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IFPRI Discussion Paper 01294

October 2013

Women's Empowerment and Nutrition

An Evidence Review

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ABSTRACT

Many development programs that aim to alleviate poverty and improve investments in human capital consider women's empowerment a key pathway by which to achieve impact and often target women as their main beneficiaries. Despite this, women's empowerment dimensions are often not rigorously measured and are at times merely assumed. This paper starts by reflecting on the concept and measurement of women's empowerment and then reviews some of the structural interventions that aim to influence underlying gender norms in society and eradicate gender discrimination. It then proceeds to review the evidence of the impact of three types of interventions—cash transfer programs, agricultural interventions, and microfinance programs—on women's empowerment, nutrition, or both.

Qualitative evidence on *conditional* cash transfer (CCT) programs generally points to positive impacts on women's empowerment, although quantitative research findings are more heterogenous. CCT programs produce mixed results on long-term nutritional status, and very limited evidence exists of their impacts on micronutrient status. The little evidence available on *unconditional* cash transfers (UCT) indicates mixed impacts on women's empowerment and positive impacts on nutrition; however, recent reviews comparing CCT and UCT programs have found little difference in terms of their effects on stunting and they have found that conditionality is *less* important than other factors, such as access to healthcare and child age and sex. Evidence of cash transfer program impacts depending on the gender of the transfer recipient or on the conditionality is also mixed, although CCTs with non-health conditionalities seem to have negative impacts on nutritional status. The impacts of programs based on the gender of the transfer recipient show mixed results, but almost no experimental evidence exists of testing gender-differentiated impacts of a single program.

Agricultural interventions—specifically home gardening and dairy projects—show mixed impacts on women's empowerment measures such as time, workload, and control over income; but they demonstrate very little impact on nutrition. Implementation modalities are shown to determine differential impacts in terms of empowerment and nutrition outcomes. With regard to the impact of microfinance on women's empowerment, evidence is also mixed, although more recent reviews do not find any impact on women's empowerment. The impact of microfinance on nutritional status is mixed, with no evidence of impact on micronutrient status. Across all three types of programs (cash transfer programs, agricultural interventions, and microfinance programs), very little evidence exists on pathways of impact, and evidence is often biased toward a particular region.

The paper ends with a discussion of the findings and remaining evidence gaps and an outline of recommendations for research.

Keywords: women's empowerment, cash transfers, microfinance, agriculture, nutrition

JEL Classification: I21, I38, O15

ACKNOWLEDGMENTS

Suneetha Kadiyala, Purnima Menon, and Amber Peterman provided very useful insights in the initial drafts of the paper and its overall conceptualization. Marie Ruel and Harold Alderman provided significant conceptual support in relation to the sections on cash transfer and agricultural programs, as well as women’s empowerment and nutrition. All contributors supported the review process by continuously pointing to relevant literature.

This evidence review has been commissioned as part of Transform Nutrition, a six-year research program consortium funded with aid from the UK government. Transform Nutrition aims to transform thinking and action on nutrition and strengthen nutrition-relevant evidence to accelerate undernutrition reduction in South Asia and Africa south of the Sahara. The views expressed do not necessarily reflect UK government official policies. For more information, please visit www.transformnutrition.org.



1. INTRODUCTION

Research on the relationship between women's empowerment and nutrition, particularly child nutrition, is continually expanding. As part of the quest to achieve gender equality, women's empowerment has increasingly been the focus of many development interventions. In addition to being an end goal in itself, women's empowerment is also considered as a means by which to achieve other important development outcomes, such as improvements in child nutritional status. As women are often the primary caretakers in a household, intrahousehold dynamics that determine allocation of resources and their impact on individuals' well-being are increasingly a subject of analysis.

Substantial evidence now shows that households do not necessarily act in a unitary manner when allocating resources; women and men often have different preferences for allocating food and nonfood resources and may therefore distribute these resources differently, based on their bargaining power within a household (Alderman et al. 1995; Hoddinott and Haddad 1995; Quisumbing and Maluccio 2003; Quisumbing 2003). Research also shows positive associations between increases in women's empowerment and improved nutrition outcomes and, conversely, that actions leading to women's *disempowerment* can result in adverse nutritional impacts for women themselves as well as for their children (Bhagowalia et al. 2012; Quisumbing and Maluccio 2003; Smith and Haddad 2000; Smith et al. 2003a). Investing in women is therefore considered beneficial for improving human capital formation, especially in terms of child nutrition, health, and education (Quisumbing 2003; Smith et al. 2003a; World Bank 2001; Yoong, Rabinovich, and Diepeveen 2012).

In light of this, many interventions that aim to alleviate poverty and improve investments in human capital consider women's empowerment as a key pathway by which to achieve impact, and these interventions often target women as their main beneficiaries. But while evaluations of these programs may examine their impact on human capital outcomes such as nutritional status, their impact on women's empowerment is not always rigorously measured and at times merely assumed. This paper reviews (1) evidence of links between women's empowerment and nutrition outcomes, while keeping in mind that women are by no means a homogenous group, and (2) evidence of the impact of different programs on women's empowerment, nutrition, or both.

The paper continues with an explanation of the methodology, followed by a reflection on the concept of women's empowerment and a review of evidence on the linkages between women's empowerment and nutrition. Next, we examine some of the broad-based structural interventions intended to influence underlying gender norms in society and to eradicate gender discrimination (such as education, political representation, and various legal reforms), as well as direct interventions that often target women as the primary beneficiaries, focusing on cash transfer (CT) programs, agricultural interventions, and microfinance programs. The paper ends with a discussion of the findings, remaining evidence gaps, and outlines recommendations for future research, with the aim of ultimately contributing to the broader question of how women's empowerment interventions can be made more nutrition sensitive.

2. METHODOLOGY

This paper is not a systematic review of the evidence of development programs on women’s empowerment, but rather a comprehensive synthesis of findings from recent systematic reviews and key studies that focus on women’s empowerment and that are directly or indirectly relevant to nutrition. Electronic databases were searched and screened, including Google Scholar, 3ie, EconLit, ELDIS, IDEAS, and Research for Development (from the Department for International Development), as well as websites including those of the International Food Policy Research Institute (IFPRI), the World Bank, the Food and Agriculture Organization of the United Nations (FAO), and the Institute for Development Studies. Search terms used are presented in Table 2.1; different sites permitted different levels of search sophistication.

Table 2.1—List of search terms

Women’s empowerment definitions and measurements								
Women empowerment								
Female empowerment								
Women empowerment definition								
Empowerment measur*								
Empowerment domestic violence								
Women’s empowerment in combination with direct interventions								
Women’s empowerment	AND	Nutrition and agriculture	OR	Cash and food transfers	OR	Microfinance	OR	Other
Women empowerment		Nutrition* Agricultur*		Conditional cash transfer* Unconditional cash transfer*		Microfinance		Political representation Quotas

Source: Compiled by authors.

Note: Some databases allow for words to be truncated. For example, “nutrition*” will find “nutritional,” “nutritionally,” and so on. “Empowerment measure*” will find “empowerment measurement” or “empowerment measuring.”

Further studies were collected through contacts with networks in the areas of gender, agriculture, nutrition, and social protection. A snowballing process of retrieving more literature from the reference lists of relevant studies was used; both published and gray literature was included. From all these results, more than 4,000 references were screened (titles and abstracts), and nearly 200 sources were ultimately included in the review.

The section discussing definitions and measurements of women’s empowerment (Section 3) was based primarily on existing reviews and papers from 1990 onward. Literature on links between women’s empowerment and nutrition (Section 4) was solicited from key contacts mentioned above and through a snowballing process from key studies. A similar approach was taken with regard to structural interventions aimed to achieve gender equality and eradicate gender-based discrimination (Section 5). With regard to CTs, agricultural interventions, and microfinance programs, qualitative, quantitative, and mixed-methods studies were all considered, but only those that measured program impact on women’s empowerment, nutritional outcomes, or both were included. Similarly, reviews (systematic and nonsystematic) that covered studies examining impact on women’s empowerment indicators, nutritional outcomes, or both were included. For CT programs, one study deviated from these criteria in that it measured impact on demand for health services, but it compared the difference of impact between unconditional cash transfers (UCT) and conditional cash transfers (CCT). For microfinance programs, reviews and studies covering program impact based on gender of the program recipient were included, as well as those measuring impact on nutritional outcomes, and on women’s empowerment indicators, or some combination of these three. Mendeley was used as the reference manager.

3. UNDERSTANDING AND MEASURING WOMEN'S EMPOWERMENT

Over the past two decades, discourse and attention to the concept of *empowerment* has steadily increased within international development discourse. Women's empowerment is deemed particularly important as an end in itself from a social justice and equality perspective as well as a necessary means to achieve development goals such as poverty reduction and investments in human capital such as nutrition, health, and education. In relation to agriculture and nutrition, women's empowerment has been championed from both of these perspectives; "closing the gender gap"¹ in agriculture (for example, in land, livestock, education, financial and extension services, labor, and technology) is expected to lead to significant gains in agricultural productivity, self-esteem, income growth, and improved child health and nutrition (Quisumbing et al., n.d.; Smith et al. 2003a). Research shows that women—as mothers and primary caretakers—are more likely to influence health and nutrition outcomes of their children and their families as a whole; hence, women's empowerment has become core to the design, implementation, and evaluation of policy and programmatic interventions (FAO 2011; Quisumbing 2003; Quisumbing et al., n.d.; Smith et al. 2003a).

However, despite the evidence supporting the hypothesis that women are more likely to allocate resources toward public goods, especially those benefiting children, scholars have also expressed caution about using the economic models that have come to these conclusions. They point out that higher-spending outcomes on child goods could also result in a decrease in expenditure on other important public goods (that may also benefit children) or a reduction in overall household spending on public goods, or that certain methods of female empowerment may have opposite effects (for example, reducing gender discrimination could lead to women's preferences gravitating toward those of men, which might result in reduced spending on children). They hence point to the need for more empirical evidence to determine the empowerment effects of the various economic models that can be used to demonstrate effects of targeting women and the causal link between female empowerment and (economic) development (Doepke and Tertilt 2011). Furthermore, the variation in the interpretation of women's empowerment continues to pose challenges to the ways in which interventions are conceptualized, implemented, and measured, and what (intended and unintended) impacts these interventions ultimately have.

Defining Empowerment

The debate on the meaning and measurement of empowerment has been captured by several detailed reviews and papers.² Depending on context and author, empowerment has been associated with a wide range of definitions.³ The terms that most often overlap across various definitions refer to choice, power, options, control, and *agency*.⁴ With regard to women's empowerment specifically, they most often refer

¹ The FAO estimates that women comprise approximately 43 percent of the agricultural labor force in developing countries (varying by country and by region) and, on average, have less access to and control over productive resources than men (resources such as land, education, labor, livestock, technology, financial and extension services). The FAO has estimated that closing this asset gap could result in a yield increase on women's farms by 20 to 30 percent, raising agricultural output in developing countries by 2.5 to 4 percent and reducing the number of hungry people globally by 12 to 17 percent (FAO 2011).

² See, for example, Malhotra, Schuler, and Boender (2002), Ibrahim and Alkire (2007), and Samman and Santos (2009) for reviews of concepts, definitions, and measurements. See, also, Alsop, Bertelsen, and Holland (2006) and Kabeer (1999a, 1999b, 2005a) for discussions on concepts and on measuring empowerment.

³ Many of these definitions associate empowerment with matters such as autonomy, freedom, ownership of and control over assets, self-awareness, agency, collective action, power and its redistribution, self-determination, participation, dignity, social inclusion, and choice. In their paper, Ibrahim and Alkire (2007) outline 29 definitions of empowerment used in the literature.

⁴ Many understandings of empowerment have drawn on Amartya Sen's conceptualization of *agency*, that which "a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important" (Sen 1999 as cited in Samman and Santos 2009, 4). Empowerment is hence described as the expansion of agency. In other interpretations, it is not only the expansion of agency but also the expansion of the "opportunity structure" (formal and informal institutional context in which people operate) and their interaction that is required before empowerment can take place (Alsop, Bertelsen, and Holland 2006; Alsop and Heinsohn 2005). In this light, empowerment is seen as both a process and an outcome.

to “women’s ability to make decisions and affect outcomes of importance to themselves and their families. Control over one’s life and over resources is often stressed” (Malhotra, Schuler, and Boender 2002, 5).

In an attempt to bridge similarities across definitions, Kabeer provides a useful conceptualization of empowerment: “the expansion in people’s ability to make strategic life choices in a context where this ability was previously denied to them” (Kabeer 1999a, 437). This understanding of empowerment emphasizes two important elements: first, it highlights that empowerment is a *process* that involves change from a condition of disempowerment and denial of choice to one of empowerment. Second, it emphasizes agency, meaning that “women themselves must be significant actors in the process of change that is being described or measured” (Malhotra, Schuler, and Boender 2002, 7).⁵ Following this interpretation, agency—the “ability to define one’s goals and act upon them” (Kabeer 1999a, 438)—involves not only decisionmaking and choice but also resistance, bargaining and negotiation, and reflection.⁶ Agency, and the expansion thereof, is therefore often considered a “defining criterion” of empowerment, although its importance and measurement may vary according to different activities or “domains of life” (Ibrahim and Alkire 2007; Kabeer 1999a; Malhotra and Mather 1997; Malhotra, Schuler, and Boender 2002).⁷

Hence, while definitions of empowerment vary, detailed reviews of the concept demonstrate that it is most often described as a process and as the expansion of agency. Although empowerment appears frequently in the development literature, welcomed as a solution to achieve development challenges, the way in which it is context specific, amorphous, and political must also be acknowledged so that it can be genuinely realized. Who is empowered and what this means to them of course varies significantly. The pathways through which women are empowered and the way in which this will impact nutrition is also highly contextual and will be explored in later sections of this paper.

“Empowerment-lite”

The literature questioning interpretations of empowerment in the development context has also expanded in the recent past. Several scholars caution against replacing what started as explicitly feminist goals for rights and social justice with technocratic discourses on poverty reduction, governance, efficiency, and welfare (Batliwala 1993, 1994; Cornwall and Anyidoho 2010; Cornwall and Edwards 2010; Cornwall, Gideon, and Wilson 2008; Cornwall, Harrison, and Whitehead 2007; Kabeer 1999a, 2005a; Molyneux 2006; Mukhopadhyay 1997)—a phenomenon that Cornwall (2007) has termed “empowerment-lite.” Mukhopadhyay, for example, argues that “the concerns of feminists . . . with the political project of equality are being normalized in the development business as an ahistorical, apolitical, de-contextualised and technical project that leaves the prevailing and unequal power relations intact” (Mukhopadhyay 1997, 95). Cornwall et al. argue that in this view, women are stereotypically represented as “heterosexual, usually either with an abusive or useless husband or a victim of abandonment struggling to survive as a female-headed household” (Cornwall, Gideon, and Wilson 2008, 3). Further, Cornwall argues that this interpretation remains silent on other dimensions of empowerment such as those related to sexuality and reproductive rights. The ultimate concern is that “women’s empowerment as a central element of social

⁵ Kabeer also cautions that *choice* is determined by existing social norms and cultural values and therefore is not necessarily automatically empowering. Choices may, in fact, reproduce the same structures that allow the subordination of women and further the internalization of these values by women themselves (that is, these choices are based on the denial of choice) (Kabeer 2005a). Furthermore, choice interpreted according to the values of those conducting the analysis risks universalizing and generalizing the way in which and reasons why women in the developing world make particular choices that may or may not develop into particular outcomes.

⁶ Agency can be individual or collective, used in both positive (power *to*) and negative (power *over*) forms. Power *to* is described as “people’s ability to make and act on their own life choices, even in the face of others’ opposition”; power *over* is described as “the capacity of some actors to override the agency of others through, for example, the exercise of authority or the use of violence and other forms of coercion” (Kabeer 2005a, 14).

⁷ Malhotra, Schuler, and Boender (2002) describe domains of life as including the economic, sociocultural, familial/interpersonal, legal, political, and psychological spheres.

justice and as a valued goal in itself has had to take second place to the demonstration of its synergy with official development goals” (Kabeer 1999b, 42), only integrating it in ways that are useful for development organizations to attain development priorities (Mukhopadhyay 1997). These challenges have even been acknowledged by major development actors. A preliminary review of the evidence on empowerment and accountability carried out by the Department for International Development asserted that “empowerment cannot be bestowed by donor or government interventions . . . [as] citizens often [engage] outside officially prescribed channels” (DFID 2011, 2) rather than through pre-prescribed pathways that start with choices that are assumed to have causal relationships with particular actions and outcomes.

Measuring Women’s Empowerment

Measurement and operationalization of empowerment has also varied widely. Because processes of empowerment and exercise of agency cannot be easily observed, proxy indicators are often used for measurement. The challenge that comes with using proxy measures is that they do not provide much information on the “decisionmaking dynamics or mechanisms of impact” (Quisumbing 2003, 197). Where causality is often ambiguous, these measures are therefore better defined as correlates or indirect measures of empowerment rather than determinants (Malhotra, Schuler, and Boender 2002). However, where causality is clear, they may be defined as determinants or direct measures of empowerment (Samman and Santos 2009). The main correlates or indirect measures of empowerment most frequently cited in the literature (with some overlap) include the following:

- education (for example, female literacy, female enrollment in secondary school, maternal education)
- labor market status (for example, childcare options, labor laws, female labor force participation, gender wage differentials, women’s share of earned income)
- legal frameworks (for example, property rights law, marriage and family law, inheritance law, labor laws)
- marriage and kinship (for example, whether marriage is endogamous or exogamous, virilocal or uxorilocal,⁸ age difference between spouses, family structure, number of children, rates of female versus male migration)
- land ownership (for example, proportion of women who own land according to legal or customary tenure systems, control over income generated from land, legal reform on inheritance laws)
- social norms (for example, women’s physical mobility)
- political representation (for example, proportion of seats in parliament held by women)⁹

While these correlates are important indicators in and of themselves that may facilitate empowerment, they do not necessarily directly—or automatically—translate into empowerment. To overcome various challenges inherent in the use of proxy measures, attempts to use direct measures of empowerment have increased. The majority of this research has focused on the individual and household levels, and primarily on household decisionmaking processes and access to and control over resources.

Individual and household-level indicators often used to directly measure empowerment relate to the following:

- Women’s involvement in household decisionmaking (economic decisions related to finances, expenditures, spending, resource allocation; social and domestic matters regarding marriage; and child-related decisions such as schooling, health, and nutrition)

⁸ Virilocal (also known as patrilocal residence) refers to the married couple’s residence near or with the husband’s parents. Uxorilocal (also known as matrilocal residence) refers to the married couple’s residence near or with the wife’s parents.

⁹ As discussed in Samman and Santos (2009) and Malhotra, Schuler, and Boender (2002).

- Women's access to or control over resources (for example, access to or control over cash, assets, household income, unearned income, participation in paid employment)
- Women's freedom of movement or mobility
- Power relations between husband and wife
- Women's and men's attitudes toward abuse and intimate partner violence, and attitudes toward gender roles
- Sources of power such as media exposure, education, or paid employment¹⁰

Other, perhaps less commonly used, indicators include the following:

- Management and knowledge (for example, farm management, accounting knowledge, managerial control of loan)
- Marriage, kin, and social support (for example, social status of family of origin, assets brought to marriage, traditional support networks, educational differences between husband and wife, relative age at first marriage [Smith and Haddad 2000], widowhood and remarriage [Van de Walle 2011])
- Settings of power such as social hierarchies (Bhagowalia et al. 2012), or indicators such as appreciation in the household, and sense of self-worth (Malhotra, Schuler, and Boender 2002)

Studies that measure women's empowerment have used the above measures to various extents and in various combinations. The above list merely attempts to provide an indication as to what types of measures have been used in recent research. These measures will have more or less relevance, depending on the level at and dimensions along which women's empowerment can occur. Malhotra, Schuler, and Boender (2002) lay out the various dimensions along which women can be empowered (economic, sociocultural, familial and interpersonal, legal, political, and psychological) and also the different levels at which empowerment can occur: the household and community, as well as national, regional, and global. In this conceptualization, individual- and household-level indicators are more related to direct measures than those at the aggregate level, such as national and regional, which are more related to indirect measures.

Because women's empowerment is highly context specific and multidimensional, it is important that any correlates or determinants used are measured by indicators that represent a balance between universal indicators of empowerment that correspond with internationally agreed-upon indicators on gender equality and rights, and context-specific locally defined indicators that are in line with respective sociocultural interpretations of empowerment.

¹⁰ See, for example, Bhagowalia et al. (2012), Malhotra, Schuler, and Boender (2002), Samman and Santos (2009), and Smith et al. (2003a) for reviews.

4. WOMEN'S EMPOWERMENT AND NUTRITION

Women's empowerment is considered crucial for improving nutrition outcomes. Since women are often primary caregivers, they can influence their children's nutrition indirectly through their own nutritional status as well as directly through childcare practices (Bhagowalia et al. 2012; Smith et al. 2003a). Several studies (using direct and indirect measures of female empowerment) have demonstrated the important associations between women's empowerment dimensions and their own nutrition as well as that of their children.¹¹ For example, in Pakistan, women's intrahousehold status (measured by age at first marriage, percentage age difference between woman and spouse, difference between woman's and spouse's years of education, woman's income, and unearned income from remittances) was positively associated with food security among their children (Guha-Khasnobis and Hazarika 2006). In Bangladesh, greater empowerment of women (measured by attitudes toward abuse, decisionmaking power, and mobility) and maternal endowments such as education and height were associated with greater dietary diversity scores and reduced child stunting (Bhagowalia et al. 2012). A study in Andhra Pradesh, India, found that measures of maternal autonomy (such as financial autonomy, participation in decisionmaking within the household, acceptance of domestic violence, and freedom of movement) were associated with positive infant feeding and growth outcomes (Shroff et al. 2011). A recent study in India found that maternal autonomy (measured based on variables that indicate a woman's freedom and ability to think, speak, decide, and act independently) was positively associated with child nutritional status, albeit only for children under three years of age (Arulampalam, Bhaskar, and Srivastava 2012). In Ethiopia, a study that analyzed correlates of female empowerment found positive effects of female bargaining power on child nutrition and child education (Fafchamps, Kebede, and Quisumbing 2009).¹²

A recent impact evaluation of a project by CARE (Cooperative for Assistance and Relief Everywhere) in Bangladesh using a rights-based livelihoods approach to address malnutrition found that its women's empowerment interventions had a "strong independent impact on stunting, and the sanitation, women's empowerment, and one poverty alleviation intervention were found to have synergistic impacts with direct nutrition interventions" (Smith et al. 2011, 33). Women's empowerment was measured by a score for women's involvement in major decisions,¹³ percent of school-aged children attending school, percent of literate adults, and percent of women earning cash income. In South Asia, Africa south of the Sahara (SSA), and Latin America and the Caribbean, women's social status in the household and community were also found to have a positive impact on the nutritional status of children (Smith et al. 2003a), and cross-country studies have demonstrated that improvements in women's education were responsible for almost 43 percent of the total reduction in children underweight between 1970 and 1995 (Smith and Haddad 2000).

On the other hand, women who are *not* empowered are more likely to have more time constraints, lower mental health, less control over household resources, lower self-esteem, and less access to information about health services (Bhagowalia et al. 2012). The evidence of the impact of domestic violence against women—an indicator of ultimate disempowerment—on nutrition continues to develop.¹⁴ In Liberia (Sobkoviak, Yount, and Halim 2012) and Bangladesh (Bhagowalia et al. 2012; Ziaei, Naved, and Ekström 2012), studies showed an association between experience or acceptance of physical domestic

¹¹ See, for example, Bhagowalia et al. (2012); Engle (1993); Fafchamps, Kebede, and Quisumbing (2009); Frost, Forste, and Haas (2005); Guha-Khasnobis and Hazarika (2006); Kennedy and Peters (1992); Smith et al. (2003a); Smith and Haddad (2000); and Thomas (1990).

¹² Four groups of bargaining variables were analyzed: land and livestock brought to marriage, expected land and livestock received upon divorce, involvement in household purchases, and whether the wife had nonfarm income; and two factors proxying predisposition toward violence and cognitive ability.

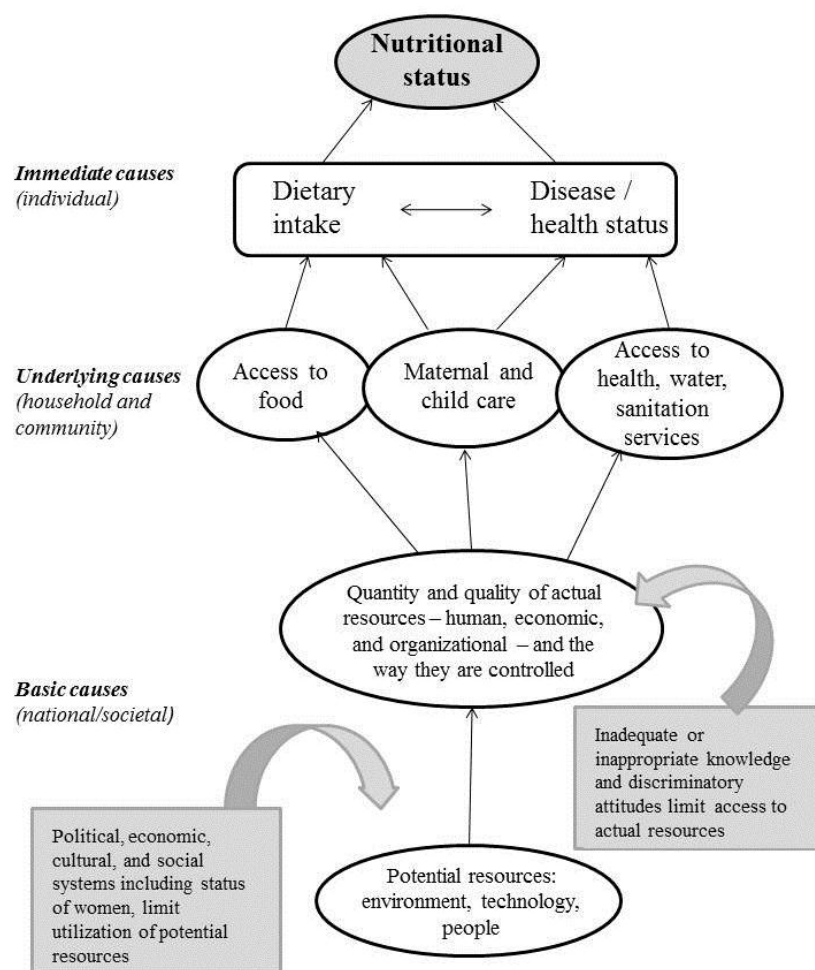
¹³ Calculated based on the use of loans or savings, expenses for children's education, and the ability of women to take part in decisions regarding the buying and selling of major household assets and jewelry (Smith et al. 2011, 28).

¹⁴ See, for example, Ackerson and Subramanian (2008); Asling-Monemi et al. (2003); Bhagowalia et al. (2012); Dávalos and Santos (2006); Hidrobo and Fernald (2012); Sethuraman, Lansdown, and Sullivan (2006); Sobkoviak, Yount, and Halim (2012); Yount, DiGirolamo, and Ramakrishnan (2011); Ziaei, Naved, and Ekström (2012).

violence and child undernutrition. In Nicaragua, sexual or physical domestic violence or both increased the risk of infant and child mortality under age 5, especially negative caregiving behaviors and practices and maternal stress (Asling-Monemi et al. 2003). Domestic violence was also associated with a lower probability of having antenatal care, child immunization, and breastfeeding in Colombia, Dominican Republic, and Haiti (Dávalos and Santos 2006).

The research linking women’s empowerment and nutrition is further supported by the evidence that men and women within a household often have different preferences for allocation of resources and distribute these differently based on their bargaining power within the household (for example, Alderman et al. 1995; Hoddinott and Haddad 1995; Quisumbing and Maluccio 2003; Quisumbing 2003). The gender of the person who has access to and control over resources can hence influence the extent to which resources are allocated to benefit health and nutrition outcomes.¹⁵ For the purposes of this paper, we adapt the framework on the determinants of nutrition, originally pioneered by UNICEF (1990) and then adapted by Smith et al. (2003a), to demonstrate where women’s empowerment is particularly important (Figure 4.1).

Figure 4.1—Conceptual framework depicting causes of malnutrition and links between women’s empowerment and nutrition



Source: Adapted from Smith et al. 2003a and UNICEF 1990.

¹⁵ The models used for the generation of this evidence have been debated, however. See, for example, Doepke and Tertilt (2011) for a discussion.

5. KEY INTERVENTIONS THAT AIM TO EMPOWER WOMEN

Gender equality and women’s empowerment—recognized as one of the Millennium Development Goals—have been presented as critical goals in their own right, as well as potential drivers of poverty reduction. Smith et al. (2003a) conceptualize improving women’s status¹⁶ in two ways: (1) by eradicating discrimination based on gender to create a “level playing field for women and men” such as ensuring equality in access to human and physical capital and political participation, and (2) by proactively promoting catch-up in women’s status by implementing programs that specifically aim to empower women. Section 5 is divided into two main subsections: the first briefly discusses eradicating gender discrimination as a structural foundation for the second, which reviews three specific interventions.

Structural Interventions That Aim to Eradicate Gender Discrimination

Public policy can take many different approaches in aiming to eradicate gender discrimination and ensure that women have the same economic, social, cultural, political, and civil rights protected and realized as men do. Structural interventions that help to reduce gender gaps in political voice and participation and in access to public services, productive assets, and resources form an important foundation for eliminating gender discrimination and serve as a basis for programs specifically aimed at empowering women.¹⁷

Ensuring that country constitutions and legislation clearly renounce any form of gender discrimination and assert equality between men and women before the law are critical first steps (King, Klasen, and Porter 2007; Smith et al. 2003b). Related to this, improving women’s representation and participation in politics is critical¹⁸; in addition to voting rights and the right to basic citizenship documents like birth certificates (King, Klasen, and Porter 2007), women have the right to be as equally represented as men in political decisionmaking forums, and evidence indicates that the representation of women in politics is related to significant changes in policymaking (Beaman et al. 2010). Men and women often have different political and policy preferences, meaning that in political systems where women are underrepresented, policymaking could be partial to male policy interests (Beaman et al. 2010, 1). Quota systems have, hence, been introduced in many countries as a way to enhance as well as measure women’s political participation.¹⁹ These systems have led to significant changes in women’s participation in politics. India’s Gram Panchayat system is an example of a quota system implemented at the subnational level, where increased representation of women has led to changes in the way in which public goods are provided, such as increased investment in drinking water and roads (Chattopadhyay and Duflo 2004). Further evidence from India (Bhalotra and Clots-Figueras 2011) as well as the United States

¹⁶ Smith et al. define *women’s status* as “women’s power relative to men” (Smith et al. 2003a, 14).

¹⁷ The *World Development Report 2012* on gender equality and development also discusses the role of gender equality for overall development (World Bank 2011).

¹⁸ Increasing women’s political representation has become an important part of international commitments to achieve gender equality and empower women. For example, the third Millennium Development Goal on gender equality and empowerment includes an indicator on the proportion of seats held by women in parliament (Tadros 2010).

¹⁹ For example, Rwanda, Costa Rica, South Africa, and Scandinavian countries have quota systems in place and rank high in terms of women’s representation in parliament. The way in which quota systems are implemented varies between countries and is related to countries’ electoral systems. Quota percentages vary between countries but can range from 20 to 50 percent of legislators (UNICEF 2007).

(Miller 2008; Rehavi 2008) points to education and health as important areas where female legislators have an impact (Beaman et al. 2010).²⁰

In addition to enhancing women's political participation and voice, ensuring equal access to public services that build human, physical, and financial capital is important. Women and men, and boys and girls, should have equal access to the same quantity and quality of education and healthcare, including health information and reproductive healthcare services and family planning.²¹ In relation to food and nutrition security, women should have the same access as men to agricultural information and extension services and should be able to cultivate their land with crops they deem most important for their family's health and food and nutrition security (Smith et al. 2003b). They should also have equitable access to a healthy and hygienic environment, including access to safe water and sanitation.

Equal access to financial assets (such as credit) and physical assets (such as land) is important to improve women's intrahousehold bargaining power in relation to these assets and their control over the income generated from them.²² Legal reforms in relation to marriage and family law, inheritance law, and property rights are important in ensuring this access. Marital property regimes determine how property that is attained before, during, and after marriage is treated, which is particularly important for women's rights to property after a marriage dissolves.²³ In case of divorce, the ability to persist should be equal for men and women. In Ontario, Canada, for example, legislation that improved women's rights to assets after divorce was found to be related to reductions in female suicide rates among (married) older women, although rates were unaffected among younger (unmarried) women (Adam, Hoddinott, and Ligon 2011). In Ethiopia, the Revised Family Code (2000) no longer allowed husbands to deny their wives the ability to work outside the home, raised the minimum age of marriage for women, and required the consent of both spouses in marital property administration. It, hence, required "equal rights to spouses during conclusion, duration, and dissolution of marriage. It also required equal division of all assets between the husband and wife upon divorce," even though the adoption of the law has not been uniform across all the regions (Kumar and Quisumbing 2012, 2). Studies on the impact of this law show that the perceptions about the division of assets upon divorce shifted to an equal division between wife and husband after the code's passing (Kumar and Quisumbing 2012) and that in places where the code was ratified, women were more likely to work in full-time and (higher) paid jobs and to work in occupations that required work outside of the home (Hallward-Driemeier and Gajigo 2011).

Reforming inheritance law can ensure that girls have equal inheritance rights as boys. For example, in India, national inheritance legislation was modified to eradicate gender discrimination (the Hindu Succession Act); in two states it was found that this had a positive and significant impact on the likelihood that daughters would inherit land, even though inequality in landholdings persisted between

²⁰ Although political quotas are important in many ways for increasing women's participation, child rights, and distribution of public goods, they are of course not the panacea for women's representation and participation in politics. Reserving posts for women may not always result in positive change because women may be placed in uncompetitive jurisdictions or in inferior positions on party lists, and women may not act on behalf of women as those elected into politics may already have ties to a particular party or be relatively well-off and therefore not necessarily concerned with the well-being of poorer and/or marginalized groups (Beaman et al. 2010; Nazneen and Tasneem 2010; Sagot 2010). An increase in women's representation has also not always been a part of government agenda to champion women's rights, and quota systems have occurred in tandem with "highly inhibitive measures against women" (Tadros 2010, 3). Other concerns relate to whether gains made at the national level will lead to changes at the local level (Nazneen and Tasneem 2010).

²¹ See King et al. (2007) for more discussion on this.

²² Different forms of assets include natural resource capital (water, land, trees), physical capital (equipment, houses, vehicles, water and sanitation facilities, communications infrastructure), human capital (education, knowledge, health, nutritional status), social capital (membership of organizations and networks, informal safety nets), and political capital (citizenship, participation in governance, enfranchisement). Assets can, hence, be tangible and intangible. Within a household, assets are not automatically pooled and can be individually held by women, men, girls, and boys—and different types of assets can influence bargaining power and well-being within the household in different ways. Because assets store wealth, can be used as collateral to improve access to financial services, or can be used to mitigate impacts of sudden shocks, they are critical to a person's well-being and pathway out of poverty (Haddad, Hoddinott, and Alderman 1997; Behrman et al. 2012).

²³ See Deere and Doss (2006) and Quisumbing and Kovarik (2013) for more discussion on this.

men and women. The study also found an increase in female educational attainment and a positive significant impact on age at marriage (Deininger, Goyal, and Nagarajan 2010).

Strengthening women's property rights in general may, in turn, improve inheritance rights, as studies on Rwanda's Land Tenure Regularization show; clear delineation of rights on property reduced ambiguity in terms of inheritance of land for legally married women (Ali, Deininger, and Goldstein 2011).

Reforming labor laws in both the public and private sectors so that they do not discriminate against women on the basis of their sex or pregnancy status can help reduce the gender gap in labor force participation and wages. Social protection programs, such as child support, maternity benefits, and pensions, are important to ensure that women have equal access to formal-sector jobs with the appropriate social security and retirement benefits (King, Klasen, and Porter 2007; Smith et al. 2003b).

Improving women's access to different assets through these types of public policy interventions contributes to leveling the playing field between women and men and to building the endowments of women and girls (such as their education, health and nutrition, and employability), which, in turn, can lead to significant improvements in their own well-being and that of their children.²⁴

Interventions That Aim to Empower Women Directly

To make progress toward the Millennium Development Goals, development interventions increasingly focus on women's empowerment. This paper discusses three such types of interventions that aim to empower women directly: CT programs, agricultural interventions, and microfinance programs. These three types of interventions have typically either targeted women as their primary beneficiaries or have included women's empowerment among their key objectives. What follows is a review of the evidence from these three types of development programs and the extent to which they measure their impact on women's empowerment, nutrition, or a combination of the two.

Cash Transfers

CT programs provide selected beneficiaries with cash through targeted interventions. *CCT* programs target poor households and transfer money to recipients (mainly mothers) under the premise that they adhere to certain behaviors or actions, most often related to healthcare, nutrition, or education. *UCT* programs have no such requirements attached to the transfer. While there is some evidence on the impact of CCTs on nutrition, less is known about their influence on women's empowerment—a key pathway for affecting nutrition. The evidence of the impact of UCTs on both of these outcomes remains much more elusive, mainly because these programs are fairly new and few thorough evaluations have been carried out.²⁵

Impact of Conditional Cash Transfers on Women's Empowerment

Despite significant variation in design and implementation, CCT programs share a defining characteristic: money is transferred to poor households provided that they adhere to certain conditions. These conditions overwhelmingly focus on improving investments in human capital accumulation, mostly the health, education, and nutrition of children. The main aim of these programs is to alleviate immediate poverty and protect families against sudden shocks, as well as to prevent transmission of intergenerational (long-term) poverty (Leroy, Ruel, and Verhofstadt 2009; Villanger 2008).

²⁴ See, for example, Bhagowalia et al. (2012), who examined the relationship between women's empowerment indicators and maternal endowments like height and education and child nutrition in Bangladesh.

²⁵ UCTs are generally more popular in SSA, where impact evaluations of CT programs are on the rise (Davis, Gaarder, and Handa 2012).

Some of the first large-scale CCT programs were implemented in Latin America in the 1990s; however, programs have since been introduced in at least 29 developing countries (Fiszbein et al. 2009). Many CCT programs target their transfers to women based on the premise that in addition to increasing resources to the household, increasing *women's* access to and control over resources will lead to greater investment in the health, education, and nutrition of their children (Fiszbein et al. 2009; Haddad, Hoddinott, and Alderman 1994; Haddad and Hoddinott 1997; Hoddinott and Haddad 1995; Quisumbing and Maluccio 2003; Quisumbing 2003; Quisumbing et al., n.d.; Quisumbing et al. 1995; Schady and Rosero 2007). Targeting transfers to women combined with conditionalities related to health, nutrition, and education is expected to increase women's control over economic resources, improve their bargaining power within the household, and lead to changes in household patterns related to spending and time allocation. The majority of published evaluations of CCT programs have been of those implemented in Latin America; hence, much of the evidence on their impact on women's empowerment and on health outcomes stems from this region, although the literature on SSA is growing rapidly.

Qualitative evidence from several CCT programs in Latin America generally shows positive results in terms of their impact on women's empowerment, although impacts are more heterogeneous in terms of quantitative data.

Qualitative data from an impact evaluation of Mexico's PROGRESA/Oportunidades (Adato et al. 2000) showed that the program contributed to women's empowerment by increasing women's control over resources, providing them with opportunities to leave their homes, educating women on nutrition and health issues, providing women with new spaces for communication, supporting girls' schooling, and giving government recognition to the importance of women (Adato et al. 2000). These changes had positive impacts on women's personal empowerment, such as self-esteem and sense of self. More modest impacts were recorded on intrahousehold relations and decisions on expenditure. The quantitative research examined three aspects of intrahousehold relations: family background and its influence on capital formation brought to marriage, husband's and wife's resources at marriage and their impact on intrahousehold decisionmaking patterns, and parental characteristics and their influence on girls' and boys' schooling achievements. Analyses showed that parental characteristics were the most consistent determinants of decisionmaking. One of the key outcomes was the effect of the transfer on decisions regarding the use of women's income due to the transfer. There was an increase in the probability that women would decide on their own about the use of their additional income, coupled with a decline in probability that they would leave the decision to their husbands (Adato et al. 2000).

Further quantitative research on PROGRESA/Oportunidades examined behavioral impacts of gender targeting and conditionality on spending behavior and found that out of five indicators on decisionmaking, only women's control over income had program impacts (Handa et al. 2009). Attanasio and Lechene (2002) found small but significant changes in decisions made solely by husbands to decisions made jointly between husbands and wives across several categories of household decisionmaking.²⁶ Another quantitative study on the impact of PROGRESA/Oportunidades on time use showed that the program resulted in substantial demands on women's time due to the need to satisfy program conditions (such as taking children to school or visiting clinics), although leisure time was not significantly affected. While the study found slight reductions of women's participation in domestic work, this could also have been due to changes resulting from the program (that is, PROGRESA may have facilitated certain domestic activities in relation to purchasing or preparing food) (Parker and Skoufias 2000).

Quantitative work by Rubalcava, Teruel, and Thomas (2009) found that additional income from the program transferred to women was used for expenditures on improved nutrition, child well-being, and small livestock in households headed by couples. This effect was not apparent in single-headed households, suggesting that "PROGRESA income results in a shift in the balance of power within

²⁶ The supplementary tables in the Appendix outline which empowerment indicators were used in each study that measured women's empowerment for each of the three types of programs.

households and women allocated more resources toward investments in the future” (Rubalcava, Teruel, and Thomas 2009, 1).

Finally, qualitative research on Oportunidades in urban areas (Latapi and de la Rocha 2003) also showed that the transfer of resources to women and the provision of health education sessions resulted in women’s ability to make expenditure decisions with less interference from other members in the household. They also showed that the program had a positive impact on women’s social networks. A similar study in rural areas (Latapi and de la Rocha 2004) showed that PROGRESA/Oportunidades required a greater time commitment from women in some cases but that women were nonetheless willing to continue participation in the program if it would lead to a better future for their children. Furthermore, the CT made women creditworthy and freed up some of the household budget.

With regard to Brazil’s Bolsa Família program, quantitative evidence on the impact of the program on women’s decisionmaking power demonstrated that, in urban areas, the program significantly increased women’s voice in the household, particularly for decisions regarding use of contraception, as well as in spheres related to children’s school attendance, children’s health expenses, and purchase of durable goods (de Brauw et al. 2013). In rural areas, however, Bolsa Família was found to cause no significant increases and possible reductions in women’s decisionmaking power.

Qualitative research on Nicaragua’s Red de Protección Social found that the program had positive impacts on women’s sense of independence and self-esteem (Adato and Roopnaraine 2004). Women’s control over the CT provided a new source of power, and program-related meetings raised awareness of women’s issues and provided opportunities for women to speak in public. The study found that half of the respondents reported improvements in intrahousehold relations. Furthermore, quantitative research by Gitter and Barham (2008) found that when women were more powerful in the household (measured by years of schooling relative to the husband’s), more resources were allocated toward children, although when women’s power far exceeded that of the husband, this additional power adversely affected school enrollment (Gitter and Barham 2008). Quantitative research comparing four food, cash, or both food and CT programs in Bangladesh (Ahmed et al. 2009) showed that the programs that provided the largest payments and challenged traditional gender norms had the largest positive impact on women’s empowerment, although an improvement in women’s status within the household did not necessarily translate into an improvement in status in the community.

Quantitative results from a recent evaluation of a World Food Programme cash, food voucher, and food transfer in northern Ecuador showed that, in aggregate, the transfers led to a substantial decrease in intimate partner violence, but did not have an impact on decisionmaking indicators (Hidrobo et al. 2012).

While scholars recognize the various benefits of CCT programs, some have raised concerns with regard to their conceptualization and their impact on women’s empowerment (see, for example, Adato et al. 2000; Latapi and de la Rocha 2003; Molyneux 2006). Reviewing Mexico’s Oportunidades program, Molyneux (2006) argues that while CCTs can contribute to children’s education and increase women’s self-esteem and social status, the program risks marginalizing fathers and “re-traditionaliz[ing] gender roles and identities [by confirming] mothering as women’s primary social role” (Molyneux 2006, 440) while failing to secure access to sustainable livelihoods through links to employment, training, and education. Molyneux (2006) also points out that most evaluations of CCTs examine evidence on program impacts on girls’ educational improvements and attendance and mother’s well-being and status, and do not take into account external factors that could have an effect on household behavior and consumption, such as cultural practices, migration, or other social policy inputs. Others point out that CCTs could exclude the poorest of the poor if those households cannot comply with the conditionalities, and that transfers given to women could increase intrahousehold tensions, although evidence of this mostly points to the opposite (Adato and Roopnaraine 2004; Villanger 2008). Evidence from PROGRESA/Oportunidades shows that the program may have potential negative effects by increasing women’s time burden, although only a small number of women seemed to believe this was a problem (Adato et al. 2000; Parker and Skoufias 2000). A final concern relates to the quality of services; if households adhere to the

conditionalities of the program but quality of health or education services is low, families may be not see a benefit from the CCT and risk being worse off (Bassett 2008).

The Impact of Unconditional Cash Transfers on Women's Empowerment

Comparatively less evidence exists on the impact of UCTs on women's empowerment, although a small number of studies address it as a pathway. Schady and Rosero (2007) examine the impact of UCTs made to women in rural Ecuador as part of the Bono de Desarrollo Humano program. They find that in couple-headed households, the proportion of expenditure dedicated to food increases after women receive the CTs, whereas in female-headed households this change is not apparent, suggesting an increase in bargaining power among women in couple-headed households who received the transfer.²⁷ Hidrobo and Fernald (2013) examine the same program with regard to the relationship between increases in women's income and domestic violence. They find that the impact of a CT depends on a woman's education and on her education relative to her partner's. For women who have an education of six or fewer years and similar to or higher than her partner's, the transfer substantially increases emotional violence.²⁸ For women who have an education of less than six years but less than her partner's, emotional violence decreases as a result of the transfer. For mothers that have an education of six years or more, the transfer decreases the probability of emotional violence and partners' controlling behavior, regardless of the education level of her partner (Hidrobo and Fernald 2013). Lastly, an evaluation of Kenya's Hunger Safety Net Program, a UCT pilot program, showed that it contributed to social and economic empowerment of women, although not consistently. Substantially more women were reported to be decisionmakers over their household budget after the program commenced, and in some cases the Hunger Safety Net Program enhanced women's status, but, in other cases, it seemed to increase tension between spouses (OPM and IDS 2012).

The Impact of Conditional Cash Transfers on Nutrition

While the rationale behind many CCT programs is to incentivize investment in human capital formation such as health, nutrition, and education, evidence of their impact on final outcomes in nutrition, health, and education is mixed, and little is known about the pathways through which these outcomes occur (Adato and Hoddinott 2007; Fiszbein et al. 2009; Leroy, Ruel, and Olney 2008; Leroy, Ruel, and Verhofstadt 2009).

Evidence from Mexico's PROGRESA/Oportunidades,²⁹ Nicaragua's Red de Protección Social (Maluccio and Flores 2004), and Colombia's Familias en Acción (Attanasio et al. 2005) indicates an association between these programs and improvements in long-term nutritional status, although specific mechanisms by which this improvement occurs are uncertain (Adato and Hoddinott 2007; Gertler 2004; Leroy, Ruel, and Olney 2008; Leroy, Ruel, and Verhofstadt 2009). For Honduras's Programa de Asignación Familiar (PRAF) and Brazil's Bolsa Alimentação, however, evaluations found either *no* nutritional impacts (Honduras) (Adato and Hoddinott 2007; Flores et al. 2003; IFPRI 2003; Morris et al. 2004) or *negative* impacts (Brazil), although these negative impacts were subsequently reversed³⁰ (Brazil) (Adato and Hoddinott 2007; Bassett 2008; Leroy, Ruel, and Verhofstadt 2009; Morris et al. 2004). Reduced impacts were also found in Turkey (Adato and Hoddinott 2007).

Reviews by Lagarde, Haines, and Palmer (2007), Fiszbein et al. (2009), and Ruel and Alderman (2013) also conclude that results for CCT program impacts on child anthropometry and hemoglobin measures are mixed. Although some programs have demonstrated positive results, particularly among

²⁷ Relative education of men and women is used as a proxy for bargaining power.

²⁸ Emotional violence is considered a subset of psychological violence. As explained in Hidrobo and Fernald (2012), the World Health Organization defines psychological violence as "any act or omission that damages the self-esteem, identity, or development of the individual" and divides this into "emotional violence" and "controlling behaviour by a partner" (Hidrobo and Fernald 2012, 307).

²⁹ See, for example, Behrman and Hoddinott (2005); Fernald, Gertler, and Neufeld (2008); Gertler (2004); Latapi and de la Rocha (2004); Rivera et al. (2004); and Skoufias (2005).

³⁰ The negative impacts on child weight were found to be due to a perception among beneficiaries that they would no longer receive the benefits if a child grew well (Morris et al. 2004).

younger children, others have not. Overall CCTs show a minor but not statistically significant impact on child anthropometry (Gaarder, Glassman, and Todd 2010), but program impact is mainly found among younger and poorer populations, or those who have benefited from a program for a longer period of time. These differences are likely due to program design and implementation, population characteristics, or data and methodology choices (Fiszbein et al. 2009; Lagarde, Haines, and Palmer 2007; Ruel and Alderman 2013).

Evidence on the impact of CCTs on child micronutrient status is even sparser. Two programs did show improvements in the intake of iron, zinc, and vitamin A (Mexico) and animal products and vegetables (Colombia), although anemia rates remained high in Mexico and Nicaragua (Adato and Hoddinott 2007; Bassett 2008; Leroy, Ruel, and Olney 2008; Leroy, Ruel, and Verhofstadt 2009). No significant impact on iron status was found in Brazil and Honduras (Adato and Hoddinott 2007).

The Impact of Unconditional Cash Transfers on Nutrition

Few studies specifically focus on the nutritional impact of UCTs. Two studies in South Africa assess the impact of two different UCT programs on child nutritional status. Agüero, Carter, and Woolard (2007) examine the Child Support Grant that is targeted to women, and find that it has significant impacts on child nutrition (measured by height-for-age). While conditionalities may have led to even bigger impacts, even without such conditionalities the program seems to have affected child height. A study by Duflo (2000) examines the impact of the Old Age Pension program on the nutritional status of children, and finds that transfers received by women (grandmothers) had a significant positive effect on girls' anthropometric status, but not on that of boys. Transfers received by men (grandfathers) did not have such an effect, although recent work by Ambler (2011) has suggested that this may have been due to the withdrawal of older men from the labor market as they become eligible for pension receipts (Ambler 2011). The findings suggest that effects on child nutritional status may differ with regard to the gender of the pensioner receiving the transfer, although only 42 percent of the recipients in this case lived with their grandchildren.

Comparing Conditional and Unconditional Cash Transfers

Despite these mixed findings, in cases where nutritional outcomes did improve, little is known about the pathways through which this occurred and whether impact was due to the conditionality or not (Agüero, Carter, and Woolard 2007; Behrman and Hoddinott 2005; Lagarde, Haines, and Palmer 2007; Leroy, Ruel, and Olney 2008). Even though programs in Mexico, Nicaragua, and Colombia had the biggest impacts on nutritional status, it is difficult to say with certainty whether these successes can be attributed to the conditionalities or to other factors, such as improvements in quality of services, parents' health knowledge, or improved health and nutrition practices (Glassman, Todd, and Gaarder 2007). A recent review by Manley, Gitter, and Slavchevska (2012) further explores this issue by comparing the impact of CCTs and UCTs on nutrition. They determine that CCT programs with conditions related to health and education have similar effects on stunting as UCTs. They find that CCT programs with conditions based on health "are on average associated with improved nutritional status, though not significantly and less effectively than the unconditional programmes" included in the review (Manley, Gitter, and Slavchevska 2012, 65). While CCTs with health-related conditions are associated with improvements in nutritional outcomes, CCTs with nonhealth conditions, such as those related to savings or employment, appear to have negative impacts on nutritional status. Conditionality seems to be less important than child age and sex and access to healthcare.

Several other studies have compared impacts of UCTs and CCTs, as well as differences in impact depending on the gender of the transfer recipient, although not all of these focus on nutrition outcomes specifically. A study in Burkina Faso (Akresh, De Walque, and Kazianga 2012) compared impacts of CCTs and UCTs on household demand for preventive health services and concluded that while CCTs substantially increased the number of preventive healthcare visits in the previous year, UCTs did not have such a beneficial impact. For CCTs, however, there was no difference in the increase in healthcare visits if the cash was given to the mother as opposed to the father. Similarly, an evaluation examining the

effectiveness of *food* transfers and CTs on the livelihoods and food security of the ultrapoor in Bangladesh finds that in terms of the impacts on caloric intake and nutritional status, participation by an adult female did not lead to an increase in caloric intake by young children (preschool age children) in any of the four programs reviewed (Ahmed et al. 2009). Only in the Rural Maintenance Program, which provides solely cash (as opposed to food or a combination of cash and food), did caloric intake by young children and elderly people increase. Baird, McIntosh, and Ozler (2011) do not specifically assess nutritional outcomes but examine the impacts of CCT and UCT programs in Malawi on school attendance among adolescent girls. They find that the CCT arm of the program—transfers conditional on school attendance—had a higher impact in terms of reducing school dropouts than the UCT arm (the UCT arm effect was only 43 percent as large as the CCT arm impact), and that the CCT arm also had higher impacts in terms of English reading comprehension (Baird, McIntosh, and Ozler 2011). Yoong, Rabinovich, and Diepeveen (2012) find that the gender of the recipient of the CT *does* affect the results of some programs, although it does not automatically do so, although there is almost no experimental evidence that examines this in one program evaluation (Yoong, Rabinovich, and Diepeveen 2012). Evidence from several CT programs indicates that targeting them to women can improve child nutrition and health (Duflo 2000; Rubalcava, Teruel, and Thomas 2009; Yanez-Pagans 2008). Evidence from UCTs, however, shows different outcomes in transfers to women versus men, but these are varied in terms of impact due to one gender or another, and not all outcomes are positive, suggesting that control of a transfer by women does not guarantee positive outcomes (Yoong, Rabinovich, and Diepeveen 2012).

Summary of Cash Transfer Programs

In summary, qualitative evidence on the impact of CCT programs on women's empowerment generally indicates a positive impact on women's empowerment indicators, while impacts are more heterogeneous in terms of quantitative data. CCT programs targeted to women—primarily in Latin America—improved several different dimensions of women's empowerment, including women's control over resources, public speaking, education, mobility, decisionmaking power, and self-esteem (Adato et al. 2000; Latapi and de la Rocha 2003, 2004). In some cases, the CCT program increased women's time burden, although this was not always deemed problematic by women themselves (Parker and Skoufias 2000). In a few cases, no impact was reported on women's empowerment indicators (Hidrobo et al. 2012), only small or partial impacts were found (Attanasio and Lechene 2002; Handa et al. 2009), or women's empowerment indicators were not positive, for example in rural Brazil or in Nicaragua, when women's power far exceeded the husband's, adversely affecting school enrollment (de Brauw et al. 2013; Gitter and Barham 2008). Evidence on the impact of UCTs on women's empowerment is limited, partly because they are a fairly new mechanism and have not been rigorously evaluated. Quantitative research points toward mixed results (Hidrobo and Fernald 2013; OPM and IDS 2012; Schady and Rosero 2007).

In terms of CCT programs' impact on nutritional outcomes, evidence is mixed, and little evidence exists on the pathways of impact. Evaluations of programs in Latin America find positive results in terms of nutritional outcomes in some instances (Adato and Hoddinott 2007; Gertler 2004; Leroy, Ruel, and Olney 2008; Leroy, Ruel, and Verhofstadt 2009), and in terms of increased resource allocation toward children's well-being when programs were targeted to women (Gitter and Barham 2008; Rubalcava, Teruel, and Thomas 2009), whereas in other instances small or no impacts on nutrition were found (Adato and Hoddinott 2007; Flores et al. 2003; Morris et al. 2004; Quisumbing 2003). Comprehensive reviews of the literature find mixed impacts on child anthropometry and hemoglobin measures (Fiszbein et al. 2009; Lagarde, Haines, and Palmer 2007), and find limited evidence of positive impact of CCTs on micronutrient status (Adato and Hoddinott 2007; Bassett 2008; Leroy, Ruel, and Olney 2008; Leroy, Ruel, and Verhofstadt 2009). However, CCTs with non-health-related conditions appear to have negative impacts on nutritional status (Manley, Gitter, and Slavchevska 2012). The limited evidence from UCTs in South Africa points to positive impacts on child nutrition (Agüero, Carter, and Woolard 2007; Duflo 2000). However, in cases where CT programs did lead to improved nutrition, very little is known about the pathways through which this occurred, whether impact was due to conditionality, or whether it was

due to the gender of the recipient; and it is likely that factors other than the conditionality of the transfer are more important (Glassman, Todd, and Gaarder 2007; Manley, Gitter, and Slavchevska 2012).

Agricultural Interventions

Agricultural Programs and Nutrition Impacts

Agricultural programs can impact on nutrition through a variety of pathways:

- Increased access and availability of food for own consumption
- Increased income, through the marketing of agricultural commodities or incomes from wages
- Reduction in market prices (food and nonfood crops) that affects income of sellers and purchasing power of buyers
- Women's social status, time, and own health and nutritional status, through their access to and control over resources, intrahousehold decisionmaking power, time allocation to household management, leisure and caregiving, and own health and nutritional status that can affect their productivity and their income as well as nutritional status of their children (Gillespie and Kadiyala 2012; Hawkes and Ruel 2007; Leroy, Ruel, and Olney 2008; Meinzen-Dick et al. 2011; Ruel and Alderman 2013)

Although it has been shown that agriculture can reduce undernutrition and provide relatively high economic returns to investment (Hoddinott, Rosegrant, and Torero 2012; Ruel and Alderman 2013), an increase in food production by no means automatically leads to improvements in nutrition. Recent reviews demonstrate that evidence of positive impacts of targeted agricultural interventions on maternal and child nutrition is limited, with the exception of vitamin A intake and status (Berti, Krusevec, and FitzGerald 2004; Girard et al. 2012; Masset et al. 2012; Ruel and Alderman 2013). Ruel and Alderman (2013) review evidence of the impact of agricultural interventions on nutrition, specifically in relation to Homestead Food Production programs and biofortification. They conclude that evidence on the potential of biofortification of crops to impact nutrition shows positive results, but so far mainly in relation to vitamin A–rich orange-flesh sweet potato. They find that there is little evidence of the impact of Homestead Food Production programs on maternal and child nutritional status (micronutrient status and anthropometry), except for a small impact on vitamin A status. They also point toward the higher potential for agricultural programs to have an impact on nutrition when targeted to women and when women's empowerment activities, such as behavior change communication, are included. Despite this, in programs they review, they find no studies that compare mainstreaming gender in programs versus not doing so, or targeting men versus women (Ruel and Alderman 2013). While some studies point toward positive impacts on intermediary outcomes such as dietary diversity, maternal intake of target foods and micronutrients, and household production and consumption, they do not achieve desired nutritional outcomes (Leroy, Ruel, and Olney 2008; Olney et al. 2009). Overall, the suboptimal quality of evaluations has generally made it difficult to make any solid conclusions on the impact of agricultural programs on nutrition.

Most reviews on this topic, however, conclude that women's empowerment is an important pathway by which agricultural programs can achieve nutritional impact (FAO 2011; Gillespie and Kadiyala 2012; Hawkes and Ruel 2007; Hoddinott, Rosegrant, and Torero 2012; Leroy, Ruel, and Olney 2008; Ruel and Alderman 2013; World Bank 2011). Given the frequent role of women as caretakers, it is critical to examine if and how women's empowerment acts as a pathway between agricultural interventions and nutritional outcomes, such as through women's enhanced control over assets and resources or improved knowledge about nutrition practices (Meinzen-Dick et al. 2011). However, it appears that the evidence of the impact of agricultural interventions on women's empowerment, or dimensions thereof, is limited, and results are mixed (Meinzen-Dick et al. 2011). The following text draws together evidence on the impact from a small number of home gardening and animal

production/dairy projects on women's income and control over income, decisionmaking, time, workload, and knowledge.

Women's Income and Control over Resources

Several animal production and dairy projects assess their impact on women's income and control over income through increased participation in household decisionmaking. Tangka, Ouma, and Staal (1999) examine the impact of market-oriented smallholder dairying on women's well-being in Kenya and Ethiopia, particularly in terms of its impact on women's labor, control of income and benefits, and access to productive inputs. In Ethiopia they find that while market-oriented smallholder dairying increased both men's and women's income, men's income increased substantially more than that of women. Women did not spend more on food for the household, but men did, potentially indicating greater control over income by men. In Kenya, however, dairy production had similar impacts on income for both female- and male-headed households, and women had control over a significant part of the dairy income in both of these types of households. The variation between these two countries is attributed to differences in traditional responsibilities of men and women in relation to dairying (Tangka, Ouma, and Staal 1999). An earlier study in Kenya assessed the effects of a dairy technology package on women and their families on smallholder crop–livestock farms. It found an increase in household and women's income, as well as increases in payments of school fees and purchases of books and food items (Mullins et al. 1996).

A qualitative study in Bangladesh that examined the impact of gender differences on uptake and participation in aquaculture activities found that the project's impact on women's income and control differed significantly across households, communities, and regions, although the reasons for these differences were not assessed (Brugere, McAndrew, and Bulcock 2001). Also in Bangladesh, an impact survey of a poultry farming project targeted to women found that women's participation in household decisionmaking increased; that women's economic conditions improved; and that the increase in earnings was used to increase physical assets, purchase food, and send children to school (Nielsen 1996 as discussed in Leroy and Frongillo 2007 and Leroy, Ruel, and Olney 2008). A dairy project in India increased the income of participating men, but did not have a substantial impact on the income of participating women (Begum 1994 as discussed in Leroy and Frongillo 2007 and Leroy, Ruel, and Olney 2008).

Several vegetable production or home gardening projects—some in combination with small animal husbandry—also measured effects on women's income and control over resources. In Kenya, a project promoting the adoption and production of orange-flesh sweet potato by women farmers with the aim of improving vitamin A intake showed that women had control over cooking and selling the potatoes, but that overall, men had control over the income and resources of the household (Hagenimana et al. 1999). An evaluation of a vegetable production project in Senegal showed that while the project did not have a direct impact on nutrition, it significantly increased women's income as well as their control over this income, which may have resulted in an indirect impact on nutrition. Men kept income from the rainy season (main crops), and women kept income from gardening and hence were no longer required to ask their husbands for money. Despite this, only 7 percent of the income from the sale of vegetables was spent on food, and a lack of understanding by mothers on the importance of vegetable consumption by their children was apparent (Brun, Reynaud, and Chevassus-Agnes 1989). A project in Tanzania promoted the adoption of solar dryers as a way to improve nutritional quality of vitamin A-rich foods and increase their consumption. Despite adoption of the dryers among 8 percent of women in the program, little impact was found on beneficiary women's income from the sale of solar-dried vegetables. This was due to the fact that women did not dry beyond their household's consumption needs and, hence, did not have a surplus that could be sold (Mulokozi et al. 2000).

Several projects by Helen Keller International (HKI)³¹ have also measured impact on women's empowerment, following this organization's increased awareness and gradual incorporation of women's empowerment into its programming (Hillenbrand 2010). Bushamuka et al. (2005) assess the impact of an HKI homestead gardening program on household food security and the empowerment of women in Bangladesh. Women's empowerment was measured by recording women's perceived changes in their ability to participate in household decisionmaking and contribute to household livelihoods, including economic contributions. Results indicated significant differences in production and income levels between control households and currently active (participating) households as well as formerly participating households. Women in active or formerly participating households reported that their economic contribution to their households had increased since the start of the program and that they had experienced an increase in household decisionmaking: 85 percent of women in the active and formerly participating households believed they had experienced an increase in their contributions to the household in terms of income, garden produce, or both, compared with 52 percent of women in the control group. In addition, approximately 92 percent of active households and 77 percent of formerly participating households reported that gardening was one of the key activities that permitted them to increase their contribution to their household, compared with 31 percent of women in the control group. In relation to participation in household decisionmaking, women from all three groups reported "some power" in decisionmaking, compared with the period prior to project implementation, with significantly higher increases for beneficiary women (Bushamuka et al. 2005).

A longitudinal review of an HKI Homestead Food Production program in Bangladesh demonstrated a significant increase in the percentage of women (14 percent to 50 percent) who reported having full participation in their household decisionmaking (Iannotti, Cunningham, and Ruel 2009 as discussed in Hillenbrand 2010). However, despite this achievement, little is known about the program's impact on joint decisionmaking, an important space in which women may informally exercise their agency (Hillenbrand 2010). Qualitative research on a HKI cash-for-work program in which both women and men participated showed that participants' "view of gender relations and the women's self-regard" was transformed as a result of participation in the program (Hillenbrand 2010, 420).

Further projects by HKI show that in a home gardening project in Bangladesh, women in beneficiary households had more involvement in decisionmaking with regard to household expenditure than those in control households at end line. In addition, more beneficiary households had an income from the project than control households, and beneficiary households earned more income from selling the produce than control households, with a higher share of beneficiary households spending this income on savings or education (HKI 2006). A similar HKI project in Nepal led to a 250-percent increase in the number of households that sold produce; in most of these households, women gained responsibility for keeping the income earned from selling the produce (from 66.7 percent to 88.4 percent) and spending this income (from 50 percent to 69.7 percent), with most of the income used to buy food (HKI 2004).

Findings from a study that examined the impact of agricultural technologies on intrahousehold gender relations in Bangladesh suggest that group-based programs targeting women "have a greater potential to address gender relations within the household and society than do programs targeting women as individuals" (Naved 2000, 2). A comparison of the implementation of two types of technologies aimed to improve income generation³²—commercial production of improved vegetables varieties and polyculture fish technology—showed that in the technologies for which men had to negotiate with groups

³¹ HKI has used the homestead gardening model since the 1980s. Starting in Bangladesh, HKI has since adapted it in a variety of other contexts. The model is particularly suitable for households that have limited land; small gardens are set up within the homestead and can be tended to by women who also have domestic responsibilities. Small animal husbandry has also been included as part of the model to address various micronutrient deficiencies. The model takes account of women's control over assets, nutrition education, and behavior change communication regarding allocation of household resources, and key messages on optimal infant and young child feeding and care practices (Meinzen-Dick et al. 2011).

³² The two different technologies were implemented in three ways in different sites in the country: homestead vegetable production, polyculture fish production in household-owned ponds, and polyculture fish production in group-managed ponds (Quisumbing, Baulch, and Kumar 2011).

of women backed by an organization (in this case polyculture fishpond technology operated by groups of women), women retained control over the income, and with project success their position within the household strengthened. For the vegetable technology sites, however, gains in income were not significant due to small plots for vegetable production, little production, and little sale (and the fact that the technology did not challenge traditional gender norms: income from vegetable sales was often controlled by men).

A later study on the impact of these same technologies on women's empowerment showed differences between study sites and between women in adopting households and those in likely adopting households. Overall, nongovernmental organization (NGO)-member technology-adopting women had better outcomes on these indicators than NGO-member likely adopting women. The study found greater poverty impacts for the vegetable technology, and relatedly found positive impacts on women's empowerment and child nutritional status. Private fishpond technology had less successful impacts in terms of poverty reduction, but had positive outcomes in terms of pond and crop profits. Female fishpond group members had a greater likelihood to work for pay, higher off-farm income, greater mobility, and better nutritional status than women that did not have access to this technology—although it also had the possibility of increasing inequalities within the household (Hallman, Lewis, and Begum 2007).

A study by Kumar and Quisumbing in 2011 followed up on the same households as those studied in Bouis et al. (1998) and Hallman, Lewis, and Begum (2007) and examined the *long-term* impact of these different agricultural technologies. They showed that despite the small and perhaps disappointing gains in terms of household-level outcomes in the vegetable technology site, early adopters of this technology did see long-term improvements in nutritional status, especially women and children (Kumar and Quisumbing 2011). In contrast, early adopters in the group-operated fishpond sites did not see impacts on adult nutritional status in the long term and saw an increase in stunting rates for girls. Similarly, for individually operated fishpond sites, which saw the “biggest monetary returns to early adoption at the household level” (Quisumbing and Kumar 2011, 215), hemoglobin for women decreased, as did the proportion of thin girls. The proportion of stunted girls increased, however, while that for boys decreased; so no “sustained impacts” were seen on long-term nutritional status (Quisumbing and Kumar 2011, 216). Implementation modalities, hence, played a key role in the income and nutritional impacts of this program.

Women's Time and Workload

Evidence of the impact of agricultural projects on women's time and workload is mixed. The study of the effects of the dairy technology project in Kenya on women and their families showed that while women experienced an increase in income, they also saw a significant increase in their workloads, although the impact of this on other activities, such as childcare, was not measured (Mullins et al. 1996). A study on dairy intensification in Ethiopia found that, contrary to the findings of Mullins et al., women's labor related to dairying did not differ between households with crossbred or locally bred cows (Leroy and Frongillo 2007; Tangka, Ouma, and Staal 1999). The differences between these two countries are likely due to women's traditional roles and related responsibilities for cattle keeping, as well as differences in dairy technology (labor-intensive technology in Kenya versus non-labor-intensive techniques in Ethiopia).

Qualitative information from the project on solar dryers in Tanzania pointed to a reduction in women's and children's time allocation to drying due to the improved technology (Mulokozi et al. 2000), whereas the dairy project in India reported little impact on women's time (Begum 1994). The qualitative study in Bangladesh on aquaculture showed that women bore the responsibility for activities like collection and preparation of feed, which were fairly time consuming, but impacts on time burden or childcare were not clear (Brugere, McAndrew, and Bulcock 2001). Similar results were found by the earlier study of the impact of the vegetable and polyculture fish production program on income, nutrition, and household resource allocation in Bangladesh. They found no significant impact on women's time (Bouis et al. 1998).

Women's Knowledge and Awareness

Providing nutrition education alongside agricultural interventions is likely to enhance these projects' impact on nutritional outcomes, at least in areas where there is access to and availability of food (Leroy, Ruel, and Olney 2008). In Kenya, results from a project promoting adoption and production of orange-flesh sweet potato by women farmers showed that the children of project participants "had higher vitamin A food frequency scores if they participated in the nutrition education component in addition to the agricultural component" (Hagenimana et al. 1999). Research in Thailand indicates that training women leaders in participatory and problem-solving methods—in combination with social marketing techniques to develop community-based interventions to reduce micronutrient deficiencies—can lead to improvements in knowledge, attitudes, and practices related to these micronutrients, as well as an increase in their intake and in nutritional status (Smitasiri and Dhanamitta 1999). In Tanzania, the increase in vitamin A food frequency scores was due to increases in the intake of animal source foods and was attributed to the nutrition education part of the project, as there was no substantial increase in the percentage of women who sold the dried vegetables or in the income from the sale of the dried vegetables (Leroy, Ruel, and Olney 2008; Mulokozi et al. 2000). In Vietnam, a community nutrition project led to a significant increase in knowledge, attitudes, and practices on nutrition and vitamin A among participating mothers over those in the control commune, in addition to significantly higher food and nutrient intake and nutritional status of young children in the intervention commune than in the control commune (English and Badcock 1998).

Summary of Agricultural Interventions

As this evidence demonstrates, only a small number of agricultural projects have measured their impact on women's empowerment, and this evidence is mixed. In some cases, women's income and their control over this income, participation in household decisionmaking, and contributions toward household income increased (Brun, Reynaud, and Chevassus-Agnes 1989; Bushamuka et al. 2005; Hillenbrand 2010; HKI 2004, 2006; Iannotti, Cunningham, and Ruel 2009; Mullins et al. 1996; Nielsen 1996; Tangka, Ouma, and Staal 1999). Other cases observed little to no impact (Begum 1994; Hagenimana et al. 1999; Mulokozi et al. 2000; Tangka, Ouma, and Staal 1999) or mixed results (Brugere, McAndrew, and Bulcock 2001; Naved 2000; Quisumbing, Baulch, and Kumar 2011; Quisumbing and Kumar 2011; Tangka, Ouma, and Staal 1999).

With regard to women's time and workload, some evidence pointed to increases in workload (Mullins et al. 1996), other evidence found no significant impact on workload or on time (Begum 1994; Bouis et al. 1998; Leroy and Frongillo 2007; Tangka, Ouma, and Staal 1999), and yet other evidence found reductions in time allocation (Mulokozi et al. 2000). In terms of women's knowledge and awareness, positive associations were found between women's knowledge, attitudes, and practices about agricultural production, agricultural technologies, micronutrients and food consumption, and the intake of micronutrients and nutritional status (English and Badcock 1998; Hagenimana et al. 1999; Smitasiri and Dhanamitta 1999), although further research is merited to assess how agriculture affects nutrition through women's empowerment.

Evidence on the impact of agricultural programs on nutrition is also limited, as several recent reviews show, with an exception of vitamin A intake and status (Berti, Krasevec, and FitzGerald 2004; Girard et al. 2012; Masset et al. 2012; Ruel and Alderman 2013). Part of the reason for this lack of evidence relates to weaknesses in evaluation design, such as small sample sizes, inclusion of the wrong age group, lack of usable comparison and control groups, and not controlling for potentially confounding factors (Ruel and Alderman 2013). Many of these reviews also point toward the limited research conducted on pathways of impact and toward a dearth of evidence on the impact of these programs on women's knowledge and practices, time, health and nutritional status, and decisionmaking processes within the household.

The recently developed Women Empowerment in Agriculture Index³³ provides one way to measure women's empowerment in agricultural interventions. It includes five domains of empowerment and respective indicators on production (measured by input in productive decisions, autonomy in production), resources (measured by ownership of assets; purchase, sale or transfer of assets, access to and decisions on credit), income (measured by control over use of income), leadership (measured by group membership, speaking in public), and time (measured by workload and leisure). Furthermore, the index measures the empowerment of women as compared with men within their households.

Microfinance

Microfinance programs are another type of intervention meant to empower the poor, and particularly women. Since the 1990s, microfinance has evolved from focusing primarily on providing credit³⁴ to encompassing a variety of other services, such as savings, insurance, and social and legal trainings and support services (Duvendack et al. 2011). The number of microfinance programs has seen a rapid increase in recent years. While the earliest and most famous example of microfinance is the Grameen Bank in Bangladesh, many other programs have since been implemented in other countries—particularly in Eastern Europe, South Asia, and Latin America (Islam 2012).

By facilitating access to financial services otherwise unavailable to the poor, microfinance has been hailed as a way to alleviate poverty and empower the poor. The expectation is that by providing the poor with ways to access credit and insurance or to build savings, they will be able to climb out of poverty (Stewart et al. 2010). Recent systematic reviews examining the impact of microfinance on various aspects of poverty alleviation have, however, not found extensive quantitative evidence of their (positive or negative) impacts (Duvendack et al. 2011; Stewart et al. 2010; Stewart et al. 2012).

Women's empowerment is frequently one of the key objectives of microfinance, based on the premise that women are among the poorest of the poor and are more likely to be credit constrained, have less access to the wage labor market, have higher repayment rates, and invest in the well-being of their family (de Aghion and Morduch 2005; Pitt and Khandker 1998). Consequently, women comprise the majority of borrowers in most microfinance initiatives (Sharma 2003). Sharma (2003) highlights several important arguments about the links between women's empowerment, household welfare, and microfinance:

- Enhancing women's ability to independently access financial resources increases her control and influence over household decisionmaking processes.
- Microfinance programs—especially those using the group-based lending model—create an important social networking space for women, allowing them to interact with institutions and markets outside the household and allowing them to gain social and human capital.
- Women's preferences differ from men's; hence, placing resources in the hands of women has shown to lead to better outcomes in terms of their family's (and particularly their children's) nutrition, education, and health.
- Women are better borrowers than men, and evidence has shown they have better repayment rates.
- Ultimately, microfinance is self-financing; if overall costs are covered, a win-win situation emerges for both the borrower and the lender (Sharma 2003).

While some have argued that microfinance programs increase economic independence of women, increase expenditures on children's education and health, increase women's decisionmaking power in the household, and expand women's assets, microfinance has also been criticized for burdening women with

³³ For more information, see www.ifpri.org/sites/default/files/publications/weai_brochure.pdf.

³⁴ Microcredit programs provide relatively small loans to those who are not considered creditworthy by regular banks and therefore excluded from formal financial services. These types of initiatives are usually based on group lending: loans are given to a group of borrowers who are accountable to each other for repaying the loan within a relatively short time frame.

more debt by charging high interest rates, failing to reach the poorest of the poor, increasing tensions within borrowing groups and within households, and failing to address gender inequality within and beyond the household (Islam 2012; Kabeer 2005b; Mayoux 1999). Studies specifically measuring the impact of microfinance interventions on various dimensions of women's empowerment seem to be relatively scarce, however, and often suffer from methodological weaknesses (Duvendack et al. 2011).³⁵ While some of these studies find that microfinance has positive impacts on dimensions of women's empowerment or when *targeted* to women (Deininger and Liu 2009; Hashemi, Schuler, and Riley 1996; Khandker 2005; Pitt, Khandker, and Cartwright 2006; Pitt and Khandker 1998; Rahman 1986; Zaman 2000), others argue that there is no evidence of impact (Banerjee et al. 2010; Crépon et al. 2011; Duvendack et al. 2011) or even that these interventions can be *disempowering* (Goetz and Sen Gupta 1996; Mayoux 1999; Montgomery, Bhattacharya, and Hulme 1996). Furthermore, some recent systematic reviews that cover issues related to women's empowerment have found no convincing evidence that targeting programs to women has beneficial impacts for them (Stewart et al. 2012; Yoong, Rabinovich, and Diepeveen 2012).

Microfinance Programs Targeted to Women

Earlier studies on microfinance (many carried out in Bangladesh) point to their success when targeted to women. In Bangladesh, Rahman (1986) found that female borrowers who made active use of their loans had a higher chance of playing a role in household decisionmaking than those who did not; female loanees had a higher likelihood of taking part in household decisionmaking than females from male borrower households or from non-borrower households, and had higher consumption standards (Kabeer 2001; Rahman 1986).

One of the most frequently cited studies by Pitt and Khandker (1998) compared, by gender, the impact of three microcredit programs in Bangladesh³⁶ on boys' and girls' schooling, household expenditure, women's nonland assets, and women's and men's labor supply. It found that credit was an important determinant of many of these outcomes, and that credit to women had a much larger impact on these outcomes than credit to men. One of their key findings showed that every additional 100 taka lent to a woman was found to add an additional 18 taka to household consumption expenditure, compared with an increase of 11 taka for men (Pitt and Khandker 1998). Morduch's 1998 critique on the Pitt and Khandker study was based on his study findings that indicated very little program impact on consumption levels, school enrollment, or labor (nutrition not measured) (Morduch 1998). Khandker (2005) later found even larger effects than those found in the 1998 study: for every additional 100 taka of credit provided to women, total annual household expenditure increased by more than 20 taka, with more than half of it in food expenditures. And while the 1998 study found larger returns on borrowing for females than for males, the 2005 study found no returns on borrowing for males (Goldberg 2005; Khandker 2005). Khandker (2005) also found significant reductions in extreme and moderate poverty rates. Roodman and Morduch (2011) again reanalyzed the data from Pitt and Khandker's 1998 study and concluded not much substantial impact of microcredit on poverty alleviation (Roodman and Morduch 2011).

Lastly, a systematic review by Stewart et al. (2012) assessed the effectiveness of microfinance on the potential for the poor, especially women, to engage in economic opportunities, and concluded that "there is not enough evidence to allow us to conclude whether financial interventions targeted at women are more or less effective for them" (Stewart et al. 2012, 6).

The Impact of Microfinance on Dimensions of Women's Empowerment

Several studies measured program impact on specific dimensions of women's empowerment. Hashemi, Schuler, and Riley (1996) examined the impact of the Grameen Bank and the Bangladesh Rural

³⁵ A review of the impact of microcredit on women's control over household spending in developing countries is currently under way, led by Dr. Jos Vaessen at Maastricht University. Apart from the proposal, no results are available yet.

³⁶ The Grameen Bank, the Bangladesh Rural Advancement Committee, and the Bangladesh Rural Development Board's RD-12 program.

Advancement Committee (BRAC) on eight dimensions of women's empowerment and a composite indicator.³⁷ Based on a combination of sample survey and ethnographic data, they concluded that microcredit programs—even those that do not include social and financial skills trainings—still empower women. Both programs examined in the study increased women's ability to make purchases and major household decisions, increased their ownership of productive assets, legal and political awareness, mobility, and participation in public protests and campaigns. Grameen Bank borrowers reported higher levels of involvement in major decisionmaking, and BRAC program participants reported higher levels of mobility and political participation (Hashemi, Schuler, and Riley 1996; Kabeer 2001). Furthermore, women's increased contributions to family income served as an important way by which female access to credit led to their empowerment. Hashemi, Schuler, and Riley (1996) also suggest that the programs reduced the vulnerability of women to family violence.

Another (rural) Bangladesh study examined the impact of women's and men's participation in microcredit programs on various women's empowerment indicators³⁸ and found that credit to women had a significant impact on various measures of empowerment, whereas credit to men did not (Pitt, Khandker, and Cartwright 2006). Women's participation in microcredit programs increased women's empowerment in terms of improved access to financial resources and social networks and increases in bargaining power, household decisionmaking, spousal communication, and freedom of mobility. Male credit had a negative impact on women's empowerment, particularly with regard to women's freedom of movement, control of resources, finance, development of social networks, and fertility and parenting decisions (Pitt, Khandker, and Cartwright 2006).

Deininger and Liu's (2009) study that examined the effects of self-help groups in Andhra Pradesh, India, found positive impacts on female social capital and economic empowerment,³⁹ nutritional status in program areas, and consumption. Duvendack et al. (2011), however, note that the findings of this study are "insufficiently reliable" as it has a "high vulnerability to bias" (Duvendack et al. 2011, 56, 68). Zaman's 2000 case study of BRAC in Bangladesh uses 16 indicators of female empowerment⁴⁰ and finds that the program has positive impacts on women's control over assets and knowledge of social issues (Zaman 2000).

Kabeer's 2001 evaluation, which differs from others in that it takes into account women borrowers' own testimonies, concludes that the evaluated program did in fact result in not only increased voice by women in household decisionmaking, their increased accumulation of (typically "female") assets, increased participation in public action, and reduction in domestic violence, but also an enhanced sense of self-worth, social inclusion, and the release of male household members from demeaning economic relationships—impacts that may have been difficult to capture using the "typical" empowerment indicators.

Other studies have found less positive results (Goetz and Sen Gupta 1996; Mayoux 1999; Montgomery, Bhattacharya, and Hulme 1996). Goetz and Sen Gupta (1996) analyzed the contribution of microcredit in Bangladesh to women's empowerment by assessing whether women retained managerial control over a loan, measured from loan proposal to investment in productive assets, labor inputs,

³⁷ The empowerment indicators used include mobility, ability to make small purchases, ability to make large purchases, economic security, involvement in major household decisions, relative freedom from domination within the family, involvement in protests and political campaigning, and political and legal awareness.

³⁸ These women's empowerment indicators included purchasing, resources, transaction management, husband's behavior, mobility and networks, activism, finance, fertility and parenting, and household attributes.

³⁹ Social and economic empowerment is distinguished by social capital (measured by self-reported level of trust in individuals of same or different caste or religion from within or outside the village as well as in government officials and policy on a 1–5 scale), economic empowerment (measured based on whether a woman can set aside money for her own use; go to the market, clinic, or community center; visit friends; or work on fields outside villages without asking permission from her husband or other male family members), and political participation (measured by the frequency of attendance at village meetings) (Deininger and Liu 2009, 6).

⁴⁰ These "empowerment correlates" include awareness on issues like divorce method, dowry legality, marriage age, and local chairman's name; ownership of poultry, livestock, land, jewelry, and savings; visits to markets; and forced pregnancy (Zaman 2000).

marketing, and use of profits (Goetz and Sen Gupta 1996, 48), and where control over the loan varied from no involvement to very limited, partial, significant, and full. They find that the majority of women had little to no control over their loans—particularly married women (Goetz and Sen Gupta 1996; Kabeer 2001). Montgomery, Bhattacharya, and Hulme (1996) found that a small percentage (9 percent) of first-time female borrowers were the main managers of activities funded by the loan, whereas 33 percent of first-time male borrowers had main management control over these activities, compared with 87 percent and 56 percent reporting management by family partnerships, respectively. They found that the management of the cash from the loans within the household did not necessarily change with regard to who had access to the loan, and that the loans empowered women only vis-à-vis other women, not men (Kabeer 2001; Montgomery, Bhattacharya, and Hulme 1996). Mayoux (1999) reviews 15 programs in Africa and concludes that many women experience only marginal impacts on their economic and social empowerment and that some experience disempowerment. Ackerly's (1995) study also found a loss in direct control over loans by women.

Despite these mixed findings from non- or quasi-experimental studies, results from more recent randomized controlled trials (RCTs) cast doubt on the potential of microfinance to alleviate poverty and empower women. A randomized evaluation of a microcredit program in Hyderabad, India, found no impact on average per capita expenditure or on health, education, and women's decisionmaking measures in the short term. Banerjee et al. (2010) found an increase in the number of new businesses, however, and heterogeneous impacts in terms of expenditure on durable and nondurable goods between households with businesses, those likely to start a business, and those unlikely to start a business (Banerjee et al. 2010). According to Banerjee et al. (2010), these results pointed to the fact that the program was working along its intended dimensions—in terms of giving households the opportunity to borrow, invest, and create or expand their businesses—despite the disappointing impacts on female empowerment in the short term (Banerjee et al. 2010; Bauchet et al. 2011).⁴¹ Similar to the Banerjee et al. (2010) study, a randomized experiment measuring the impacts of a microcredit program in rural Morocco (of which the majority of borrowers were men) also showed heterogeneous effects in terms of expenditure on durable and nondurable goods, depending on whether the household ran a business at baseline or not, although the number of businesses did not increase. While they found a small impact on health and education outcomes, they found no impact on average consumption or on women's empowerment indicators⁴² (Crépon et al. 2011). However, the study looked only at short-term impacts, whereas empowerment impacts may take a longer time to emerge.

Recent systematic reviews further confirm the variation in results in terms of program impact on women's empowerment (Bauchet et al. 2011; de Aghion and Morduch 2005; Duvendack et al. 2011; Leroy, Ruel, and Olney 2008; Odell 2010; Stewart et al. 2010). For example, one recent systematic review concludes that inadequate data and methodologies compromise the results from most impact evaluations of microfinance programs and find “no robust evidence of positive impacts on women's status, or girl's enrolment,”⁴³ stating that “well-known studies which claim to have found positive impacts on females are based on weak research designs and problematic IV analyses which may not have survived replication or re-analysis using other methods” (Duvendack et al. 2011, 3). Stewart et al. (2010) assess 15 studies with evidence on the impact of microfinance—particularly microcredit and microsavings—on the poor in SSA. With regard to women's empowerment, they find mixed evidence that microcredit empowers women, although some studies are inconclusive as the effects on women's empowerment cannot be isolated from other aspects of the program or context-specific characteristics. Bauchet et al. (2011) review several randomized evaluations of microfinance and find no evidence of microcredit empowering women along the measured dimensions, such as control over household expenditure decisions.

⁴¹ Duvendack et al. (2011) highlight some of the drawbacks of this study, including its short study period.

⁴² Proxies used to measure women's empowerment include the number of activities managed by a female member in the household, the capacity of women to make decisions, and their mobility within and outside of the villages (Crépon et al. 2011).

⁴³ However, they mention that this may be due to these topics not being addressed in valid studies—RCTs and pipelines.

One of the main reasons behind the differing conclusions on the impact of microfinance programs is the wide variety of definitions and dimensions of empowerment used and the variety in study methodologies. Kabeer (2001) highlights that the types of questions asked by evaluators, their interpretations of answers, and differing assumptions about the causal link between particular indicators and women's empowerment (the "proclivity to 'read' empirical findings in light of preconceived notions about loan impact" [Kabeer 2001, 67]) all have a significant impact on the conclusions of the evaluation. Related to this, Sharma (2003) argues that empowerment is a highly cultural concept, the meaning of which differs between contexts and people; that empowerment is not easily observable, resulting in the use of proxy indicators such as health and education, which do not give much information on intrahousehold decisionmaking processes; and that self-selection may over- or underestimate the empowerment effect (Sharma 2003).

The Impact of Microfinance on Nutrition

Evidence of the impact of microfinance on nutrition outcomes is limited. Over the past few years, a small number of reviews have assessed this, although they have not necessarily explored program impact on nutrition via women's empowerment. With regard to health, food security, and nutrition, Stewart et al. (2010) find that microcredit (as well as microsavings) overall has a positive effect on the poor's health, including on children's nutritional status for households in "stressed environments," but only in certain areas or regions. In some instances, microcredit (and microsavings) suggests positive impacts on nutrition and food security, but in other cases, it does not (Stewart et al. 2010). They review studies in Kenya, Zimbabwe (Barnes, Gaile, and Kibombo 2001; Barnes, Keogh, and Nemarundwa 2001), Tanzania (Brannen 2010), and Rwanda (Lacalle Calderón, Rico Garrido, and Durán Navarro 2008) that show a positive impact on food quality, while studies in Ethiopia (Doocy et al. 2005) and Ghana (Nanor 2008) do not find significant changes in households' food security and diet, although women beneficiaries more frequently maintained quality diets than male beneficiaries or community controls. Evidence from Malawi (Shimamura and Lastarria-Cornhiel 2009) showed that credit to female beneficiaries led to an improvement in long-term nutritional status (measured by height-for-age) among girls but not boys.

Morduch and Haley (2002) find a substantial amount of evidence on the positive impacts of microfinance on income increases and reductions in vulnerability, but fewer studies with evidence of the impact of microfinance on nutritional status, health, and (primary) school attendance. However, evidence that does exist is largely positive (Morduch and Haley 2002). A systematic review by Yoong, Rabinovich, and Diepeveen (2012) concludes that evidence on the impact of microfinance programs targeted to women versus men (including studies that measure impact on height-for-age, arm circumference, and girls' and boys' schooling) is inconclusive, particularly in Bangladesh. Another evidence review (Leroy, Ruel, and Olney 2008) on the impact of microcredit with education (MCE) programs on child micronutrient status finds mixed evidence that MCE programs improve the nutritional status of children, quality of child dietary intake, child feeding, and household food expenditure.⁴⁴ It finds no studies that measure the impact of MCE programs on micronutrient status. Although child growth improved in some programs, it did not in others. The authors also argue that there is a lack of rigor in terms of evaluation designs and control for self-selection and reporting biases, which makes it nearly impossible to make sound conclusions about the impact of these types of microcredit programs on nutritional status. The authors highlight the dearth of knowledge about the potential pathways through which microcredit programs can affect nutrition and the lack of analysis on contextual factors that facilitate (or do not facilitate) women's engagement in income-generating work. It is, hence, difficult to come to concrete conclusions about the impact of MCE programs on micronutrient nutrition, due to the lack of evidence (Leroy, Ruel, and Olney 2008).

⁴⁴ The review only included programs that had a health or nutrition education component.

Summary of Microfinance Programs

The evidence of microfinance programs on women's empowerment measures is clearly mixed and controversial. While some studies indicate positive impacts on indicators, such as women's household decisionmaking, nonland assets, labor, and expenditure on child schooling when programs are targeted to women (Khandker 2005; Pitt, Khandker, and Cartwright 2006; Pitt and Khandker 1998; Rahman 1986), others find little to no impact on school enrollment, consumption levels, and labor (Morduch 1998; Stewart et al. 2012) and question the methodologies used by previous studies (Duvendack et al. 2011; Yoong, Rabinovich, and Diepeveen 2012). Studies that measure program impact on different dimensions of women's empowerment find either positive impacts on measures, such as women's household decisionmaking, ownership of and control over productive assets, mobility, legal and political awareness, social networks, financial resources, and participation in public campaigns (Deininger and Liu 2009; Hashemi, Schuler, and Riley 1996; Kabeer 2001; Pitt, Khandker, and Cartwright 2006; Zaman 2000), no impact (Montgomery, Bhattacharya, and Hulme 1996), or negative impacts (Ackerly 1995; Goetz and Sen Gupta 1996; Mayoux 1999). Rigorous RCTs found little to no impacts on a variety of women's empowerment indicators (Banerjee et al. 2010; Crépon et al. 2011). Systematic reviews also mostly find no impact on women's empowerment measures (Bauchet et al. 2011; Duvendack et al. 2011; Leroy, Ruel, and Verhofstadt 2009; Stewart et al. 2010).

Evidence of the impact of microfinance programs on nutritional outcomes is limited and mixed; while some find positive associations between microfinance and nutrition (Morduch and Haley 2002), others find mixed impacts (Leroy, Ruel, and Olney 2008; Stewart et al. 2010) or find differential effects between boys and girls (Shimamura and Lastarria-Cornhiel 2009). No evidence is found of impact on micronutrient status (Leroy, Ruel, and Olney 2008), and one review comparing programs targeted to women versus men finds inconclusive results with regard to their impact on various health and nutrition outcomes. A lack of rigor in terms of evaluation designs and a lack of evidence about the pathways that lead to these nutritional outcomes, including women's empowerment, make it difficult to come to firm conclusions.

6. DISCUSSION

Initiatives to empower women are usually based on (1) achieving gender equality as a goal in itself and (2) empowerment as a means to achieve other development outcomes. Although there are many different definitions and measurements of empowerment, it is most often referred to as a process and the *expansion of agency*. As many studies show, women's empowerment is context-specific, political, and amorphous, and women should by no means be considered a homogenous group. Ways to measure women's empowerment differ but have been separated into indirect measures (such as those regarding education, political representation, labor market status, and marriage and kinship) and direct measures (such as involvement in household decisionmaking, access to and control over resources, mobility, and attitudes toward domestic violence).

Studies have shown the important linkages between women's empowerment dimensions and nutritional outcomes. Women are often primary caregivers and therefore can directly influence their children's nutrition through child care practices, as well as indirectly through their own nutritional status. Improvements in various empowerment indicators have been associated with improvements in maternal and child nutrition, and conversely, women's disempowerment has shown to be associated with poorer child and maternal health and nutrition outcomes.

Framed within these conceptual discussions on empowerment, this paper first reviewed the evidence linking women's empowerment and nutrition outcomes, and then discussed the broad-based structural interventions that aim to eradicate gender discrimination and that are important for achieving gender equality, such as equal access to political participation, to public services such as education and healthcare, to financial and physical assets, and to a variety of legal reforms regarding property rights, labor laws, inheritance law, and marriage and family law. It subsequently analyzed the evidence regarding the impact of three types of interventions—CT programs, agricultural interventions, and microfinance programs—on dimensions of women's empowerment in relation to its link to improved nutrition.

Qualitative evidence on the impact of CCT programs on women's empowerment dimensions is generally positive, although quantitative evidence suggests more mixed impacts. Impacts of CCTs on nutrition is mixed in terms of long-term nutritional status and limited in terms of micronutrient status, and very little is known about the pathways of impact. Evidence is limited on the impact of UCT programs on women's empowerment—partly because only few evaluations exist on these types of programs—but quantitative evidence that does exist points toward mixed results. The limited evidence that exists on the impact of UCT programs on nutrition is generally positive. For both types of CT programs, when nutrition did improve, little is known about the pathways through which this occurred and whether impact was due to conditionality or not, although CCTs with non-health conditionalities seem to have negative impacts on nutritional status. Evidence of impacts depending on the gender of the transfer recipient is also mixed, and very little experimental evidence exists. Evidence on impact of CT programs on women's empowerment, nutrition, or both, is heavily biased toward Latin America, and it is clear that more evidence is needed to determine (1) pathways of impact, (2) evidence on women's empowerment on programs outside of Latin America, and (3) the potential of UCT programs to impact nutrition, with women's empowerment as a key pathway. The rise of impact evaluations of CT programs in Africa may well start to add to this evidence (Davis, Gaarder, and Handa 2012).

With regard to agricultural interventions, evidence is limited and mixed on the impact of dairy and home gardening projects on women's empowerment measures in terms of women's income and control over income and resources, as well as women's time and workload. Agricultural interventions seem to be positively associated with measured changes in women's knowledge and awareness. The recently developed Women Empowerment in Agriculture Index may be one way to improve the evidence base on certain measures of women's empowerment in relation to agricultural programs. Recent reviews also indicate that evidence of the impact of agricultural interventions on nutrition is limited (in many cases, due to studies not being sufficiently powered to detect significant effects), with the exception of vitamin A intake and status. Studies have found that implementation modalities matter in terms of

impacts on empowerment measures and nutrition outcomes. Again, evidence is lacking on the impact pathways of agriculture on nutrition outcomes.

Evidence of the impact of microfinance programs on women's empowerment is also mixed, and methodologies of studies that find positive impacts have been questioned in later reviews. Recent systematic reviews find no impact on women's empowerment indicators. Evidence on nutrition is mixed, although there seems to be no evidence of the impact of microfinance programs on micronutrient status. Again almost no evidence exists on the pathways that lead to nutritional outcomes, and evidence is heavily skewed toward Bangladesh.

Hence, while many development interventions seem to target women specifically or have women's empowerment as one of their objectives, no sufficient body of evidence overwhelmingly points to success in terms of improving women's empowerment, or improving nutrition through women's empowerment. It is clear that even though women's empowerment seems to have strong associations with improved nutrition outcomes, more research is needed to analyze the pathways that lead to improved nutrition, as well as on various conditions that can affect program impact, such as access to, availability and quality of public services, implementation modalities, and characteristics of the study population, including gender of the beneficiary. Furthermore, due to the differing nature of the studies and the different contexts in which they take place, measures of women's empowerment vary, and therefore study results are not always easy to compare. Several geographic biases also need to be addressed to compare impacts across contexts.

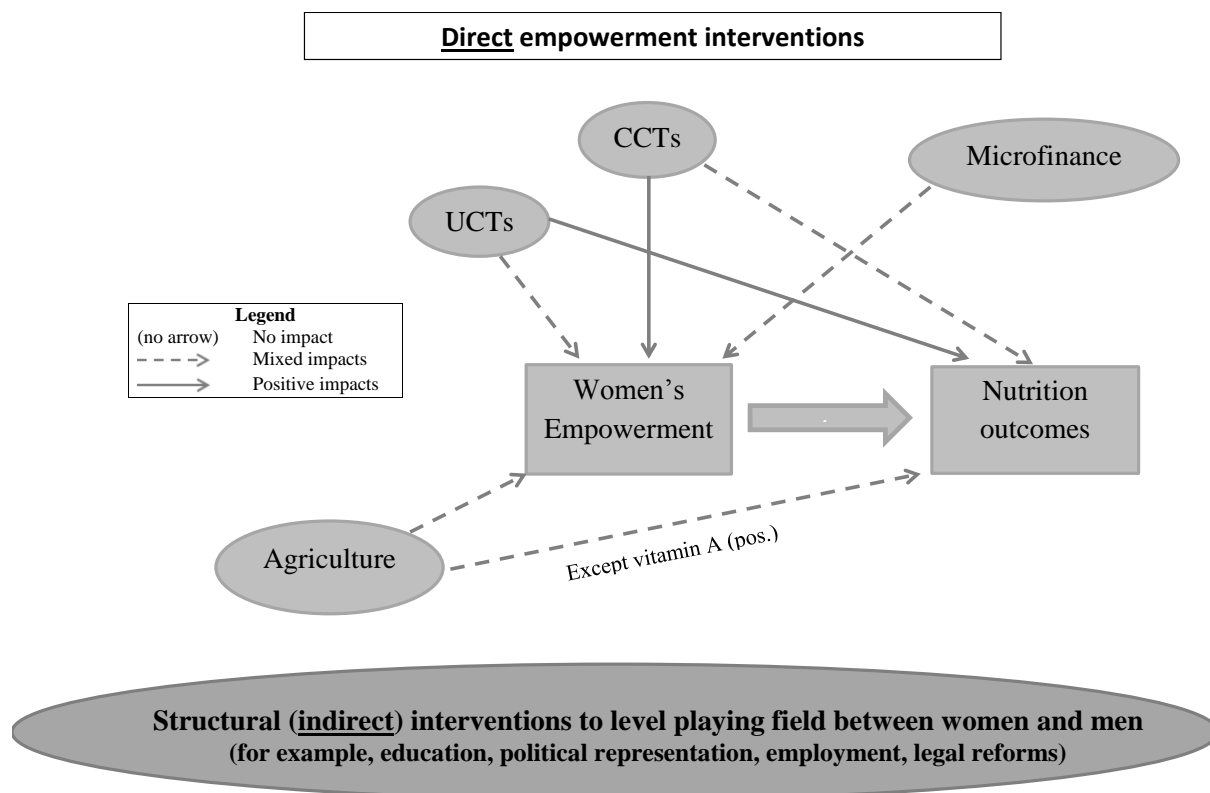
Figure 6.1 presents an evidence map of the impacts of the three interventions discussed in this paper on women's empowerment and nutrition outcomes. The map indicates whether existing evidence points to no impact, mixed impacts, or positive impacts on women's empowerment and nutrition. It does not, however, indicate the amount of or type (qualitative or quantitative) of evidence on which these impacts are based, and it does not cover the (lack of) evidence of pathways of impact.

Questions remain: how can future research on women's empowerment and nutrition help fill evidence gaps? How can projects improve their measurement of impact on women's empowerment, both as an objective in its own right as well as a pathway to improve nutrition? The following recommendations are offered:

Study design and methodology

1. **Methods:** Carry out rigorous mixed-method evaluations that are capable of measuring impact on dimensions of women's empowerment—particularly as these relate to improved nutrition outcomes—as well as delineating other pathways of impact. While experimental randomized controlled trials are useful, for example, to measure impact of implementation modalities and final health and nutrition outcomes, qualitative methods can be especially important in relation to examining program pathways, quality of service delivery, or barriers to program uptake.
2. **Data:**
 - a. Ensure disaggregated data are collected on sex and on other social variables, such as ethnicity, caste, religion, marriage status, and age.
 - b. Ensure data are collected about life-cycle and gender differences in nutrition and health burdens.
3. **Indicators:**
 - a. Ensure the use of gender-disaggregated impact indicators.
 - b. Ensure that indicators on women's empowerment are rooted in political, historical, and cultural context, take into consideration local women's own reflections on meanings of empowerment, and avoid potentially “re-traditionalizing” existing gender roles rooted in patriarchal power structures.
 - c. Ensure that indicators are developed at outcome and impact levels.

Figure 6.1 Evidence map showing impacts of interventions on women’s empowerment and nutrition outcomes



Source: Developed by authors.

Notes: The arrows indicate the extent to which available evidence indicates no impact, both positive and negative impacts, or positive impacts on women’s empowerment and/or nutrition outcomes. However, this “evidence map” does not include information on the *amount* of evidence available or whether the evidence is quantitative or qualitative. It also does not provide information on pathways of impact. More detail on this can be found in the text of this paper.

CCTs: conditional cash transfers; UCTs: unconditional cash transfers.

General Recommendations

1. Gender analysis: Carry out a thorough gender analysis in the form of formative research as well as project or study implementation in order to
 - understand the power relations that shape societal structures in which women and men live and work
 - understand women’s and men’s roles in different contexts, associated risks and vulnerabilities, and men’s and women’s differential access and control over various types of capital (physical, financial, natural, human, political, social)
 - understand potential pathways of project impact
 - examine cultural, nonprogram constraints to achieving women’s empowerment, nutrition outcomes, or both
 - inform the design, implementation, monitoring, evaluation, and communication of programs related to health, nutrition, agriculture, microfinance, and social protection

2. Broaden the evidence base:
 - Expand research on the impact of CTs on women's empowerment and nutrition to SSA and to Asia; expand research on microfinance beyond Bangladesh to other Asian contexts as well as other non-Asian developing countries.
 - Carry out further research on the conditionality and gender impacts of programs (that is, whether program impacts are due to conditionalities or not, or whether the program has a differential impact depending on the gender of the beneficiary).
 - Carry out further research on the impact of agricultural programs on nutrition (anthropometry as well as micronutrient status), examining impact pathways, especially impact on women's empowerment dimensions.
3. Capacity building: Strengthen capacity among researchers to conduct gender analyses, and collect and analyze gender-disaggregated data.

APPENDIX: SUPPLEMENTARY TABLES

Table A.1 Impacts of cash transfer programs on women’s empowerment

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
BANGLADESH				
<p>Ahmed et al. (2009) Comparing Food and Cash Transfers to the Ultra Poor in Bangladesh</p> <p><i>Aim:</i> To examine effectiveness of food and cash transfers (CT) in enhancing food security and livelihoods of ultra-poor in rural Bangladesh</p>	Income Generating Vulnerable Group Development (IGVGD) program (food)	Women’s ability to make decisions, mobilize resources, exercise choices over various aspects of their lives	Impact evaluation, drawing on data from beneficiaries and non-beneficiaries	<ul style="list-style-type: none"> • FFA and RMP had the greatest impact on indicators of women’s decisionmaking and mobility, which are the programs that have the largest payments and challenge traditional norms of gender seclusion. • IGVGD, however, has the largest impact on indicators related to taking nongovernmental organization (NGO) loans due to the program’s emphasis on obtaining access to credit. • Comparing programs with similar transfer sizes (IGVGD with FSVGD and FFA with RMP), married women’s empowerment outcomes improve more the higher the proportion of transfers received in cash, probably because receiving cash enables married women to control resources they were previously unable to control and to expand their area of decisionmaking beyond their traditional roles. • FSVGD and RMP have the largest positive impact on married women’s empowerment. Compared with recipients of IGVGD, which is purely a food transfer, FSVGD recipients receive a combination of food and cash (50:50 value). Likewise, compared with participants in FFA, RMP participants receive a higher proportion of the payment (100 percent) in cash. • Improving one’s status within household does not automatically translate to an improvement in status within the community. Although FFA and RMP appear to have had a large, positive, and significant effect on empowerment outcomes of participants at the household level, their status in the community may not have changed at all or could even have worsened owing to their participation in the program.
	Food Security VGD (FSVGD) (food and cash)			
	Food for Asset Creation (FFA) component of the Integrated Food Security (IFS) program (food and cash)			
	Rural Maintenance Program (RMP) (cash)			

Table A.1 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
BRAZIL				
<p>de Brauw et al. (2013) The Impact of <i>Bolsa Família</i> on Women's Decisionmaking Power</p> <p><i>Aim:</i> To examine the effect of conditional cash transfers (CCTs) on intrahousehold decisionmaking</p>	<p><i>Bolsa Família</i> (CCT)</p>	<p>Focuses on eight areas of decisionmaking: food purchases, clothes for self, clothes for children, children's school attendance, children's health expenses, durable goods, own labor supply, and contraception</p> <p>Analysis focuses on (1) distinction between decisions made solely by female and decisions made jointly or solely by male, and (2) distinction between decisions made solely by female or made jointly and decisions made solely by male</p>	<p>Quantitative analysis using propensity score weighting, using data from a 2005 baseline survey on <i>Bolsa Família</i> (AIBF-1) and 2009 follow-up survey (AIBF-2)</p>	<ul style="list-style-type: none"> • Receipt of <i>Bolsa Família</i> increases women's exclusive control over contraception decisions by almost 10 percent. Weakly significant increases in decisionmaking power regarding children's health expenses and purchase of durable goods. • Study disaggregates results by urban and rural areas and by education difference between male and female. Urban areas: Impacts on decisionmaking related to contraception are larger and more strongly significant. Significant increase in women's control over decisions regarding children's school attendance and health expenses, women's clothing expenditure, and purchase of durable goods. Rural areas: <i>Bolsa Família</i> causes no significant increase and possibly has a negative impact on women's decisionmaking power. Relative education: Increases in women's decisionmaking regarding contraception regardless of whether the male has more, less, or equal education as the female, though impacts are larger in the first instance. When males are more educated, there are large increases in women's control over purchase of durable goods, children's clothing and health expenses, and women's labor supply. • Results indicate that impact of <i>Bolsa Família</i> may be different in urban versus rural areas; in rural areas transfer may be more often seized by men. Also, if women's initial status is lower than that of men, or when more-educated males are willing to give control over transfers to women, women's status improves.
BURKINA FASO				
<p>Akresh, De Walque, and Kazianga (2012) Alternative Cash Transfer Delivery Mechanisms—Impacts on Routine Preventive Health Clinic Visits in Burkina Faso</p> <p><i>Aim:</i> To estimate impact of four CT delivery mechanisms on household demand for routine preventive health services</p>	<p>Nahouri Cash Transfer Pilot Project (NCTPP) (Unconditional cash transfer [UCT] + CCT treatment arms)</p>	<p>Mother's control of resources</p>	<p>Randomized experiment</p>	<ul style="list-style-type: none"> • Compared with the control group households, CCTs significantly increased the number of preventive healthcare visits during the previous year, while UCTs did not have such an impact. • For the CCTs, money given to mothers or fathers showed beneficial impacts of similar magnitude in increasing routine visits.

Table A.1 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
ECUADOR				
<p>Hidrobo and Fernald (2013) Cash Transfers and Domestic Violence</p> <p><i>Aim:</i> To investigate how exogenous increase in a woman's income affects domestic violence</p>	<p>Bono de Desarrollo Humano (BDH) (UCT)</p>	<p>Reported spousal (physical and psychological / emotional) domestic violence used as a measure of disempowerment</p>	<p>Quantitative analysis, based on baseline and follow-up survey data on spousal domestic violence (focus on 40 percent new families brought into program in 2003)</p>	<ul style="list-style-type: none"> • For mothers with six years or less schooling, effect of BDH is ambiguous and depends on difference in levels of formal schooling between mother and her partner. When mother's schooling is six years or less but <i>equal to or more</i> than her partner's, BDH significantly <i>increases</i> emotional violence. When mother's schooling is six years or less and <i>less</i> than her partner, BDH <i>decreases</i> emotional violence. • For mothers with more than six years of schooling, BDH decreases probability of emotional violence and controlling behaviors by partner. When mother's schooling is more than six years and <i>equal to or more</i> than her partner's, BDH <i>decreases</i> probability of experiencing controlling behavior by partner. When mother's schooling is more than six years but <i>less</i> than her partner, BDH <i>decreases</i> emotional violence. • No effect of BDH on physical violence for any group of mothers.
<p>Hidrobo et al. (2012) World Food Programme (WFP) /IFPRI Impact Evaluation of Cash, Food Vouchers, and Food Transfers among Colombian Refugees and Poor Ecuadorians in Carchi and Sucumbios</p> <p><i>Aim:</i> To evaluate the impact of WFP's food, cash and voucher intervention on food security, social capital, anemia, and gender issues</p>	<p>WFP cash, food voucher and food transfer program (cash, voucher, and food transfers) (northern Ecuador)</p>	<p>Examines whether program impacts women's empowerment indicators including intrahousehold decisionmaking power, disagreements, and intimate partner violence, and whether impact differs per modality</p> <p>Women's empowerment indicators are based on decisionmaking power in relation to a number of domains: (1) whether a woman works for pay, (2) children's education, (3) children's health, (4) women's own health, (5) small daily food purchases, (6) large food purchases, (7) large asset purchases, and (8) whether or not to use contraceptives</p> <p>Responses can be (1) female only, (2) spouse only, (3) woman and spouse together, (4) someone else in the household, (5) woman and someone else, (6) decision not applicable</p>	<p>Impact evaluation, based on quantitative survey data and small-scale qualitative survey carried out only on impacts of nutrition training on knowledge and behavior change</p>	<p>Results on women's empowerment and intimate partner violence:</p> <ul style="list-style-type: none"> • Overall, transfers lead to a substantial decrease in intimate partner violence but did not impact decisionmaking indicators. • Comparing between treatment arms, food transfers demonstrate a substantial impact on the experience of disagreements with regard to child health. Other than this there are no significant differences in impact between treatment arms. While all treatment arms lead to decreases in physical and sexual violence, only food and cash lead to decreases in controlling behaviors. There are no significant differences across treatment arms in the size of impact for any of the intimate partner violence indicators.

Table A.1 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
ECUADOR (continued)				
Hidrobo et al. (2012) (continued)		Analysis focuses on two outcomes: (1) joint or sole decisionmaking across domains and (2) whether a disagreement has taken place over the decisionmaking domains in the past six months		
Schady and Rosero (2007) Are Cash Transfers Made to Women Spent Like Other Sources of Income? <i>Aim:</i> To analyze the effect of unconditional CTs on the food Engel curve	Bolso de Desarrollo Humano (BDH) (UCT)	No use of direct measures of bargaining capacity; relative education of men and women is used as a proxy for bargaining capacity within the household	Quantitative analysis based on baseline and follow-up surveys designed for the BDH evaluation; rural areas only (2003–2005)	<ul style="list-style-type: none"> • Households randomly assigned to receive BDH transfers have a substantially higher food share in expenditures than those randomly assigned to control group • The rising food share (hypothesized to be result of women's preferences for food) is found among BDH beneficiaries in mixed-adult households, but not among households that only have adult females. Bargaining power is likely to be important in mixed-adult households, but not in female-only households. • Within mixed-adult households, program effects are significant only in households in which the initial bargaining capacity of women was likely to be weak. BDH program effects were larger when women had relatively less schooling than men.
KENYA				
OPM and IDS (2012) Kenya Hunger Safety Net Programme, Monitoring and Evaluation Component, Impact Analysis Synthesis Report <i>Aim:</i> Summary report of quantitative impact evaluation report, qualitative impact evaluation report, and consolidated operational monitoring report	Hunger Safety Net Programme (HSNP) (UCT)	Approximately 70 percent of HSNP recipients are women; women's empowerment measured by proportion of female decisionmakers over entire household budget (for all households, female-headed and male-headed households)	Mixed methods based on quantitative survey data (randomized controlled trials) and qualitative research using focus group discussions, key informant interviews, household case studies, and participatory methods	<p>Report discusses findings on HSNP's key impact areas such as dietary diversity, receiving food aid, retaining livestock, and secondary impact areas such as health status, education enrollment and attendance rates, food prices, livelihoods, access to credit, empowerment of women, well-being of older persons, and child labor, and unintended impacts on informal safety nets, social tensions, household composition, and household mobility. Also discusses program operations.</p> <p>Findings on the impacts on women's empowerment:</p> <ul style="list-style-type: none"> • HSNP contributed to social and economic empowerment of women, although not consistently • In some cases HSNP enhanced women's status in their homes and communities, but in others it increased tension between spouses. • Quantitative and qualitative data suggest that the program had a small but significant impact on incidence of individuals that are divorced, among certain categories of beneficiary households.

Table A.1 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
MALAWI				
<p>Baird, McIntosh, and Ozler (2011) Cash or Condition? Evidence from a Cash Transfer Experiment</p> <p><i>Aim:</i> To assess the role of conditionality in CT programs</p>	<p>Program aimed at adolescent girls, with a CCT and UCT arm, carried out in Zomba District (UCT + CCT treatment arms)</p>	<p>Measures indirect indicators of empowerment including girls' school enrollment and attendance, human capital formation (measured by English reading comprehension tests, math, cognitive skills), age at marriage, and childbearing</p>	<p>Randomized controlled trial, with two treatment arms (UCT and CCT)</p>	<ul style="list-style-type: none"> • While there was a slight decline in dropout rate in UCT arm compared with the control group, this decline was only 43 percent as large as the impact in the CCT arm after two years. CCT arm also outperformed UCT arm regarding English reading comprehension tests. • However, marriage and teenage pregnancy rates were much lower in the UCT arm than in the CCT arm, due to the impact of UCTs on these outcomes among girls who dropped out of school.
MEXICO				
<p>Adato et al. (2000) The Impact of PROGRESA on Women's Status and Intrahousehold Relations</p> <p><i>Aim:</i> To examine impact of PROGRESA on women's status and intrahousehold relations</p>	<p>PROGRESA / Oportunidades (CCT)</p>	<p>Bargaining power measured by four determinants: (1) control over resources, (2) factors used to influence bargaining process, (3) mobilization of interpersonal networks, (4) basic attitudinal attributes</p> <p>Looks at impact of PROGRESA on six dimensions (or indicators) of empowerment: household decisionmaking, other types of choice, women's rights in marriage, participation in public domain, economic security, and cognitive processes</p>	<p>Impact evaluation of PROGRESA based on (1) data from ENCASEH and three successive ENCEL surveys and (2) focus groups with beneficiaries, nonbeneficiaries, and promotoras (community organizers)</p>	<p>Quantitative^a:</p> <ul style="list-style-type: none"> • Parental characteristics are the most consistent determinants of decisionmaking patterns: husband is more likely to be sole decisionmaker if wife is less educated, has less work experience before marriage, does not speak Spanish or speak indigenous language; husbands who speak indigenous language are also more likely to be sole decisionmaker; relative to individual characteristics, living in PROGRESA locality does not have as predictable or strong effect on decisionmaking patterns: increase in women's income has more of an effect on decisionmaking patterns than other effects of program; husbands less likely to make sole decisions regarding children, food expenditure, and house repairs. Increase in probability that women decide on use of their extra income on their own; decline in probability that they let husbands decide. • Parental characteristics also important for schooling achievement of boys relative to girls: children of better-educated parents do better relative to those of similar age, though coefficient size on mother's schooling is twice the size of that on fathers; clear parental gender preferences; living in PROGRESA community and monetary transfers both have positive and significant effect on schooling outcomes, which is in contrast to most decisionmaking outcomes, when only transfers were significant.

Table A.1 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
MEXICO (continued)				
<p>Adato et al. (2000) (continued)</p>				<p>Qualitative^P:</p> <ul style="list-style-type: none"> • While PROGRESA introduced some new tensions within households and time burdens on women, in general women feel it has helped the family as a whole and improved their position. • The main way in which PROGRESA contributes to women's empowerment is through promotion of health, nutrition, and poverty improvements: through women's decisionmaking on food purchases, education of women and girls, and the increase in financial resources. • The program also contributes to empowerment by putting resources under women's control, educating them on health and nutrition issues, providing them with opportunities to leave the house, providing new spaces for communication, giving government recognition of their importance, and helping girls continue their schooling and therefore increase their chances of a greater position of power in future relationships. This appears to have had positive impacts on personal empowerment (self-esteem, sense of self) though more modest impacts on intrahousehold relations and expenditure decisions.
<p>Attanasio and Lechene (2002) Testing of Income Pooling in Household Decisions</p> <p><i>Aim:</i> To investigate the impact of PROGRESA across various intrahousehold decisionmaking categories</p>	<p>PROGRESA / Oportunidades (CCT)</p>	<p>Questions on decisionmaking are divided into three categories (woman's freedom of movement, woman's freedom of opinion, and decisionmaking) and examined before and after program implementation</p>	<p>Quantitative analysis using PROGRESA evaluation data</p>	<p>Analysis focuses on two sets of outcomes: (1) expenditures and (2) lifestyle and decisionmaking; results for the latter are as follows:</p> <ul style="list-style-type: none"> • Evidence on direct question on decisionmaking shows that an exogenous shift of resources toward women seems to increase women's weight in the decisionmaking process. In treatment villages, husbands make fewer decisions on their own and more respondents answer that decisions are made jointly. Not much change in number of respondents who report that mother makes decision on her own. • Evidence of more formal tests of the unitary model shows that the unitary model is rejected due to the finding that the change in income share of the women (implied by the program) seems to be related to a change in the process of decisionmaking. • A higher share of income is associated with more decisionmaking power; the authors cannot reject that the wife's relative income share is a significant determinant of the wife's decisionmaking power in the household.

Table A.1 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
MEXICO (continued)				
<p>Handa et al. (2009) Opening Up Pandora’s Box: The Effect of Gender Targeting and Conditionality on Household Spending Behavior in Mexico’s PROGRESA Program</p> <p><i>Aim:</i> To evaluate behavioral impact of gender targeting and conditionality on spending behavior</p>	<p>PROGRESA / Oportunidades (rural Mexico)</p>	<p>Examines decisionmaking through five questions on (1) decisions on taking children to a doctor, (2) decisions on spending women’s extra income, (3) decisions on house repairs, (4) decisions on child clothing and shoe expenditures, and (5) who tells children to go to school Decisionmaking index presented in three variations: full index (summing all five questions), a woman’s income indicator, and the full index without the women’s income question</p>	<p>Quantitative analysis based on data collected as part of the PROGRESA evaluation</p>	<ul style="list-style-type: none"> • Transfer income is not spent differently from regular income; that is, the transfers have only an income effect. This also indicates that conditional income is not used to support human capital investment at a higher rate than that used to support human capital investment from unconditioned income. • Women who have increased control over their extra income are not substantially more likely to spend this in ways that benefit their families any more than their regular household income. Although women are reported to have more control over the extra income as a result of the program, the program’s gender targeting approach did not increase overall decisionmaking power by women. • Both aspects of the program—conditionality and gender targeting—come with costs to beneficiaries and to the program budget itself. Further evidence is required to merit their inclusion in the program.
<p>Latapi and de la Rocha (2003) Evaluación Cualitativa del Programa Oportunidades en Zonas Urbanas 2003 [Qualitative Evaluation of the Oportunidades Program in Urban Areas 2003]</p> <p><i>Aim:</i> To assess impact of Oportunidades in urban areas</p>	<p>PROGRESA / Oportunidades (CCT) (urban)</p>	<p>Not specifically discussed</p>	<p>Qualitative research using in-depth interviews with key actors; case studies of both beneficiary and nonbeneficiary households; and focus group discussions with women, men and youth, beneficiaries and nonbeneficiaries</p>	<ul style="list-style-type: none"> • Delivering resources to women as well as providing health education talks has led to women being more able to make expenditure decisions with less interference from other household members. This autonomy, however, means that women will do what is best for their families, not just themselves. Nonetheless, women strongly valued this. • No evidence of violence against women in relation to their control over the transfer (even despite high rates of male alcoholism). • The social networks created between women as part of the program have positive impacts on other aspects of their lives.
<p>Latapi and de la Rocha (2004) Mid-Term Qualitative Evaluation of the Oportunidades Program in Rural Areas</p> <p><i>Aim:</i> To assess impact of Oportunidades on households and communities in first phase</p>	<p>PROGRESA / Oportunidades (CCT) (rural); specifically gathers information on implementation of Differentiated Support Scheme (DSS) and Oportunidades Youth Platform (OYP)</p>	<p>Not specifically discussed</p>	<p>Qualitative research using life histories, focus group discussions, and interviews with key actors in the program and in the communities</p>	<ul style="list-style-type: none"> • Grandmothers increasingly play an important role in raising children; older women become primary caregivers for grandchildren as women work more and men may leave household to work elsewhere. • CT freed up some of household budget and made women creditworthy. • Oportunidades has required greater time commitment from women; despite this they are willing to continue this for the better future of their children (Latapi and de la Rocha 2004, 88). • Transition from male to female household is positive when it’s the woman’s decision, woman has greater control of resources, and there is less domestic tension and conflict.

Table A.1 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
MEXICO (continued)				
<p>Rubalcava, Teruel, and Thomas (2009) Investments, Time Preferences, and Public Transfers Paid to Women</p> <p><i>Aim:</i> To disentangle effect of additional income in household from effect of changing the distribution of income within household, by comparing impact of PROGRESA income on savings and investments with all other income sources</p>	<p>PROGRESA / Oportunidades (CCT)</p>	<p>Bargaining power examined through direct measures of intertemporal preferences collected from rural households in the Mexican Family Life Survey</p>	<p>Quantitative analyses (regression analyses) based on data from a PROGRESA impact evaluation</p>	<ul style="list-style-type: none"> • In households headed by couples, additional money in hands of women is spent on small livestock (traditionally managed and cared for by women), improved nutrition, and child goods (particularly clothing). • Among single-headed households, PROGRESA income is not treated differently from other income. This suggests that empowering women is likely to be associated with elevated levels of savings and investments, which will in turn likely contribute to future growth. • PROGRESA income results in a shift in the balance of power within households, and women allocated more resources toward investments in the future and their children.
<p>Parker and Skoufias (2000) The Impact of PROGRESA on Work, Leisure, and Time Allocation</p> <p><i>Aim:</i> To analyze impact of PROGRESA on work and time allocation of beneficiaries</p>	<p>PROGRESA / Oportunidades (CCT)</p>	<p>Women's (and men's) time use</p>	<p>Impact evaluation; quantitative analyses based on household survey data (ENCASEH 1997 and ENCEL 1998, June 1999 and November 1999)^c</p>	<p>In relation to women's empowerment:</p> <ul style="list-style-type: none"> • Some evidence that time demands on women associated with satisfying program obligations are significant, though no significant impact on leisure time of men and women. • Weak evidence that PROGRESA has slightly reduced participation of women in domestic work (which is not necessarily negative).
NICARAGUA				
<p>Adato and Roopnaraine (2004) A Social Analysis of Red de Protección Social in Nicaragua: Final Report to the Red de Protección Social in Nicaragua^d</p> <p><i>Aim:</i> To provide deeper insights into the nature of program effects on individuals and communities; provide explanations for these effects (pilot phase of RPS)</p>	<p>Red de Protección Social (RPS) (CCT)</p>	<p>Not discussed specifically but focuses on reports of women's self-esteem, men's attitudes toward women's role as beneficiaries, and women's control over resources; also looks at reports of conflict and domestic violence in the household</p>	<p>Qualitative evaluation primarily using ethnographic methods including semistructured interviews, key information interviews, case studies, and participant observation</p>	<ul style="list-style-type: none"> • Women were very supportive of being assigned as beneficiary and receiving CTs. Their ability to spend money independently is a new source of power. • Program brings messages about women's importance, making an impact on perceptions of equality between women and men. • Little evidence on negative attitudes from men toward women's participation, and little evidence on conflict; in fact, most men say it's better for women to control the cash as they know more about food and nutrition for the family; there is awareness of program's expectation that women will control the transfer; only in a few cases did men take the transfer from women. • Program has positive impact on women's self-esteem and sense of independence; time in program meetings has raised awareness of women's issues and allows for speaking in public. • Half of respondents reported improvements in intrahousehold relations.

Table A.1 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
NICARAGUA (continued)				
<p>Gitter and Barham (2008) Women's Power, Conditional Cash Transfers, and Schooling in Nicaragua</p> <p><i>Aim:</i> To test for heterogeneous program impacts on school enrollment and spending based on a woman's power, proxied by her years of schooling relative to her husband's</p>	<p>Red de Protección Social (RPS) (CCT)</p>	<p>Women's power, using a power measure based on the ratio of years of school completed by the male and female heads of households</p>	<p>Quantitative methods using randomized experimental data to determine impact of RPS on education and spending patterns, with focus on three effects: income, conditionality, and intrahousehold impacts</p>	<ul style="list-style-type: none"> • When women are more powerful, more resources are devoted to children. • When a woman's power greatly exceeds that of her husband, additional female power reduces school enrollment. • The impacts of RPS on schooling are significantly larger than the income effects estimated from the control group. However, there is no evidence that female power changes the impact of RPS on school enrollment. • Conditionality is probably decisive. RPS significantly increases food and education expenditures, but the impact is mainly attributable to income effects.

Source: Compiled by authors.

Notes: ^a *Quantitative research* examines three aspects of intrahousehold relations: (1) how family background of husband and wife influences human and physical capital they bring to the marriage, (2) how husband's and wife's resources at time of marriage affect household decisionmaking patterns, and (3) how parental characteristics affect relative schooling achievements of boys and girls.

^b *Qualitative research* examines (1) women's and men's attitudes toward the role of women as PROGRESA beneficiaries, (2) perceived benefits to household and increased tensions and time burdens, (3) decisionmaking patterns, (4) changes women describe regarding freedom of movement and self-confidence, and (5) women's and men's attitudes toward girls' education and adult education of women and men.

^c ENCASEH: Encuesta de Características Socioeconómicas de los Hogares; ENCEL: Encuesta Evaluación de los Hogares.

^d Constitutes second component of IFPRI evaluation; first component (Maluccio and Flores 2004) was an experimental design using survey and statistical methods to assess impacts on health and nutrition and schooling.

Table A.2 Impacts of agricultural interventions on women’s empowerment

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
BANGLADESH				
<p>Bouis et al. (1998) Commercial Vegetable and Polyculture Fish Production in Bangladesh: Their Impacts on Income, Household Resource Allocation, and Nutrition <i>Aim:</i> To examine nutrition impacts of three NGO programs focused on commercial vegetable and fish production, targeted mostly at women in rural Bangladesh</p>	<p>Two types of technologies (improved vegetable production and polyculture fish production) disseminated in three sites in rural Bangladesh: commercial vegetable production disseminated by Gono Kallayan Trust (GKT) in Saturia to women’s groups; polyculture fish technology in Jessore by Banchte Shekha (managed by women’s groups) and in Mymensingh (household-owned-and-operated fishponds) by Mymensingh Aquaculture Extension Programme (MAEP) (directed more often at men than women)</p>	<p>Modules examine women’s time allocation, marriage assets, transfers at marriage, inheritance, women’s mobility and empowerment</p> <p>Additional analysis on women’s empowerment uses the following indicators: going alone to another village to visit relatives or friends; attending NGO training (alone or with company); attending an NGO training alone; never having been verbally abused by husband; never having been physically abused by husband</p>	<p>Quantitative analysis based on survey data (1996–1997)</p> <p>Also draws on qualitative findings on women’s empowerment and bargaining power by Naved (1997)</p>	<ul style="list-style-type: none"> • Both vegetable and polyculture fish technologies, although very profitable compared with rice, contribute only modestly to household income. Profit in group-operated ponds was slightly higher than those in household-owned ponds. Women participating in group-operated ponds earned and had control over their income. • With regard to women’s time allocation: higher women’s status due to technology adoption probably will not have a substantial impact on nutrition “through effects on marginal budget shares” (Bouis et al. 1998, 109). Women spend more time on vegetable production than on fish production; however, in vegetable production sites, time spent on childcare is not reduced and women’s weight is not significantly lower due to higher labor requirements. • Due to marginal impact on income, adoption–income linkage does not result in a large impact on dietary diversity and nutritional status. Study found no extraordinarily high own-consumption of vegetables and fish by adopting households. • Hence, in the short run it seems that commercially oriented food-based production strategies do not right away result in significant reductions in malnourished people. Livestock seems to be an important sector from both an income and a micronutrient perspective. <p>Paper also draws on findings from a qualitative survey by Naved, carried out between the second and third survey rounds to improve understanding of intrahousehold processes and support integration of questions on intrahousehold and gender into the survey questionnaire (see also Naved 2000 in this table).</p> <ul style="list-style-type: none"> • Bouis et al. (1998) first test unitary versus collective model of the household using two measures of assets: current assets and value of assets brought to marriage. Findings point out that not only individual characteristics but also those of parents negotiating the marriage are important determinants of asset holdings; conventional bargaining models may need to be modified, as not only intrahousehold but also intragenerational bargaining is important in Bangladesh for explaining intrahousehold resource allocation; an increase in resources controlled by women often leads to higher allocations of resources toward children’s clothing and schooling. • Bouis et al. also measure impact on women’s empowerment, where quantitative analyses confirm the qualitative findings. Five indicators of empowerment are used: going alone to another village to visit relatives or friends; attending NGO training (alone or with company); attending an NGO training alone; never having been verbally abused by husband; never having been physically abused by husband.

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
BANGLADESH (continued)				
<p>Bouis et al. (1998) (continued)</p>				<p>Findings indicate that mobility of women (going out of village alone) is mostly restricted in Mymensingh, which also had the lowest percentage of women reporting that they participated in NGO training and the highest incidence of physical abuse; presence of mother-in-law in Sataria and Jessore affects women's mobility negatively; verbal abuse in these sites is not reported as often in presence of mother-in-law; physical abuse is reported to occur more frequently in her presence in Mymensingh. Differences in mobility and empowerment across sites are not consistent with education.</p> <p>With regard to women's empowerment as a function of assets: older women attain higher status in the household; women's own education is correlated with the empowerment proxies used, although the educational categories do not have equal significance. Preliminary results on women's empowerment as a function of premarital assets, inheritance, and transfers at wedding point to that fact that families that are of similar standing in terms of their landownership negotiate marriages. Land transfers occur mainly to men through inheritance, despite transfer of premarital cattle, jewelry, and clothing at wedding to women. There are different outcomes on women's empowerment with regard to visiting friends/relatives in other villages, NGO training, and abuse; wealthy households in terms of land report less abuse.</p>
<p>Brugere, McAndrew, and Bulcock (2001) Does Cage Aquaculture Address Gender Goals in Development? Results of a Case Study in Bangladesh <i>Aim:</i> To examine whether gender differences affect uptake and participation in aquacultural activities</p>	<p>Cage Aquaculture for Greater Economic Security (CAGES)</p>	<p>Describes empowerment as occurring in two steps: efficiency (women benefit from aquaculture through increased household income and better family nutrition) and empowerment (women have more control over aquaculture activities, their own lives and improve their freedom and status within household and community).</p>	<p>Qualitative study using rapid rural appraisals (community meetings and mapping exercises with men and women) and semistructured interviews</p>	<ul style="list-style-type: none"> • Distance of cages from households acted as a major constraint to full participation of women due to <i>purdah</i> and land conflicts. Women also learned about aquaculture through own observations and communication with other women, so distance from house to water body is important. • Women participants were aware that bringing income into household increased their freedom within households. • Decisionmaking process regarding start of cage aquaculture, distribution of tasks, or utilization of fish production or income earned heavily dominated by males. Decisions over gender roles made jointly; gathering/prepping feed done by women (time-consuming tasks), collecting seeds/harvesting/selling fish done by men. • Influence of women over postharvest decisions varied between regions, villages, and households.

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
BANGLADESH (continued)				
<p>Brugere, McAndrew, and Bulcock (2001) (continued)</p>		<p>Efficiency can be reached but full benefits to women are not considered complete until the second is also achieved.</p> <p>With regard to access to aquaculture knowledge, level of information women had access to was indirectly measured through their awareness of current market prices for fish, technical knowledge, and financial expectations from cage aquaculture.</p>		<p>Overall findings:</p> <ul style="list-style-type: none"> • In certain cases particular sociocultural context and proximity of water body to house meant that cage aquaculture had potential to improve women’s status and enhance their household decisionmaking roles. But when women’s participation or mobility was limited by a particular religious context, the extent to which cage aquaculture could improve women’s status and livelihood was more questionable. Introduction of cage aquaculture alone may therefore not be enough to achieve women’s empowerment in Bangladesh if it doesn’t come with improved local support networks for women, targeting of household members, or both, in order to increase gender awareness and aquaculture knowledge.
<p>Bushamuka et al. (2005) Impact of a Homestead Gardening Program on Household Food Security and Empowerment of Women in Bangladesh</p> <p><i>Aim:</i> To examine the impact of a nationwide homestead food production program—designed to control vitamin A deficiency—on household food security and empowerment of women</p>	<p>Gardening and Nutrition Education Surveillance Project (NGNESP-NGO)</p>	<p>Social impact of program determined by changes—as perceived by women—in women’s ability to contribute to household livelihoods and participate in household decisionmaking</p>	<p>Randomized experiment</p>	<p>Overall findings:</p> <ul style="list-style-type: none"> • Active participants produced a median of 135 kg and consumed a median of 85 kg of vegetables, compared with control households who produced a median of 46 kg and consumed a median of 38 kg. • Approximately 64 percent of active-participant households generated a median garden income of 347 taka (spent mainly on food) compared with 25 percent of control households who generated 200 taka. • Garden production and income of formerly participating households three years after withdrawal of program support were much higher than the control group’s, indicating sustainability. <p>In relation to women’s empowerment:</p> <ul style="list-style-type: none"> • More women in actively and formerly participating households (over 85 percent) than those in control households (52 percent) perceived that they had increased their economic contribution to their households since the beginning of the program.

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
BANGLADESH (continued)				
<p>Bushamuka et al. (2005) (continued)</p>		<p>For the latter (influence on household decisionmaking), categories of <i>full power</i>, <i>some power</i>, and <i>no power</i> were used, referring to women who can make final decisions either alone or after consultation with their husbands, women who may be consulted but do not have final decisionmaking power, and women who are not consulted, respectively.</p> <p>Indicators used: participation in group meetings; decisions on how to use household land; making small household purchases; making large household purchases; deciding on type and quantity of vegetables; visiting stores or large markets; determining women's daily workload; and visiting woman's parental home.</p>		<ul style="list-style-type: none"> • For level of influence on household decisionmaking, more women in formerly participating households than those in active and control groups said they gained power even before introduction of the program (result perhaps due to less reliable recall). More women in all three groups had full or some power in decisionmaking at the time of data collection than during the period prior to the program; however, relative percentages of increase for the two beneficiary groups were significantly higher than those for women in the control group; more women in formerly participating households than those in active households had full power for making certain decisions; the proportion that had either full or some power was comparable for both beneficiary groups. • Study shows that the longer women are involved in activities, the more they have household decisionmaking power. The observed increase in decisionmaking power by beneficiaries is credited partly to increase in intrahousehold respect due to women's increased economic contributions to the household. For control group, about 61 percent of those who reported increased decisionmaking power attributed it to their involvement in gardening, and 39 percent to the increase of women's status with age, involvement in income-generating activities other than gardening, and having sons. Learning new skills in improved gardening practice, participation in training and nutritional education sessions, and exchanging ideas with other women resulted in improvement of gardening activities (production, income generation) and women's empowerment (increase in contribution of women to household economic well-being, and perceptions of improvements in women's contributions to household livelihoods).

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
BANGLADESH (continued)				
<p>Hallman, Lewis, and Begum (2007) Assessing the Impact of Vegetable and Fishpond Technologies on Poverty in Rural Bangladesh</p> <p><i>Aim:</i> To analyze the poverty reduction effects of different agricultural technologies, carried out by three implementation modalities</p>	<p>Commercial production of improved vegetable varieties and polyculture fish production (see Bouis et al. 1998 for description)</p>	<p>Survey addressed female empowerment by measuring several indicators related to women's attendance of meetings, frequency of women's visits outside the home, knowledge of local politics, domestic violence and abuse, and control over assets and income and expenditure decisions</p> <p>Focus groups examined issues related to livelihoods strategies, institutional setting, technology dissemination pathways</p>	<p>Mixed methods; based on data from surveys and data from focus groups</p>	<ul style="list-style-type: none"> • Greater poverty impacts for the vegetable technology, and related, found positive impacts on women's empowerment and child nutritional status. This technology also had significant noneconomic benefits in relation to social networking and reciprocity. • Private fishpond technology had less successful impacts in terms of poverty reduction but had positive outcomes in terms of pond and crop profits. • Female fishpond group members had a greater likelihood to work for pay, higher off-farm income, greater mobility, and better nutritional status than women who did not have access to this technology—though it also had the possibility of increasing inequalities within the household. However, group fishpond technology was also found to increase vulnerability in terms of theft or gendered intrahousehold inequalities with regard to time burdens and market access and therefore income. It did, however, have collective action problems. • Study showed higher trust for NGOs as opposed to government services, but also demonstrated the variability in performance of NGOs and political aspects of NGOs.
<p>Hillenbrand (2010) Transforming Gender in Homestead Food Production</p> <p><i>Aim:</i> To outline challenges and opportunities regarding HKI's homestead food production program in Bangladesh</p>	<p>Helen Keller International's (HKI) Homestead Food Production program</p>	<p>Does not evaluate impact on specific dimensions of women's empowerment but rather describes examples of where HKI has improved its work related to gender</p>	<p>Reviews monitoring and evaluation documentation (for example, Iannotti, Cunningham, and Ruel 2009; Kabeer 1999a) and uses information from interviews with HKI staff to assess HKI's focus on gender, and the Homestead Food Production (HFP) program's impact on women's empowerment</p>	<ul style="list-style-type: none"> • HKI model does not challenge existing gender norms: early on it did not specifically have a gender focus and therefore perpetuated certain gender stereotypes (for example, male field staff, male Village Model Farms, female nutrition educators, men farm, women garden). HKI shifted its approach around 2006, when research, managerial, and other staff were brought in who had expertise in sociology, gender, and social work. • Land size requirement was removed from VMF selection criteria: Female members were increasingly elected as VMFs, and women owners of VMFs appeared to dedicate more time to socially and technically support their group members and were more confident about their work. However, they had to balance their workloads with their household work and still seemed dependent on males for the heavy labor. <p>Examples of HKI's increased focus on gender and empowerment:</p> <ul style="list-style-type: none"> • Group marketing: while this approach did not challenge purdah, it allowed women greater control over their marketing decisions and over their incomes.

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
BANGLADESH (continued)				
<p>Hillenbrand (2010) Transforming Gender in Homestead Food Production (continued)</p>				<ul style="list-style-type: none"> • A cash-for-work component of an HFP project requiring equal numbers of men and women to work side-by-side transformed views on gender relations and women’s self-regard. • HKI also introduced new tools to define and improve women’s capacities and needs, as well as qualitative monitoring to gain an understanding of household decisionmaking, participatory monitoring tools, and trainings on gender for HKI staff. <p>Conclusions:</p> <ul style="list-style-type: none"> • Many organizations work through women to achieve food security goals, but are not willing to challenge sectorwide discrimination against women and deeply engrained gender norms. • The HKI lessons show that it is critical for staff to be brought along and trained on gender, and that culturally specific gender materials need to be available.
<p>HKI (2006) Homestead Food Production—An Effective Integrated Approach to Improve Food Security among the Vulnerable Char Dwellers in Northern Bangladesh <i>Aim:</i> To report the findings of an HKI HFP program (including animal husbandry) evaluation in the riverine chars in Bangladesh</p>	<p>HFP program that combines gardening and livestock raising, nutrition education, and income generation for women (2002–2005)</p>	<p>Not specifically discussed</p>	<p>Reports results from an impact evaluation, drawing on Bushamuka et al. (2005)</p>	<ul style="list-style-type: none"> • Project showed increased food production (1 percent of participating households had a “developed” garden at baseline compared with 87.9 percent at end line), which resulted in an increased production of fruits and vegetables. Furthermore, project improved rearing of local or improved chickens while no improvement was seen among control households (80 percent local and 0.2 percent improved chickens at baseline versus 83 percent local chicken and 86 percent improved chickens in target households at end line, compared with no improvement in control households). Similar increases for number and proportion of eggs produced in target households. • Child consumption of plant and animal source foods increased significantly among target households, compared with no change in control households. Approximately 40 percent of children in target households ate eggs three or more days a week. • Frequency of consumption of certain foods and dietary diversity for women and overall households increased in target households (2.1 percent of women at baseline compared with 22.1 percent of women at end line). • Income generation: At end line, more target households earned income from HFP project than control households (46.3 percent and 45.2 percent at end line versus 6.7 percent and 39.8 percent at baseline, compared with 3.1 percent and 22.1 percent at end line for control households versus 2.4 percent and 24 percent at baseline), and target households also earned more income. Higher proportion of target households spent income on savings or education than control households; for food expenditures more target households bought milk, fruit, or fish. • Women’s decisionmaking: End line results show a higher involvement of women in decisionmaking in target households compared with control households (56 percent women in target households versus 45 percent in control, compared with 49 percent of husbands in control and 16 percent of husbands in target; 3 percent joint in control versus 24 percent joint in target).

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
BANGLADESH (continued)				
<p>Iannotti, Cunningham, and Ruel (2009) Improving Diet Quality and Micronutrient Nutrition: Homestead Food Production in Bangladesh <i>Aim:</i> To outline HKI's HFP project in Bangladesh and its impact on food security through pathways such as production and consumption of micronutrient (MN)-rich foods, increased income and consumption of MN-rich foods, women's empowerment, community development, and improved partner capacity</p>	<p>Helen Keller International's Homestead Food Production program in Bangladesh</p>	<p>Measured by women's decisionmaking power in the household, which includes decisions on household land use, group meeting participation, making small household purchases, making large household purchases, daily workload, vegetable consumption</p>	<p>In relation to women's empowerment, draws on for example Bushamuka et al. (2005) and HKI (2006) for results on impact on women's empowerment</p>	<ul style="list-style-type: none"> • HKI supports women in culturally acceptable roles to improve their knowledge and skills to improve food production, practices, and income. This results often in better allocation of household resources, better caring practices, and overall empowerment of women. • Women improve their bargaining power in the household due to nutrition education, gardening activities, and income generation. • Women reported increased contributions to household income due to the home gardens. A higher proportion of women reported full decisionmaking power. HKI's HFP programs also generated employment opportunities for women and improved food security, particularly for children, by targeting women. Significant increases were also made in various aspects of women's decisionmaking in the household, especially among currently active participants in the areas of household land use, group meeting participation, and small household purchases.
<p>Kumar and Quisumbing (2011) Access, Adoption, and Diffusion: Understanding the Long-Term Impacts of Improved Vegetable and Fish Technologies in Bangladesh <i>Aim:</i> To assess long-term impacts of early adoption of vegetable and polyculture fish production on individual nutrition status; household consumption, assets, and incomes; and nutrient availability and intake</p>	<p>Commercial production of improved vegetable varieties and polyculture fish production (see Bouis et al. 1998 for description)</p>	<p>N/A</p>	<p>Quantitative analysis (Nearest Neighbor Matching techniques), based on survey data (1996–1997) in three types of households (early adopters, likely adopters, and nonadopters) and 2006–2007 (Phase II) survey data</p>	<ul style="list-style-type: none"> • Early adoption resulted in biggest monetary returns in individual fishpond sites, where there are long-term positive impacts on household consumption, nutrient availability, and assets (despite negative impacts on consumption in the short term). • This is in contrast with vegetable sites, where early adopters saw gains in the short term in terms of per-adult equivalent expenditures, but saw negative (though insignificant) long-term impacts in 2006–2007 in terms of food and nonfood expenditure, owned land, total assets, and per capita household income. • Despite negative impacts on household food consumption and minimal monetary gains, many individual nutritional indicators improved in the vegetable sites (perhaps due to dissemination of MN-rich vegetables consumed mostly by women, as well as working through women's groups). • Early adopters in the group-operated fishpond sites did not see impacts on adult nutritional status in the long term and saw an increase in stunting rates for girls. Similarly, for individually operated fishpond sites, the proportion of women with low hemoglobin and the proportion of thin girls decreased, while the proportion of stunted girls increased and proportion of stunted boys decreased.

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
BANGLADESH (continued)				
<p>Naved (2000) Intrahousehold Impact of the Transfer of Modern Agricultural Technology: A Gender Perspective <i>Aim:</i> To assess—from a gender perspective—the intrahousehold impact of modern agricultural technology transfer</p>	<p>Commercial production of improved vegetable varieties and polyculture fish production (see Bouis et al. 1998 for description)</p>	<p>Looks at women’s control over production, income, and sales</p>	<p>Qualitative analysis using key informant interviews, focus group discussions, case studies, trend analyses, impact flow, observation, historical profile, social maps, resource maps, Venn diagrams, and mobility maps; and triangulation between the different techniques</p>	<p>Commercial production of improved vegetable varieties (developed by the Asian Vegetable Research and Development Center or AVRDC):</p> <ul style="list-style-type: none"> Limited ability of women to use knowledge of the technology and earn income. This is because the land tenure system is not in their favor and the gender division of the workspace means that women implemented the technology in their homesteads instead of on family-owned land (due to <i>purdah</i>); this does not challenge traditional gender roles and results in small plot sizes, limited production, and little income. Women also do not have automatic control over the income as produce sale is mostly controlled by men. In terms of nutrition, because the vegetables are not considered as good as traditional varieties, women’s intake of the improved varieties only marginally increased. <p>Fish cultivation:</p> <ul style="list-style-type: none"> Group ownership of ponds by women: Groups of women retained control over fish production, involving men at different stages. Men do not have direct access to the income. Group fish production challenges traditional gender divisions of the workplace and of labor, as men had to interact with groups of women backed by an organization. Income was not spent right away by women but saved. Individual fish production by women: Project is controlled by men, so women are only minimally involved without necessarily gaining any of the benefits. In terms of nutrition, there was not enough fish produced to allow women to consume it after males had eaten. <p>Group-based programs that target women have more potential to address gender relations in the households than programs that target women as individuals, especially those targeting individual women in male-dominated societies where access to internal and external support networks is limited. This is because group-based programs have potential to bring in more income over which women have more control, and it has the potential to strengthen women’s position and therefore enable them to access more MN-rich food in the future.</p>

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
BANGLADESH (continued)				
<p>Nielsen (1996) The Socio-Economic Impact of a Smallholder Livestock Development Project, Bangladesh <i>Aim:</i> To evaluate the impact of a poultry farming project targeted to women</p>	<p>Bangladesh Smallholder Livestock Development Project, which aims to increase per capita income and animal protein consumption among rural poor, and increased poultry productivity for poultry rearers; project targeted to women</p>	<p>Women's income; women's decisionmaking on income</p>	<p>Impact survey (quantitative)</p>	<ul style="list-style-type: none"> • As a result of the project, 28 percent of households moved above the poverty line. Most women reported improved economic conditions, and their increase in earnings was used to increase physical assets such as land, to purchase food, and to send children to school (the number and percentage of children going to school increased from 86 percent to 99 percent). Women's participation in household decisionmaking also increased (particularly in relation to children's schooling and use of income). • Household intake of animal protein increased. Consumption of grain (rice) also increased, and consumption of vegetables remained the same. Poultry productivity increased by 270 percent and goats by 30 percent. The number of sheep remained unchanged and number of ducks decreased. Cattle also increased. • The project resulted in increased expenditure on food, but a decrease in food expenditure as a proportion of the overall household budget. Expenditure on clothing, schooling, healthcare, housing, savings, dowry, and animals increased.
<p>Quisumbing and Kumar (2011) Does Social Capital Build Women's Assets? The Long-Term Impacts of Group-Based and Individual Dissemination of Agricultural Technology in Bangladesh <i>Aim:</i> To examine the long-term impacts of agricultural technologies using different implementation modalities on women's and men's asset accumulation in rural Bangladesh</p>	<p>Commercial production of improved vegetable varieties and polyculture fish production (see Bouis et al. 1998 for description)</p>	<p>Women's (and men's) physical asset accumulation</p>	<p>Quantitative analysis (using matching methods and difference-in-differences techniques), based on panel data covering a 10-year period</p>	<p>Women's assets increase more compared with men's assets when technologies are disseminated through groups of women. This suggests that modalities of implementation are important when examining the gender impact of new technologies. Social capital, through women's groups, serves both as a substitute for physical assets in the short run and builds up women's asset portfolios in the long term.</p>

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
INDIA				
<p>Begum (1994) The Impact of Dairy Development on Protein and Calorie Intake of Pre-school Children <i>Aim:</i> To examine whether children from families who joined dairy cooperatives were nourished better than those who belonged to families who did not join</p>	Dairy Development Project	Women's time and income	Quantitative analysis based on survey data from four groups of 90 children from large milk-producing households, marginal producing households, small producing households, or nonproducing households.	<ul style="list-style-type: none"> • Children in marginal and large producing households had higher protein intakes than those from small and nonproducing households. Calorie intake was highest among children from large producing households and lowest in nonproducing households, although none of the groups achieved the recommended daily allowances. • Project increased income of participating men, but did not have a substantial impact on the income of participating women, and had little impact on women's time.
KENYA (and ETHIOPIA)				
<p>Hagenimana et al. (1999) Testing the Effects of Women Farmers' Adoption and Production of Orange-Flesh Sweet Potatoes on Dietary Vitamin A Intake in Kenya <i>Aim:</i> To assess the effects of women's adoption of orange-flesh sweet potato (OFSP) in Kenya</p>	Study supported by the National Potato Research Center of the Kenya Agricultural Research Institute (KARI), the International Potato Center (CIP), and CARE-Kenya, Homa Bay (1995–1997)	<p>Study assessed control over vitamin A–rich food sources, inputs used for sweet potato production, consumption of vitamin A–rich foods (in study households), tendency of women to sell or keep the potatoes, and men's enthusiasm for their adoption</p> <p>Questions also covered decisionmaking on cultivation and harvest of OFSP, land access and use, and spending</p> <p>Study also compared women's perceptions of their control over the various aspects of production to male elders and adults, female elders, and male and female children.</p>	Mixed methods (formative research, key informant interviews, market surveys, group discussions), household survey data, HKI food frequency methods, participatory rapid rural appraisal methods to assess aspects of OFSP uptake (see column to left)	<ul style="list-style-type: none"> • OFSP and sweet potato-based products were acceptable to target communities in terms of taste, appearance, and texture. Also, the study showed positive and statistically significant increases in children's vitamin A food frequency scores, although children of project participants had higher scores if they had taken part in the nutrition education component as well as the agricultural component. • The ability of women to meet their family's nutritional needs was improved by selecting a crop traditionally controlled by women. The investment in women resulted in an investment in their children's nutrition. • In terms of control over resources, women usually controlled small plots of land allocated to them by their husbands at time of marriage. Women, however, needed to ask their husbands for permission to access additional land. Men generally controlled stored wealth (such as machinery or livestock), whereas women did not have control over enough cash to hire farm implements to facilitate large-scale crop production. While women decided on the timing of potato planting, husbands' decisions to plant cash crops take precedence. Women did usually have access to MN-rich foods and have decisionmaking power over when to prepare or sell them. While women can spend the income from sales, they need to inform their husbands.

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
KENYA (and ETHIOPIA) (continued)				
<p>Mullins et al. (1996) Impacts of Intensive Dairy Production on Smallholder Farm Women in Coastal Kenya</p> <p><i>Aim:</i> To assess the impact of a dairy technology package on women and their families in Kilifi District, Coast Province, Kenya</p>	<p>National Dairy Development Project (NDDP)—Kenya</p>	<p>Study compares gender of extension contact, farm owner, and dairy operator with the project's impact on women's income, workloads, family responsibilities, and labor allocations</p>	<p>Mixed methods based on survey data, supplemented by qualitative information from personal communications</p>	<ul style="list-style-type: none"> • On a large percentage of male contact farms, women are the main managers of dairy, though not the primary contacts of extension agents. Women provide most of the labor in relation to dairy production, regardless of extension contact type. Information on how dairy labor returns are shared by household members is less clear; dairy income distribution seems not to be proportional to labor input but is aligned better on female contact farms. • Results suggest that dairy unit performance is better when dairy operator is in direct contact with extension worker; dairy unit performance was better on female contact farms. Performance is also determined by access to and control over resources; women on female contact farms showed greater autonomy in control over household resources. • Though participants reported improved household well-being (increased income, milk production, food purchases, and school-related expenditures), they also reported increases in workloads and reductions in leisure time. • Technology design and transfer is important to consider in project design, to ensure they are adoptable and sustainable, and to be aware of possible shifts in intrahousehold financial responsibilities. • It is not necessarily about extension or training programs specifically targeted to women but about equal access to credit, extension information, and labor-saving technologies.
<p>Tangka, Ouma, and Staal (1999) Women and the Sustainable Development of Market-Oriented Dairying: Evidence from the Highlands of East Africa</p> <p><i>Aim:</i> To examine the consequences of market-oriented smallholder dairying on women's labor contribution and income in Kenya and Ethiopia</p>	<p>Market-oriented smallholder dairying (MOSD)</p>	<p>Women's income, women's labor contribution, women's access to productive inputs</p>	<p>Quantitative analysis based on survey data from Holeta, Ethiopia, and Kiambu, Kenya, and data from eight Kenyan districts for comparison purposes</p>	<p>Differences in traditional responsibilities of men and women in relation to dairying explain the variation in results in Kenya and Ethiopia:</p> <ul style="list-style-type: none"> • In Ethiopia, MOSD increased both men and women's income, but men's income increased substantially <i>more</i> than that of women. Women did not spend more on food for the household but men did, potentially indicating greater control over income by men. Women's labor did <i>not</i> increase; income remained small although slightly increased (possibly due to use of different technologies, Kenya requiring more labor input). • In Kenya, dairy production had <i>similar</i> impacts on income for both female- and male-headed households, although women will likely benefit more if they have more access to credit, extension advance, and land. Women had control over a significant part of the dairy income in both these types of households. MOSD had a significant impact on women's time, which may have an impact on other responsibilities. <p>Hence, in cases where the traditional role of women is linked to agriculture and milking, MOSD can also benefit women.</p>

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
NEPAL				
<p>HKI (2004) Homestead Food Production Program in Central and Far-Western Nepal Increases Food and Nutrition Security <i>Aim:</i> To report progress made between May 2002 (first round of monitoring) and Oct 2003 (second round of monitoring) of homestead gardening and animal husbandry project</p>	<p>Homestead food production for improving micronutrient status of women and children, poverty reduction, and promotion of gender equality</p>	<p>Does not specify the exact measures used for women's status but does include indicators such as person responsible for keeping money earned from garden, person responsible for spending money earned from garden, main use of money earned (under characteristics of home gardening), main caretaker of chicken rearing, main use of money earned by selling poultry and eggs (for change in status of poultry production in household). Gender sensitization seen as a pathway for increase in shared workload between men and women</p>	<p>Quantitative analysis based on survey data collected on all 78 village model farms and 10 percent of households with gardens under each model farm every four months (total of 300 households randomly selected out of a total of 3,018)</p>	<ul style="list-style-type: none"> • Village model farms: Production of vegetables and eggs increased as well as income earned from selling produce (amount increased by 64 percent); size and quality of poultry shed improved though number of poultry kept decreased. Consumption of vegetables, fruit, and eggs increased. • Households: All aspects of gardening improved, as did consumption, with almost doubling of children who ate fruits and vegetables during previous three days. Egg production increased substantially. Slight decrease in number of households that kept poultry. • Large progress may also be due to increased access to water, which increased productivity. <p>In relation to women's empowerment:</p> <ul style="list-style-type: none"> • There was a 250 percent increase in the proportion of households that sold some of their produce; in most of these households women were responsible for keeping the income earned (from 66.7 percent to 88.4 percent) and for spending it (from 50 percent to 69.7 percent), with most of the income used to buy food. • Gender training seemed to have an impact on sharing of workload: proportion of husbands sharing the workload increased from 2 percent in first round to 16 percent in second round.
SENEGAL				
<p>Brun, Reynaud, and Chevassus-Agnes (1989) Food and Nutritional Impact of One Home Garden Project in Senegal <i>Aim:</i> To evaluate the nutritional impact of a vegetable project at household level, initiated in 1969</p>	<p>Vegetable production project in Kumbija, West Senegal; part of larger scheme implemented in experimental agricultural units by the Institut Sénégalais de la Recherche Agronomique (ISRA)</p>	<p>Women's income from sales of vegetables plus expenditures during and after cultivation season (1980 study)</p>	<p>Impact evaluation; quantitative analysis comparing results from seven food consumption surveys (1970–1981) with mostly similar survey techniques; seven studies includes two baseline studies</p>	<ul style="list-style-type: none"> • Project did not have a direct impact on nutrition (in terms of energy intake, protein intake, and vitamin and mineral intake), most likely due to the fact that a small fraction of the vegetables produced were consumed by the family and that the income generated from sale of vegetables was almost never used for food purchases. • Project significantly increased women's income as well as their control over this income, which may have resulted in an indirect impact on nutrition. While men kept income from the rainy season (main crops), women kept income from gardening, and hence were no longer required to ask their husbands for money. However, only 7 percent of the income from the sale of vegetables was spent on food and there appeared to be a lack of understanding by mothers on the importance of vegetable consumption by their children. Nevertheless, women experienced an increase in purchasing power and spent income on items that may be important to improving their social status (clothes, cloth, edible treats for children, cooking implements, toiletries etc.).

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
TANZANIA				
<p>Mulokozi et al. (2000) Improved Solar Drying of Vitamin A-rich Foods by Women's Groups in the Singida District of Tanzania</p> <p><i>Aim:</i> To report findings of study aimed to promote adoption of improved home-based solar dryers as a means to enhance nutritional quality of vitamin A-rich foods and consumption of those foods by young children</p>	<p>Project implemented by Tanzania Food and Nutrition Centre (TFNC) (1995–1998)</p>	<p>Women's knowledge about the agricultural technology, women's income and time allocation</p>	<p>Mixed methods; quantitative analysis based on survey data; qualitative analysis based on focus group discussions and key informant interviews with women and other community members to assess knowledge and attitudes about the new technology</p>	<p>Main findings:</p> <ul style="list-style-type: none"> • High rate of adoption (77 percent) among women who participated in all three components of intervention (adoption of improved solar dryer, health and nutrition education, and business training). • Improved beta carotene content of foods dried in improved dryers. • Significantly greater HKI scores among children whose mothers adopted the technology compared with nonadopters and in intervention communities compared with control communities. • Increase in vitamin A food frequency scores in the treatment group and among adopters due to increase in animal source food intake and attributed to the nutrition education component of program, since there was no significant increase in the percentage of women selling dried vegetables or in income from dried vegetables. <p>In relation to impact on women's empowerment:</p> <p><i>Women's knowledge:</i></p> <ul style="list-style-type: none"> • Postintervention interviews found that most women who adopted the technology could correctly recall some of the advantages of the solar dryers as had been presented in the preintervention education. • Women who had attended nutrition education and business trainings were more likely to adopt the technology. • Nutrition education component likely resulted in increase of intake of foods high in vitamin A by young children (as opposed to adoption of dryers, or business management training). <p><i>Women's income and time allocation:</i></p> <ul style="list-style-type: none"> • Despite dryer adoption among 8 percent of women in the program, there was little impact on beneficiary women's income from sale of solar-dried vegetables. Proportion of women participating in income-generating activities involving dried vegetables was slightly higher in intervention than control communities (12 versus 7 percent) before the intervention, but similar in proportion after the intervention (15 versus 14 percent). In intervention communities, income earned by women selling green vegetables increased slightly but was not statistically significant; income from selling green vegetables in control communities seemed to increase even more. • However, business management training did not appear to have much effect, as women did not dry beyond their family's consumption needs, had no surplus, and therefore did not earn a significant income during the intervention (more research needed). • Qualitative data suggested that the improved dryers saved women and sometimes children time.

Table A.2 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Key findings
THAILAND				
<p>Smitasiri and Dhanamitta (1999) Sustaining Behavior Change to Enhance Micronutrient Status: Community and Women-Based Interventions in Thailand <i>Aim:</i> To assess feasibility and effects of a nutrition education and communication program targeted to women, based on social marketing and participatory–community approaches on social mobilization for control of MN deficiencies and individual behavior changes in relation to micronutrients in Kanthararom District, Thailand</p>	<p>Two-year project (1996–1998) led by the International Center for Research on Women (ICRW) aimed to reduce vitamin A deficiency, iron deficiency anemia, and iodine deficiency by strengthening and building on women’s influential role in household and community decisionmaking</p> <p>Based on previous project (Social Marketing of Vitamin-A Rich Foods, SM/VAF)</p>	<p>Changes in knowledge, attitudes, and practices in relation to the three micronutrients, patterns of food consumption, and urine and serum analysis for target group</p> <p>Also assessed effects of women leaders on stimulating changes</p>	<p>Quasi-experimental study design, based on four intervention and four control districts, two cross-sectional comparisons before and after intervention, and simple randomization</p> <p>Supplemented by qualitative research (key informants, focus groups, analysis of secondary data sources)</p>	<p>Knowledge, attitude, and practice (KAP) scores and nutrient intake and nutritional status show that the project contributed to increased intake of the three micronutrients:</p> <ul style="list-style-type: none"> • KAP scores were significantly higher after the intervention for project beneficiaries, compared with the control group and with project beneficiaries at baseline (except for iron practices scores, which dropped in both groups). • For vitamin A intake, all four groups (children ages 2–5, school-aged girls 10–13, pregnant and lactating women) increased intake of vitamin A–rich foods during project period. Increase in intervention group was greater than for control. Greatest changes seen in the 2–5 age group. Significant increases in KAP scores about vitamin A among adults. • While there were significant improvements in iron intake and status among schoolgirls, there were mixed results for other groups and across intervention and control areas. • Change does not seem to occur similarly or at the same rate for all groups, indicating that some groups may be more ready for change than others. Constraints include access to MN-rich foods, food beliefs, and so forth. • Nutritional benefits were at least partly due to women leaders who worked to promote consumption of vitamin A– and iron-rich foods, as well as local production and sale of iodized salt.
VIETNAM				
<p>English and Badcock (1998) A Community Nutrition Project in Vietnam: Effects on Child Morbidity <i>Aim:</i> To describe progress made by the Nutrition Improvement Project and a separate study assessing the project’s impact on acute respiratory and diarrheal infections in children</p>	<p>Nutrition Improvement Project aimed to reduce vitamin A deficiency (covering 5,588 households in total with 3,716 young children in different ecological and cultural regions of the country)</p>	<p>KAP on nutrition and vitamin A of participating mothers—expected to positively influence care and attention given to young children</p>	<p>Quantitative analysis</p> <p>Baseline data collected in 1991; follow-up in 1993</p> <p>Mean sample size: 469 children in Khai Xuan and 251 children in Ching Cong</p>	<ul style="list-style-type: none"> • Project led to a very significant increase in the KAP on good nutrition and vitamin A of participating mothers compared with those in the control commune. • Furthermore, the project led to significantly higher food and nutrient intake and nutritional status of young children in the intervention commune as opposed to the control commune. Project commune also experienced a reduction in incidence and severity of acute respiratory infection and diarrheal disease in young children.

Source: Compiled by authors.

Table A.3 Impacts of microfinance programs on women’s empowerment

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
BANGLADESH				
<p>Goetz and Sen Gupta (1996) Who Takes the Credit? Gender, Power, and Control over Loan Use in Rural Credit Programs in Bangladesh</p> <p><i>Aim:</i> To explore variations in degree to which women borrowers control their loans directly once they have gained access to credit institutions</p>	<p>Bangladesh Rural Advancement Committee’s (BRAC’s) Rural Development Programme (RDP) and the Bangladesh Rural Development Programme (RD-12); comparative samples drawn from Grameen Bank and two women nongovernmental organizations (NGOs): Thangemara Mahila Sebuji Sengstha, or TMSS, and Shaptagram Nari Swanivar Parishad</p>	<p>Changes in women’s managerial control over a loan, from loan proposal to investment in assets, labor inputs, marketing and use of profits</p> <p>Managerial control: <i>no involvement, very limited, partial, significant, or full</i></p>	<p>Qualitative analysis (discussions with borrowers no loan use histories) of 275 loans (22 to men) across four organizations (BRAC, Grameen Bank, TMSS, and RD-12)</p>	<ul style="list-style-type: none"> • The focus on increasing credit disbursement and recovery can be insensitive to issues women face in building their capacity to use the loans. Obsession with repayment rates obscures quality of loan use and women’s ability to use the loans effectively. • Study problematizes indicators of women’s repayment rates and demand for loans as reflecting effective loan investment strategies by women: (1) a significant proportion of women’s loans are directly invested by their male relatives, while women borrowers bear the liability for repayment, (2) gender-related tensions in the household could be exacerbated by potential of loan transfers. • Study finds that the extent to which women control the loans varies between organizations, with the Grameen Bank borrowers having higher rates of full or significant loan use (62 percent versus 10 percent in the <i>very limited</i> or <i>no involvement</i> categories), followed by TMSS (41 percent <i>full</i> or <i>partial</i> involvement versus 25 percent in the two lowest categories), BRAC (28 percent <i>full</i> or <i>significant</i> loan control versus 45 percent in two lowest categories), and RD-12 (31 percent <i>full</i> or <i>significant</i> involvement versus 56 percent in the two lowest categories). • Study hence shows that the majority of women have little to no control over their loans—particularly married women and women of higher socioeconomic status.
<p>Hashemi, Schuler, and Riley (1996) Rural Credit Programs and Women’s Empowerment in Bangladesh</p> <p><i>Aim:</i> To assess effects of Grameen Bank and BRAC programs on women’s empowerment at village level</p>	<p>Grameen Bank and BRAC</p>	<p>Eight dimensions of women’s empowerment: mobility, ability to make small purchases, ability to make large purchases, economic security, involvement in major household decisions, relative freedom from domination within the family, involvement in protests and political campaigning, and political and legal awareness—and a composite indicator</p>	<p>Mixed methods: ethnographic research conducted in six villages 1991–1994 (participant observation, informal interviews, supplemented with structured instruments), sample survey using random multistage cluster design (1992)</p>	<p>Participation in Grameen Bank and BRAC increased women’s mobility, ability to make purchases and major household decisions, ownership of productive assets, legal and political awareness, and participation in public campaigns and protests.</p>

Table A.3 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
BANGLADESH (continued)				
<p>Kabeer (2001) Conflicts over Credit: Re-Evaluating the Empowerment Potential of Loans to Women in Rural Bangladesh <i>Aim:</i> To explore reasons why recent evaluations of empowerment potential of credit programs for rural women in Bangladesh have arrived at very conflicting conclusions</p>	<p>Small Enterprise Development Project (SEDP) in Faridpur and Mymensingh</p>	<p>Discusses study findings on empowerment in terms of female mobility and social status, self-worth and perceived economic contribution, voice in decisionmaking, transformatory investments (assets and education)</p>	<p>Mixed methods (household survey data and qualitative data based on in-depth interviews with men and women)</p>	<ul style="list-style-type: none"> • Differences in evaluations due to different understandings of intrahousehold power relations. Negative evaluations are negative because they usually stress gender antagonism within the household and discount the significance of cooperation (focus on processes). Positive evaluations are positive partly because they do not privilege individualized over joint forms of behavior (focus on outcomes). Both types of evaluations do not include testimonies by women themselves. • Kabeer's study findings indicate little impact on gender division of labor as a result of women's access to loans, but indicate enhanced sense of self-worth and women's worth in eyes of other family members, greater social inclusion, increased voice in household decisionmaking for some women, and accumulation of assets by women. Findings also indicate differential impacts on school enrollment between boys and girls from male versus female borrower households.
<p>Khandker (2005) Microfinance and Poverty: Evidence Using Panel Data from Bangladesh <i>Aim:</i> To examine the effect of microfinance on poverty reduction at participant and aggregate levels in Bangladesh</p>	<p>BRAC Grameen Bank Bangladesh Rural Development Board's (BRDB) Rural Development 12 (RD-12) program</p>	<p>Looks at indicators on female and male borrowing, demand for microfinance, food and nonfood expenditure</p>	<p>Quantitative analysis using household survey data from World Bank 1991–1992 and 1998–1999</p>	<p>Access to microfinance contributes to poverty reduction, especially for female participants, and to overall poverty reduction at the village level.</p>

Table A.3 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
BANGLADESH (continued)				
<p>Pitt, Khandker, and Cartwright (2006) Empowering Women with Micro Finance: Evidence from Bangladesh <i>Aim:</i> To assess the effects of women's and men's participation in group-based microcredit programs on women's empowerment in rural Bangladesh</p>	<p>The Grameen Bank, the Bangladesh Rural Advancement Committee, and the Bangladesh Rural Development Board's RD-12 projects</p>	<p>Uses a variety of indicators, grouped within the following themes: purchasing decisions, economic access and power, financial power (including borrowing), transaction management, mobility and networks, activism, household attitudes, husband's behavior, fertility and parenting, and general women's empowerment (representing a combination of all the above-mentioned themes)</p>	<p>Quantitative analysis based on survey data (1998–1999)</p>	<p>Overall results show that women's participation in microcredit programs is conducive to increases in women's empowerment. Microcredit programs lead to women having an increased role in household decisionmaking, greater freedom of mobility, greater bargaining power, improved social networks, as well as improved spousal communication about parenting and family planning.</p> <p>Male microcredit programs had a negative effect on the overall measure of empowerment for eligible households, particularly on women's finance, freedom of movement, network development, control over resources, and parenting and fertility decisions.</p>
<p>Pitt and Khandker (1998) The Impact of Group-Based Credit Programs on Poor Households in Bangladesh: Does Gender of Participants Matter? <i>Aim:</i> To assess the impact of participation, by gender, of three microcredit programs on labor supply, schooling, household expenditure, and assets</p>	<p>Grameen Bank, BRAC, BRDB</p>	<p>Compares program impact by gender on outcomes including household expenditure, non-land assets, labor supply, and schooling</p>	<p>Quasi-experimental survey design based on household survey data (1991–1992)</p>	<ul style="list-style-type: none"> • Credit is a significant determinant of many of the outcomes (household expenditure, nonland assets held by women, male and female labor supply, boys' and girls' schooling). • Credit provided to women more likely influences these behaviors than that provided to men. Credit to women significantly affects all six of the behaviors studied; credit to men does so in only one of six cases. • Yearly household consumption expenditure increases 18 taka for every 100 additional taka borrowed by women versus 11 taka for men. • Program credit has a larger effect on behavior of poor households when women are program participants.

Table A.3 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
BANGLADESH (continued)				
<p>Zaman (2000) Assessing the Poverty and Vulnerability Impact of Micro-Credit in Bangladesh: A Case Study of BRAC</p> <p><i>Aim:</i> To assess the relationship between microcredit and poverty reduction and vulnerability in Bangladesh</p>	BRAC microcredit	Uses 16 female empowerment indicators in relation to awareness on issues like divorce method, dowry legality, marriage age, local chairman's name; ownership of poultry, livestock, land, jewelry, savings; visits to markets; and forced pregnancy	<p>Literature review complemented by empirical analysis of 1995 household survey data</p> <p>For assessment of impact on women's empowerment, use data on 1,568 ever-married women in Matlab region, April–August 1995</p>	<p>Results in relation to women's empowerment:</p> <ul style="list-style-type: none"> • Microcredit has the greatest effect on female control and decisionmaking power over assets, and on knowledge and awareness of social issues (two indicators), controlling for other characteristics. <p>For example:</p> <ul style="list-style-type: none"> • Greater access to resources in terms of microcredit enhances female control (ability to sell these assets without asking consent) over her assets, controlling for a range of other factors. • Female control over her jewelry also increases with loan size. • Women's decisionmaking power over the use of her savings increases with loan size. • Control over livestock results are not significant. • Knowledge variables (dowry is illegal, local chairman's name, legal way of divorcing) are positively affected by BRAC membership and credit, controlling for other factors (though not such positive results for knowing the legal minimum age of marriage). • Mixed impact on female asset ownership (15 percent more probability of owning poultry for nonborrowing member than for member with more than 10,000 taka in loans controlling for other factors. On other hand, women who borrow less than 5,000 taka are 3 percent more likely to own livestock compared with nonborrower). • BRAC membership is a highly significant determinant of a woman having savings (due to compulsory savings requirement). • Other empowerment indicators do not provide significant insights (for example, unwished pregnancies, mobility).

Table A.3 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
INDIA				
<p>Banerjee et al. (2010) The Miracle of Microfinance? Evidence from a Randomized Evaluation <i>Aim:</i> To investigate the impact of microcredit in a new market in Hyderabad, India</p>	<p>Spandana (targeted to women aged 18–59 years)</p>	<p>Women as the primary decisionmaker on household spending (food and nonfood), investment, savings, and education; women as the primary decisionmaker in taking out household loans.</p>	<p>Randomized evaluation</p>	<ul style="list-style-type: none"> • No effect of microcredit on average monthly expenditure per capita; expenditure on durable goods increased in treated areas; number of new businesses increased by one-third. • Microcredit effects are heterogeneous depending on whether households had a business at the start of the program (those invest more in durable goods, nondurable consumption doesn't change), or those who are likely to become new business owners (increase their spending on durable goods, decrease nondurable spending), and households who are not very likely to become new business owners (increase nondurable spending). • No impact on measures of health, education, or women's decisionmaking.
<p>Deininger and Liu (2009) Economic and Social Impacts of Self-Help Groups in India <i>Aim:</i> To assess economic and social impacts of the formation of self-help groups at household level in Andhra Pradesh, India</p>	<p>Indhira Kranthi Patham (IDK) program in Andhra Pradesh (DPIP)</p>	<p>Social and economic empowerment is distinguished by social capital (measured by self-reported level of trust in individuals of same or different caste or religion from within or outside the village as well as in government officials and policy on a 1–5 scale), economic empowerment (measured based on whether a woman can set aside money for her own use or go to the market, clinic, or community center, visit friends, or work on fields outside villages without asking permission from her husband or other male family members), and political participation (measured by the frequency of attendance at village meetings)</p>	<p>Quantitative analysis based on 2004 survey conducted in DPIP and RPRP areas (Rural Poverty Reduction Project—phase 2)</p> <p>Estimate heterogeneous impact on three subgroups: (1) new participants, (2) converted participants, and (3) nonparticipants</p>	<ul style="list-style-type: none"> • Positive impacts found on empowerment and nutrition in program areas; heterogeneous impacts between preexisting, newly formed groups, and nonparticipants. • Social capital and economic empowerment increased equally for participants and nonparticipants in program areas. • Positive impact on nutritional benefits, though more for new participants than those belonging to preexisting groups (new participants increase caloric and protein intake by 9 and 17 percentage points, respectively; converted participants increased only protein consumption). • Consumption gains in participants in new groups (17 percent), though no increase in income or assets. This suggests program's main economic impact was through consumption smoothing and diversification of income sources as opposed to exploitation of new income sources.

Table A.3 Continued

Study	Program(s) evaluated	Empowerment measures	Research methods	Findings
MOROCCO				
<p>Crépon et al. (2011) Impact of Microcredit in Rural Areas of Morocco: Evidence from a Randomized Evaluation <i>Aim:</i> To measure the impact of microcredit in rural areas of Morocco</p>	<p>Al Amana program</p>	<p>Proxies used to measure women's empowerment include the number of activities managed by a female member in the household, the capacity of women to make decisions, their mobility within and outside of the villages, and a summary index of these measures</p>	<p>Reports results from randomized experiment</p>	<ul style="list-style-type: none"> • Program significantly increased access to credit. • Expanded scale of existing self-employment activities of households (nonlivestock agriculture and livestock activities); no impact on the creation, profit, or expansion of nonagricultural businesses; no shift to new activities. • Positive but small effect of microcredit on children's schooling; limited changes in terms of consumption (treatment households more likely to spend on health and less likely to spend on social events than control households). • No impact found on women's empowerment (probably due to fact that a limited number of borrowers are women). • Treatment effects are heterogeneous depending on whether the household already had a self-employment activity at baseline (households with preexisting activity decrease nondurable consumption and overall consumption; households without preexisting activity increase food and durable expenditure; no effects on business outcomes).

Source: Compiled by authors.

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