, followed by Sub-Saharan Africa and Latin America and the Caribbean. Figure B2.2 compares women’s status across the three regions. Both measures indicate that South Asian women have the worst status relative to men, followed by Sub-Saharan Africa and Latin America and the Caribbean. Note that women’s status is very low in both South Asia and Sub-Saharan Africa compared with women’s status in Norway, the country where women are considered to be most equal to men.

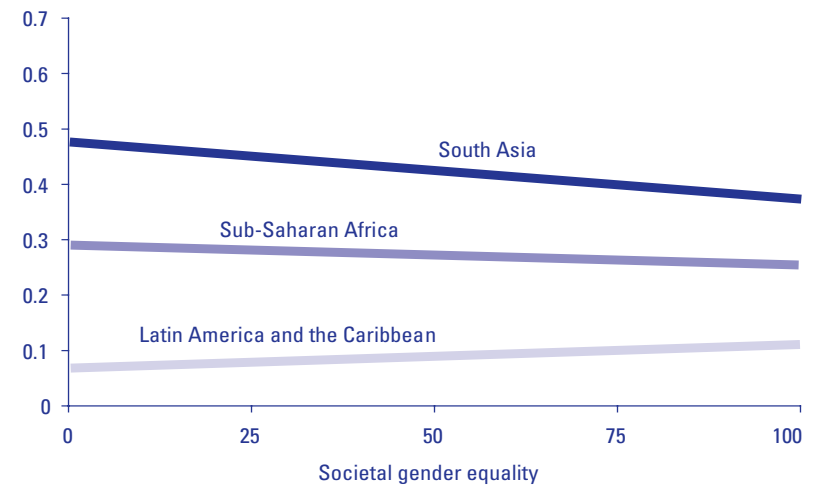
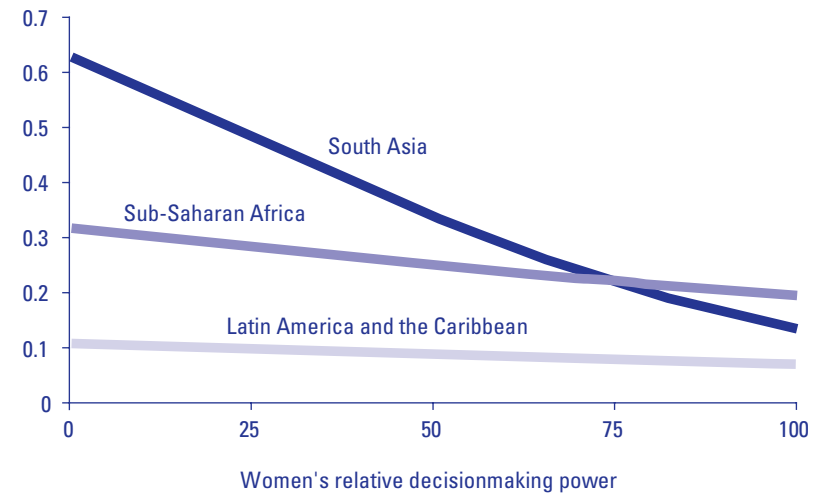
The regression results leave no doubt that women’s status has a significant, positive effect on children’s nutritional status in all three regions. Further, they give strong supporting evidence confirming that one of the reasons why women’s status improves child nutrition is that women with greater status are better cared for themselves, have better nutritional status, and provide higher quality care to their children. The strength of the influence of women’s status, however, differs widely across the regions. Women’s status has the most influence where it is lowest. The strongest effect is found in South Asia followed by Sub-Saharan Africa, while the weakest effect is in Latin America and the Caribbean. Figure B2.3 illustrates these differences. It shows the predicted rate of child malnutrition at each level of the women’s status indexes for the three regions. The sharp predicted drop-off in child malnutrition in South Asia as women’s relative decisionmaking power increases is particularly striking.

⁴ The underweight prevalence indicates the general nutritional status of a population of children; stunting indicates a state of chronic malnutrition, whereas wasting indicates a state of acute malnutrition.

The pathways through which women’s status influences child nutrition differ across the regions as well. In South Asia, increases in women’s status have a strong influence on both long- and short-term nutritional status, leading to reductions in both stunting and wasting. The malnutrition costs of inequality in the statuses of women and men in the region are high. The study estimates that if such status were equalized, the rate of underweight among children under three years old would drop by approximately 13 percentage points, which represents a reduction of 13.4 million malnourished children. As women’s status improves in the region, improvements in women’s nutritional status—as measured by body mass index (BMI), prenatal and birthing care for women, complementary feeding practices for children, treatment of illness and immunization of children, and the quality of substitute caretakers—occur as well. These, then, are among the pathways through which women’s status influences child nutrition in the region.

As in South Asia, women’s status in Sub-Saharan Africa has positive effects on both the long- and short-term nutritional status of children. The costs of inequality between women and men in the region are not as high as those in South Asia, but they are still substantial. Equalizing the status of the genders is estimated to lead to a decline of nearly 3 percentage points in the region’s malnutrition prevalence, or a reduction of 1.7 million children under the age of three. The pathways through which improvements in women’s status raise child nutritional status are largely the same as in South Asia. The main differences are that women’s status increases women’s BMI only among those women with very low decisionmaking power relative to their husbands, and it has no influence on the treatment of illness in children.

Figure B2.3—Predicted child malnutrition (underweight), by indexes of women’s status



The Latin America and the Caribbean region exhibits quite a different pattern from South Asia and Sub-Saharan Africa. Women's status has a positive effect only on children's short-term nutritional status. The effect is strong only for households in which women's relative decisionmaking power is very low. Women's status has a distinctly *negative* influence on women's BMI in this region, where overweight is an emerging public health problem. The effect probably reflects the greater tendency to "weight watch" among higher status women and is likely not to be harmful to children's nutritional status. The caring practices identified as pathways through which improvements in women's status affect child nutrition are prenatal and birthing care for women, complementary feeding of children, feeding frequency, immunization of children, and the quality of their substitute caretakers.

With regard to the Asian Enigma, the study identifies three broad socioeconomic factors contributing to the gap in nutritional status between South Asia and Sub-Saharan Africa. The first, making by far the greatest contribution among the three, is women's status. One reason for this—congruent with the hypothesis of Ramalingaswami and peers—is that women's status is lower in South Asia than in Sub-Saharan Africa (see Figure B2.2). Women's status, especially women's relative decisionmaking power, is extremely low in both regions, however, and the difference between them is not large. More important is that the *costs* in terms of child malnutrition that result from women's lower status are far higher in South Asia than in Sub-Saharan Africa. This is because, as this study has shown, women's status exerts a stronger influence on child nutritional status in South Asia (see Figure B2.3). In short, the main reason that women's status places a wedge between the prevalence of child malnutrition in South

Asia and Sub-Saharan Africa is that women's low status in South Asia is more harmful to children's nutritional well-being than it is in Sub-Saharan Africa. Two additional socioeconomic factors that contribute to the regions' nutritional status gap are differences in sanitation and urbanization.

A deeper analysis reveals that conditions in South Asia are worse than those in Sub-Saharan Africa for a host of more proximal determinants of child nutrition. These determinants include women's nutritional status, prenatal and birthing care for women, the quality of complementary feeding practices for children, and child immunizations. The study also finds that other factors not measured in this study, such as some national characteristics of South Asian countries, have a strong negative impact on child nutrition and further widen the wedge between malnutrition rates in the two regions. These characteristics may be related to climate, population densities, or culture.

The clear implication of the study's empirical results is that, in the interests of sustainably improving child nutritional status, women's status should be increased in all regions, but this need is especially urgent for South Asia, followed by Sub-Saharan Africa. Options for effecting this change include policy reform to eradicate gender discrimination and policies and programs that seek to reduce power inequalities between women and men by proactively promoting "catch-up" for women. Examples include targeting women for access to new resources, implementing cash transfer programs that promote girls' entry into education and health care systems, introducing labor-saving water and fuel technologies, providing subsidies for childcare for working parents, and initiating programs to improve the nutritional status of adolescent girls and young women. It should

be noted that improvements in women's status are likely to improve child nutrition in all of the South Asian countries. The effect of improving women's status in Sub-Saharan Africa and Latin America and the Caribbean, however, varies widely among countries. In some countries it is positive and in a few, negative. Thus, for these regions, it is particularly important that more knowledge be acquired for each country before devising policy.

The study raises one important red flag: improvements in women's status are likely to have a harmful effect on one care practice for children, and that is breast-feeding. Breast-feeding is of critical importance to children's nutritional status because it both provides them with optimal nutrition and protects their health. It is thus vital that efforts to promote women's status be accompanied by simultaneous actions to protect, support, and promote breast-feeding. These efforts should include measures to improve the image of and attitudes toward the breast-feeding woman.

In areas where women's status is known to be low and efforts to increase it are met with resistance, strategies to promote children's nutritional status can include actions to mitigate the negative effects of power inequalities favoring men. For example, the study finds that gender inequality at the community level influences child nutrition primarily by reducing the use of health services for women and children. Thus it is not only household decisions that limit women's access to such services but also the availability of health services in communities. Efforts to protect child nutrition can include targeting health services to areas where women's status is known to be low. This strategy provides an opportunity to break the link between women's status and child nutrition where improvements in women's status are particularly difficult to bring about.

¹ For details, see Alderman et al. (1996, 2003).

One final important finding of the study is that in all three regions, women's relative decisionmaking power has a stronger positive influence on child nutritional status in poorer households than in rich ones. Efforts to improve child nutritional status by improving women's status are likely to be most effective when targeted to poor households.

In sum, this study shows that taking the policy decision to improve women's status offers significant benefits. Woman's own nutritional status improves, but so too does the nutritional status of her young children. Improving women's status today is a powerful force for improving the health, longevity, capacity, and productivity of the next generation of young adults.

B3. GENDER DIFFERENTIALS IN FARM PRODUCTIVITY: IMPLICATIONS FOR HOUSEHOLD EFFICIENCY AND AGRICULTURAL POLICY¹

Harold Alderman, John Hoddinott, Lawrence Haddad, and Christopher R. Udry

For complete text, see the print version of this publication.

B4. SUPPLY RESPONSE OF WEST AFRICAN AGRICULTURAL HOUSEHOLDS: IMPLICATIONS OF INTRAHOUSEHOLD PREFERENCE HETEROGENEITY¹

Lisa C. Smith and Jean-Paul Chavas

Traditional models of household economic behavior have portrayed households as unified entities. They assume that household members agree on decisions and share resources in the most equitable way. More recently, however, economists have come to view households as domains of difference, where multiple decisionmakers may have different preferences and, in many cases, control separate sets of resources. This new approach has greatly improved the understanding of household resource allocation behavior. It has demonstrated that heterogeneity among members affects a variety of individual, household, and economywide outcomes. Recent research on West African households, in particular, has shown that gender differences in resource allocation behavior result in inefficiencies that reduce overall household production and income.

This study seeks to deepen understanding of the implications of gender-based intrahousehold heterogeneity by asking what role it plays in the effects of agricultural price policies. In particular, the study analyzes how differences in women's and men's preferences in rural Burkina Faso affect the production response of farm households

to increased cash crop prices. Price policies that give households incentives to increase cash crop production are considered important instruments for accelerating agricultural and economywide growth, reducing poverty, and improving the well-being of rural people. Policymakers and researchers, therefore, have great interest in better understanding how households will react to price incentives.

Explaining Household Supply Response to Price Changes

Conventional wisdom holds that semi-subsistence households in developing countries have a positive but weak production response to price changes. Sitting on the market–nonmarket divide, these households have shown low levels of responsiveness to price incentives and opportunities to adopt productivity-enhancing technologies for cash crop production.

Considerable debate surrounds the underlying causes of this sluggish supply response. One school of economic anthropology attributes it to the “peasant-specific” desire to satisfy survival needs only or to ensure “simple reproduction” rather than maximize income. A countering, structuralist explanation says that labor and food market failures make households dependent on their own labor and home-produced food, constraining their ability to respond to price incentives. The structuralist explanation also sees other factors as constraints that stifle supply response: poor infrastructure and technological development, unavailability of irrigation and productive inputs, missing credit markets, seasonal labor shortages, and lack

¹ For details, see Smith and Chavas (1999, 2003).

of industrial consumer products that might motivate efforts to earn cash income. Furthermore, risk-averse agricultural households may be unwilling to rely exclusively on food purchases to meet their food needs in volatile markets. The exposure to food price risk may also weaken supply response.

Insights gained from studies of household behavior that take an intrahousehold approach further deepen the supply response debate. These studies reveal that where individual household members control resources, increases in cash crop prices can alter the opportunity sets of female and male household members in different ways. Price changes bring with them conflict-laden negotiation over who gains the (income) benefits and who bears the (labor) costs of increased cash crop production. The conflict manifests in bargaining over transfers of income to women from men and over women's labor contributions to the production of the crop whose price has changed. That conflict may play a role in stifling a household's supply response. The studies suggest that (1) decisionmaking in households is not necessarily a joint effort, and members value individual control over resources; and (2) preference heterogeneity between spouses can have real consequences for the changes in household production, income, and welfare that accompany changes in the economic environment.

This study brings these new insights from the intrahousehold literature to bear on the supply response debate. It proposes a game theoretic model that reflects the "semi-cooperative" nature of Burkinabé household decisionmaking as described. The model is the basis for a simulation analysis of the supply response to increased cotton prices resulting from agricultural liberalization in Burkina

Faso. The analysis focuses only on monogamous households, assuming a two-decisionmaker household made up of a woman and her husband. The simulations are undertaken using the nonlinear mathematical programming solver MINOS in GAMS (the General Algebraic Modeling System). The data employed to parameterize the model come from a survey conducted in Burkina Faso by ICRISAT and from secondary sources.

Different Resource Allocations Depending on Preference Heterogeneity

The simulation model explicitly allows for the process of bargaining over income transfers from husbands to wives and over wives' labor contributions to male-controlled agricultural production. Bargaining is governed by (1) the degree of difference in the spouses' preferences and (2) their relative bargaining powers. Because of measurement difficulties, it is not easy to pinpoint an exact level of these parameters for any given population. When simulation techniques are used, however, it is possible to consider a wide range of alternative scenarios that differ along the two dimensions.

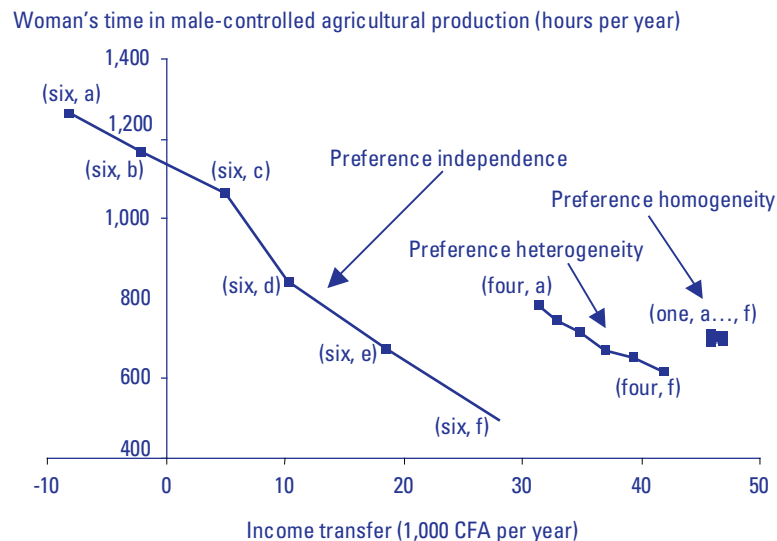
A continuum of six preference divergence cases are considered, denoted as "one" (for preference homogeneity—that is, the spouses have the same preferences), "two" through "five" (for cases of increasing preference heterogeneity), and "six" (for preference independence, where the spouses' preferences are very different). Within each of the preference divergence cases are embedded six relative bargaining power cases, denoted as "a" through "f." In case

“a,” the man has much greater bargaining power than his wife; in cases “b” through “e,” bargaining power becomes more equal; and in case “f,” the spouses’ bargaining powers are approximately equal. In sum, the 36 scenarios range from “(one, a),” in which the husband’s and wife’s preferences are the same and bargaining power greatly favors the man, to “(six, f),” in which preferences diverge greatly and bargaining power is equal.

Figure B4.1 illustrates the fundamental role of preference heterogeneity in influencing household resource allocation. It traces the model’s output for optimal levels of income transfers (on

the horizontal axis) and women’s time spent in male-controlled agricultural production (on the vertical axis) under different assumptions regarding the degree of preference heterogeneity within the household. Under preference independence (left-most curve)—in which a husband and wife do not share the same preferences—the outcomes vary greatly depending on each spouse’s bargaining power. The lower the wife’s bargaining power is relative to her husband’s, the higher the amount of time she spends in male-controlled production and the lower the income transfer to her. Under preference homogeneity, by contrast, bargaining power does not matter: because spouses agree on how resources are to be allocated, power imbalances between them make no difference.

Figure B4.1—Relationship between woman’s time spent in male-controlled agricultural production and income transfers from man to woman under alternative scenarios



Note: Cases “a” through “f” represent the relative bargaining power of the woman and man. In case “a,” the man has much greater bargaining power than the woman; in case “f,” bargaining power is equal.

Simulation of Agricultural Price Liberalization in Burkina Faso

The simulation analyzes the production impact of a 60 percent increase in the price of cotton and a 120 percent increase in the price of fertilizer that took place during 1982–85 as part of a structural adjustment program. Because the analysis allows for a number of alternative preference divergence scenarios, it is possible to determine the independent influence of preference heterogeneity on the production response to price changes. One of the relative bargaining power cases, case “d,” in which the wife has a fairly high degree of bargaining power yet still lower than her husband’s, is chosen for this exercise based on a validation analysis using the ICRISAT data. The validation exercise also tests for the appropriate degree of preference heterogeneity applicable to Burkina Faso and finds it to be case “six,” or preference independence.

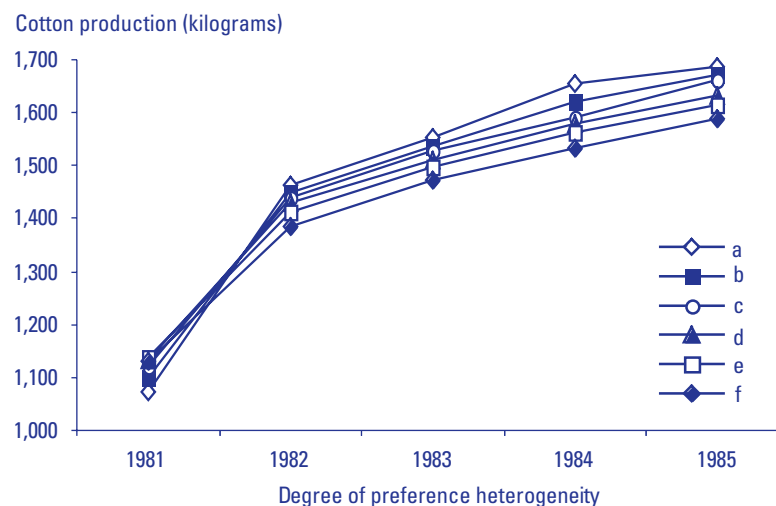
Figure B4.2 reports the predicted increases in cotton production over the four years. Production increases in all cases. The percentage increase declines, however, as preference heterogeneity increases—from 56.7 percent under preference homogeneity to 40.3 percent under preference independence. The increase in cotton production over the four years under preference homogeneity is 607.5 kilograms; it is 456 kilograms in the case of preference independence. Thus, the simulation model predicts the cotton supply response of monogamous Burkinabé households to be 25 percent below that for households employing the same technology and facing the same resource limitations but whose members have identical preferences.

Conclusion

The principal conclusion of this study is that the difference in preferences between women and men in nonresource-pooling West African households mutes the supply response. The simulation analysis suggests that the influence of intrahousehold preference heterogeneity, in the presence of bargaining power imbalances, may be quite significant quantitatively. It can thus be added to the list—along with market failures, poor infrastructure, and risk aversion—of potential structural constraints to agricultural supply response in West Africa.

This study shows how an intrahousehold approach can contribute to a better understanding of the effects of price policies, which depend on the manner in which individuals in households—rather than households as a whole—respond to price changes. The response, in turn, depends on how the price changes are likely to affect the control of resources within households. Furthermore, resource control is

Figure B4.2—Simulated impact of price increases on cotton production over 1981-85 under alternative scenarios



Note: Relative bargaining power, case "d," is assumed.

influenced by the individual's ability to bargain with other household members over the benefits (and costs) flowing from the price changes. By taking these realities into account, policies designed to improve the supply response can be both more effective at reaching their goal and more beneficial to households and all the individuals in them.

B5. COMMERCIAL VEGETABLE AND POLY CULTURE FISH PRODUCTION IN BANGLADESH: IMPACTS ON INCOME, FOOD CONSUMPTION, AND NUTRITION¹

Howarth Bouis

In rural areas of Bangladesh, poverty is pervasive and associated with high rates of malnutrition, especially among preschool children and women. Apart from low levels of energy intakes, it is increasingly recognized that rice-dominated diets such as those consumed by most poor people in the countryside may not supply all micronutrients required for a healthy life and productive activities. Children and women are particularly vulnerable to these micronutrient deficiencies because they face relatively higher requirements for growth and reproduction, respectively. In Bangladesh, as in other countries in South Asia (see Section B2 of this appendix), a pro-male bias in food distribution resulting from women's low status and bargaining power within the household may underlie women's inability to meet their micronutrient requirements.

Poor dietary quality is a primary cause of micronutrient deficiencies. Low intake of vegetables, fruits, pulses, fish, and animal products are compounded by frequent attacks of diarrhea and other infectious diseases in a spiral of increasing deficiencies. Nonstaple foods, particularly animal products, are rich sources of bioavailable minerals and vitamins but too expensive for poor people to buy in sufficient quantities.

There is considerable interest in food-based strategies to alleviate micronutrient malnutrition—that is, interventions that can complement supplementation and fortification programs and seek to improve dietary quality directly. Promotion of polyculture fish and vegetable production, two foods relatively rich in micronutrients, holds potential for improving micronutrient status in Bangladesh (1) by increasing the supply of micronutrients to the general population, thereby lowering or maintaining constant prices in the face of rising demand due to population and income growth, and (2) by directly improving household incomes and intakes of fish and vegetables of producing households.

This study examines three NGO programs that promoted the production of polyculture fish and commercial vegetables by providing NGO credit and training programs directed to women: (1) commercial vegetable production on homestead plots in Saturia; (2) polyculture fish production in household-owned ponds in Mymensingh; and (3) polyculture fish production in group-managed ponds in Jessore. In Bangladesh, programs that combine new technologies with credit targeted to women can potentially increase women's bargaining power within the household (see Section B6 of this appendix). In Saturia and Jessore, the new technologies were disseminated through groups that specifically targeted women. In Mymensingh, project and Department of Fisheries extension agents provided training in fishpond cultivation to relatively well-off households; they also provided the same training, combined with credit, to relatively poorer households. This program was intended for both men and women, though in practice there were more male

¹ For details, see Bouis et al. (1998) and Bouis (2003).

beneficiaries. There was a quota, however, for credit targeted to female beneficiaries.

The Effects of Adoption on Household Income

Although apparently highly profitable compared with rice, the two technologies studied contribute rather modestly to overall household incomes. Because of the high profitability of the polyculture fish and commercial vegetable production on a per acre basis, the potential exists for much higher impacts on household income, if land devoted to production and other inputs were to be increased. Researchers should give priority to identifying the constraints to more intensive adoption by adopting households.

Income, Food Prices, and Food Expenditures

Rice consumption does not vary significantly by income group, suggesting that consumers at all income levels give high priority to satiating hunger first through rice consumption. In contrast, animal and fish consumption rises rapidly with income on a proportional basis, roughly doubling between low- and high-income terciles for the surveyed households. Consumption of nonstaple plant foods rises by a slower rate compared with income. There is roughly a 50 percent increase in intakes of nonstaple plant foods between low- and high-income terciles. Although animal and fish consumption accounts for, on average, only 3 percent of total energy intake, because of their high cost, animal and fish consumption accounts for 20–25 percent of food budgets, on average.

Intrahousehold Food Distribution

Preschoolers appear to be favored in intrahousehold distribution of food. Preschool boys in particular receive a disproportionate share of animal and fish products, which are the most expensive sources of energy and account for a high percentage of foods purchased at the margin as income increases. Because of the pro-male bias in food distribution and women's low status within the household, adult women tend to receive disproportionately lower shares of preferred foods. Although the energy intakes of adult women are, of course, substantially greater than those of preschool children, consumption of animal and fish products, an important source of iron, is about equal between adult women and preschool boys. This situation occurs despite women's higher biological requirements for micronutrients such as iron.

The Effects of Adoption on Own-Consumption

The adoption of the polyculture technology does lead to greater consumption of large fish but not of total fish. There is apparently a one-for-one substitution of large fish for small fish in nonadopting, fishpond-owning households. Small fish are more nutritious gram-for-gram than large fish, however, so the impact on dietary quality is negative, although the magnitude of the substitution is small. If scientifically feasible, there would seem to be a large opportunity for profitable production of small fish in privately owned fishponds if these small fish could be harvested from February to August, when small fish prices are seasonally high.

Similar to the results for polyculture fish production, producers of vegetables—developed by the Asian Vegetable Research and Development Center (AVRDC) and targeted to female NGO members—do not consume disproportionately high amounts of either the AVRDC-target vegetables or vegetables in total. A plausible explanation is that demand for vegetables does not increase with income—that is, there is no latent, unsatisfied demand to be met. Production and marketing efforts need to concentrate primarily on extending growing seasons in order to dampen seasonal price fluctuations and perhaps secondarily on improving marketing channels so that vegetables may move cheaply and freely about the country in order to take advantage of differential regional growing seasons.

The Effects of Technology Adoption on Nutritional Outcomes

There is little reason to believe that adoption of the two technologies under study has improved the micronutrient status of members of adopting households through better dietary quality. There was no finding of disproportionately high own-consumption of fish and vegetables by adopting households. Impacts on overall household income, although positive, are not strong.

It is consumers in general, in both nonadopting and adopting households, who benefit nutritionally from research, extension, and credit programs, such as those in this study, to increase the market supply of vegetables and fish. All other things being equal, increased market supply will lower prices for these foods. Demand estimates demonstrate that consumers are price-responsive. Consumption of these foods will increase if prices decline. Conversely, if policies are not undertaken to increase supply, prices of nonstaple foods

will almost certainly continue to increase in the face of population growth, and nutritional status will be further compromised.

Improvements in Household Income and Implications for Agriculture

Rural incomes are quite diversified. No single new technology will raise the incomes of a high proportion of low-income households by several multiples in just a few years. A range of new technologies must be continually improved and refined through research. Farming households must be taught to use the new technologies and to learn to adapt them to their specific conditions.

Commercial vegetable and polyculture fish production are promising, viable components of an overall agricultural development strategy, which perhaps might now best rely on nonstaple food products as key sources of productivity growth. Although not analyzed in depth, the livestock sector emerged as an important source of income to rural households as well as a key source of micronutrient-status-improving food products. For various types of livestock, it is useful to compare profitability, labor use, and constraints to increased production with rice, vegetable, and polyculture fish production. Livestock raising is especially important for women, who use livestock as an avenue for asset accumulation.

Because poor nutrition results in high losses to productivity and individual welfare and can be improved only gradually through income increases generated by agricultural development, specific interventions to improve micronutrient status in the short- to medium-term can provide a high return to investment. With respect to improving iron status, this study finds no evidence that diet-based interventions could be successful. The cost of animal and fish products

is simply too high with respect to consumer purchasing power.

Diet-based interventions, however, may well be possible for improving vitamin A status because vegetable sources of beta-carotene are well within the purchasing power of poor consumers. The problem would appear to be one of creating consumer motivation by informing and convincing consumers of the benefits of pro-vitamin A consumption and providing the knowledge of which vegetables are rich sources. Education is key because there does not appear to be the strong, latent demand for vegetables that there is for animal and fish products, as income increases.

B6. INTRAHOUSEHOLD IMPACT OF THE TRANSFER OF MODERN AGRICULTURAL TECHNOLOGY: A GENDER PERSPECTIVE¹

Ruchira Tabassum Naved

Micronutrient malnutrition is a serious problem in developing countries. It is well established that micronutrient requirements are greater for women and children because of their special needs for reproduction and growth, respectively. Yet they suffer the most from such deficiencies, which impair the cognitive development of young children, retard physical growth, increase child mortality, and contribute to the problem of maternal death during childbirth.

¹ For details, see Naved (2000, 2003).

Need for this Study

The intrahousehold distribution of micronutrients largely depends on the relative bargaining power of household members. In the context of asymmetry in gender relations, the distribution of micronutrient-rich and costly food is most likely to favor the male members of the household. This likelihood calls for intrahousehold analysis of the gender-differentiated impact of programs that seek to improve the micronutrient status of poor people and promote production of micronutrient-rich food.

Purpose and Methodology of the Study

With a goal of obtaining results rapidly and at a low cost, this study compared the effects of agricultural programs targeted to improving women's household income. First studied was the commercial production of improved varieties of vegetables developed by AVRDC, adapted by the Bangladesh Agricultural Research Institute, and disseminated by an NGO in Saturia. Second was the polyculture fish technology developed by the World Fish Center and disseminated in Mymensingh and Jessore.

The study sought to assess the “emic” perspective on four questions: (1) Has income been increased from the implementation of new technology, and if so, who controls the additional income generated? (2) Has micronutrient-rich food intake increased as a result of the transfer of new technology, and if so, how are these foods distributed by gender and what are the factors that explain the distribution pattern? (3) How are other benefits from implementation

of new technology distributed within the household and across gender? And (4) What is the impact of the implementation of new technology on gender relations?

Results

This study found that, for most women, income gains from adoption of the improved vegetable seeds were not substantial. Moreover, even though women were targeted for the project, their ability to benefit was limited for several reasons. The land tenure system is not in their favor, and the strict enforcement of *purdab* means that women themselves cannot cultivate the land, negotiate directly in the market for labor and other inputs, or sell the produce. Thus, their male representatives gain de facto control over the land and its produce. Second, the gender division of work space between men and women validated by the system of *purdab* does not allow women to grow vegetables in the cultivable land owned by the family. Some women ended up implementing the new technology in their homesteads—the traditional domain of female activities. Thus, production of the improved vegetables neither contradicted traditional norms nor challenged the existing gender division of labor and work space. Another implication is that because use of the new technology was limited to the homestead plots, the resulting production and income were both quite small.

The adoption of fish production technology by women's groups appeared to promise better results in challenging the gender division of work space. The internalization of this division by women, however, still hinders use of this opportunity, which is apparent

because they were reluctant to increase the size of the operation if it would require a substantial increase in their mobility, making them work farther away from their houses.

The improvements, however, depended on how the programs were structured. In one village, ownership of ponds was transferred to individual women and, in another, to groups of women. Though the income earned by an individual woman was by no means greater than that earned by those implementing the improved vegetable technology, the fishpond project had some important advantages. First, it encouraged groups of poor women to actively participate in the production, effectively involving men at different stages but never ceding control to men. This was because the “negotiation” took place at a higher level than the household—men had to negotiate with groups of women who were backed by an NGO. Thus, men did not have direct access to the income.

Another important dimension of the fish production by groups of women is that it challenged the traditional gender division of labor and work space. Involvement of women in production outside the home initially met with negative reactions from the community, but when the project proved successful in bringing a financial return, women's position within households and communities was strengthened.

The periodic sale of fish brought in an income that is not negligible for a rural woman. In contrast to the vegetable growers, who tended to spend their small earnings instantly, the women who raised fish usually saved the amount and used it for investment or emergency purposes.

Analysis and Recommendations

The success of the fishpond project was largely due to the group approach in project implementation. In fact, in male-dominated societies where women have extremely limited access to internal or external support networks, targeting programs to women as individuals without providing an alternative source of support is bound to fail in its gender goals. When intrahousehold dynamics were disregarded in the design of the programs analyzed in this study, women were minimally involved and the projects soon became fully controlled by men. Moreover, at times women were found to be providing labor input into the project without directly gaining any benefits. Greater care is needed to ensure that development interventions do not lead to increased male control of female labor and earnings.

While fish cultivation did have benefits, it also clearly failed to improve the traditional pattern of intrahousehold food distribution, which continued to favor males. The scale of fish production was not large enough to allow females to consume this food after the males had had enough. The projects promoting the adoption of improved seeds and vegetables did lead to increases in the intake of micronutrient-rich vegetables by women, but this was mainly due to the intrahousehold dynamics of food distribution, whereby women primarily tend to consume low-status food. (The vegetables were not perceived to be as tasty or as desirable as more traditional vegetables.) Although group-based fish production does not immediately result in increased intake of micronutrient-rich fish by women, it still seems to be an effective strategy in the long run, because it earns more income over which women have greater control, it strengthens

women's position, and it may provide them with greater access to micronutrient-rich food in the future.

B7. RESOURCE ALLOCATION AND EMPOWERMENT OF WOMEN IN RURAL BANGLADESH¹

Bénédicte de la Brière, Kelly Hallman, and Agnes R. Quisumbing

The bargaining power of men and women crucially shapes the resource allocation decisions households make. Husbands and wives often use their bargaining power to express different priorities about how resources should be allocated. Understanding these differences and their effects is critical if policymakers are to improve livelihoods. Increasing the bargaining power of one gender rather than another can mean the difference between policy failure and policy success.

Like their counterparts in many other parts of the world, rural Bangladeshi females face severe discrimination. For example, as the proportion of women and preschool girls in a household increases, the household's food expenditure share decreases. Similarly, the share of household expenditure going to health decreases as the proportion of elderly women, as opposed to elderly men, increases. Boys are twice as likely as girls to be educated in rural Bangladesh.

These allocation outcomes can be altered through a large range of policy options that empower individuals by improving access to common property resources, credit, public works schemes, and legal

¹ For details, see Quisumbing and de la Brière (2000), Hallman (2000), and de la Brière, Hallman, and Quisumbing (2003).

and institutional rights. The group-based economic empowerment promoted by the Grameen Bank is one model that has been followed in Bangladesh. NGOs have often gone beyond economic empowerment by emphasizing legal rights, political participation, and contraceptive use. All these and other means of empowerment affect the bargaining position of men and women within households.

As previously discussed, IFPRI used household survey data covering 47 villages in Saturaia, Jessore, and Mymensingh to study how bargaining power affects decisionmaking in Bangladesh. Agents target both men and women, but men more often than women. From the entire sample of almost 1,000 households, individuals from 826 monogamous households with intact marriages were interviewed about the assets they owned at the time of and during marriage and about their parental backgrounds.

How Much Do Men and Women Own at Marriage and During Marriage, and What Determines Their Level of Assets?

Assets at the time of marriage are a useful indicator of bargaining power because they represent the most important occasion of wealth transfers to the couple by their parents during their lifetime and because such assets have significant symbolic value over and above their economic value. Thus, both ownership of current assets and the assets men and women bring to marriage indicate degrees of bargaining power.

Survey data reveal that women's premarital assets are much less valuable than men's assets. Brides mostly bring food and durables to the marriage. Cattle accounts for the bulk of men's premarital assets, and land, seldom owned before marriage, generally accounts for the

smallest proportion. Grooms with education past primary schooling own more valuable assets at marriage, but, strikingly, a bride with more than primary schooling seems to own less. A bride whose in-laws have larger landholdings than her parents brings more valuable assets to marriage, but this relationship does not hold true for the groom. The characteristics of the origin families strongly determine assets at marriage and current assets. Parents' landholdings, in particular, influence both asset measures, suggesting that extended families not only arrange marriages but may also have substantial influence on outcomes within marriages.

On average, wives' total current wealth represents only about 10 percent of household wealth, with land being the most unequally distributed asset. Women generally do not inherit land, or, if they do, they give it up to their brothers. Husbands' and wives' assets at marriage do not seem to bear any significant relationship to their current assets, though parents' assets do determine the assets of their respective married children. The number of brothers a wife has and the level of education her husband has attained both influence the wife's level of current assets.

How Do Assets at Marriage Affect Household Decisionmaking?

Even in a patriarchal society where husbands control most of the resources, husbands' and wives' assets do differ and, accordingly, their ability to prioritize particular allocation outcomes differs as well. Husbands and wives deploy the bargaining power that comes with ownership of assets at and during marriage to different ends. Women's assets at marriage, for example, have a positive and significant effect on children's clothing and education expenditures;

they also reduce the morbidity of female children. Husbands' assets at marriage significantly (and negatively) affect expenditure on fuel. Higher dowry payments to men, however, reduce child morbidity, regardless of sex. This last result is consistent with the findings of other studies showing that lower dowry payments increase wife-beating and reduce child caloric intake.

What Role Do Current Assets Play in Household Decisionmaking?

Husbands' current assets have a positive effect on food expenditure and a negative effect on expenditure on men's and women's clothing, services, durables, and personal care. Women's current assets continue to be positively associated with expenditure on children's clothing and education.

A closer look at the surprising positive relationship between men's assets and expenditure on food reveals that men's current assets positively influence spending on cereals. The reverse holds true for women. But neither men's nor women's assets influence expenditure on plant- and animal-based food products (women and men may well have similar preferences with respect to purchasing the animal-based food products). These results may point to factors specific to Bangladesh. In several other countries where women's assets positively influence food expenditures, women are responsible for food crop production or have independent sources of income. In Bangladesh, however, men control the production and marketing of rice, the major staple, and they also purchase most of the food.

In terms of health, the higher the mother's current assets, the greater the reported illness days for boys. The reverse is true in the case of the father. Extended families play an important role in child

health. The number of living brothers that the mother has positively influences the health of both boys and girls. This finding reflects the cultural practice of females' transferring their inheritance to male siblings in exchange for future brotherly support for themselves and their children.

Implications for Policy

These findings show concretely that the identity of the transfer recipient will affect the outcome of a policy intervention. According to the study, improving a woman's bargaining power and access to resources will increase household expenditure on children's education, but improving the same for a man generally will not. Increasing maternal control over household resources should improve the health of female children. Given that women in Bangladesh face disadvantages with respect to both asset ownership and education, it is possible that the greatest impact of interventions that increase resources under women's control will be felt by the next generation.

Although one could easily recommend transferring assets to women, programs designed to increase assets held by women should first investigate the likely consequences of such transfers on intrahousehold relations. Different assets may have different implications for bargaining power if status or prestige is attached to a particular asset. Individuals may also act in compensatory (or even retaliatory) fashion when receiving assets. Some Bangladeshi women have borrowed on behalf of their husbands when given greater access to credit. Even more disturbing is the possibility of increased domestic violence toward women if income transfer programs were to radically alter the distribution of power between husbands and wives. A study of female participants in microcredit schemes in

Bangladesh, however, reports an overall reduction of the incidence of violence against women. Women's participation in the expanded set of social relationships due to membership in credit organizations, rather than their economic contribution per se, explains most of the reduction in domestic violence. With these words of caution in mind, the significant differences found in the asset positions of rural Bangladeshi men and women warrant interventions that increase women's assets relative to men's.

B8. SOCIAL CAPITAL AND GENDER IN SOUTH AFRICA, 1993-98¹

John A. Maluccio, Lawrence Haddad, and
Julian May

The concept of social capital, well grounded in the sociological and anthropological literatures, is increasingly being analyzed and used by economists and other development policy practitioners. This research adds a gender dimension to the debate providing empirical evidence on the role of social capital. The goal of the research is to determine whether men and women have social capital to the same degree and whether men's and women's social capital, proxied by membership in formal and informal groups, had differential effects on household welfare in South Africa in the 1990s.²

We hypothesize three mechanisms by which social capital affects household welfare, as measured by household income. First, it may reduce the costs of transactions by improving information flows about new opportunities and potential shocks, improving the diffusion of innovations, and improving knowledge about the comparative performance of local government agents. Second, it may promote consultative decisionmaking as well as collective action that minimizes negative externalities and encourages the production of public goods. Third, it may foster time-sensitive exchanges for mutual benefit by developing norms of civic behavior, trust, and reputation dissemination. Moreover, in times of crisis, this last mechanism may serve as informal insurance. It is very possible that these mechanisms may differ by gender.

There are a number of reasons we might expect social capital to be important for income generation in South Africa in the 1990s. First, the notion of social capital has some resonance with the traditional institution of *ubuntu*, which means, "I am because you exist" and is seen as an expression of community life and collective responsibility.³ Years of apartheid, however, appear to have undermined this institution to some extent. Second, the flagship economic policy of the first democratic government explicitly recognizes the important role played by local community institutions in the implementation of policy. Last, serious crime and politically motivated violence, while still very high post-1994, have declined somewhat in recent years. Since the 1994 national democratic elections, then, it is possible that the returns to (and therefore stocks of) social capital have risen.

¹ For details, see Maluccio, Haddad, and May (2000, 2003).

² Two recent studies use survey information on household membership in groups as a proxy for social capital. Both studies find large, positive, and significant effects of this measure of social capital on household welfare.

³ The concept of *ubuntu*, an Nguni (language group of Zulu and Xhosa) word, is recognized in many parts of southern and East Africa.

Data

The research draws on a recently collected panel data set of 1,200 households interviewed in 1993 and then again in 1998 in KwaZulu-Natal, South Africa's largest province, containing one-fifth of a population of 40 million. During the mid-1980s and again in the early 1990s, there was substantial political unrest and violence in KwaZulu-Natal. As a result, it is an especially interesting place to study social capital, which may have been partly eroded during periods of unrest. Prior to the collection of the second round of the panel, a qualitative study on social capital, gender, and economic shocks was conducted. This study included six community focus groups and 30 short household case studies in three rural communities.

Drawing on the results of the qualitative study, the main survey asked individuals about membership in 20 different specific groups in 1998 and retrospectively in 1993. The groups included financial, production, sports and music, community service, religious, and political organizations. Financial and religious organizations dominated, but membership in all types of groups grew substantially over the period. In addition, certain characteristics of the groups were reported, including whether they were of mixed gender and the household's rating of group performance.

Social Capital and Gender

Findings from the qualitative study suggest that there are different types of social capital and that men and women may accumulate social capital in different ways. Social networks can be classified by two types: the individual's "bound" network includes his or her relatives, who are connected by strong obligations based on kinship roles, and

the "achieved" network includes all the members of an individual's personal list of contacts, who are gained through experience rather than being born into a web of kinship. In addition to personal networks based on past experience, membership in institutionalized groups and community-based organizations often serves as the basis for voluntary mutual help among individuals. The two types of networks seem to fulfill different functions: bound networks help to limit downward mobility in the face of shocks, while achieved networks help with upward mobility. Bound networks may be especially important for women, who often bear the burden of crisis situations more than men, particularly for consumption crises. Women, however, have less effective economic options to fall back on than do men. Women's social capital networks are wider than those of men but are less deep in that they mobilize fewer economic resources. Women's social contacts also tend to be among other women, while men's are among men.

The quantitative survey confirms these findings from the qualitative study. We use the following indicators of social capital: group membership, membership in family and nonfamily networks, degree of civic engagement, degree of trust, and concern about violence.

Women are more likely to be members of any group than men. In 1993, 30 percent of women and 23 percent of men reported belonging to any group. In 1998, the proportion of women belonging to any group had increased to 39 percent, while the proportion for men increased to 29 percent. Women tend to be concentrated in religious groups (29.4 percent compared with 20.3 percent for men) and financial groups (14 percent versus 6.8 percent for men). Women tend to belong to same-sex groups, however, whereas men are more likely to belong to mixed groups. Men also tend to have longer tenure in groups. Other characteristics, such as performance and meeting attendance, do not differ by gender.

Women also have wider family networks. Both adult men and women are equally likely to report that their parents would help them in an emergency. More adult women, however, report that children are likely to help, especially in rural areas. Twenty percent of rural women say that their children would help them, compared with only 12 percent of rural men. In urban areas, 22 percent of women and 20 percent of men say that their children would help—not a significant difference. These potential networks correspond to the percentage of those reporting remittance receipts: 13 percent of adult women in rural areas report receiving remittances compared with only 2 percent of men.

Despite their higher group membership, women are slightly less involved in civic affairs. Equal proportions of men and women voted in the national and local elections (95 percent). Although both men and women attend “few” community meetings, women attend fewer.

Women are also less likely to read newspapers (32 percent versus 45 percent) and to listen to radio or television news programs (83 percent versus 89 percent).

Men and women report equal levels of trust, based on a five-point scale for a number of actors. Both had high levels of trust in their extended families, neighbors, and (surprisingly) the media; medium levels of trust in local leaders and local government officials; and low levels of trust in strangers and the national government. Levels of trust increased in rural areas between 1993 and 1998 but remained flat in urban areas. In general, rural residents reported higher levels of trust.

Women and men also report equal concern for changes in violence. Although we are unable to disaggregate reports of violence by gender, in rural areas in 1998 both men and women feel safer outside the home than in 1993, but 60 percent feel less safe in urban areas. There are no gender differences in perceptions of safety outside the home.

Table B8.1—Determinants of individuals’ group membership, 1993 and 1998

| Indicator | Number of groups an individual belongs to | | | |
|---|---|----------|----------|-----------|
| | 1993 | | 1998 | |
| | Men | Women | Men | Women |
| Race (1 = African; 0 = Indian) | -0.33 | -0.43 | 0.16 | 0.47 |
| Dummy = 1 if individual is the household head | 0.14*** | 0.17*** | 0.26*** | 0.31*** |
| Years of schooling | 0.01*** | 0.01*** | 0.02*** | 0.01*** |
| Age | -0.00 | 0.02*** | -0.00 | 0.03*** |
| Age squared | 0.00 | -0.00*** | 0.00*** | -0.00*** |
| Constant | 0.041 | 0.23 | 0.01 | -0.77 |
| Number of observations | 2,844 | 3,433 | 2,844 | 3,433 |
| F-statistic | 31.73*** | 88.39*** | 45.46*** | 129.18*** |

Notes: Regressions include cluster fixed effects. *** indicates significance at the 1 percent level.

Social Capital and Household Welfare

What kinds of individuals are more likely to accumulate social capital? Table B8.1 presents regressions on the determinants of individual social capital, estimated separately for men and women. The indicator of individual social capital is the number of groups to which an individual belongs. In both 1993 and 1998 both men and women are more likely to belong to more groups if they are the heads of their respective households. Better-educated individuals also belong to more groups. In 1998, however, household heads belong to almost twice as many groups as in 1993—indicating that there may be greater returns to investing in social capital in the post-apartheid regime.

To explore gender effects of social capital on household welfare, we estimate, at the individual level, relationships between household-

level per capita expenditures and individual characteristics, including group membership. For each individual, there are two observations, one measured in 1993 and the other in 1998, and the estimation sample is restricted to individuals 20 years of age or older who were present in both 1993 and 1998. The dependent variable is logarithmic per capita monthly expenditure (a proxy for income) less the costs of group membership. The regressors include a dummy for race, a dummy for whether the person is the head of the household, the person's years of schooling, age and age squared, a dummy for an urban location, cluster dummies, and the number of groups to which the person belongs. Standard errors allow for clustering at the household level. Why would the effect of social capital differ by gender? First, social capital may be analogous to assets at marriage and other variables that affect bargaining power and may have differential effects by gender. Second, even if women and men belong to the same

Table B8.2—Determinants of per capita monthly expenditure, as a function of social and human capital

| Indicator | Log per capita monthly expenditure, net costs of group membership | | | |
|---|--|---------|---------|---------|
| | 1993 | | 1998 | |
| | Men | Women | Men | Women |
| Number of groups to which individual belongs | 0.02 | -0.01 | 0.07*** | 0.07*** |
| Race (1 = African; 0 = Indian) | -0.01 | -0.12 | 0.28** | 0.15 |
| Dummy = 1 if individual is the household head | 0.13*** | 0.01 | 0.12** | 0.00 |
| Years of schooling | 0.03*** | 0.03*** | 0.05*** | 0.06*** |
| Age | 0.01 | 0.01*** | 0.01*** | 0.02*** |
| Age squared | -0.00 | -0.00** | -0.00* | -0.00 |
| Urban location | 1.02*** | 0.84*** | 0.35 | 0.47*** |
| Constant | 4.20 | 4.28*** | 3.78*** | 3.68*** |
| Number of observations | 1,912 | 2,531 | 1,912 | 2,531 |

Notes: Regressions include community fixed effects and robust standard errors. *indicates significance at the 10 percent level; **, significance at the 5 percent level; and ***, significance at the 1 percent level.

groups, they may derive different benefits from membership. Last, men and women may belong to different groups altogether.

Our results show that in 1993 neither men's nor women's membership in groups is a significant determinant of per capita household expenditures (Table B8.2). In 1998 both women's and men's membership in groups positively affect household expenditures, and to the same degree (the point coefficients are identical). Because women's participation is greater, however, the elasticity is greater for women's social capital—that is, the percentage increase in per capita household expenditure is greater for a percentage increase in women's group membership compared with men's.⁴

Put a different way, those with stocks of either social or human capital in 1993 appear to have benefited from them over time. The structural and other changes in the South African economy appear to be changing the returns to various factors, possibly indicating greater levels of efficiency. While returns to social capital were less or insignificant compared with returns to schooling in 1993, they were about equal in 1998. Thus, the impact of social capital on per capita expenditures appears to be as important as that of human capital.

Conclusions

South Africa's economy is in transition, undergoing the economic, political, and social changes effected by the transition to democratic governance. The opening of new opportunities, in part due to the lifting of the various legal restrictions on labor and capital markets, property rights, and residential location that underlay the policy of apartheid,

suggests that there will be structural shifts in the economy and, as a result, changes in the returns to various factors of production.

Estimating household-level logarithmic per capita expenditure functions, with a focus on the differential returns to men's and women's social capital, we find that there were substantial changes over the period. Whereas individual social capital had no apparent return for households in 1993, it does yield substantial returns in 1998. In conjunction with increased mobility, these findings are consistent with changes leading to a more efficient economy. An important concern in this analysis is the direction of causality between income and the measure of social capital based on group membership. Although joining groups may help augment one's income, it is also possible that some groups are akin to consumption goods and, thus, persons with more income tend to join more groups. Women, having fewer resources, may tend to join groups that can mobilize fewer resources than men's.

Social capital cannot be measured directly. In this study, we use membership in formal and informal groups to construct a proxy index measure. Although group membership certainly captures some elements of social capital, clearly there are other possible measures. An important area for future research is to consider such alternatives and their interaction with the group membership measures. The KwaZulu-Natal Income Dynamics Study (KIDS) survey attempted to quantify social capital in several ways other than via group membership. One of these is through measures of family networks and their use. It may be that family networks and group memberships are substitute mechanisms in the household's set of strategies. On the other hand, those with large family networks may be the best at building other

⁴ In 1993, women belonged to 0.42 groups, on average, whereas men belonged to 0.27. In 1998, women belonged to 0.62 groups, while men belonged to 0.38.

group-based networks. Other possible measures of social capital in the survey include measures of trust, civic engagement, and violence. We have already shown that men and women belong to groups, rely on family networks, and are involved in civic activities to different degrees. We have yet to investigate, however, whether returns to participation in family networks have differential returns for men and women.

Arguably different sorts of proxy measures will capture different aspects of social capital. Furthermore, it seems likely that these different aspects will influence different types of outcomes. A second direction for future research, then, involves examining alternative outcomes (for example, different measures of household welfare including labor market participation and health indicators or the role social capital plays in dealing with economic shocks). Doing so not only will document whether social capital is associated with these outcomes but should also provide further clues for a better understanding of its underlying pathways of influence.

B9. GENDERED PARTICIPATION IN WATER MANAGEMENT: ISSUES FROM WATER USERS' ASSOCIATIONS IN SOUTH ASIA¹

Ruth Meinzen-Dick and Margreet Zwartveen

For complete text, see the print version of this publication.

¹ For details, see Meinzen-Dick and Zwartveen (1998, 2003).

¹ For details, see Fafchamps and Quisumbing (2002, 2003).

B10. CONTROL AND OWNERSHIP OF ASSETS WITHIN RURAL ETHIOPIAN HOUSEHOLDS¹

Marcel Fafchamps and Agnes R. Quisumbing

There is renewed interest in the intrahousehold allocation of welfare, particularly among economists studying poor countries where even slight differences in the allocation of household resources can have dramatic consequences on child and female nutrition, morbidity, and mortality. The evidence collected so far tends to demonstrate that the allocation of consumption and leisure among household members varies systematically with their relative contributions to household total income. These results, however, provide no guidance about which policies affect intrahousehold outcomes. Various efforts have been made to fill this gap, focusing on the determinants of intrahousehold resource allocation. Some research has emphasized the influence that “threat points”—the utility each spouse has outside marriage—are likely to have on spouses’ bargaining power and hence on intrahousehold welfare. If this approach is correct, one may hope to affect intrahousehold welfare by improving the “exit options” of disadvantaged groups.

The literature has proposed two main categories of threat points, namely noncooperation within an existing household and separation from the household. Control over assets during marriage, including the right to decide how to allocate one’s own labor effort, has been shown to affect the individual income of African women. Some research has also demonstrated that the attribution of welfare funds to specific household members affects consumption patterns. Unfortunately, progress has been hampered by the lack of hard evidence on the

noncooperative options open to women in developing countries. Contrary to advanced economies where patrimonial laws regarding the control and ownership of assets within households are relatively uniform and well known, poor countries are characterized by a mix of state and customary legal systems that singularly complicate analysis. This is particularly true of patrimonial law where legal principles inherited from colonial times or introduced by enlightened elites often conflict with traditional practices and customs, especially in rural areas. The end result is a complex and opaque system in which the rules determining the ownership, control, and disposition of productive assets within households vary by location, ethnicity, and religion within the same country.

Using data from the 1997 Ethiopian Rural Household Survey (ERHS), this study documents how the control, ownership, and disposition of productive assets within households is de facto organized in rural Ethiopia. To our knowledge, this is the first effort to document patrimonial customs using a large household survey and rigorous statistical analysis. It complements previous efforts by legal experts and anthropologists to describe customary rules regarding marriage and assets in rural Ethiopia.

Ethiopia is an ideal place for this type of research because of its wide diversity of cultures and patrimonial traditions. Different religions, with widely divergent views regarding matrimonial issues in general and the status of women in particular, are well represented and, in fact, tend to dominate different parts of the country. Anthropological evidence seems to indicate that as one moves from north to south in Ethiopia, women's status, and therefore possibly their bargaining power, declines. Although the ERHS captured much of this diversity, generalizations should be viewed cautiously, given that the ethnic, cultural, and geographic makeup of the country is extremely varied and fragmented.

Theory predicts that the bargaining power of household members depends on expected utility upon divorce (which is determined by the devolution of assets) and expected utility in a noncooperative marriage (which presumably depends on control over assets within marriage). To identify these factors, researchers have typically used a variety of measures, such as dowry and bride-price, ownership of assets at and during marriage, control during marriage, and legal rules regarding the disposition upon dissolution due to divorce or death. Because of data limitations, these measures have typically been regarded as closely related. Very little empirical evidence, however, is available on the extent to which dowry, bride-price, and assets brought to marriage can be used to predict control during marriage and division of assets upon divorce or death—the two processes thought to influence bargaining power. This study fills this gap using the data from Ethiopia.

Marriage and Assets in Rural Ethiopia

The 1997 ERHS covered approximately 1,500 households in 15 villages all across Ethiopia, thus capturing much of the diversity described earlier. Whereas sample households within villages were randomly selected, the villages themselves were chosen to ensure that the major farming systems are represented. Thus, although the 15 villages included in the sample are not statistically representative of rural Ethiopia as a whole, they are quite diverse and include all major agroecological, ethnic, and religious groups.

Most marriages—the majority of which are arranged—are celebrated traditionally. Fewer than 10 percent of all rural marriages are celebrated in the church or municipality. Unions are formalized using a variety of customary contracts, which can be written or oral in nature. Marriage contracts vary systematically with ethnicity and religion, nevertheless with a lot of variation around the norm.

Since marriage typically marks the beginning of a new farm production unit, the bride and groom bring with them start-up capital in the form of land, oxen, livestock, household utensils, and grain stocks. The survey recorded all transfers to and from the bride, the groom, and their respective parents, together with all assets brought to marriage. The great majority of the new couple's assets are brought by the newlyweds themselves, with grooms bringing more than 10 times as much start-up capital as brides. Assets brought to marriage vary dramatically among couples, however, with a median of zero for most asset categories except livestock and jewelry/clothing/linen.

Contrary to the preconception that marriage is the time at which parents endow their offspring with farmland, most of the land brought in by grooms was already theirs prior to marriage. This finding may be specific to Ethiopia, given that the state nominally owns all land. User rights over land are supposed to be allocated by Peasant Associations (PA), the local administrative unit in rural areas. Indeed, of the land user rights held by the household, two-thirds actually come directly from the PA. Family is thus not the dominant source of land for surveyed households. Of the land that comes from the family, however, most ultimately comes from the husband's parents. Women do, however, occasionally receive land from the PA, thereby suggesting a political willingness to depart from rural norms in the allocation of land to women.²

Determinants of Control, Ownership, and Disposition of Assets

We then examined the distribution of control and ownership of productive assets—land and livestock—between husband and wife. Ethiopian rural households essentially operate farms as centralized units under the control of a single individual, irrespective of the intrahousehold division of asset ownership.³ This situation is consistent with Boserup's hypothesis that as households move from hoe to plow cultivation, farm management becomes centralized because of returns to scale in management and experience.

Contrary to what is often assumed in empirical work on intra-household issues, the evidence shows that ownership of assets, control within marriage, and disposition upon death or divorce only partially overlap. Rules regarding divorce and inheritance vary across locations, with more patriarchal rules prevalent in the Muslim and Protestant south and more egalitarian rules prevailing in the Orthodox north.

These differences are illustrated in Table B10.1 with the help of regression analysis. The table examines the disposition of the two main productive assets—land and jointly owned livestock—upon no-fault divorce.⁴ Results show that location accounts for 79 percent of the explained variation in rules of disposition upon divorce.⁵ Northern locations are, in general, more generous toward women. There is systematic variation across ethnic or religious groups, but the variables

² It should be noted, however, that some traditional land tenure systems in Ethiopia did recognize women as having a right to inherit from their parents. In the case of the *rist* land tenure system, which was prevalent in the northern part of the country, sons and daughters had an equal right to inherit land. Children of both sexes were allowed to trace their lineage through their father as well as their mother to claim land (cognatic descent). In practice, however, women's rights to land were often ignored or implicitly traded in exchange for family support.

³ Important exceptions include enset-growing areas, where women seem to play a more central role in cultivation. It should be noted that, unlike cereal crops, enset cultivation does not rely on animal traction. It does rely heavily on animal manure for fertilizer.

⁴ We focus on the three dominant modes of devolution: all to husband, all to wife, and shared equally between spouses. The dependent variable is the wife's share, which by construction can only take three values: 0, 0.5, and 1. For this reason, ordered probit is used as estimator.

⁵ This figure was calculated as the ratio of R^2 of regression of disposition on village dummies divided by the R^2 of the regression using all the regressors included in Table B10.1. By coincidence, we obtain the same ratio for livestock and land.

are jointly nonsignificant once we control for village effects. This result suggests that the single best predictor of expected disposition of assets is the average disposition rule in the village, consistent with the idea that the disposition of assets is governed by location-specific norms. Moreover, communities may have their own ways of protecting women and other vulnerable groups; local councils may also mediate the distribution of assets should a dispute arise.

Part of the variation in rules of disposition can also be attributed to differences in marriage contracts, although the effect is jointly significant only in the case of land. The presence of a marriage contract in general protects women, but the effect becomes less significant once we control for location, ethnicity, and religion. We also investigate whether expected rules of disposition upon divorce vary systematically with assets brought into marriage, inherited assets, and individual ownership of assets at the time of the survey. To the extent that premarital assets and individually owned assets are earmarked to a particular spouse, we would expect this to be reflected in the disposition of assets upon divorce. Such a scenario is important because, if spouses recover their premarital and inherited assets when they separate, exit options and thus threat points are largely determined in the marriage market. In this case the position of women during marriage is likely to be weakened by the fact that they are disadvantaged in the attribution of premarital assets. In contrast, if premarital assets fall into a common pool, women should fare better, on average. Of course, even if the woman recovers her share of assets upon divorce—say livestock—she may be forced to remarry to gain access to other complementary assets such as land. Results show that land inherited or brought into marriage by one of the spouses affects the disposition of land and livestock upon divorce. Women expect to receive more land and commonly held livestock upon divorce if they brought in some land. Conversely, they expect to get less if their husband brought a lot of land into the marriage. Ownership of productive assets at the time of the

survey also affects rules of disposition. Women who individually own more livestock and hold user rights on a larger share of the household's land expect to receive more upon divorce. Since individual ownership of productive assets during marriage is closely related to control and management of these assets, and thus to female headship in married couples, this situation implies that female heads of household expect to receive significantly more productive assets upon divorce than women in male-headed households. Once we control for assets, personal characteristics of the spouses such as their age and education have little effect on disposition upon divorce, except that better-educated wives expect to receive more land.

We also examine the determinants of inheritance. Since the surviving spouse nearly always inherits part or all of the land and livestock acquired during marriage, we focus on whether wives inherit all land and livestock or have to share with other heirs, principally children. Given that the dependent variable is dichotomous, logit is used as estimator. Coefficients are presented in the form of an odds ratio: a ratio smaller than one means that the variable reduces the chance of inheritance; a ratio greater than one increases it. Because there is less variation in the dependent variable, some regressors have to be dropped. In this case, we did not include the assets at marriage variables because they were not significant. In contrast to the case of divorce, assets brought to marriage do not significantly affect disposition at death.

Results are less conclusive than for divorce, but they nevertheless show large differences across locations and between various ethnic and religious groups, although religion dummies are not jointly significant (Table B10.2). Location alone accounts for 65 percent of the explained variation in inheritance. Women in the south, principally among the various south-central ethnic groups, are less likely to inherit land and livestock. This situation is partly compensated by the fact that non-Orthodox women are more likely to have exclusive inheritance rights to land and livestock.

Table B10.1—Regression analysis of disposition of assets upon divorce (currently married households only; estimator is ordered probit)

| Indicator | Share of livestock going to wife (coefficient) | Share of land going to wife (coefficient) | Indicator | Share of livestock going to wife (coefficient) | Share of land going to wife (coefficient) |
|--|--|---|--|--|---|
| Assets brought to the marriage (log value +1) | | | Personal characteristics | | |
| Premarriage land of husband | -0.023 | -0.056*** | Husband's age | 0.004 | 0.016 |
| Premarriage livestock of husband | 0.002 | 0.013 | Wife's age | 0.008 | -0.005 |
| Other assets brought to marriage by husband | -0.003 | 0.019 | Husband's education | -0.015 | 0.015 |
| Inherited land of husband | -0.010 | -0.016 | Wife's education | 0.070 | 0.116** |
| Premarriage land of wife | 0.100** | 0.210*** | Children and marriage history | | |
| Premarriage livestock of wife | -0.018 | -0.031 | Number of children from current union | -0.006 | 0.017 |
| Other assets brought to marriage by wife | -0.017 | -0.102 | Husband's children from previous union | -0.003 | 0.028 |
| Inherited land of wife | 0.094*** | 0.008 | Wife's children from previous union | 0.007 | -0.034 |
| Asset ownership during marriage | | | Whether wife was previously married | 0.026 | -0.388** |
| Share of land user rights of wife | 0.600* | 1.244*** | <i>Number of observations</i> | 751 | 775 |
| Share of livestock owned by husband alone | -0.449*** | -0.738*** | <i>Pseudo R-squared</i> | 0.373 | 0.589 |
| Share of livestock owned by wife alone | 0.727** | 0.444 | Joint significance tests | | |
| Marriage contract dummies | | | Assets brought to marriage by husband | 2.15 | 8.11* |
| Samanya (always written) | 0.582** | 0.236 | Assets brought to marriage by wife | 14.96*** | 23.33*** |
| Nika (written or verbal) | 0.052 | -0.271 | Asset ownership during marriage | 16.23*** | 25.51*** |
| Cheb (written or verbal) | 0.334 | 0.560 | Marriage contract | 7.23 | 10.28* |
| Kalkida (verbal) | 0.619** | 1.219*** | Personal characteristics | 5.26 | 8.44* |
| Other contract (written or verbal) | 0.490* | 0.608 | Children | 0.11 | 1.52 |
| | | | Ethnicity | 3.55 | 1.85 |
| | | | Religion | 2.32 | 4.09 |
| | | | Village fixed effects | 75.81*** | 50.53*** |

Notes: Regressors include dummy variables for ethnicity, religion, and villages. * indicates significance at the 10 percent level; **, significance at the 5 percent level; and ***, significance at the 1 percent level.

The presence of children from previous marriages has a strong effect on inheritance expectations: women with children of their own are more likely to inherit all land and livestock, while those whose husband has children of his own are less likely to inherit. This finding is consistent with the idea that women with children from previous unions are allocated land as a form of childcare provision. Ownership of assets during marriage has little effect on inheritance expectations, except that women are less likely to inherit all household land if their husband owns more of the household livestock. Surprisingly, most marriage contracts are correlated with weaker inheritance rights for women. The effect, however, is generally not significant. One possible interpretation is that the presence of a marriage contract signals an intention to create a stable marriage and to have children, and is thus related to the expectation that a surviving wife will share household assets with children upon the death of her husband.

Personal characteristics also affect inheritance. Women married to older men expect to get more land, possibly because they plan to take over the farm. Older wives anticipate getting fewer assets, perhaps because they are supposed to be taken care of by their grown-up children. Educated women expect to receive fewer assets as well. The reason is unclear. Perhaps they can support themselves in other ways such as nonfarm work, but this is far from certain, given the very low level of nonfarm activities in rural Ethiopia. This topic deserves more research.

Control over productive resources tends to be centralized into the hands of the household head, be it a man or a woman, irrespective of ownership at or after marriage. Having control over productive assets has a strong effect on disposition rules in the sense that the spouse with greater control over an asset gets a larger share upon divorce or death. This result holds true even after we control for assets brought to the marriage. This finding is important because it brings to light

another way by which the bargaining power of women may be affected. It is also what one would expect if households wish to provide sufficient incentives for the farm manager to take good care of land and to invest in productive assets such as oxen and livestock.

Policy Implications

Our findings suggest that assets brought to marriage, eventual control of the asset, and local norms are important in determining the distribution of productive assets between husband and wife in the case of divorce. Policy can influence women's control over assets. For example, in their land allocation function, local administrations have been willing to grant user rights to women, though perhaps reluctantly. This is so even though in local customs, women hardly ever inherit land from their lineage. The government's "land to the tiller" policy thus allowed—or may even have facilitated—the attribution of user rights over land to women. This attribution, however, nearly always results from conditions internal to the household, such as separation or death of the husband; in most cases women's access to land remains conditional upon the absence of a suitable male head of household.

Another indication that external intervention may have an impact on local customs is the observed link between the concept of fault-based divorce and conversion to a non-Orthodox Christian faith. The spread of Catholicism and Protestantism to rural Ethiopia is indeed fairly recent, particularly in the south. Yet it seems to be correlated with a fault-based concept of divorce—or more precisely with the perception that fault plays an important role in financial settlement upon divorce.

Finally, to get a complete picture of women's welfare in rural Ethiopia, women's individual rights, which we covered here, must be considered in combination with informal entitlements that take care of women in more roundabout (and paternalistic) ways. These issues will be the objects of future research.

Table B10.2—Regression analysis of disposition of assets upon death of husband (currently married households only; estimator is logit; coefficients are reported as odds ratios)

| Indicator | Odds that wife will inherit all jointly owned livestock | Odds that wife will inherit all land |
|---|--|---|
| Children and marriage history | | |
| Number of children from current union | 1.022 | 0.987 |
| Husband's children from previous union | 0.913** | 0.907*** |
| Wife's children from previous union | 1.318*** | 1.304*** |
| Whether wife was previously married | 0.828 | 0.744 |
| Asset ownership during marriage | | |
| Share of land user rights of wife | 0.812 | 0.634 |
| Share of livestock owned by husband alone | 0.703 | 0.586** |
| Share of livestock owned by wife alone | 0.781 | 1.016 |
| Personal characteristics | | |
| Husband's age | 1.012 | 1.022* |
| Wife's age | 0.977 | 0.965** |
| Husband's education | 1.008 | 1.043 |
| Wife's education | 0.896 | 0.886* |
| Ethnicity | | |
| Amhara | 0.889 | 0.713 |
| Oromo | 0.507 | 0.425 |
| South-Central ethnic groups | 0.132*** | 0.119*** |
| Other ethnicity | 0.348* | 0.306* |
| <i>Number of observations</i> | <i>783</i> | <i>804</i> |
| <i>Pseudo R-squared</i> | <i>0.129</i> | <i>0.212</i> |
| Joint significance tests | | |
| | Chi-square statistic | Chi-square statistic |
| Asset ownership during marriage | 2.38 | 5.56 |
| Marriage contract | 10.94** | 3.14 |
| Personal characteristics | 4.77 | 7.59 |
| Children | 13.98*** | 13.78*** |
| Village fixed effects | 47.34*** | 74.16*** |
| Ethnicity | 11.69** | 11.00** |
| Religion | 1.29 | 4.91 |

*Notes: Regressors include dummy variables for type of marriage contract, religion, and villages. * indicates significance at the 10 percent level; **, significance at the 5 percent level; and ***, significance at the 1 percent level. Virtually identical results are obtained using conditional logit.*

B11. WOMEN'S LAND RIGHTS IN THE TRANSITION TO INDIVIDUALIZED OWNERSHIP: IMPLICATIONS FOR THE MANAGEMENT OF TREE RESOURCES IN WESTERN GHANA¹

Agnes R. Quisumbing, Ellen Payongayong,
J. B. Aidoo, and Keijiro Otsuka

This study explores the impact of changes in land tenure institutions on women's land rights and the efficiency of tree resource management in western Ghana, where cocoa is the dominant crop. Although communal land tenure aims to provide equitable access to land for all households, women's land rights in the region are weaker than those of men, as is often the case under customary land tenure systems. If women are blocked from having secure land rights, and therefore from individualized investment in land, the resulting barrier to increased productivity will diminish their incentives to sustain resource use over time.

Communal land tenure institutions may evolve toward greater individualization and more secure individual land rights because of population pressure and the need to intensify agricultural production. The Akan households in the region, for example, have granted relatively strong individual ownership rights to those who plant trees. Under such institutional rules, a community member who has acquired family land through inheritance and allocation may have strong incentives to plant trees in order to obtain secure land rights. Whether these rights differ between men and women may have important consequences for equity and the efficiency of forest resource management.

Land Tenure in Western Ghana

This study is based on an extensive survey of 60 villages in the most active cocoa-growing regions in Ghana. The whole area is under customary land tenure, and all land is ultimately controlled by the village chief on behalf of the community. The dominant ethnic group in these villages is the Akan (87 percent of sample households). While Akans have traditionally followed matrilineal inheritance, the mode of land transfer has been evolving over time. Appropriated village land is increasingly being transferred directly to wives and children, and even family land is often transferred to them with the consent of family members, particularly after the land is planted either wholly or partially with cocoa trees. Such "inter vivos" transfers (that is, while both parties are still living) are termed "gifts" in the study areas, and individual rights on such land are firmly established.

Land rights are more clearly individualized among migrants, who either have nuclear families or practice patrilineal inheritance, by which a relatively small number of sons within a single family are qualified to inherit the father's land. Women's inheritance rights were strengthened by the passing of the Intestate Succession Law (ISL) in 1985, which allows children and wives to gain access to land previously denied them under traditional law. Under the ISL, the estate of a man who dies without leaving a will is divided as follows: three-sixteenths to the surviving spouse, nine-sixteenths to the surviving children, one-eighth to the surviving parent, and one-eighth in accordance with customary inheritance law. The common interpretation of the ISL, however, is one-third each for the spouse, children, and matrilineal family.

¹ For further details, see Quisumbing et al. (2001a, 2001b, 2003).

Determinants of Land Tenure and Acquisition

Analysis of what determines land tenure at the village level shows that population pressure first induces institutional innovation toward individualized land tenure. Gifts, moreover, allow villagers to circumvent the traditional inheritance rule in matrilineal society by allowing wives and children to receive property directly from husbands. The patrilineal migrant population, however, acquires cultivation rights mainly by renting land or sometimes by purchasing land from indigenes.

The study also shows what determines land acquisition at the household level. A Ghanaian man follows a sequential decisionmaking process with respect to land acquisition over his life cycle: if forest land is available, he acquires it through clearance

when he is young; he acquires the family land through inheritance, allocation, and gift when he gets married; and later he acquires the additional land through renting and private purchase. Table B11.1 presents regressions on the determinants of land acquisition at the village level, controlling for unobserved village-level factors. These regressions show that women have a relative disadvantage in acquiring land through forest clearance because it is a male activity. Female heads of households are also significantly less likely to have obtained land through purchase and rental, suggesting that they may be disadvantaged, relative to men, in land sales and rental markets. Female heads of households appear disadvantaged in all modes of land acquisition, although their relative disadvantage is less significant for acquiring family land.

Table B11.1—Determinants of land acquisition at the household level: Tobit regression with village fixed effects

| Indicator | Forestland | All family land ^a | Purchased, rented, or borrowed non-forestland |
|--|------------|------------------------------|---|
| Forestland | | | -0.41* |
| Family land | | | -0.71* |
| Age of household head | 7.65** | 0.17* | 0.15 |
| Year of first marriage of household head | -0.98 | 0.11* | -0.35 |
| Dummy for household head born outside of village | 54.39* | -5.16** | 9.41* |
| Years of schooling of head | -6.42* | 0.44** | 0.39 |
| Dummy for female-headed household | -65.08* | -0.79 | -16.98 |
| Dummy for patrilineal household | -87.20** | -4.83** | 0.90 |
| Chi-square | 30.4 | 222.2 | 30.3 |
| <i>p</i> -value | 0.0 | 0.0 | 0.0 |
| <i>Number of observations</i> | 386 | 386 | 386 |

Notes: Least absolute deviations estimator. ** indicates significance at the 1 percent level; *, significance at the 5 percent level (one-tailed tests).

^a Family land includes allocation, inheritance, and gifts.

Table B11.2—Determinants of proportion planted to cocoa and cocoa production per hectare at the parcel level, selected coefficients

| Indicator | Proportion planted to cocoa on plots with mature cocoa (Tobit with household dummies) | Yield (production/cocoa area) | |
|---|---|-------------------------------|--------------------------|
| | | Household fixed effects | Household random effects |
| Distance to parcel | 0.156 | -18.364* | -11.123* |
| Parcel size (hectares) | -0.028** | -3.483 | -1.584 |
| Dummy for female-held parcel | -0.049 | -74.902 | -74.147 |
| Percentage cocoa area at acquisition | 0.453** | -46.308 | -53.337 |
| Land tenure dummies | | | |
| Dummy inherited and patrilineal | -0.228 | -90.667 | 39.370 |
| Dummy allocated family land | 0.214* | -147.425* | -116.241* |
| Dummy allocated family and patrilineal | -0.182 | -98.569 | -13.576 |
| Dummy land received as gift | 0.103 | -87.839 | -55.874 |
| Dummy gift and patrilineal | -0.171 | 48.031 | 15.412 |
| Dummy appropriated village land | 0.191 | -128.019 | -88.430 |
| Dummy purchased village land | 0.210 | -98.686 | -16.767 |
| Dummy privately purchased land | 0.247* | -156.347 | -98.131 |
| Dummy rented land | 0.206 * | -167.470* | -133.855* |
| Dummy ownership through renting | 0.379** | -99.311 | -69.391 |
| Log-likelihood | -73.92 | | |
| Chi-square | 393.47 (0.00) | | |
| Breusch-Pagan Langrangian Multiplier Test | | | 34.12 (0.00) |
| Hausman Specification Test | | | 21.90 (0.29) |
| Number of observations | 391 | | 391 |

*Notes: Regressions included controls for tree characteristics in the yield regressions, years since acquisition of the parcel, percentage forest area at acquisition, and the real cocoa farmgate price at acquisition, and, for the random effects specification, family-level variables such as sex and age of the household head, years of schooling of the household head, a dummy for a patrilineal household, household size, and the total landholdings of the household. ** indicates significance at the 1 percent level; *, significance at the 5 percent level (one-tailed tests); p-values are shown in parentheses.*

Determination of Cocoa-Tree Planting

How does land tenure affect the management of land in terms of the proportion of area planted to cocoa and yield per unit of cocoa-planted area? We hypothesize that cocoa-tree planting is more profitable than shifting cultivation and that higher cocoa yields indicate higher production efficiency, both of which seem reasonable in view of the continued expansion of cocoa area. We assume that the distribution of parcels by land tenure type is predetermined for each household but may differ within each, depending on the gender of the parcel owner and the mode of land acquisition.²

Table B11.2 presents regressions on the proportion of cocoa-planted area as well as cocoa yields at the plot level. Parcel size is shown to have an extremely significant and negative effect on the proportion planted to cocoa, implying that an inverse correlation exists between parcel size and tree planting. This finding shows that the land rental market, not to mention the land sales market, is imperfect because some portions of the parcel could have been rented for tree planting if the land rental market worked effectively.

A more important finding is that the dummy for allocated family land has a positive and significant effect on tree planting. It seems that the expected strengthening of land rights associated with tree planting provides strong incentives to plant trees on allocated family land. Dummies for land parcels with strongly individualized ownership, that is, gift, appropriated village land, purchased village land, and purchased private land, all have positive coefficients, but only the dummy for purchased private land is significant. The

dummy for a female parcel owner has a negative but insignificant effect on the proportion of area planted to cocoa, suggesting that there is no significant difference between male and female parcel owners with respect to tree planting. If women receive land only after a large portion of it has been planted to cocoa, as our field observations suggest, subsequent observations will not reveal any difference in the probability of planting cocoa between male and female parcel owners. The percentage of parcel area planted to cocoa is positively related to the percentage of cocoa area at acquisition. The importance of previous tree planting as a prerequisite for receiving gifts, however, appears to differ by gender. Other results show that men had to plant only 20 to 25 percent of a parcel of land with cocoa trees before the land was transferred to them as a gift. Women, however, had to plant between 40 and 50 percent of land to cocoa before acquiring it as a gift.

We also estimated cocoa yield functions with household fixed and random effects. The estimation results of the cocoa yield function contrast markedly with those of tree planting. First of all, for both fixed- and random-effects results, the dummy for allocated family land is negative and significant. Thus, tree planting density and subsequent management intensity of cocoa trees are lower in allocated family land, even though the proportion of tree-planted area is larger. Such behavior is understandable if one plants trees in order to obtain permission to transfer land as a gift. This finding is confirmed by field interviews that suggest the practice of “strategic planting” of cocoa trees to preserve permanent rights, even if the farmer cannot maintain the trees.

² To control for possible correlation between land tenure variables and unobservable household characteristics (which may affect the distribution of parcels by tenure), we applied the household-level fixed-effects model for both the proportion of area planted to cocoa and cocoa yields. For comparison, and to test for the importance of parcel-level heterogeneity, we also applied the random effects model to the estimation of the cocoa yield function.

Second, the coefficient of the dummy variable for current renting is negative and significant in both fixed- and random-effects specifications. Contrary to conjecture, share tenancy in Ghana's cocoa fields is found to be inefficient. This finding is consistent with the finding of an inverse correlation between parcel size and the proportion of area planted to trees, because it is not necessarily advantageous for a landowner to rent out a portion of a large parcel to a tenant if tenancy is inefficient.

Third, the coefficients of dummy variables representing gift, appropriated and purchased village forest land, and purchased private land are all negative, even though none of them are significant. If stronger land tenure security leads to sufficiently greater incentives to invest in management of trees, the coefficients of these dummy variables ought to be positive and significant. It may well be that once cocoa trees are planted, individual land rights are enhanced such that management incentives do not differ significantly among various land tenure institutions.

Last, the dummy for female-owned parcels is negative, though only weakly significant in the random-effects specification. This finding shows that, controlling for differences in land tenure and accounting for unobserved heterogeneity, female parcel managers obtain lower yields on their cocoa plots. Although this result may indicate greater credit and labor constraints faced by female farmers, it also suggests inefficiencies in intrahousehold resource allocation, since the household could have increased aggregate yields by reallocating resources across male- and female-managed plots. It may also reveal that female parcel owners may concentrate more on the food crops grown on cocoa plots rather than on cocoa itself.

To sum up, the contrasting estimation results of cocoa tree planting and cocoa yield functions can be understood only if land

rights are enhanced by tree planting, so that incentive structures are different for tree planting and management of trees. Incentive structures may also be different for male and female farmers within the same household.

Conclusions

The evolution toward individualized land-tenure systems in western Ghana has been facilitated by the stipulation of customary land tenure institutions that those who exert efforts to clear forests and plant trees will receive individual parcels of land. Some researchers argue that such evolutionary changes have detrimental effects on women's traditional land rights. Although this argument may be true in some societies, this study shows that in western Ghana, a wife who labors on a husband's cocoa plot usually receives a gift of land. This method is the most important mode of land acquisition for women. Legal reform has also provided women a means of obtaining access to the husband's land should he die intestate.

Given the need for agricultural intensification to meet demand and growth objectives, a major question arises: What types of policies can assist such evolutionary changes in a manner compatible with efficient and equitable development of rural areas? Land titling is feasible only if land rights are sufficiently individualized, but implementation of land-titling programs must pay special attention to gender issues. If men are traditionally owners of land, as in western Ghana, land titling may strengthen their land rights at women's expense. To be fair, men and women should be equally qualified to acquire land titles. Judging from the experience of Ghana, the promulgation of the 1985 Intestate Succession Law is likely to be an effective policy option for facilitating less gender-biased

land inheritance systems in customary land areas. But attempts to equalize land rights of men and women will lead to gender equity and the improved efficiency and productivity of women farmers only if other constraints faced by women are also addressed.

B12. IS PROGRESA WORKING? SUMMARY OF THE RESULTS OF AN EVALUATION BY IFPRI¹

Emmanuel Skoufias and Bonnie McClafferty

Targeting its benefits directly to the population in extreme poverty in rural areas, PROGRESA seeks to alleviate current poverty through monetary and in-kind benefits, as well as to reduce future levels of poverty by encouraging investments in education, health, and nutrition. This study summarizes 24 months of extensive IFPRI research designed to evaluate whether PROGRESA has been successful in achieving its goals. The evaluation analyzes PROGRESA's impact on education, health, and nutrition as well as in other areas, such as women's status and work incentives (see Section B13 of this appendix).

Program Overview

PROGRESA began operations in August 1997. As part of an overall strategy for poverty alleviation in Mexico, PROGRESA works in conjunction with other programs that are aimed at developing employment and income opportunities. At the end of 1999, PROGRESA

accounted for slightly less than 20 percent of the federal government's budget allocated to poverty alleviation. Unlike other programs, PROGRESA's multisectoral focus provides an integrated package of education, nutrition, and health services to poor families. Rather than being simply a cash transfer program, PROGRESA requires active participation by the recipient households in exchange for the benefits.

At the end of 1999, PROGRESA covered approximately 2.6 million families or about 40 percent of all rural families and one-ninth of all families in Mexico. At that time the program operated in almost 50,000 localities in more than 2,000 municipalities and 31 states. PROGRESA's budget of approximately 777 million Mexican pesos in 1999 was equivalent to 0.2 percent of Mexico's gross domestic product. Mexico is implementing an effective program that is serving as a model and beginning to take hold across Latin America in countries such as Argentina, Honduras, and Nicaragua.

To reach the poor households, PROGRESA first selects communities using a marginality index based on census data. Then, within the selected marginal communities, households are chosen using socioeconomic data collected for all households in the community. The education component of PROGRESA is designed to increase school enrollment by making education grants available to pupils' mothers, who then are required to have their children attend school regularly. In localities where PROGRESA currently operates, households that have been characterized as poor and have children enrolled in grades three through nine are eligible to receive these education grants every two months. The levels of these grants were determined taking into account, among other factors, what a child would earn in the labor force or contribute to family production. The

¹ For details, see Skoufias and McClafferty (2001, 2003) and Skoufias (2005).

education grants are slightly higher at the secondary level for girls, given their propensity to drop out at earlier ages.

In the area of health and nutrition, PROGRESA brings basic attention to health issues and promotes health care through free preventive interventions, such as nutritional supplements and education on hygiene and nutrition, as well as monetary transfers for the purchase of food. Receipt of monetary transfers and nutritional supplements are tied to mandatory health care visits to public clinics. This aspect of the program targets its benefits to children under five years old, and pregnant and lactating women. It is administered by the Ministry of Health and by IMSS-Solidaridad, a branch of the Mexican Social Security Institute, which provides benefits to uninsured individuals in rural areas.

Nutritional supplements are given to children ages four months to two years and to pregnant and breast-feeding women. If signs of malnutrition are detected in children ages two to five years, nutritional supplements are also administered. The nutritional status of beneficiaries is monitored by mandatory visits to the clinic and is more frequently monitored for children five years old and under, and pregnant and lactating women. Upon each visit, younger children and lactating women are measured for wasting (low weight-for-height), stunting (low height-for-age), and weight-for-age. An appointment monitoring system is set up, and a nurse or doctor verifies adherence. Every two months health care professionals submit certification of beneficiary visits to PROGRESA, and this certification triggers the receipt of bimonthly food support.

PROGRESA is primarily a demand-side program. Its main objective is to induce households (through cash transfers and conditions associated with the receipt of these cash transfers) to make more intensive use of the existing educational and health facilities.

The program is accompanied by complementary efforts and resources directed at strengthening the supply and quality of the educational and health services, but these efforts serve only an auxiliary role as a means of easing potential capacity constraints that might arise as a result of the more intensive use of the existing facilities.

PROGRESA gives benefits exclusively to mothers. The concentration and value of this transfer in the hands of the mother and the enormous scale of the program suggest that this program has significant potential to alter the balance of power within Mexican families.

How the Evaluation Was Conducted

The strength of the PROGRESA evaluation lies in its methods. Three key factors contribute to its rigor: (1) the quasi-experimental design used for the evaluation, (2) the collection of repeated observations of households and their members before and after the program, and (3) the analytical approaches used in determining whether PROGRESA has had an impact.

For a proper impact evaluation of a program, it is necessary to observe a group of households that are similar to beneficiary households in every respect possible but that do not benefit from the program. In the case of PROGRESA, where evaluation was conceived from the beginning as part of the design of the program, the solution to this evaluation problem is achieved by random assignment of localities into treatment and control groups. Annual fiscal constraints and logistical complexities associated with the operation of PROGRESA in very small and remote rural communities did not permit the program to cover all eligible localities at once. Instead, localities are covered by the program in phases. PROGRESA's quasi-experimental design takes advantage of sequential expansion to select

a comparable or control group from the set of localities that, while eligible for the program, have yet to be covered by it. This practice offers the opportunity to conduct a scientifically rigorous evaluation of whether the program has had an impact, and if so, the size of this impact on beneficiary households.²

The quasi-experimental design of the evaluation, combined with the availability of repeated observations on households and their members before and after the program, can provide the most reliable answer to the question of whether the program has an impact or not. By examining changes over time within treatment and control localities (that is, comparing difference-in-difference), evaluators can control for characteristics that do not change over time within treatment and control localities, as well as for characteristics that change over time and are common to control and treatment areas.

To evaluate impact, researchers conducted formal surveys, structured and semistructured observations and interviews, focus groups, and workshops with a series of stakeholders, including beneficiaries, local leaders, local and central PROGRESA officials, health clinic doctors, nurses, and assistants, and schoolteachers.

The sample used in the evaluation of PROGRESA consists of repeated observations (panel data) collected for 24,000 households

from 506 localities in the seven states of Guerrero, Hidalgo, Michoacan, Puebla, Queretaro, San Luis Potosi, and Veracruz. Of the 506 localities, 320 localities were assigned to the treatment group and 186 localities were assigned as controls. Specifically, the 320 treatment localities were randomly selected using probabilities proportional to size from a universe of 4,546 localities that were covered by phase II of the program in the seven states mentioned.³ Using the same method, the 186 control localities were selected from a universe of 1,850 localities in these seven states that were to be covered by PROGRESA in later phases. The data used in the evaluation were collected between November 1997 and November 1999. As originally planned, the localities serving the role of a control group started receiving PROGRESA benefits by December 2000.

Findings on PROGRESA's Education and Health Benefits and Costs

The majority of the evaluation findings suggest that PROGRESA's combination of education, health, and nutrition interventions into one integrated package has a significant impact on the welfare and human capital of poor rural families in Mexico. The initial analysis

² An analysis of the randomization procedure used in the evaluation reveals that the randomization was adequately done. PROGRESA's approach ensures that there is only a small known probability that the differences between treatment and control groups are due to unobserved factors. Thus, researchers were able to infer whether the changes observed in individual outcomes, such as school enrollment or health and nutritional status, were due to the program or other factors.

³ In addition to the seven states mentioned, the second phase of PROGRESA's expansion included the states of Campeche, Chiapas, Chihuahua, Coahuila, Guanajuato, and Oaxaca. The evaluation sample did not include localities from these six states for a variety of reasons. For example, the sociopolitical problems in the state of Chiapas led to exclusion of this state from sample group. Although the two poorest states of Chiapas and Oaxaca were excluded from the pool of seven states used to select the evaluation sample, this exclusion does not affect the results of the evaluation. The evaluation might be compromised if Chiapas and Oaxaca had been included in the pool of seven states but excluded from the evaluation sample after performing the "random selection." Because neither state was included in the evaluation sample, however, the estimated impact cannot be said to hold in Chiapas or Oaxaca or in any locality outside the evaluation sample.

of PROGRESA's impact on education shows that the program has significantly increased the enrollment of boys and girls, particularly of girls and particularly at the secondary school level.

Most of the increase in school enrollment for boys takes place as a result of boys' working less. The evaluation finds that enrollment of girls in secondary school increases by as much as 14 percent. The results imply that children will have, on average, about 0.7 years of extra schooling because of PROGRESA, although this effect may increase if children are more likely to go on to senior high school as a result of PROGRESA. Given that higher schooling is associated with higher levels of income, the estimations imply that the lifetime earnings of PROGRESA children could be 8 percent higher than they otherwise would have been thanks to the education benefits they have received through PROGRESA.

As a result of PROGRESA, both children and adults are also experiencing improvements in health. Specifically, children receiving PROGRESA's benefits have a 12 percent lower incidence of illness as a result of the program's benefits, and adults report a 19 percent decrease in sick or disability days. In the area of nutrition, PROGRESA has had a significant effect on reducing the probability of stunting for children aged 12 to 36 months.

PROGRESA has also had important effects on food consumption. Program beneficiaries report higher calorie consumption and more diverse diets, including more fruits, vegetables, and meat. The program is also found to have no apparent effects on the work incentives of adults, while the award of the cash benefits to mothers in beneficiary households appears to have led to the empowerment of women.

A detailed cost analysis of the program also provides strong evidence that the program is generally administered in a cost-effective manner. For every 100 pesos allocated to the program, 8.9 pesos

are "absorbed" by administration costs. Given the complexity of the program, this level of program costs appears to be quite small, especially when compared with the numbers for roughly comparable programs.

Discussion and Recommendations

The findings from IFPRI's evaluation also suggest that there is considerable room for improvement in some of the structural components and the operation of the program. For example, the program was found to have no measurable impact on the achievement test scores of children in beneficiary localities or on their regular school attendance. This finding suggests that if the program is to have a significant effect on the human capital of children, more attention needs to be directed to the quality of education provided in schools.

Enrolling in and attending school regularly are necessary but not sufficient conditions for the improvement of children's human capital. Currently the award of PROGRESA's educational benefits is conditional on regular school attendance but not performance. It may be possible to attain considerable improvements by linking benefits to performance, such as granting bonuses to encourage successful completion of a grade, or linking benefits with other programs.

It is also important to find ways to maintain and improve the quality of the information provided to beneficiaries. Although the targeting of households within poor marginal communities may be a source of more social tensions than social benefits, there is no doubt that if PROGRESA were to expand in urban areas, some form of targeting must take place. Better alternatives to the current reliance of PROGRESA on reported income include the use of household consumption as a measure of poverty.

Whether the vicious circle of intergenerational poverty is indeed broken can be determined only by continuing with PROGRESA and continuing to evaluate its impact on the livelihood of Mexico's poor in the medium and long term. The possibility of expanding PROGRESA coverage to poor households in urban areas implies that there is an opportunity to draw on the results of program evaluation to adapt some of the components of the program to suit the needs of households in different environments. Mexico's policy leaders are encouraged to capitalize on the innovative precedent established by PROGRESA and to consider program evaluation an indispensable component of all social policies.

B13. THE IMPACT OF PROGRESA ON WOMEN'S STATUS AND INTRAHOUSEHOLD RELATIONS¹

Michelle Adato, Bénédicte de la Brière,
Dubravka Mindek, and Agnes R. Quisumbing

Since 1997 Mexico has provided poor families with cash benefits linked to children's school attendance and regular clinic attendance, as well as in-kind health benefits and nutritional supplements, through PROGRESA. Unlike previous social programs in Mexico, this nationwide antipoverty program targets transfers to the mother of the family. Planners deliberately decided to give

transfers directly to the mother because of the growing literature that finds that resources controlled by women are more likely to be manifested in greater improvements in child health and nutrition than resources controlled by men. Program staff argue that the design of the program may also empower women by increasing their control over resources and thus their bargaining power.

The size of the amount transferred by the program, corresponding to a 22 percent increase in the income levels of the beneficiary family, the concentration of this transfer in the hands of the mother, and the enormous scale of the program suggest that the program has great potential to alter the balance of power within Mexican families. This study examines how the program has affected women's status and intrahousehold relations. We use both quantitative and qualitative methods to analyze this issue. The quantitative analysis seeks to ascertain whether or not the implementation of PROGRESA contributed to an increase in women's bargaining power, controlling for family background variables, the distribution of bargaining power within the household before the program, and variables capturing the family's eligibility for PROGRESA, location in control or program communities, and transfers disbursed by the program. The qualitative analysis aims to gain a deeper understanding of selected issues related to women's empowerment. In the qualitative part of the study, women explain in their own words how they and others in their communities experience PROGRESA, and they suggest ways to improve the program to contribute further to women's empowerment and to better respond to their concerns and aspirations.

¹ For details, see Adato et al. (2000, 2003).

Quantitative Study

Owing to the randomized design of the evaluation surveys, one way of evaluating the impact of PROGRESA would be to compare the means of PROGRESA beneficiaries with those of eligible households in control communities before and after the implementation of the program. Additional insights can also be gained, however, by controlling for individual and family characteristics, particularly characteristics that may affect each spouse's bargaining power. Following recent work in the intrahousehold literature, this study uses characteristics of the husband and wife at the time of their marriage as a measure of each spouse's bargaining power.

Multinomial logit regressions were performed with responses to questions regarding who should make certain decisions within the household as the dependent variable, with the following choices: husband alone, wife alone, or both spouses jointly. These decisions were the following: seeking medical attention for the child, telling the child to attend school, giving the child permission to go out, expenditures on child clothing, food expenditures, house repairs, durables purchases, and the disposition of women's extra income.

Our results show that characteristics of husband and wife are the most consistent determinants of decisionmaking patterns. The husband is more likely to be the sole decisionmaker if his wife is less educated, has less work experience before marriage, does not speak Spanish, or speaks an indigenous language. Husbands who speak an indigenous language are also more likely to be the single decisionmaker, suggesting that women's roles may be more traditional in indigenous societies.

Among poor households, residing in a PROGRESA locality does not have as predictable or strong an effect on patterns of

decisionmaking as individual characteristics do. Transfer amounts, however, decrease the incidence of husbands' sole decisionmaking for five of eight outcomes.

One of the most noteworthy outcomes is the effect of PROGRESA transfers on poor households' decisions regarding the disposition of women's extra income. PROGRESA transfers have a small but significant negative effect on the probability that the woman lets her husband decide how to spend her additional income. The probability that women decide on the use of their own income also increases through time, but this occurs in both PROGRESA and non-PROGRESA communities. We also find that spillover effects of PROGRESA on the decisionmaking patterns of nonpoor households living in PROGRESA communities are negligible.

Qualitative Study

The qualitative research, conducted in six states, was based on 23 focus groups involving 230 women: 80 beneficiaries, 80 nonbeneficiaries, and 70 *promotoras* (beneficiaries elected by other beneficiaries to liaise between PROGRESA offices and communities). The results show that women strongly support the principle of designating women as beneficiaries. The main reasons given were that women are more responsible with money and thus more will be spent on the family and that women are more concerned with the welfare of their children. In a majority of responses, women mentioned that men are likely to spend money they receive on alcohol. An additional reason given was that PROGRESA is for household needs such as food, and women know best what the household needs.

Most men accept women's role in the program because the benefits help the husband, too, and the family as a whole. They allow their

wives to spend the time necessary to fulfill their PROGRESA requirements because the benefits they receive compensate. Some men, however, are unhappy with the time that women spend on their PROGRESA responsibilities. Women say they minimize conflict by making sure that their household responsibilities are taken care of before they leave. Including men in initial PROGRESA general meetings where beneficiary responsibilities and program activities are explained has been helpful in increasing men's acceptance of the program.

The focus group discussions also focused on expenditure decisions. Both beneficiaries and nonbeneficiaries said that women made decisions on their own about food expenditures, whereas men alone or couples jointly decided about larger household expenditures. Participation in PROGRESA does not appear from these discussions to notably alter the domains of decisionmaking. There are four ways, however, in which respondents suggest that PROGRESA can increase women's autonomy with respect to household expenditure decisions: (1) she does not need to ask her husband for money whenever she needs something, she can make independent purchases with her money from PROGRESA; (2) because she receives this additional household income, she has more confidence in her ability to determine whether there is enough money to buy things she thinks they need, whereas when her husband held the money, he was in a better position to judge; (3) if with PROGRESA there is more money available for the family to spend on food, which is part of her domain, women can now make more decisions about such expenditures even if the types of decisions have not changed; and (4) PROGRESA money may potentially increase the domain of women's decisionmaking in some instances.

Although PROGRESA's mode of assistance centers on the individual beneficiary and does not involve local organizations, the

program does involve activities where women gather in groups and have the opportunity to communicate with each other. Monthly meetings with *promotoras* are officially for giving program-related information to beneficiaries, but in some communities they also provide a space for women to talk about other concerns and problems. At health *pláticas*, health issues of importance to women are discussed. In addition, *faenas* are communal work activities not officially associated with PROGRESA, but they are organized by doctors or *promotoras* and often involve beneficiaries. These collective activities, as well as the trips the women make to pick up their cash transfers, are also opportunities for them to leave their homes and their communities without their spouses.

Promotoras and beneficiaries described personal changes that are forms of empowerment, including increased freedom of movement, self-confidence, and "opening their minds." The type of changes reported fall into three categories: (1) women leave the house more often; (2) women have the opportunity to speak to each other about concerns, problems, and solutions; and (3) women are more comfortable speaking out in groups. Such changes were more pronounced for *promotoras* than beneficiaries, though some beneficiaries had similar experiences. Some beneficiaries reported no such changes, however. These reported changes suggest ways in which PROGRESA can potentially contribute to longer term social development, even if in small ways, and thus the importance of these collective activities.

Another way in which PROGRESA contributes to women's empowerment is through the content of what they learn in the health *pláticas*. Beneficiaries refer in general to "knowing more" now and to a wide range of new knowledge in the areas of sanitation, nutrition, illnesses, and other health-related issues. They also report changes

that have occurred in women's relationships with men as a result of what they have learned, for example, in the area of family planning.

The research thus suggests that women are benefiting from a new recognition of their importance in the family; new freedom of movement; and some increased confidence, awareness, and knowledge, without paying a major price in terms of intrahousehold harmony. Nevertheless, the changes in intrahousehold relations brought about by the program appear to be modest. This finding should not come as a surprise or disappointment. Change in this domain is necessarily slow as well as complex, as women make strategic choices involving challenge, conformity, and accommodation. PROGRESA gives women new resources and information with which to approach these choices.

General Conclusions

If material poverty and poor health and nutrition are obstacles to the empowerment of women, then overcoming these obstacles is the main way in which PROGRESA contributes to women's empowerment. The program contributes in other ways as well, by putting additional resources under women's control, giving women more opportunities to leave the house, educating them on health and nutrition issues, providing new spaces in which to communicate with other women,

and educating girls to improve their position in the future. These aspects of the program appear to have had some impacts on personal empowerment (for example, self-esteem and "sense of self in a wider context"), though more modest impacts on intrahousehold relationships. More generally, the program is introduced with messages about women's importance, and beneficiary and nonbeneficiary families notice the government recognition that PROGRESA's design gives to women. This approach has fostered, if at a low level, a discourse within PROGRESA communities around gender issues.

PROGRESA could strengthen its impact on women's empowerment. In addition to its health and child education strategies, PROGRESA policy originally envisioned a number of other program features that represented a more holistic and developmental approach to poverty reduction. Revisiting some of these ideas (for example, adult education, productive projects, community participation), as well as learning from women's suggestions (such as health education for men) or from ways in which the program has been adapted in communities with good results (for example, encouraging *promotoras* to use the monthly meetings as a forum for women to discuss problems and solutions) would strengthen the program's short-term benefits and its long-term potential to reduce poverty and promote development.

B14. SUBSIDIZED CHILDCARE AND WORKING WOMEN IN URBAN GUATEMALA¹

Marie T. Ruel, Bénédicte de la Brière,
Kelly Hallman, Agnes R. Quisumbing, and
Nora Coj de Salazar

With increasing urbanization, the percentage of women participating in the labor force and the percentage of households headed by single mothers have increased. Reliable and affordable childcare alternatives are thus becoming increasingly important in urban areas. The *Hogares Comunitarios* Program (HCP) was established in Guatemala City in 1991 as a direct response to the increasing need of poor urban dwellers for substitute childcare. This government-sponsored pilot program was designed as a strategy to alleviate poverty by providing working parents with low-cost, high-quality childcare within their community.

This study summarizes preliminary findings from an evaluation of the HCP carried out in 1998 in urban slums of Guatemala City. The study evaluated both the program's operations and its impact on children's dietary intakes and women's earnings.

Program Background

The model of the HCP is that a group of parents elects a woman from their neighborhood to act as the caretaker mother, which implies

that she will care for up to 10 children in her home, 12 hours a day, 5 days a week. During their stay in the *bogar* (day-care center), the children receive care and affection, hygiene, early child stimulation, and food (two meals and two snacks). The program provides initial training for the caretaker mothers, as well as furniture, cooking equipment, and supplies for 10 children. On a monthly basis the program gives approximately US\$1 per child per day to the caretaker for purchasing food, gas, and educational material. The program also gives the caretaker an incentive of US\$3 a month for each child who attends, which is complemented by a US\$5 per child monthly contribution from the parents.

Operational Evaluation

The operational evaluation had three objectives: (1) to review and evaluate the effectiveness of implementation of the program; (2) to assess the quality of the services provided by the caretakers; and (3) to evaluate the level of satisfaction and the attitudes of the program's main implementers (caretakers and their supervisors) and main users (the beneficiary parents). We used both qualitative and quantitative methods, including semi-structured interviews with caretaker mothers, eight-hour observations in the *bogares*, and focus groups with caretakers, beneficiary parents, and program field supervisors. The evaluation was carried out in 206 *bogares* operating in three zones of Guatemala City.

Findings show that the program is generally well designed and is operating effectively. Delays in cash transfers for food, the insufficient

¹ For details, see Ruel et al. (2002, 2003, 2006) and Hallman et al. (2003).

amount of the transfer, and the lack of participation of parents were the key operational constraints identified. The quality of services provided by the caretakers with respect to hygiene, safety, and their interaction with children was good overall, but it varied significantly between *bogares*. Caretakers consistently failed to allocate the required amount of time to educational activities, largely because of time constraints, but also because they did not feel adequately trained, motivated, and remunerated. Caretakers were generally grateful to the program for the opportunity to work while taking care of their own children (or grandchildren). Beneficiary parents were extremely positive about the program. They appreciated the caretakers and the program for the assistance received and reported that the program was affordable. They suggested the addition of Saturday care and an increased emphasis on preventive and curative health.

When a new central government administration took over the program in 2000, it included in the new four-year plan concrete actions to address many of the constraints identified by our evaluation. These actions included increasing the amount of the cash transfers, strengthening preventive and curative health services, hiring educators to ease the time constraints of caretaker mothers, and strengthening human resources through additional training.

Impact Evaluation

The impact evaluation was carried out in one zone of Guatemala City and included (1) a case-control design of approximately 250 beneficiary children matched with control children of the same age and neighborhood whose mothers also worked outside the home; and (2) a random sample of approximately 1,400 households with children zero to seven years of age. The main objective was to assess

the impact of the program on children's dietary intakes, on maternal wages and employment conditions, on household expenditure patterns, and on older siblings' school attendance. Only preliminary findings of the impact of the program on children's dietary intakes are presented here. The purpose of the random sample was to examine aspects of targeting, coverage, patterns of use of other types of childcare, and their cost and to control for self-selection biases (of mothers into the labor force and into the program).

Beneficiary mothers tended to be slightly less educated, have fewer assets, and live in lower-quality housing than (working or nonworking) mothers from the random sample. Beneficiary mothers were also much more likely to be single: 40 percent were single compared with 29 percent of working mothers and 17 percent of all mothers from the random sample. Beneficiary mothers had smaller sized households but a higher mean number of preschoolers and thus a higher dependency ratio than women from the random sample.

Children of beneficiary mothers were more likely to be stunted and had lower height-for-age Z-scores than children from the random sample. Since stunting is a cumulative indicator of long-term growth retardation, it is likely that these children had suffered chronic growth retardation throughout their young childhood (possibly starting in *utero*) as a result of a combination of factors, including poverty, food insecurity, poor health, and poor maternal care.

Beneficiary mothers, on the other hand, were more likely to be employed in the formal sector and to work in factories than other working mothers and to receive work-related social and medical benefits. The income of beneficiary mothers in the previous month was also 30 percent higher than the income of working mothers from the random sample.

Thus, the program appears to be reaching its targeted population: poor families with working parents, and especially single mothers with childcare responsibilities. It is likely that the program, because it provides reliable and affordable childcare for 12 hours a day, allows single mothers to engage in more formal, and possibly more stable, employment, which also offers them a higher wage and more social and medical benefits. The low coverage of the program (only 3 percent of working mothers in the random sample used the program) seems to result from lack of supply rather than low demand.

Among nonbeneficiary families, the most commonly used childcare arrangements involved household and extended family members. Even compared with these informal alternatives, the HCP was one of the lowest-cost alternatives, ranking second, after resident household members. Nonresident relatives were more costly than the HCP, as were neighbors, other private arrangements, and formal childcare.

Impact on Children's Diet

The program is having a significant and positive impact on children's nutrient intake and dietary diversity: children participating in the program consume, on average, 20 percent more energy, proteins, and iron and 50 percent more vitamin A than control children. Moreover, a greater proportion of the key micronutrients (iron and vitamin A) consumed by beneficiary children came from animal products—a more bioavailable (more easily absorbed) form. Because the home diet of beneficiary children was also slightly more nutritious compared with control children, the net nutritional impact of the program is positive and significant.

Impact on Women's Labor Force Participation and Earnings

The low percentage of working mothers participating in the program made it impossible to evaluate the impact of the program itself on labor force participation and earnings. Using the random sample data, however, we evaluated the impact of childcare availability—in terms of both prices and travel time—on the choice between formal and informal care, taking into account a woman's joint decision to work and to choose the type of childcare. In Guatemala City women's decision to work was significantly affected by their age and the demographic characteristics of their household—particularly the availability of substitute caregivers. Women were also less likely to work if they had children below three years of age. Although education did not affect women's decision to work, it was significantly associated with greater use of formal day care. Use of formal care was also greater among women who had children three to seven years of age. Although the price of day care (either formal or informal) was not associated with the choice of day-care alternatives, longer median travel time between home and formal day care was negatively associated with its use.

After controlling for selection into the labor force, we found that women's education was the most important factor affecting their wages, hours worked, and total earnings. Education increased women's hourly wages and total earnings but decreased their hours worked, possibly through a wealth effect. Controlling for endogeneity of labor market participation and formal day-care use, the price of formal day care had negative but insignificant impacts on mothers' earnings. This suggests that interventions to increase the availability and lower the time costs of formal day care in poor urban areas

have the potential to raise labor force participation rates of mothers residing in such neighborhoods, but not necessarily their earnings conditional upon their having entered the labor force.

Conclusions

The government-sponsored HCP in Guatemala provides affordable and good-quality childcare for extended hours, thereby providing needed support to vulnerable urban households, namely single mothers. The program relieves one of the key constraints to women's labor force participation in urban areas, while at the same time improving children's nutrition. Thus, expansion and continued strengthening of this type of program could significantly contribute to reducing urban poverty, food insecurity, and childhood malnutrition.

B15. INVESTMENT IN WOMEN AND ITS IMPLICATIONS FOR LIFETIME INCOMES¹

Agnes R. Quisumbing, Jonna P. Estudillo, and Keiji Otsuka

This study examines the implications of gender differences in wealth transfers—farmland and education—on the lifetime incomes of men and women in the rural areas of Ghana, the Philippines, and Sumatra (Indonesia). Based on household surveys of three generations, we tested the hypothesis that parents bequeath

their wealth to their sons and daughters in accordance with their comparative advantages in lowland and upland farming and in nonfarm jobs. Therefore, if sons and daughters have comparative advantages in lowland farming and nonfarming activities, respectively, we expect that sons receive a greater area of farmland, whereas daughters receive more schooling, since schooling is particularly important in nonfarm jobs.

Egalitarian bequest motives of parents, however, do not assure that “equal” outcomes between men and women will prevail in terms of lifetime or permanent income. If women face discrimination in making use of land or education, parents would rationally transfer their wealth to sons, even though the parents may be basically egalitarian. Eradicating discrimination may thus increase returns to women's physical and human capital and encourage parents to invest in daughters.

Research Findings

Land Inheritance

If land bequest decisions are made in accordance with the comparative advantages of sons and daughters in farming, land will be bequeathed to men and women depending on their relative contribution to farm labor. Men inherit more land than women in the Philippines, where rice farming is intensive in male labor. Supportive evidence was also obtained from Sumatra, where matrilineal inheritance has traditionally been practiced. In Kerinci, Sumatra, where both men and women work more or less equally

¹ For details, see Quisumbing, Estudillo, and Otsuka (2003, 2004).

on lowland paddy fields and upland agroforestry fields, men and women currently inherit both types of land equally. In Bungo Tebo, Sumatra, where men work primarily on rubber agroforestry and women specialize in lowland paddy production, men inherit rubber fields and women inherit paddy fields. Furthermore, in Ghana where uterine matrilineal inheritance has traditionally been practiced (see Section B11 of this appendix), wives and daughters began to acquire landownership through gifts from the husband or father, provided that they helped establish cocoa agroforests. It is no coincidence that at present women contribute about 30 percent of labor in cocoa farming and own nearly 30 percent of cocoa land. Thus, the relative importance of men's and women's labor inputs is an important determinant of the land transfers to men and women.

This finding does not imply, however, that women have never been discriminated against in intergenerational land transfers. In Ghana social discrimination against women persists, even though it has been weakened considerably over time. There is also the incidence of parental discrimination against daughters in land transfers. In contrast, there are cases of land transfers from the parents' to the respondents' generation in which mothers who own large land areas prefer to transfer their land preferentially to their daughters, as in the Philippines and Sumatra. The extent of discrimination against daughters in land transfers, however, seems to have decreased over time.

Schooling Investments

It may be misleading to analyze land transfers or schooling investment independently since both are alternative forms of intergenerational transfers. In the Philippines, among children 20 years of age and older, sons inherit more land, but daughters receive more schooling. This result shows that land inheritance and

schooling are close substitutes. Schooling may also be increasing in importance in the Philippines, where younger sons and daughters receive almost equal levels of schooling at present, despite larger areas of expected land transfers to sons.

Evidence supporting a substitutable relationship between land inheritance and schooling, however, was not found in the Ghana and Sumatra studies. Both men and women are equally treated in land inheritance and schooling investments in the respondents' and children's generations in the Kerinci and Bungo Tebo sites. In contrast, women are disfavored in both land transfers and schooling in Ghana, even though the extent of such gender bias has reduced appreciably over time. These differences may be due to differences in women's participation in nonfarm jobs. In the Philippines, women work primarily in nonfarm jobs, where educated women and men are equally treated. In the other two sites, both men and women work mostly on farms.

Overall Effects of Wealth Transfers on Men's and Women's Income

We examined the consequences of gender differences in land inheritance and schooling investments on the lifetime or permanent income of men and women. We assessed the effects of schooling and the gender composition of household members on income from agricultural production and household expenditure, a proxy for permanent income.

We find that schooling is not an important determinant of agricultural income, regardless of whether it is food crop farming or tree crop farming. Thus, we should not expect that increased schooling has significantly positive effects on agricultural incomes and efficiency, unless technological changes enhance returns to schooling.

Women's schooling, but not men's schooling, has positive and significant effects on per capita household expenditures in the Philippines, whereas the opposite correlation holds in Ghana. This difference may occur because women are more educated in the Philippines and tend to work in nonfarm jobs, where returns to schooling are higher. In contrast, Ghanaian women in rural areas do not readily participate in nonfarm labor markets—a fact that, in turn, is likely to discourage investment in daughters' schooling in Ghana.

Based on these results, we estimated lifetime or permanent incomes of men and women. In the Philippines, the smaller farm income of daughters due to the smaller area of inherited paddy land is almost exactly compensated for by their larger nonfarm incomes due to their higher schooling attainments. In both Sumatra sites, sons' and daughters' incomes are largely equalized, reflecting the rough equality of agricultural land inheritance and the equal level of schooling between sons and daughters. In the case of Ghana, however, women's income is significantly lower than men's. Such a persistent and significant income gap can be largely attributed to social discrimination against females in land transfers and schooling.

Policy Implications

Our three-country study suggests that efforts to improve the distribution of income and resources between men and women in rural areas will not be successful without policies to improve income-earning abilities and opportunities for women. In particular, we advocate policies to (1) extend and strengthen schooling systems in rural areas; (2) promote competition in nonfarm labor markets to eliminate discrimination against women; (3) reform property rights systems,

in general, to be more equitable toward women; and (4) develop agricultural technologies that increase the returns to female labor, whether through increased demand or increased labor productivity.

Improve Schooling Systems in Rural Areas

Increasing women's educational attainment is an important part of any long-term strategy to improve gender equity in rural areas. Although the gender gap in schooling has closed in the Philippines and Sumatra sites, it continues to be an issue in rural Ghana, similar to other poor and isolated areas in other developing countries. Approaches to promoting gender equality in education have revolved around (1) reducing prices and increasing physical access to services, (2) improving the design of service delivery, and (3) investing in time-saving infrastructure (World Bank 2001).

Reducing prices and increasing physical access to educational services is important because parents' decisions to invest in girls' education is more sensitive to the price of education than their decision to invest in boys' education. Since girls' schooling is more sensitive to direct and opportunity costs, reducing the cost of schooling offers some of the most promising policy interventions to promote female education, such as school stipend programs, tuition subsidies, and scholarships for girls.

Parents' demand for girls' education also appears to be more sensitive than their demand for boys' education to the quality of schooling, the extent of learning, and teacher attitudes. To this end, training staff, reviewing and revising school curricula, and educating parents can all play important roles in ensuring that gender stereotypes are not perpetuated in the classroom and in the community.

Finally, investments that reduce distance to school and

investments in basic water and energy infrastructure can help female enrollment rates in part by reducing the opportunity cost of schooling for girls. Similarly, increasing access to local health care facilities reduces the time women and girls need to spend on in-home care for sick family members. These investments mean fewer interruptions to women's paid work and to girls' schooling. To promote schooling of girls, however, these interventions are not sufficient. It is critically important to raise the return to investments in girls' schooling. The analysis in this study, as well as in others, shows that returns to schooling in farm production are low.² Returns to female schooling are even lower or negative. With such low returns, it is not surprising that resistance to investing in girls' education persists in many rural areas without adequate access to nonfarm employment.

Remove Barriers to Female Participation in Nonfarm Labor Markets

Given the limited labor absorption capacity of the agricultural sector, realizing the returns to female education in the long run will increasingly depend on women's ability to find nonfarm employment. Low or even negative returns to women's schooling in agriculture may act as a deterrent to parental investment in girls' education, as in our Ghanaian case study. The higher probability of obtaining nonfarm employment has gone hand-in-hand with higher educational attainment of girls in the Philippines. Thus, increasing competition and reducing barriers to female entry to nonfarm labor markets will be key to enabling women to realize the returns to their

education. Some of the barriers to entry can be removed through legislation that prohibits explicit discrimination against women. But some of the other barriers may lie in the opportunity cost to women of participating in the nonfarm labor market. Women already tend to work longer hours than men, when both productive and domestic work are considered, and in virtually all countries, women perform a disproportionate share of household maintenance and care activities. Investments in time-saving infrastructure can reduce women's opportunity costs of participating in the labor market, while provision of childcare enables women to work and older daughters to continue schooling rather than care for younger siblings.

Policies also need to change the way employers and educators think about women's employment. Hard numbers must be used to dispel myths about the expense of employing women. For example, recent International Labour Organization (ILO) research provides evidence from four Latin American and Caribbean countries that the "extra costs" of employing women, such as maternity leave or childcare, turn out to be quite insignificant. Indeed, bearing these costs in the short run reduces the long-run cost of absenteeism and job turnover and permits firms to retain more experienced female workers. Finally, to promote competitive labor markets, policies to strengthen market competition among enterprises should be adopted. Those enterprises that discriminate against women are less likely to survive in competitive market environments. Moreover, it is important to recognize that the promotion of competitive labor markets will stimulate investments in the schooling of female children.

² This finding is also supported by the majority of the existing literature, although there are a few exceptions.

Reform Property Rights Systems

The reform of property rights systems and the legal framework is crucial to attaining gender equity. Legal reform is necessary to change statutory laws to strengthen women's entitlements and to increase the enforceability of their claims over natural and physical assets. Gender disparities in natural and physical capital persist partly because the legal framework supports property rights systems that are biased against women.

Land titling is often mentioned as a solution to gender disparities in land rights. Land titling is feasible, however, only if land rights are sufficiently individualized, and many programs have failed largely because of premature implementation. To be fair, men and women should be equally qualified for acquiring land titles, or, if appropriate, titles could be awarded jointly to men and women. Judging from the experience of Ghana, the promulgation of the Intestate Succession Law—which stipulates how property should be bequeathed to the spouse, children, and other family members—is likely to be an effective policy option to facilitate less gender-biased land inheritance systems in customary land tenure areas. Its effectiveness also depends, however, on women's knowledge of the provisions of the law and their ability to enforce their claims in court.

Develop Technologies to Increase Returns to Women's Labor

While returns to education are higher in the nonfarm sector, the task remains to improve incomes of those who remain in the agricultural sector. To this end, agricultural research can be directed toward technologies to increase the returns to women's labor. In labor-abundant economies, such as those of Asia at the time of the Green Revolution, these technologies could take the form of labor-intensive technologies that increase the demand for women's labor. In labor-constrained economies, these technologies could be those that make women's labor more productive—such as technologies to improve the efficiency of food processing or fuel collection. These technologies could also consist of new crops that are more profitable and offer a higher return to women's labor.

It is important that women are empowered to be able to benefit from the increased value of their time. The development literature is replete with stories of interventions that aimed to increase women's income-earning capabilities, raise the return to labor, or even improve the productivity of women's crops, but failed because they did not take into account intrahousehold dynamics as well as possible resistance from men. Gender equity is not incompatible with productive efficiency. It is possible that technologies that increase the returns to women's labor will also serve to improve the value of their outside options, thereby increasing their bargaining power within the family and enabling them to take advantage of new opportunities.

References

- Adato, M. 2000. The impact of PROGRESA on community social relationships. Report submitted to PROGRESA. International Food Policy Research Institute, Washington, D.C.
- Adato, M., and D. Mindek. 2000. PROGRESA and women's empowerment: Evidence from six Mexican states. In *The impact of PROGRESA on women's status and intrahousehold relations*, by M. Adato, B. de la Brière, D. Mindek, and A. Quisumbing. Final report submitted to PROGRESA. International Food Policy Research Institute, Washington, D.C.
- Adato, M., D. Coady, and M. Ruel. 2000. An operations evaluation of PROGRESA at the level of beneficiaries, communities, and institutions. Report submitted to PROGRESA. International Food Policy Research Institute, Washington, D.C.
- Adato, M., B. de la Brière, D. Mindek, and A. Quisumbing. 2000. The impact of PROGRESA on women's status and intrahousehold relations. Final report. International Food Policy Research Institute, Washington, D.C.
- _____. 2003. The impact of PROGRESA on women's status and intrahousehold relations. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Agarwal, B. 1994. *A field of one's own: Gender and land rights in South Asia*. Cambridge, U.K.: Cambridge University Press.
- Ahmed, A. U., and C. del Ninno. 2001. Food for Education program in Bangladesh: An evaluation of its impact on educational attainment and food security. International Food Policy Research Institute, Washington, D.C.
- Alderman, H., J. Hoddinott, L. Haddad, and C. Udry. 1996. *Gender differentials in farm productivity: Implications for household efficiency and agricultural policy*. Food Consumption and Nutrition Division Discussion Paper No. 6. Washington, D.C.: International Food Policy Research Institute.
- _____. 2003. Gender differentials in farm productivity: Implications for household efficiency and agricultural policy. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Appleton, S., D. L. Bevan, K. Burger, P. Collier, J. W. Gunning, L. Haddad, and J. Hoddinott. 1991. Public services and household allocation in Africa: Does gender matter? Center for African Studies, Oxford University, Oxford, U.K.
- Arends-Kuenning, M., and S. Amin. 1998. The effects of schooling incentive programs on household resource allocation. Population Council, New York.
- Ashby, J. 1985. Women and agricultural technology in Latin America and the Caribbean. In *Women, agriculture and rural development in Latin America*, J. A. Ashby and S. Gomez, eds. Cali, Colombia: International Fertilizer Development Center/Centro Internacional de Agricultura Tropical.
- Behrman, J. R. 1997. Intrahousehold distribution and the family. In *Handbook of population and family economics*, M. R. Rosenzweig and O. Stark, eds. Amsterdam: North-Holland.
- Bergeron, G. 2001. Rapid appraisal techniques for the assessment, design, and evaluation of food security interventions. In *Food security in practice: Methods for rural development projects*, J. Hoddinott, ed. Washington, D.C.: International Food Policy Research Institute.
- Bevan, P., and A. Pankhurst. 1996. Report on the sociological dimension of the Ethiopian Rural Economies Project. Centre for the Study of African Economies, Oxford University, Oxford, and Department of Sociology, Addis Ababa University, Ethiopia. Photocopy.

- Bindlish, V., and R. Evenson. 1993. *Evaluation of the performance of T&V extension in Kenya*. World Bank Africa Technical Paper 208. Washington, D.C.: World Bank.
- Bloch, F., and V. Rao. 2002. Terror as a bargaining instrument: A case study of dowry violence in rural India. *American Economic Review* 92 (4): 1029–1043.
- Blumenfeld, S. N. 1985. *Operations research methods: A general approach in primary health care*. PRICOR Monograph Series, Methods Paper 1. Washington, D.C.: PRICOR.
- Boserup, E. 1970. *Woman's role in economic development*. New York: St. Martin's.
- Bouis, H. 2003. Commercial vegetable and polyculture fish production in Bangladesh: Impacts on income, food consumption, and nutrition. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Bouis, H., B. de la Brière, L. Guitierrez, K. Hallman, N. Hassan, O. Hels, W. Quabili, A. Quisumbing, S. Thilsted, Z. Hassan Zihad, and S. Zohir. 1998. Commercial vegetable and polyculture fish production in Bangladesh: Their impacts on income, household resource allocation, and nutrition. International Food Policy Research Institute and the Bangladesh Institute of Development Studies, Institute of Nutrition and Food Science, Washington, D.C.
- Brown, G. 2000. Evaluating the impact of water supply projects in Indonesia. In *Integrating quantitative and qualitative research in development projects*. *Directions in development*, M. Bamberger, ed. Washington, D.C.: World Bank.
- Carletto, C., and S. Morris. 2001. Designing methods for monitoring and evaluating food security and nutrition interventions. In *Food security in practice: Methods for rural development projects*, J. Hoddinott, ed. Washington, D.C.: International Food Policy Research Institute.
- CEDPA (Centre for Development and Population Activities). 1994. *Project design for program managers: Conducting a workshop on planning community-based projects*. CEDPA Training Manual Series Vol. 2. Washington, D.C.: CEDPA.
- Cloud, K. 1983. *Women's productivity in agricultural systems: Considerations for project design*. Cambridge, Mass., U.S.A.: Harvard Institute for International Development, AID/WID Training Project.
- Cooke, P. A. 2000. *Changes in intrahousehold labor allocation to environmental goods collection: A case study from rural Nepal*. Food Consumption and Nutrition Division Discussion Paper No. 87. Washington, D.C.: International Food Policy Research Institute.
- Cross, C. R., T. M. Mngadi, and W. T. Mbhele. 1998. Poverty at ground zero: Social capital and economic shocks in rural KwaZulu Natal. Report submitted to International Food Policy Research Institute, Washington, D.C.
- Crowley, E. 2001. Land rights. In *Empowering women to achieve food security*, A. R. Quisumbing and R. S. Meinzen-Dick, eds. 2020 Focus No. 6. Washington, D.C.: International Food Policy Research Institute.
- Datt, G., and D. Joliffe. 1998. The determinants of poverty in Egypt. International Food Policy Research Institute, Washington, D.C. Photocopy.
- Datt, G., K. Simler, and S. Mukherjee. 1999. The determinants of poverty in Mozambique. Final report. International Food Policy Research Institute, Washington, D.C.
- Deere, C. D., and M. Leon. 1987. Introduction. In *Rural women and state policy: Feminist perspectives on Latin American agricultural development*, C. D. Deere and M. Leon, eds. Boulder, Colo., U.S.A., and London: Westview Press.
- de la Brière, B., and A. R. Quisumbing. 2000. The impact of PROGRESA on intrahousehold decisionmaking and relative schooling achievements of boys and girls. In *The impact of PROGRESA on women's status and intrahousehold relations: A final report*, by M. Adato, B. de la Brière, D. Mindek and A. Quisumbing. Report submitted to PROGRESA. International Food Policy Research Institute, Washington, D.C.
- de la Brière, B., K. Hallman, and A. R. Quisumbing. 2003. Resource allocation and empowerment of women in rural Bangladesh. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.

- Dey, J. 1985. Women in African rice farming systems. In *Women in rice farming: Proceedings of a conference on women in rice farming systems*, International Rice Research Institute. Brookfield, Vt., U.S.A.: Gower.
- Dixon, Ruth B. 1982. Women in agriculture: Counting the labor force in developing countries. *Population and Development Review* 8: 539–565.
- Doss, C. 1996. *Women's bargaining power in household economic decisions: Evidence from Ghana*. Staff Paper Series No. P96–11. St. Paul, Minn., U.S.A.: Department of Applied Economics, College of Agricultural, Food, and Environmental Sciences, University of Minnesota.
- Dunn, W. 1994. *Public Policy Analysis*. Englewood Cliffs, N.J., U.S.A.: Prentice-Hall.
- Dwyer, D., and J. Bruce, eds. 1988. *A home divided: Women and income in the Third World*. Stanford, Calif., U.S.A.: Stanford University Press.
- Fafchamps, M., and A. R. Quisumbing. 2002. Control and ownership of assets within rural Ethiopian households. *Journal of Development Studies* 38 (2): 47–82.
- _____. 2003. Control and ownership of assets within rural Ethiopian households. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Fapohunda, E. 1988. The nonpooling household: A challenge to theory. In *A home divided: Women and income in the Third World*, D. Dwyer and J. Bruce, eds. Stanford, Calif., U.S.A.: Stanford University Press.
- Feldstein, H. S., and J. Jiggins, eds. 1994. *Tools for the field: Methodologies handbook for gender analysis in agriculture*. West Hartford, Conn., U.S.A.: Kumarian Press.
- Foster, A., and M. R. Rosenzweig. 2002. Household public goods, household division, and rural economic growth. *Review of Economic Studies* 69 (4): 839–869.
- Frankenberg, E., and D. Thomas. 2001. *Measuring power*. Food Consumption and Nutrition Division Discussion Paper No.113. Washington, D.C.: International Food Policy Research Institute.
- Gladwin, C. H. 1975. A model of the supply of smoked fish from Cape Coast to Kumasi. In *Formal methods in economic anthropology*, S. Plattner, ed. Washington, D.C.: American Anthropological Association.
- _____. 1982. Off-farm work and its effect on Florida farm wives' contribution to the family farm. In *World development and women*, Vol. 2, M. Rojas, ed. Blacksburg, Va., U.S.A.: Virginia Tech Title XII Women in Development Office.
- Gladwin, C. H., and D. Macmillan. 1989. Is a turnaround in Africa possible without helping African women to farm? *Economic Development and Cultural Change* 37 (2): 345–369.
- Gopal, G. 2001. Law and legal reform. In *Empowering women to achieve food security*, A. R. Quisumbing and R. S. Meinzen-Dick, eds. 2020 Focus No. 6. Washington, D.C.: International Food Policy Research Institute.
- Gopal, G., and M. Salim. 1999. *Gender and law: Eastern Africa speaks*. Proceedings of a conference organized by the World Bank and the Economic Commission for Africa. Washington, D.C.: World Bank.
- Guyer, J. M. 1997. Endowments and assets: The anthropology of wealth and the economics of intrahousehold allocation. In *Intrahousehold resource allocation in developing countries: Models, methods, and policy*, L. Haddad, J. Hoddinott, and H. Alderman, eds. Baltimore, Md., U.S.A.: Johns Hopkins University Press for the International Food Policy Research Institute.
- _____. 1980. *Household budgets and women's incomes*. African Studies Center Working Paper No. 28. Boston, Mass., U.S.A.: Boston University.
- Haddad, L., and R. Kanbur. 1990. How serious is the neglect of intrahousehold inequality? *Economic Journal* 100 (September): 866–881.
- Haddad, L., J. Hoddinott, and H. Alderman, eds. 1997. *Intrahousehold resource allocation in developing countries: Methods, models, and policy*. Baltimore, Md., U.S.A.: Johns Hopkins University Press for the International Food Policy Research Institute.
- Haddad, L., C. Peña, C. Nishida, A. Quisumbing, and A. Slack. 1996. *Food security and nutrition implications of intrahousehold bias: A review of literature*. Food Consumption and Nutrition Division Discussion Paper 19. Washington, D.C.: International Food Policy Research Institute.

- Hallman, K. 2000. *Mother–father resource control, marriage payments, and girl–boy health in rural Bangladesh*. Food Consumption and Nutrition Division Discussion Paper 93. Washington, D.C.: International Food Policy Research Institute.
- Hallman, K., D. Lewis, S. Begum, and A. Quisumbing. 2002. Impact of improved vegetable and fishpond technologies on poverty in Bangladesh. Paper presented at the international conference, “Impacts of Agricultural Research and Development: Why Has Impact Assessment Research Not Made More of a Difference?” San José, Costa Rica, February 4–7.
- Hallman, K., A. Quisumbing, M. Ruel, and B. de la Brière. 2003. *Childcare and work: Joint decisions among women in poor neighborhoods of Guatemala City*. Food Consumption and Nutrition Division Discussion Paper No. 151. Washington, D.C.: International Food Policy Research Institute.
- Heineman, R. A., W. T. Bluhm, S. A. Peterson, and E. N. Kearny. 1990. *The world of the policy analyst: Rationality, values and politics*. Chatham, N.J., U.S.A.: Chatham House Publishers.
- Hill, P. 1963. *Migrant cocoa farmers of southern Ghana*. Cambridge, U.K.: Cambridge University Press.
- _____. 1978. Food farming and migration from Fante villages. *Africa* 48 (3): 220–230.
- Hoddinott, J., ed. 2001. *Food security in practice: Methods for rural development projects*. Washington, D.C.: International Food Policy Research Institute.
- Jackson, C. 2005. *Strengthening food policy through gender and intrahousehold analysis: Impact assessment of IFPRI multicountry research*. IFPRI Impact Assessment Discussion Paper 23. Washington, D.C.: International Food Policy Research Institute.
- Jha, D., B. Hojjati, and S. Vosti. 1991. The use of improved agricultural technology in Eastern Province. In *Adopting improved farm technology: A study of smallholder farmers in Eastern Province, Zambia*, R. Celis, J. T. Milimo, and S. Wanmali, eds. Washington, D.C.: International Food Policy Research Institute.
- Jones, C. 1983. The mobilization of women’s labor for cash crop production: A game theoretic approach. *American Journal of Agricultural Economics* 65 (5): 1049–1054.
- Kennedy, E. 1994. Health and nutrition effects of commercialization of agriculture. In *Agricultural commercialization, economic development, and nutrition*, J. von Braun and E. Kennedy, eds. Baltimore, Md., U.S.A.: Johns Hopkins University Press for the International Food Policy Research Institute.
- Klasen, S. 1999. Does gender inequality reduce growth and development? Evidence from cross-country regressions. Background paper for *Engendering development*. World Bank, Washington, D.C.
- Koolwal, G. 2005. Is group heterogeneity better? A study of women’s community networks in India. Unpublished paper. Department of Economics, Cornell University, Ithaca, N.Y.
- Kumar, S. 1987. Women’s role and agricultural technology. In *Accelerating food production in Sub-Saharan Africa*, J. Mellor, C. L. Delgado, and M. J. Blackie, eds. Baltimore and London: Johns Hopkins University Press for the International Food Policy Research Institute.
- Lele, U. 1986. Women and structural transformation. *Economic Development and Cultural Change* 34 (January): 195–221.
- Lundberg, S. J., R. A. Pollak, and T. J. Wales. 1997. Do husbands and wives pool their resources? Evidence from the United Kingdom Child Benefit. *Journal of Human Resources* 32 (3): 463–480.
- Maluccio, J. 2001. Social capital and welfare in KwaZulu-Natal, 1993–1998. Presentation at the End of Project Workshop on Strengthening Development Policy through Gender Analysis, International Food Policy Research Institute, Washington, D.C., February 1.
- Maluccio, J., and R. Flores. 2005. *Impact evaluation of a conditional cash transfer program: The Nicaraguan Red de Protección Social*. IFPRI Research Report No. 141. Washington, D.C.: International Food Policy Research Institute.
- Maluccio, J., L. Haddad, and J. May. 2000. Social capital and income generation in South Africa, 1993–98. *Journal of Development Studies* 36 (6): 54–81.
- _____. 2003. Social capital and gender in South Africa, 1993–1998. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.

- Maluccio, J., L. Haddad, J. May, C. Cross, T. M. Mngadi, and W. T. Mbhele. 2002. Social capital and gender in South Africa, 1993–1998. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed.. Washington, D.C.: International Food Policy Research Institute.
- Manser, M., and M. Brown. 1980. Marriage and household decisionmaking: A bargaining analysis. *International Economic Review* 21 (1): 31–44.
- McElroy, M. B., and M. J. Horney. 1981. Nash-bargained household decisions: Toward a generalization of the theory of demand. *International Economic Review* 22 (2): 333–349.
- Meier, G., and J. R. Rauch. 2000. *Leading issues in economic development*, seventh edition. Oxford: Oxford University Press.
- Meinzen-Dick, R. S., and M. Zwarteveen. 1998. Gendered participation in water management: Issues and illustrations from water users associations in South Asia. *Agriculture and Human Values* 15 (4): 337–345.
- _____. 2003. Gendered participation in water management: Issues from water users' associations in South Asia. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Moock, P. 1976. The efficiency of women as farm managers: Kenya. *American Journal of Agricultural Economics* 58 (5): 831–835.
- Moser, C. 1989. Gender planning in the Third World: Meeting practical and strategic gender needs. *World Development* 17 (11): 1799–1825.
- Mukhopadhyay, C. 1984. Testing a decision process model of the sexual division of labor in the family. *Human Organization* 43 (Fall): 227–242.
- Naved, R. T. 2000. *Intrahousehold impact of transfer of modern agricultural technology: A gender perspective*. Food Consumption and Nutrition Division Discussion Paper No. 85. Washington, D.C.: International Food Policy Research Institute.
- _____. 2003. Intrahousehold impact of the transfer of modern agricultural technology: A gender perspective. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Oakley, A. 1972. *Sex, gender, and society*. London: Temple Smith.
- Pahl, J. 1983. The allocation of money within marriage. *Sociological Review* 32 (May): 237–264.
- Paolisso, M., K. Hallman, L. Haddad, and S. Regmi. 2002. Does cash crop adoption detract from childcare provision? Evidence from rural Nepal. *Economic Development and Cultural Change* 50 (2): 313–337.
- Quisumbing, A. R. 1994. Intergenerational transfers in Philippine rice villages: Gender differences in traditional inheritance customs. *Journal of Development Economics* 43 (1): 167–196.
- _____. 1996. Male–female differences in agricultural productivity: Methodological issues and empirical evidence. *World Development* 24 (10): 1579–1595.
- Quisumbing, A. R., ed. 2003. *Household decisions, gender, and development: A synthesis of recent research*. Washington, D.C.: International Food Policy Research Institute.
- Quisumbing, A. R., and B. de la Brière. 2000. *Women's assets and intrahousehold allocation in rural Bangladesh: Testing measures of bargaining power*. Food Consumption and Nutrition Division Discussion Paper 86. Washington, D.C.: International Food Policy Research Institute.
- Quisumbing, A. R., and K. Hallman. 2005. Marriage in transition: Evidence on age, education, and assets from six developing countries. In *The changing transitions to adulthood in developing countries: Selected studies, panel on transitions to adulthood in developing countries*, C. B. Lloyd, J. R. Behrman, N. P. Stromquist, and B. Cohen, eds. Committee on Population, Division of Behavioral and Social Sciences and Education. Washington, D.C.: National Academies Press.
- Quisumbing, A. R., and J. A. Maluccio. 2000. *Intrahousehold allocation and gender relations: New empirical evidence from four developing countries*. Food Consumption and Nutrition Division Discussion Paper No. 84. Washington, D.C.: International Food Policy Research Institute.
- _____. 2003a. Resources at marriage and intrahousehold allocation: Evidence from Bangladesh, Ethiopia, Indonesia, and South Africa. *Oxford Bulletin of Economics and Statistics* 65 (3): 283–328.

- _____. 2003b. Intra-household allocation and gender relations: New empirical evidence from four developing countries. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Quisumbing, A. R., and R. S. Meinzen-Dick. 2001. Overview. In *Empowering women to achieve food security*, A. R. Quisumbing and R. S. Meinzen-Dick, eds. 2020 Focus 6. Washington, D.C.: International Food Policy Research Institute.
- Quisumbing, A. R., J. P. Estudillo, and K. Otsuka. 2003. Investment in women and its implications for lifetime incomes. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- _____. 2004. *Land and schooling: Transferring wealth across generations*. Baltimore, Md., U.S.A.: Johns Hopkins University Press for the International Food Policy Research Institute.
- Quisumbing, A. R., L. Haddad, and C. Peña. 2001. Are women over-represented among the poor? An analysis of poverty in ten developing countries. *Journal of Development Economics* 66 (1): 225–269.
- Quisumbing, A. R., E. Payongayong, J. B. Aidoo, and K. Otsuka. 2001a. Women's land rights in the transition to individualized ownership: Implications for the management of tree resources in Western Ghana. *Economic Development and Cultural Change* 50 (1): 157–182.
- _____. 2003. Women's land rights in the transition to individualized ownership: Implications for the management of tree resources in Western Ghana. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Quisumbing, A. R., and K. Otsuka, with S. Suyanto, J. B. Aidoo, and E. Payongayong. 2001b. *Land, trees, and women: Evolution of customary land tenure institutions in western Ghana and Sumatra*. IFPRI Research Report No. 121. Washington, D.C.: International Food Policy Research Institute.
- Rao, V. 1997. Wife-beating in rural South India: A qualitative and econometric analysis. *Social Science and Medicine* 44 (8): 1169–1180.
- Rocheftort, D. A., and R. Cobb. 1994. *The politics of problem definition: Shaping the policy agenda*. Lawrence, Kan., U.S.A.: University Press of Kansas.
- Rubalcava, L., and D. Thomas. 1997. Family bargaining and welfare. RAND Corporation, Los Angeles, Calif., U.S.A. Photocopy.
- Ruel, M. T., F. Arévalo, and R. Martorell. 1996. *El uso de la investigación operacional para la evaluación de aspectos funcionales de programas de alimentación complementaria. Estudio de caso: CARE Guatemala*. Guatemala City: Instituto de Nutrición de Centro América y Panamá (INCAP)/Organización Panamericana de la Salud (OPS).
- Ruel, M. T., B. de la Brière, and K. Hallman. 2000. Evaluación operativa de Programa de Hogares Comunitarios de Guatemala. International Food Policy Research Institute, Washington, D.C.
- Ruel, M. T., B. de la Brière, K. Hallman, A. Quisumbing, and N. Coj de Salazar. 2002. *Does subsidized childcare help poor working women in urban areas? Evaluation of a government-sponsored program in Guatemala City*. Food Consumption and Nutrition Division Discussion Paper No. 131. Washington, D.C.: International Food Policy Research Institute.
- _____. 2003. Subsidized childcare and working women in urban Guatemala. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Ruel, M. T., and A. R. Quisumbing with K. Hallman and B. de la Brière. 2006. *The Guatemala Community Day Care Program: An example of effective urban programming*. Research Report No. 144. Washington, D.C.: International Food Policy Research Institute.
- Schuler, S. R., S. M. Hashemi, and A. P. Riley. 1997. Men's violence against women in rural Bangladesh: Undermined or exacerbated by micro-credit programs? Paper presented at the 1997 Annual Meetings of the Population Association of America, Washington, D.C., March.
- Schultz, T. P. 1990. Testing the neoclassical model of family labor supply and fertility. *Journal of Human Resources* 25 (4): 599–634.

- _____. 2000. School subsidies for the poor: Evaluating a Mexican strategy for reducing poverty. June report. International Food Policy Research Institute, Washington, D.C.
- Sharma, M. 2001. Microfinance. In *Empowering women to achieve food security*, A. R. Quisumbing and R. S. Meinzen-Dick, eds. 2020 Focus 6. Washington, D.C.: International Food Policy Research Institute.
- Skoufias, E. 2005. *PROGRESA and its impacts on the welfare of rural households in Mexico*. IFPRI Research Report No. 139. Washington, D.C.: International Food Policy Research Institute.
- Skoufias, E., and B. McClafferty. 2001. *Is PROGRESA working? Summary of the results of an evaluation by IFPRI*. Food Consumption and Nutrition Division Discussion Paper No. 118. Washington, D.C.: International Food Policy Research Institute.
- _____. 2003. Is PROGRESA working? Summary of the results of an evaluation by IFPRI. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Smith, L. C., and J.-P. Chavas. 1999. *Supply response of West African agricultural households: Implications of intrahousehold preference heterogeneity*. Food Consumption and Nutrition Division Discussion Paper No. 69. Washington, D.C.: International Food Policy Research Institute.
- _____. 2003. Supply response of West African agricultural households: implications of intrahousehold preference heterogeneity. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Smith, L. C., and L. Haddad. 2000. *Explaining child malnutrition in developing countries: A cross-country analysis*. Research Report No. 111. Washington, D.C.: International Food Policy Research Institute.
- Smith, L. C., U. Ramakrishnan, L. Haddad, R. Martorell, and A. Ndiaye. 2003a. *The importance of women's status for child nutrition in developing countries*. Research Report No. 131. Washington, D.C.: International Food Policy Research Institute.
- _____. 2003b. The importance of women's status for child nutrition in developing countries. In *Household decisions, gender, and development: A synthesis of recent research*, A. R. Quisumbing, ed. Washington, D.C.: International Food Policy Research Institute.
- Strauss, J. A., and D. Thomas. 1995. Human resources: Empirical modeling of household and family decisions. In *Handbook of development economics*, T. N. Srinivasan and J. Behrman, eds. Amsterdam: North-Holland.
- Thomas, D. 1990. Intrahousehold resource allocation: An inferential approach. *Journal of Human Resources* 25 (4): 635–664.
- Thomas, D., D. Contreras, and E. Frankenberg. 1997. Child health and the distribution of household resources at marriage. RAND Corporation, Santa Monica, Calif., U.S.A. Photocopy.
- Tripp, R. 1982. Farmers and traders: Some economic determinants of nutritional status in northern Ghana. *Food and Nutrition Bulletin* 8 (1): 3–12.
- Udry, C. 1996. Gender, agricultural production, and the theory of the household. *Journal of Political Economy* 105 (5): 1010–1046.
- von Braun, J., and P. Webb. 1989. The impact of new crop technology on the agricultural division of labor in a West African setting. *Economic Development and Cultural Change* 37 (3): 513–534.
- Williams, S. (with J. Seed and A. Mwau). 1994. *The Oxfam gender training manual*. Oxford: Oxfam U.K. and Ireland.
- World Bank. 2001. *Engendering development through gender equality in rights, resources, and voice*. World Bank Policy Research Report. Washington, D.C.

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