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## **Gender, Assets, and Agricultural Development**

**Lessons from Eight Projects**

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## **ABSTRACT**

Ownership of assets is important for poverty alleviation, and women's control of assets is associated with positive development outcomes at the household and individual levels. This research was undertaken to provide guidance for agricultural development programs on how to incorporate gender and assets in the design, implementation, and evaluation of interventions. This paper synthesizes the findings of eight mixed-method evaluations of the impacts of agricultural development projects on individual and household assets in seven countries in Africa and South Asia. The results show that assets both affect and are affected by projects, indicating that it is both feasible and important to consider assets in the design, implementation, and evaluation of agricultural development projects. All projects were associated with increases in asset levels and other benefits at the household level; however, only four projects documented significant, positive impacts in women's ownership or control of assets relative to a control group, and of those only one project provided evidence of a reduction in the gender asset gap. The quantitative and qualitative findings suggest ways that greater attention to gender and assets by researchers and development implementers could improve outcomes for women in future projects.

**Keywords:** gender, assets, property rights, agriculture, impact evaluation

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# 1. INTRODUCTION

For many years development interventions focused on increasing incomes to reduce poverty; now a growing body of evidence emphasizes the importance of assets for poverty reduction (Carter and May 2001; Lybbert et al. 2004; Carter and Barrett 2006; Adato et al. 2006; Barrett et al. 2006; Carter et al. 2007; Jalan and Ravallion 2004; Naschold 2006, 2008; also see the special issue of the *Journal of Development Studies* 2013) as well as for individuals' and households' current and long-term well-being (Schreiner and Sherraden 2007). A body of work also exists on the importance of women's ownership of and control over assets for a range of development outcomes, both for women themselves and for their families (Quisumbing 2003; Meinzen-Dick et al. 2011; Haddad, Hoddinott, and Alderman 1997). Yet, men are generally advantaged in owning assets, given the gender norms that govern asset ownership, which means that they tend to own more assets and assets of higher value than women (Deere et al. 2013; Deere and Doss 2006; Quisumbing and Maluccio 2003).

While building women's assets has become a global development priority (Deere et al. 2013; Meinzen-Dick et al. 2011; FAO 2011), few agricultural interventions consider their impacts on assets at the individual or even household level. To better understand the importance of gender and assets in agricultural development projects, and the potential of projects to build women's assets, the Gender, Agriculture, and Assets Project (GAAP) worked with eight agricultural development projects in Africa and South Asia to build explicit attention to gender and gendered ownership of assets into their monitoring and evaluation plans. The eight projects, which took place in seven different countries, covered different types of interventions with different implementation approaches. They took diverse approaches to gender—ranging from gender blind to gender transformative—and to assets, with some projects distributing agricultural assets such as land, livestock, or machinery and others promoting increased productivity through access to inputs and training. In each project evaluation, both qualitative and quantitative methods were used to look at how participants understood gendered use, control, and ownership of assets; how assets influenced who was able to participate in and benefit from projects; and how projects impacted a range of outcome measures, including women's access to and control over assets.

This paper synthesizes the findings of the project evaluations and related analyses from GAAP. Section 2 presents the GAAP conceptual framework, and Section 3 describes the eight projects and the key elements of their evaluation designs. Section 4 characterizes the gender norms and context in project countries using secondary data. Section 5 summarizes the findings of the evaluations on changes in use, control, and ownership of assets. Subsequent sections unpack the findings by looking at links between assets and key outcomes identified in the conceptual framework—livelihood strategies (Section 6), control of income (Section 7), and well-being (Section 8). Section 9 summarizes lessons for program implementers on how to incorporate gender and assets into program design, implementation, and evaluation. It also identifies areas where further research is needed to better understand how to define and measure gendered asset ownership.

## 2. THE GENDER, AGRICULTURE, AND ASSETS PROJECT CONCEPTUAL FRAMEWORK

The term *asset* is often used very loosely in discussing resources that individuals, families, or other organizations (groups, corporations) control. Carter and Barrett (2006, 179) define assets as “conventional, privately held productive and financial wealth, as well as social, geographic and market access positions that confer economic advantage.” The accounting definition of assets considers these as economic resources—“anything tangible or intangible that is capable of being owned or controlled to produce value and that is held to have positive economic value. Assets represent value of ownership that can be converted into cash (although cash itself is also considered an asset)” (Sullivan and Sheffrin 2003, 272). Another way to think of assets is as “stocks”—forms in which wealth can be held and other resources such as public and private transfers, remittances, and saving as “flows” either building up the asset or being generated from it. In the international development literature, another way that assets are understood comes from the Sustainable Livelihoods framework (Scoones 1998). This framework recognizes five capitals—natural (land, water), physical (agricultural and household durables), financial (cash or savings), human (health, knowledge, skills), and social (group membership, social networks)—and posits that these capitals underlie the ability of households to engage in livelihood strategies.

As suggested by the above definitions, the important thing about assets is their ownership. This is often understood simplistically as a binary variable; however, property rights over assets can be very complex, as suggested by the legal definition of property rights—“the relationships among people over things” (Cohen 1954). Property rights are generally defined based on a person’s ability to use an asset for specific purposes or to make decisions about how it will be used by others. Ownership of an asset generally means possession of a “bundle of rights” over that asset. Schlager and Ostrom (1992) characterize different bundles of rights along a continuum from use rights to control rights to ownership rights. Examples of some use or access rights include the right to live in a house, to fish in a lake, or to milk a cow. Some control or decisionmaking rights include the right to decide who else lives in the house or fishes in the lake, what the cow eats, what crops to plant on a plot of land, and whether to exclude others from grazing their animals on a particular pasture (Meinzen-Dick, Pradhan, and Di Gregorio 2004). Full ownership often includes all of these rights as well as the right to dispose of an asset (the house or the cow), whether through sale, lease, gift, or inheritance transfers.

The GAAP conceptual framework (Meinzen-Dick et al. 2011) provides an illustration of the relationships between gender, assets, and well-being in the context of agricultural development (Figure 2.1). The shading in the figure reflects the fact that components are gendered, meaning that they might be different for men than for women within a household. Households are important units of analysis in development programming; and many projects, including the majority of the projects in GAAP, define their beneficiaries as and design their programs to target households. Households are made up of individuals, however, and an intervention may affect different household members differently. It is important to take this into account to understand how an intervention is likely to work. This applies even to the context as certain social, economic, or political factors may affect women and men differently, while others affect a household as a whole.

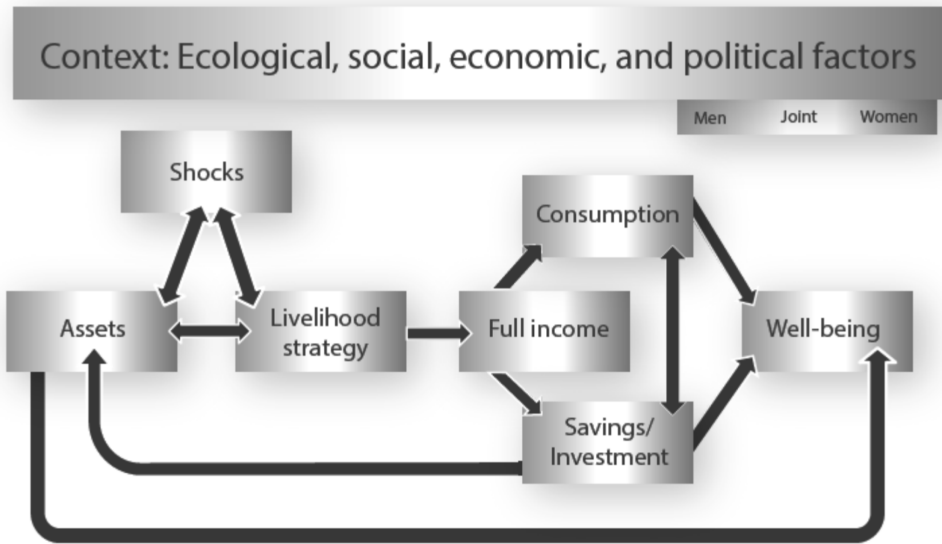
Assets<sup>1</sup> can influence the design, implementation, and outcomes of programs by determining who participates (and who doesn’t participate) in the programs as well as how and how much they benefit. Some agricultural projects distribute agricultural assets such as land, livestock, infrastructure, or machinery. Agricultural interventions can also introduce improved technologies or institutional innovations that increase the returns to the productive assets used in agriculture-based livelihood strategies, potentially raising the returns to and value of some assets (and possibly lowering others) as well as producing surplus that can be reinvested in asset accumulation.

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<sup>1</sup> When we use the word *assets*, it is implicit that we are referring to their use, control, ownership, or any combination of these.



**Figure 2.1 The gender, agriculture, and assets conceptual framework**



Source: Meinzen-Dick et al. (2011, 4).

Although societal norms govern the gendered distribution of assets, these are by no means immutable. Agricultural development programs may shift the gendered asset distribution. This could happen directly through, for example, direct asset transfers to women or training, perhaps in combination with efforts to influence attitudes. It can also happen indirectly through the downstream impacts of projects on gendered control of incomes and investment opportunities. These latter effects may be unintentional and may result in worse outcomes for women if their access to or control over assets is weakened. These are the dynamics that GAAP investigated in the context of these eight agricultural development projects.

### 3. THE GENDER, AGRICULTURE, AND ASSETS PROJECT

#### Project Portfolio

The GAAP was jointly led by the International Food Policy Research Institute (IFPRI) and the International Livestock Research Institute (ILRI) and has been funded by the Bill and Melinda Gates Foundation from 2010 to 2014.<sup>2</sup> GAAP's goal was to better understand gender and asset dynamics in agricultural development programs. GAAP research team members from IFPRI and ILRI worked with eight agricultural development projects in Africa south of the Sahara and South Asia to identify how development projects impact men's and women's assets; to identify strategies that successfully build women's assets and reduce gender gaps in asset access, control, and ownership; and to improve each participating organization's abilities to measure and analyze qualitative and quantitative gender and asset data for projects included in the GAAP portfolio and future projects.

Several criteria were used to determine project inclusion into the GAAP portfolio: willingness of the projects to incorporate gender into the evaluation design; alignment of the project time frame with the GAAP time frame; inclusion of baseline and endline data collection in project activities; and willingness of project teams and evaluation teams to invest time in training and other GAAP activities. The alignment of project and GAAP time frame meant that projects had already completed baselines, or would have baselines that were close to completion, at the time they joined GAAP. The GAAP partner projects are described below, with particular attention to gender and asset issues.

#### ***BRAC—Challenging the Frontiers of Poverty Reduction Targeting the Ultra Poor (CFPR-TUP), 2007–2011***

The goal of the CFPR-TUP program was to assist the ultra-poor in rural Bangladesh to graduate from “ultra poor” status and access mainstream development programming.<sup>3</sup> Funded by a donor consortium that includes the Australian Agency for International Development, Department for International Development, and Canadian International Development Agency, the CFPR-TUP program provided small grants to female members of ultra-poor households, while participating households were provided with assets (including cattle, goats, poultry birds, or land for horticulture) and intensive training on how to utilize the assets (including improved technology and management practices). The CFPR-TUP program began in 2002 and by the time of joining GAAP had reached 400,000 ultra-poor women and their families from the poorest regions of Bangladesh.

#### ***Harvest Plus—Reaching End Users (REU) Orange Sweet Potato (OSP), 2007–2009***

The goal of the HarvestPlus REU OSP project was to increase vitamin A intake and reduce vitamin A deficiency among vulnerable populations (women and children) in rural Uganda by introducing beta-carotene-rich OSP and related messages concerning agronomy, nutrition, and marketing.<sup>4</sup> OSP vines were disseminated through already-existing farmers' groups that were composed largely or entirely of women. This project and evaluation were intended to provide a “proof of concept” of a multimillion-dollar, multidonor effort to support biofortification as a strategy to reduce micronutrient deficiency.

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<sup>2</sup> For more information on GAAP, including research and capacity-building outputs, see the project website: <http://gaap.ifpri.info/>.

<sup>3</sup> For more information on BRAC CFPR-TUP see <http://gaap.ifpri.info/brac-bangladesh/>.

<sup>4</sup> For more information on Harvest Plus REU see <http://gaap.ifpri.info/harvest-plus-uganda/>.

### ***Helen Keller International—Enhanced Homestead Food Production (E-HFP), 2009–2012***

The E-HFP Project for Improved Food Security and Nutrition in Burkina Faso was funded by the United States Agency for International Development (USAID) and implemented by Helen Keller International (HKI) in collaboration with local partners.<sup>5</sup> The goal of the E-HFP program was to improve the nutritional status of infants, young children, and mothers through improved access to nutritious foods year-round and the adoption of optimal nutritional practices. The E-HFP program worked with young mothers to establish homestead gardens in the Fada region of Burkina Faso, a poor region with high levels of undernutrition. The project provides inputs (chicken, seeds, and agricultural tools) and trainings in gardening, irrigation, and small livestock rearing to beneficiary women. In addition, the project establishes and trains a system of community-level trainers, who in turn train beneficiary women in improved nutrition practices using behavior change communications.

### ***KickStart International, 2010–2012***

The objective of KickStart, a Bill & Melinda Gates Foundation (BMGF)-supported social enterprise, is to enable poor farmers in Kenya and Tanzania to move out of poverty through increased yields and crop production achieved through manually operated, low-cost, microirrigation treadle pumps.<sup>6</sup> Pumps are used for multiple purposes including agriculture production, domestic use, and as an income-generating opportunity through sale of water to others. KickStart uses a market-based system of distributors to increase access to pumps. Although KickStart hoped to reach women, it did not initially target them. When project-monitoring data revealed that fewer than 10 percent of pump buyers were women, staff undertook targeted initiatives with the goal of reaching more women.

### ***Landesa—Micro-land Titling for India's Landless Agricultural Laborers, 2010–2015***

Landesa works with state governments and local communities in India to reduce poverty through regularization and titling of homestead land in Odisha through the Vasundhara and Gramakantha Paramboke programs and allocation and titling of homestead plots in West Bengal through the Nijo Griha, Nijo Bhumi program. These programs in West Bengal and Odisha are funded by BMGF. Both programs explicitly include gender components by promoting the inclusion of women's names on land titles and by promoting land security for widows and other vulnerable groups. The programs also provide a variety of forms of assistance for housing and basic inputs (seeds), capacity building in homestead food production, and promotion of local development of roads, water, and terrain leveling.<sup>7</sup>

### ***Land O'Lakes—Mozambique Smallholder Dairy Development Program, 2008–2012***

This Land O'Lakes (LOL) project in Manica Province, supported by the US Department of Agriculture, had two primary objectives: to rebuild Mozambique's dairy industry to meet market demand, and to increase incomes for smallholder farmers by participating in a sustainable dairy value chain.<sup>8</sup> This initially gender-blind program provided improved dairy cows and training inputs to beneficiary households that met program criteria related to both access to land for feed production and participation in training. Because the project targeted households, benefits effectively went to the household head, usually male. However, during the second year of the program, training was expanded to two members per household so that ultimately nearly two-thirds of beneficiary households had a woman trained.

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<sup>5</sup> For more information on HKI E-HFP see <http://gaap.ifpri.info/hki-burkina-faso/>.

<sup>6</sup> For more information on Kickstart see <http://gaap.ifpri.info/kickstart-international-tanzania-kenya/>.

<sup>7</sup> For more information on these Landesa projects see <http://gaap.ifpri.info/landesa-india/>.

<sup>8</sup> For more information on this Land O'Lakes project see <http://gaap.ifpri.info/land-o-lakes-mozambique/>.

### ***CARE—Strengthening the Dairy Value Chain (SDVC) in Bangladesh, 2007–2012***

The goal of this CARE project, supported by BMGF, was to improve the dairy-related incomes of 35,000 smallholder farmers in northwest Bangladesh.<sup>9</sup> The project sought to achieve its goal by addressing the major challenges to improving smallholder participation in the value chain, namely, farmer mobilization and education, access to markets for their milk, and access to productivity-enhancing inputs. The project, which targeted households that already had dairy cattle, assisted in the formation of dairy farmer groups, selection of farmer group leaders, selection of dairy collectors and livestock health workers, and training of all those involved. The project also encouraged participants to upgrade their livestock herds through purchase of improved cattle breeds, but it did not facilitate or subsidize cattle purchases. The project looked at how levels of both tangible and intangible assets for men and women may have changed as an outcome of the intervention.

### ***Cereal Systems Initiative for South Asia (CSISA), 2009–2011***

The BMGF-funded CSISA project was launched in 2009 with a goal to reduce food and income insecurity in South Asia through accelerated development and deployment of new cereal varieties, sustainable crop and resource systems management practices, and better access to information.<sup>10</sup> Implemented by a consortium of CGIAR centers and partners, the project included widespread delivery and adaptation of production and postharvest technologies to increase cereal production and raise income, as well as promotion of (1) crop and resource management practices, including laser land leveling for field preparation, and (2) high-yielding, stress-tolerant, and disease- and insect-resistant rice, wheat, and maize varieties and hybrids. The gender-blind project targeted farmers; however, there was concern that some of the technologies promoted could harm women since they would reduce labor use in areas where agricultural labor was an important source of income for women from landless households.

### **Summary of Asset-Related Aspects of Project Design**

Table 3.1 summarizes key gender- and asset-related aspects of the design and implementation of the projects. In terms of their approaches to gender, nearly all projects worked with men and women within beneficiary households; however, only five (BRAC, HarvestPlus, HKI, Landesa, and CARE<sup>11</sup>) specifically targeted women as beneficiaries. Half of the projects (BRAC, HKI, Landesa, and LOL) distributed assets, while HarvestPlus distributed vines through farmers' groups. Nearly all projects provided human or social capital in the form of training or group formation or strengthening. In most cases, GAAP did not attempt to measure impacts on human or social capital, although they are considered in the analysis of project implementation and impact. The exceptions were projects that focused on nutrition outcomes (HarvestPlus and HKI). GAAP provided support to a CSISA study on the role of men's and women's social networks in influencing use of agricultural machinery (Magnan et al. under review), but it was not technically an impact study.

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<sup>9</sup> For more information on CARE SDVC see <http://gaap.ifpri.info/care-bangladesh/>.

<sup>10</sup> For more information on CSISA see <http://gaap.ifpri.info/csisa-south-asia/>.

<sup>11</sup> For convenience we refer to projects by the name of the implementing organization; however, we are referring only to the actions and results associated with the specific projects.

**Table 3.1 Key gender and asset aspects of the projects**

Project implementer	Country	Asset-related participation requirement	Main mode of building assets	Approach to gender at start of project*
Landesa	India	Currently accessing a plot	Land transfer	Gender aware
BRAC	Bangladesh	None	Land and livestock transfer	Gender aware
CARE	Bangladesh	Cow	Increasing production and income	Gender transformative
Land O'Lakes	Mozambique	Land and cattle feed	Cow transfer	Gender blind
Helen Keller International	Burkina Faso	None at individual level	Land and tools transfer	Gender transformative
HarvestPlus	Uganda	Implicit requirement of land access	Increasing access to planting material of micronutrient food	Gender aware
Cereal Systems Initiative for South Asia (CGIAR)	India	Implicit requirement of land access	Increase awareness and availability of agricultural technologies	Gender blind
KickStart	Kenya and Tanzania	Implicit access to land and water	Marketing of pumps, education, and awareness building	Gender blind

Source: Authors.

Notes: The classification of the project approach is adapted from several sources including Manfre and Rubin (2012); Gates Foundation (2012); Caro (2009); and Rubin, Manfre, and Nichols Barrett (2009). *Gender blind* refers to efforts that “typically do not acknowledge the role of gender in different social contexts and ignore the different ways that men and women engage with productive resources.” *Gender aware* refers to approaches that “have an understanding of the different needs and interests of men and women.” *Gender transformative* refers to approaches that “explicitly engage both women and men to examine, question, and change those institutions and norms that reinforce gender inequalities.”

Nearly all projects also had asset-related participation requirements (Table 3.1). CARE and LOL explicitly required that participants possess certain assets: a dairy cow in the former, and adequate access to land and water and initial fodder stocks in the latter. The KickStart and CSISA projects had implicit requirements based on access to land or water. Landesa’s project, by providing titles to land that households were already working, also had an implicit land access requirement. HarvestPlus had an implicit social capital and potentially also a land requirement by distributing vines through farmer groups. Note that for many of the projects that required access to land, this access did not have to come through formal landownership. Unfortunately, failure to make that clear in some cases resulted in women not being considered as official beneficiaries.

### Key Elements of Project Evaluation Designs

GAAP provided technical and financial support to enable projects to incorporate gender and assets into their existing evaluation plans. Beyond promotion of mixed methods, GAAP’s contribution to each project varied according to project needs, internal gender, and monitoring and evaluation capacity of the project implementers and evaluators. Table 3.2 summarizes each project’s evaluation approach and highlights GAAP’s contribution. GAAP’s financial contribution of approximately \$100,000 per project constituted a small fraction of the total project budgets (which ranged from about \$2 million to \$195 million). GAAP’s contribution to the project’s monitoring and evaluation budget ranged from less than 1 percent to about 50 percent.

**Table 3.2 Project evaluation design and GAAP contribution**

<b>Project implementer</b>	<b>Evaluation design</b>	<b>GAAP contribution</b>
Landesa	Propensity-weighted regressions	Qualitative work (FGDs, KIIs, life histories); input into quantitative survey module
BRAC	Randomized controlled trial	Qualitative work; input into gender and assets modules in endline
CARE	Propensity-weighted regressions	Qualitative work; input into gender and assets modules, additional modules for endline
Land O'Lakes	Early vs. late cow recipients	Qualitative work (FGDs, KIIs, life histories); input into quantitative survey module
Helen Keller International	Randomized controlled trial	Qualitative work; input into gender and assets modules
HarvestPlus	Randomized controlled trial	Qualitative work, including social network analysis; input into gender and assets modules
Cereal Systems Initiative for South Asia	Comparator control villages	Qualitative and asset module in midline quantitative survey; funding for analysis time to focus on social networks
KickStart*	Early vs. late pump buyers	Funding for qualitative work

Source: Authors.

Note: FGDs = focus group discussions; KIIs = key informant interviews. \*In KickStart, only qualitative results were used in the analysis.

#### **4. CONTEXTS IN WHICH THE GENDER, AGRICULTURE, AND ASSETS PROJECT OPERATED**

The eight projects in the GAAP portfolio operated across a wide variety of country contexts, with four projects in South Asia and four in Africa south of the Sahara. Understanding the contexts within which the projects operated is vitally important to understanding their success and the differences in outcomes. Especially important is understanding social and gender norms and their implications for rural women's ability to participate in and benefit from projects. Provided below are two tables that present data that reflect different aspects of women's (Table 4.1) and men's (Table 4.2) status in project countries, with data primarily drawn from the most recent set of Demographic and Health Surveys (DHS) Country Reports. Comparison between Table 4.1 and Table 4.2 allows for an understanding of the gender gaps that exist between men and women in the project countries.

Some insights can be drawn from Tables 4.1 and 4.2 in regard to differences between men and women within the same country and also between women (and between men) in different countries. Most striking is the consistent pattern of lower levels of almost all indicators for women than for men within the same country. In all countries, men have higher levels of household headship, current employment, and access to information. Men are also, on average, older when they first marry and are less likely to have ever married, showcasing a trend that women continue to marry earlier and are more reliant upon marriage than men in all countries. For all countries with the exception of Bangladesh, men have more years of schooling on average and a higher literacy rate. Bangladesh's exception may be due to their extremely successful educational cash transfer program implemented in 1994, which some scholars have demonstrated has actually reversed the gender gap in schooling (Asadullah and Chaudhury 2009).

With regard to differences between women in different countries, some patterns can be established by region. Women in South Asia are, on average, more likely to have ever married and also more likely to marry at an earlier age than women in Africa south of the Sahara. They are also generally less likely to be heads of households than women in Africa (with the exception of Burkina Faso, which showcases the lowest levels of female household headship of all of the countries). These indicators may point to the fact that women in South Asia traditionally have fewer opportunities outside of marriage and also face stronger social stigma when unmarried than do women in Africa, where consensual unions and living together are more common. Female household headship in Africa may also be viewed less negatively than it is in South Asia, making it more common for women to be household heads for reasons other than widowhood (such as leaving their husband, never marrying). Even though the median age at first marriage is later in Africa than in South Asia, higher fertility rates are found across the African countries. No consistent regional trend is observed for involvement in decisionmaking or agreement with wife beating.

**Table 4.1 Women’s status in project countries**

Variable	Countries						
	Bangladesh	India	Burkina Faso	Kenya	Tanzania	Mozambique	Uganda
<b>Project implementers operating in country</b>	BRAC CARE	Landesa, Cereal Systems Initiative for South Asia	Helen Keller International	KickStart	KickStart	Land O’Lakes	Harvest Plus
<b>Households headed by female (%)</b>	11.0	14.9	8.3	35.8	24.8	35.3	29.2
<b>Ever married (%)<sup>l</sup>*</b>	85.4	82.8	79.4	68.8	74.9	81.6	75.6 <sup>e</sup>
<b>Median age at first marriage<sup>++</sup></b>	15.6	16.4	17.6 <sup>j</sup>	19.4	18.5	18.2	17.8
<b>Fertility rate</b>	2.5	2.98	6.7	5.2	6.1	6.6	6.8
<b>Median age at first birth<sup>++</sup></b>	18.1	19.5	19.2 <sup>k</sup>	19.9	19.5	19.2	18.9
<b>Median years of schooling</b>	4.0	NR	NR	4.5 <sup>f</sup>	6.2	1.4	4.6
<b>Literate (%)</b>	59.7	45.5	11.4	82.3	66.1	25.5	58.8
<b>Currently employed (%)</b>	10.3	40.8	79.1	55.5	82.2	39.3	70.5
<b>No access to information (%)<sup>a</sup></b>	58.6	45.4 <sup>g</sup>	56.9	22.6	44.5	57.0	24.2
<b>Involved in decisionmaking (%)<sup>b</sup></b>	56.5	48.9	17.6	65.5	36.7	54.4	56.5
<b>Agree with wife beating (%)<sup>d</sup></b>	35.6	59.4	47.0	58.9	57.7	25.3	61.3
<b>Landholders that are women (%)</b>	2.8	10.9	8.4	NR	19.7	23.1	16.3

Source: Authors. See Appendix for data sources.

Notes: All figures refer to rural population unless otherwise noted by an asterisk (\*). NR = not reported. ++ = ages 20–49.

<sup>a</sup> = The percentage of women that do not read the newspaper, listen to the radio, or watch television at least once a week.

<sup>b</sup> = The percentage of women that are involved in decisionmaking, either alone or jointly with their husband, about major household purchases. <sup>c</sup> = The percentage of currently married women that go alone with their children to the health center or hospital. <sup>d</sup> = The percentage of women that agree with at least one reason that a husband is justified to beat his wife. <sup>e</sup> = Percentage includes “living together,” which comprises 26.9 percent. <sup>f</sup> = Females age 6 and up.

<sup>g</sup> = Phrased slightly differently: “percentage of women not regularly exposed to any media.” <sup>h</sup> = Phrased slightly differently: “percentage of women allowed to go alone to health facility.” <sup>i</sup> = Phrased slightly differently: “percentage of women that know of a microcredit program.” <sup>j</sup> = Women ages 25–49. <sup>k</sup> = This indicator refers to women ages 25–49.

<sup>l</sup> = The percentage of women that are currently married, divorced, separated, or widowed.



**Table 4.2 Men's status in project countries**

Variable	Countries						
	Bangladesh	India	Burkina Faso	Kenya	Tanzania	Mozambique	Uganda
<b>Project implementers operating in country</b>	BRAC CARE	Landesa, Cereal Systems Initiative for South Asia	Helen Keller International	KickStart	KickStart	Land O'Lakes	Harvest Plus
<b>Households headed by male (%)</b>	89.0	85.1	91.7	64.2	75.2	64.7	70.8
<b>Ever married (%) *</b>	63.7	68.0	59.5	53.2	58.5	65.5	63.7 <sup>b</sup>
<b>Median age at first marriage +</b>	24.2	21.5	25.1 <sup>e</sup>	24.8 <sup>+++</sup>	23.6	24.4 <sup>++++</sup>	21.9 <sup>++</sup>
<b>Median years of schooling</b>	3.1	NR	NR	5.2 <sup>c</sup>	6.3	3.7	5.3
<b>Literate (%)</b>	57.9	72.3	24.9	89.6	77.6	59.8	74.1
<b>Currently employed (%)</b>	98.8	85.7	97.8	86.7	85.9	82.8	91.6
<b>No access to information (%) <sup>a</sup></b>	26.1	25.3 <sup>d</sup>	33.1	8.2	23.9	31.8	13.2

Source: Authors. See Appendix for data sources.

Notes: All figures refer to rural population unless otherwise noted by an asterisk (\*). NR = "not reported." + = ages 25–49. ++ = ages 25–54. +++ = ages 30–54. ++++ = ages 25–64. <sup>a</sup> = The percentage of men that do not read the newspaper, listen to the radio, or watch television at least once a week. <sup>b</sup> = This percentage includes living together, which comprises 15.11 percent. <sup>c</sup> = Males age 6 and up. <sup>d</sup> = Phrased differently: "percentage of men not exposed to any media." <sup>e</sup> = Men ages 30–59. <sup>1</sup> = The percentage of men that are currently married, divorced, separated, or widowed.

## 5. GENDER, PROPERTY RIGHTS, AND CHANGES IN ASSETS

### Use, Control, and Ownership of Assets in Project Households

For each project, quantitative data on assets were collected using asset survey modules covering physical assets and asset categories such as land, livestock, consumer durables, or agricultural assets. Specific questions regarding the identity of the owner of the asset were included in each survey, though they were not always asked in the same way.<sup>12</sup> Survey questionnaires were often customized for the specific project contexts, for example, projects in Asia asked about jewelry, while projects focused on agricultural production asked about specific pieces of farm machinery.

To get a sense of asset ownership levels and how assets are distributed between men and women, we look at data from project beneficiaries on ownership of a major asset (land) and two smaller asset categories (livestock and consumer durables) (Tables 5.1–5.3).<sup>13</sup> Ownership is divided into three categories: male owned, female owned, and jointly owned. With the exception of livestock in BRAC, the number or value of male-owned assets is higher than that of female-owned assets for all assets and all projects. Rarely does the number or value of women’s assets reach half of that of men’s. This is true in both baseline and endline surveys.

**Table 5.1 Landownership by project beneficiaries at baseline and endline (selected projects)**

Project implementer	Units	Baseline			Endline		
		Male owned	Female owned	Jointly owned	Male owned	Female owned	Jointly owned
BRAC <sup>a</sup>	Decimals	Not collected	Not collected	Not collected	2.58	0.96	0.43
CARE <sup>b</sup>	Decimals	63.55	4.41	0.29	61.03	3.92	0.26
HarvestPlus <sup>c</sup>	Acres	1.94	0.12	0.83	1.96	0.18	0.80
Helen Keller International <sup>d</sup>	Hectares	3.2	1.4	Not collected	3.1	0.8	Not collected
Land O'Lakes <sup>e</sup>	Hectares	1.6	0.79	0.66	1.94	0.78	1.16

Source: <sup>a</sup>Das et al. (2013); <sup>b</sup>Quisumbing et al. (2013); <sup>c</sup>Santos et al. (2013); <sup>d</sup>Johnson et al. (2013); <sup>e</sup>van den Bold et al. (2013).  
Note: <sup>a</sup>; <sup>b</sup> 100 decimals = 1 acre.

**Table 5.2 Livestock ownership by project beneficiaries at baseline and endline (selected projects)**

Project Implementer	Units	Baseline			Endline		
		Male owned	Female owned	Jointly owned	Male owned	Female owned	Jointly owned
BRAC <sup>a</sup>	Value, 2012, taka	Not collected	Not collected	Not collected	1,378.41	10,978.31	2,173.37
CARE <sup>b</sup>	# of cattle	1.55	0.43	1.03	1.27	0.30	0.44
HarvestPlus <sup>c</sup>	Value, 2007, thousand UGX	253.82	118.77	125.38	302.68	140.90	151.98
Helen Keller International <sup>d</sup>	Small animals (value in constant XOF)	92,841	25,697	Not collected	112,101	40,222	Not collected
	Large animals (value in constant XOF)	549,250	11,987	Not collected	583,127	5,584	Not collected
Land O'Lakes <sup>e</sup>	# of cattle	1.48	.53	1.52	1.73	.51	1.69

Source: <sup>a</sup>Das et al. (2013); <sup>b</sup>Quisumbing et al. (2013); <sup>c</sup>Santos et al. (2013); <sup>d</sup>van den Bold et al. (2013); <sup>e</sup>Johnson et al. (2013).  
Note: UGX = Ugandan shillings; XOF = West African CFA franc. <sup>a</sup> includes cows, goats, chickens, horses, pigeons.

<sup>12</sup> For more information on the methodology used to collect asset data, see the GAAP toolkit at <http://gaap.ifpri.info/integrating-qual-and-quant/>.

<sup>13</sup> Tables 5.1–5.3 report asset levels at baseline and endline with no attempt to attribute change to the project. See Table 5.4 for summary of the changes in assets and other development outcomes that can be attributed to the project interventions.

**Table 5.3 Consumer durables ownership by project beneficiaries at baseline and endline (selected projects)**

Project Implementer	Units	Baseline			Endline		
		Male owned	Female owned	Jointly owned	Male owned	Female owned	Jointly owned
BRAC <sup>a</sup>	Value, 2012, taka	Not collected	Not collected	Not collected	6,219.89	5,094.84	3,964.68
CARE <sup>b</sup>	Value in 2008 taka	3,954.87	611.68	3,402.46	7,116.693	1,100.036	3,281.384
HarvestPlus <sup>c</sup>	Value, 2007, thousand UGX	1,234.77	198.52	631.42	1,495.53	256.44	801.19
Helen Keller International <sup>d</sup>	Value in constant XOF	105,325	44,592	Not collected	90,847	43,758	Not collected
Land O'Lakes <sup>e</sup>	Asset index	4.21	1.77	5.09	4.99	1.78	5.11

Source: <sup>a</sup> Das et al. (2013); <sup>b</sup> Quisumbing et al. (2013); <sup>c</sup> Santos et al. (2013). <sup>d</sup> Johnson et al. (2013); <sup>e</sup> van den Bold et al. (2013); Note: UGX = Ugandan shilling; XOF = West African CFA franc. <sup>a</sup> includes bed, chair, almirah, radio, TV, camera, VCR, fan, watch, tubewell, cooking instruments, females' clothes, males' clothes, pillow, living room, latrine, gold jewelry, silver jewelry, solar. <sup>d</sup> CFA francs are fixed to the euro in a ratio of 1 euro = 655.957 CFA francs or 1 CFA franc = 0.00152449 euros. <sup>e</sup> asset index includes cooker, refrigerator, radio, TV, DVD, cell phone, sofa, mosquito net.

While men clearly own the majority of individually owned assets, the data reveal a considerable amount of joint ownership. A significant share of household land is under joint ownership, especially in Africa. Including jointly owned land significantly expands the amount of land over which women have ownership rights. Joint ownership is even more important for livestock and consumer durables, with the share of jointly owned animals close to or even exceeding that owned by men individually and always greater than that owned solely by women.

One way to interpret jointness is that two or more individuals share rights to a single asset and make joint decisions. Another possibility is that individuals have different rights over the same asset. These types of jointness may not be mutually exclusive, though in many gender-asset survey modules (such as the ones used to collect the data in Tables 5.1–5.3) this condition is often imposed to ensure that the number of assets under each ownership category add up to the number of assets owned by the household (a common check on data quality and accuracy).

All of the qualitative and some of the quantitative studies (for example, Paris et al. forthcoming; Quisumbing et al. 2013; Das et al. 2013) looked deeper into jointness and explored different rights that men and women, individual or jointly, had over different types of assets. In general, where men and women have different rights to the same asset, men tend to have more and stronger rights than women. For example, a wife often has the right to use her husband's land (for example, van den Bold et al. 2013; Gilligan et al. 2013). Women control milk for home consumption, but men control income from milk sales to collection centers (Johnson et al. 2013). Woman can use a pump but not loan it out to others without permission (Njuki et al. 2014).

The qualitative analyses provided many examples where husbands and wives discussed what to do and made decisions together. However, where they could not agree, it was almost always the man who had the final say. In most cases, men felt they owned all household assets by virtue of their being heads of households. As one respondent in a focus group discussion (FGD) for the KickStart project said, "Men have the right to sell all assets, even those owned by women" (Njuki et al. 2014). One exception was when a woman's name was on a title to land, so that the land could not be sold without her permission. And in some cases, a men's decision to sell an asset without a women's permission may not be final. In the BRAC project, when a man sold an asset without his wife's permission, she was able to appeal to a project authority for the return of an asset (Das et al. 2013, 15). These cases were possible because women were aware of their rights and had access to a means of defending them that they were willing and able to use.

These results suggest that jointness is the rule rather than the exception and is likely to matter even for assets that were reported to be individually owned. More research is needed to better define, measure, and understand the importance of jointness. In a project context, the importance of jointness in asset ownership may depend on the project's objective. For dissemination of annual cropping technologies, use rights may be sufficient for uptake. Where longer-term investments are required, control rights are likely to be needed to ensure that people can realize the benefits of their investments over time. Knowing who has control over the outputs generated from productive assets (such as milk from a cow, crops from land) is important in understanding who is likely to benefit from that asset's use, and therefore have an incentive to invest in obtaining and maintaining it. Some evidence on these issues is presented in the following sections.

Open-ended questions about who owned what assets and which assets were important for men and women yielded interesting information about gender differences in perceptions and priorities. As might be expected, people often understood "ownership" as having any type of right, which suggests that caution should be used in interpreting quantitative data from surveys that did not give clear guidance about what ownership means. The differences in perception can offer valuable insights into how projects work. For example, in the LOL project, cows were clearly given to household heads, usually men, yet many spouses felt they had some ownership rights due to the importance of their contribution to taking care of the cow and to the household dairy business (Johnson et al. 2013).

FGDs also identified assets that researchers had not previously considered. A risk in this type of questioning is that people may name things that don't meet the accepted definition of *asset*. In several cases FGDs identified things like access to government programs, jobs, or nongovernmental organization (NGO) trainings as assets. In FGDs in Tanzania, men referred to women as assets that they (men) owned! A lesson from these experiences is that, as in quantitative surveys, it can be useful to provide some guidelines or examples to guide the discussion on a topic as complex as asset ownership. However, where there is opportunity to discuss with respondents, interviewers can probe further to understand the reasons behind why something is identified as an asset. In the FGDs conducted as part of the CSISA evaluation, people identified expensive clothes as an important asset (Paris et al. forthcoming). Having good clothes enables people to attend meetings and other social events at which they can build social capital (Paris et al. forthcoming; Das et al. 2013).

### **How Did Projects Change Asset Ownership?**

All projects document increases in assets and other benefits among target households. Among the projects that completed quantitative impact evaluations, all of them, whether or not they transferred assets, contributed to increases in asset levels in beneficiary households (Table 5.4). In four projects, quantitative analysis found that the project significantly increased women's assets. Landesa's Nijo Griha, Nijo Bhumi program in West Bengal increased women's perceived tenure security as compared with control households where women's names were not on titles (Santos et al. 2013). HKI's E-HFP in Burkina Faso increased the agricultural assets of women in intervention villages relative to women in control villages (van den Bold et al. 2013). In BRAC's TUP project, women's sole and joint ownership of targeted assets (cattle, goats, poultry) increased compared with that of women in nonparticipant households (Das et al. 2013). The BRAC study also looked at women's specific rights (to rent, sell, and control product and income) and found that, in general, the program increased women's use rights, but not ownership rights, to agricultural assets. Rights over other assets are generally stronger but mixed. Finally, the CARE SDVC project in Bangladesh did not increase women's individually owned assets but did increase jointly owned assets (Quisumbing et al. 2013). The value of jointly owned livestock increased in participant households as compared with control households outside the community.

**Table 5.4 Summary of key project impacts on assets, as measured in quantitative impact assessments using experimental or quasiexperimental approaches**

<b>Project implementer</b>	<b>Women's assets</b>	<b>Assets of other household members</b>	<b>Gender asset gap (where measured)</b>
Landesa	Women's perceived tenure security increased		
BRAC	Women's sole and joint ownership of targeted assets (cattle, goats, poultry) increased	Men's sole ownership of all other assets increased	Men's ownership grew more than women's
CARE	Increased value of jointly owned livestock	Increased value of jointly owned livestock; increased value of men's nonland assets and men's nonlivestock assets	Value of increase in joint assets was less than the increase in men's solely owned assets
Land O'Lakes		Ownership of exotic cattle increased at household level	
Helen Keller International	Women's sole ownership of agricultural assets increased	Men's sole ownership of small animals increased	Women's agricultural assets increased relative to men's; increased share of people who felt that women were capable of using and owning land
HarvestPlus		Vitamin A intake of women and children improved	

Source: Authors.

Men in participant households also increased their assets through the projects (Table 5.4). The BRAC evaluation found that while women's ownership of program assets grew, men's sole ownership of all other assets grew (Das et al. 2013). CARE reported that the project increased the value of men's nonlivestock assets as compared with that in control communities in the same locality and also the value of men's nonland assets as compared with that in control communities in different localities.<sup>14</sup> While the project increased the value of assets owned jointly, the amount of the increase was less than the increase in men's solely owned assets, suggesting that the net increases in men's assets may have been greater than that in women's assets (Quisumbing et al, 2013).

Only in HKI was there any evidence of women closing the gender asset gap. Both men and women significantly increased ownership of small animals as compared with intervention villages; however, women in intervention villages increased agricultural assets relative to men, whereas in control villages the value of men's assets increased more than women's (van den Bold et al. 2013). Men in intervention villages decreased agricultural assets as compared with men in control villages. There was no impact of the project on the area of land owned by either men or women, although qualitative work indicates that gender norms became more favorable toward women's landownership in treatment as compared with control areas.

Taken together, these results show that while it is possible to increase women's control and ownership of assets, it is not easy or automatic, even in projects that transfer assets to women. Recognizing joint ownership—not only in how assets are measured but also in how asset transfers are designed in projects that target households—could broaden the scope for change. Even more sobering is the finding that the gender asset gaps are rarely narrowed and commonly increased as a result of agricultural development projects. Given the gender norms that govern asset ownership, to the extent that project benefits get reinvested in assets, those assets are likely to be controlled primarily or exclusively by men. Explicit steps appear to be necessary to increase the chance that women will maintain and accumulate assets, including efforts to influence the norms around the acceptability of women having control of assets, either individually or jointly with others in the household.

<sup>14</sup> The CARE SDVC evaluation included two control groups. Control 1 households are those in the communities where the SDVC program is located, which had chilling plants but were not part of the intervention. Control 2 households were drawn from communities that did not have chilling plants. Propensity score-weighted regressions were used in comparing the households with treatment households.

## 6. ASSETS TO LIVELIHOOD STRATEGIES

In its most general sense, the conceptual framework posits that the gendered distribution of assets within a household influences uptake of technologies and livelihood strategies by household members. Several projects provide evidence to support this hypothesis.

The evaluation of the Landesa microtitling project in Odisha looked at the role of gendered asset ownership in the adoption of livelihood strategies (Savath et al. 2013) and found that men's and women's education and ownership of land and other (nonproductive) assets were important in enabling households to adopt preferred livelihood strategies, defined as those that offered higher incomes and greater food security. As compared with the least preferred strategy of agricultural wage labor, the more desirable livelihood strategies combine off-farm work, either for a wage or as a self-employed businessperson, with farming. These strategies are more likely to be adopted where women own a larger share of household assets. Men's but not women's education is important for wage labor; however, women's education is positively associated with self-employment.

The HarvestPlus project in Uganda found that orange sweet potato (OSP) was more likely to be adopted on plots of land that were jointly owned by men and women but where women played the leading role in decisionmaking (Gilligan et al. 2013). Conversely, the probability of adopting OSP was lowest for parcels controlled exclusively by men.

In projects that were able to increase women's assets, we can look at the impact of that increase on women's participation in decisionmaking related to adoption of technologies and strategies, and also at its influence on the outcomes of those (often household-level) decisions. The Landesa evaluation found that having a woman's name on the title was significantly associated with an increase in her reported participation in decisions about the purchase of productive assets and use of agricultural land. It was also positively correlated with the share of household land over which the woman had an influence (Santos et al. 2013). The study also found significant program impacts on the outcomes of household decisions such as taking agriculture-related loans and investing in agricultural inputs (use of fertilizer, seeds, hired equipment); however, having the woman's name on the title was not a significant predictor of these decisions.

HKI found high levels of adoption of home gardens by program households as compared with households in control communities (van den Bold et al. 2013). Women were the main decisionmakers about vegetables, and this decisionmaking ability increased over the study period. Women were also primarily responsible for the chickens. Women increased their decisionmaking power over goats as compared with women in control communities; however, men continued to have primary responsibility for the goats even in intervention communities.

Separate evaluations of the BRAC program (Krishna et al. 2012; Bandiera et al. 2013) have found that it was very successful in contributing to outcomes such as households' overall food expenditure, rates of self-employment, and labor force participation, as well as household-level ownership of productive assets. The GAAP evaluation found that the project contributed significantly to a major shift toward women working inside the home in program households as compared with women in a control group; 17 percent more women worked inside the home and 8 percent fewer worked outside the home (Das et al. 2013). This reduction of women's mobility was not surprising given that the assets the program provided to women, especially cattle, require care at home; that social norms in Bangladesh favor women's seclusion; and that poor women who worked outside the home were typically in low-status occupations like domestic work and agricultural wage labor and were often harassed.

Although the CARE project did not introduce dairy as a new livelihood strategy, it did intend to improve the profitability of that strategy and to involve women to a greater extent in stages of the value chain, for example, as livestock health workers and artificial insemination providers, where they were traditionally underrepresented. The project was able to increase women's jointly owned assets, but these results did not translate into greater participation in decisions related to buying, selling, or leasing of cows or to dairy related expenses—financial decisions remained the husband's domain. In terms of specific

decisions, however, the program led to significant increases in women's decisionmaking in feeding cows (10 percent) and on where to purchase inputs (4 percent) but had no effect on other decisions related to vaccinations or artificial inseminations, activities on which women had also received training (Quisumbing et al. 2013).

Similar to BRAC, the CARE project reduced the proportion of women working for pay, mainly because domestic responsibilities, largely related to livestock, increased. The program reduced husbands' negative attitudes toward women working, which is consistent with women's claims suggesting that the decrease in women working outside the home was the women's choice. The program did improve attitudes toward women's mobility, particularly with respect to her ability to go to locations where she could access livestock-related services.

While the quantitative data analysis did not find significant impacts on women's asset ownership, both the qualitative and the quantitative findings in the LOL study suggest that women are claiming some ownership rights to the transferred dairy cows (Johnson et al. 2013; Quisumbing et al. forthcoming). Both male and female FGD participants report that women play an active role in dairying. Prior to the project women were not involved in cattle keeping. Perhaps as a result, project staff did not initially include women in the dairy project, but they observed that cows that had been transferred to beneficiary households were not doing well. Further investigation by project staff revealed that cows were not being adequately fed and cared for and that a main reason for this was that men were assuming that women would take care of this even though they had neither been involved in the project nor received training on the needs of Jersey cows. As a result of this finding, the project began involving women in project activities. This anecdote, which was part of the motivation for the LOL project to join GAAP, shows the important role that women's involvement played in making market-oriented dairying a viable livelihood strategy for the household.

The KickStart project enabled households to take up irrigation, a livelihood strategy that reduced risk and increased income. Few women purchased pumps (only 6 percent of pump sales in Tanzania and 18 percent in Kenya were by women), and the findings of the qualitative analysis conclude that while there is some joint decisionmaking, the "main decisions on crop choice were in the hands of men irrespective of whether women owned the pumps or not" (Njuki et al. 2014, 21).

These results provide some evidence for the hypothesis that strengthening women's assets will increase their role in decisionmaking about livelihood strategies. The evidence is stronger for participation in decisionmaking than in influencing the outcomes of decisions, though the former may be a necessary first step toward the latter. Some of the strategies that women choose to adopt may not be the ones that appear to an outsider to be most desirable, but they may be optimal given the constraints women face in the contexts in which they live.

## 7. IMPACTS ON FULL INCOME

### Impacts on Household Income

According to the conceptual framework, livelihood strategies result in full income, which is defined as “the total value of products and services produced by the household members, some of which are consumed directly and others which are sold for cash or traded for other goods or services” (Meinzen-Dick et al. 2011, 12). The concept of full income also includes the leisure time of household members. Because it is more likely for women’s time to be devoted to nonmarket or reproductive activities—including growing food consumed at home, caring for children, and caring for the ill—measures of income that do not take into account the value of time will tend to underestimate women’s contribution and overestimate the benefits of activities that increase both cash income and workloads (Meinzen-Dick et al. 2011; Quisumbing et al. forthcoming). Some market-oriented agricultural interventions seek explicitly to increase cash income, but all interventions seek to increase full income, whether explicitly or implicitly. The hypothesis to be explored in this section is whether increasing women’s control over assets will influence their control over the income.

Before looking at income control, we first look at changes in income levels. Few projects collected detailed data on agricultural inputs, outputs, sales, or prices, and none conducted productivity analysis. In general, however, projects reported that where assets were transferred and where improved technologies were adopted, production of target crops and livestock products increased. Most households reported increases in income, but they were not always statistically significant as compared with control groups.

All of the evaluations of asset-transfer projects reported that the transfer of assets had impacts on women’s time. All projects that transferred livestock—BRAC, LOL, and HKI—found that caring for livestock, especially improved or exotic breeds that tend to have greater nutrition and health needs, led to an increase in demand for women’s time (Quisumbing et al. forthcoming). It is important to note, however, that these new livelihood strategies increased demand for time of other household members as well, including men and children. The LOL study reported that although the greatest increase in time spent on dairy was for women’s time, men provided the greatest amount of total labor for dairy production (Johnson et al. 2013).

To understand the impact of these increased time burdens, we need to know what household members were doing with their time before the projects. The CARE evaluation looked at trade-offs among time spent by other household members in a range of activities and found that women in program households spent more time on dairy and less on childcare (feeding and general care) than control households in the same communities. This could be cause for concern because the time women spend on childcare is a determinant of child nutritional outcomes (Herforth and Harris 2014). When compared with control households in different communities (that did not have milk-chilling infrastructure and therefore did not engage in dairy), the opposite result was found: program households spent significantly more time on childrearing than control households did. The same patterns held for the time of adult women. Findings from the BRAC evaluation state that some women complain about workloads associated with program assets and said that other family members had to help with care of livestock, especially cows (Das et al. 2013). Nonetheless, they prefer their current situation to the previous situation of not having livestock and working outside the home.

The two projects that promoted machinery—KickStart and CSISA—found slightly different results. While the KickStart pumps sometimes required additional labor from women, it was also reported that women reduced time spent fetching water (Njuki et al. 2014). CSISA promoted labor-saving technologies that had the potential to displace female agricultural labor. In better-off, high-caste households, adoption of these technologies was likely to lead to more leisure time for women; but women in poorer, landless households would lose an important source of income (Paris et al. forthcoming).



Although some exceptions are clear, these results suggest that women are aware of and willing to make sacrifices in terms of time because they value the benefits of the project. Projects should monitor their impacts on time, and where there is evidence that dedication of time to project activities is having negative impacts on other outcomes that households are not aware of or not considering, targeted activities could be undertaken to mitigate possible negative impacts.

### **Impacts on Control of Income**

Based on the conceptual framework, we would expect that greater control over productive assets and contribution to production processes would translate into greater control over the product or of income generated from the asset. In practice, support for this hypothesis was mixed.

When agricultural output was used for home consumption, women were more likely to report that they had some or full control over how it was used. Where output was sold, women's involvement in the decision to sell and their control over the income was limited, even where they had some ownership rights to the underlying assets. HKI was primarily a nutrition-focused project, so much of the intervention involved supporting women to grow nutritious foods and prepare and serve them to their families. The program's preliminary evidence for positive nutrition outcomes (HKI and IFPRI 2013) suggest that this is occurring. Income was a lesser objective, reflected by the fact that quantitative income data were not collected, but women reported that to the extent that they received income from vegetables and chickens, they were able to maintain control of it (van den Bold et al. 2013). Men controlled income from goats.

The evaluation of Landesa's project in West Bengal did not report impacts on income but did report that women's participation in the decision to sell produce from the plot is positively and significantly related to whether her name is on the land title (Santos et al. 2013). Although it did not (yet) find impact of the program on household food security, Landesa's West Bengal study did find that where the woman's name was on the land title, she was more likely to participate in household food purchase and consumption decisions.

Typical of the pattern of many dairy development projects, the LOL study found that men controlled the morning milk, which is greater in quantity than the evening milk and is usually sold to the milk collection center. Women controlled the evening milk, which is split between calves, household consumption, and sale to neighbors (Johnson et al. 2013). To the extent that they derive income from local sale of milk, women are able to control it, but the main cash income from the milk is from the morning milk and is controlled by the men.

The CARE project did not increase women's decisionmaking power with respect to use of household income for food, house repairs, or health (Quisumbing et al. 2013). It did, however, increase women's control of money to buy food, clothes, medicines, and cosmetics for themselves.

In the KickStart project women did not have input into decisionmaking related to pump use (Njuki et al. 2014). The type of crop irrigated did, however, influence income control by women, with women more likely to control income from irrigated leafy vegetables compared with that from other crops.

The BRAC project appears to have reduced control by women over income and decisionmaking about income. The evaluation found that compared with control households, beneficiary households had a reduced proportion of women who worked outside the home and kept all or any of the money (Das et al. 2013, 35). The program also reduced the percentage of households in which a woman decides alone what to do with income and an increased percentage of households where women and their husbands decide jointly what to do with the money she earns.

## 8. IMPACT ON WOMEN'S AND HOUSEHOLD'S WELFARE

Given their relatively limited control over the outputs and income that result from the assets and livelihood strategies promoted by the projects, what motivates women to invest time and effort? The conceptual framework suggests several explanations. One is that while they do not necessarily control the specific output or income from project assets or new agricultural technologies, they believe that the increases in food production or income at the household level will be used in ways that are consistent with women's own preferences and will improve their own welfare and that of their families. A second explanation is that women perceive intangible benefits from participation in the projects. The studies found support for both explanations, which are not mutually exclusive.

In both Bangladesh projects (BRAC and CARE), women mentioned that they valued being able to contribute to the maintenance of their households. Participants in BRAC specifically mentioned the improved social standing that the increased income from the cow made possible—it enabled them to purchase saris, for example, so that they would no longer be ashamed to appear in public.

In two projects, one of the important benefits that women specifically associate with the projects is an increase in household cooperation and harmony. In the LOL project, this took the form of families working together in a shared livelihoods strategy of dairying in which husbands recognized wives' expertise, gained through training and experience, and sought their advice (Johnson et al. 2013). In KickStart households, the requirement for two people to operate the pump that meant husbands and wives spent more time working together on the farm (Njuki et al. 2014).

Several evaluations mentioned examples of changes in norms related to women's roles in agriculture, in their households, and in society. The HKI evaluation looked specifically at whether the project had an impact on individuals' attitudes toward women's land use and ownership. When asked if their attitudes regarding whether women were capable of using land and should be allowed to own land had changed in the last two years, respondents in program communities were significantly more likely to report changes in attitudes that favored women's access to and control over land than respondents in control communities (van den Bold et al. 2013).

The CARE project had a positive impact on women's mobility (Quisumbing et al. 2013). Compared with control households, the CARE project participants are more likely to have a say (together with their husbands) about whether they can go alone to visit friends outside the community, go to the market, or go to the cinema. Program participants are also more likely to have a say in decisions about whether they can attend NGO trainings. Not all changes associated with increased mobility and involvements in value chains were positive, however. The CARE project found that in some cases, women's increasing involvement in value chain activities was contributing to increases in gender-based violence in dairy value chains. In response, according to the team leader, the project implemented a community-based intervention to raise awareness among men and engage them in helping to address the problem (Nurul Amin Siddiquee, personal communication, 2011).

Finally, both projects with explicit nutrition objectives, HarvestPlus and HKI, succeeded in improving diets and, in some cases, nutritional status of women and children. These changes, if sustained, could contribute to improvements in future outcomes related to education, income, and health, reducing long-term inequities (Hoddinott, Rosegrant, and Torero 2012).

Taken together these findings suggest that women value benefits at the household level and that they perceive many intangible benefits from participating in the projects, some of which could be related to changes in the broader social context, including in gender norms. If this is the case, it could be an important area for future research and for future emphasis in projects, because many of the norms around gender roles and women's ownership of assets seem to prevent them from sharing more directly in the benefits of projects.

## 9. CONCLUSIONS

The studies in the GAAP portfolio show the myriad ways in which use, control, and ownership of a wide range of assets affect the ability of men and women to benefit from agricultural interventions. All projects were associated with increases in assets at the household level, but only half were able to increase women's control or ownership of assets, and of those, only one, HKI's Enhanced Household Food Production project in Burkina Faso, seems to have contributed to a reduction in the gender asset gap. Many projects increased women's income; however, when compared with changes in income at the household level and for male household members, it is clear that women find it difficult to increase their relative control over income from projects.

The findings also suggest that greater recognition of the importance of assets, and attention to issues of gender and asset ownership in project design and implementation as well as evaluation, could improve the ability of projects to benefit women.<sup>15</sup> Reframing the gender asset gap with a greater emphasis on jointness as a way to increase women's control of assets is a potential avenue that deserves further study. Also promising is the evidence that some projects (CARE, LOL, HKI) may have influenced underlying social and gender norms in ways that could lead to greater empowerment for women. Even where impact evaluations did not find significant asset or income benefits for women, qualitative and quantitative analysis identified many tangible and intangible ways that interventions improved women's lives and welfare. Looking at a broader range of benefits—especially using mixed-method approaches—provides valuable insights into how projects work, how men and women participants experience their benefits and costs, and how this information can be used in project design and in the identification of indicators with which to monitor project outcomes.

The GAAP projects also made important methodological contributions to the study of gender and assets in developing-country contexts. One of the most important was to demonstrate that collecting sex-disaggregated asset data is possible and feasible in a project context, and that asset measures are sensitive to change within development project time frames, typically three to five years. The lessons learned in GAAP on how to understand and measure assets and property rights over assets, both quantitatively and qualitatively, have been widely shared and are available in a toolkit.<sup>16</sup> The GAAP experiences were an important contribution to the development of the Women's Empowerment in Agriculture Index (Alkire et al. 2013),<sup>17</sup> a tool whose development and widespread use is evidence of the growing recognition of the importance of considering measures of women's empowerment, including increased control and ownership of assets, as outcomes to which agricultural development projects should be expected to contribute.

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<sup>15</sup> <http://gaap.ifpri.info/technical-guide/>

<sup>16</sup> [http://gaap.ifpri.info/files/2010/12/GAAP\\_Toolkit\\_Update\\_FINAL.pdf](http://gaap.ifpri.info/files/2010/12/GAAP_Toolkit_Update_FINAL.pdf)

<sup>17</sup> <http://www.ifpri.org/book-9075/ourwork/program/weai-resource-center>

## APPENDIX: DATA SOURCES

### Data Sources for Table 4.1

Data for Bangladesh come from DHS Bangladesh Country Report 2011 and refer to ever-married women ages 15–49 unless otherwise noted, except for statistic on land, which comes from FAO Gender and Land Rights Database and is drawn from the Agricultural Sample Survey 2005. Data for Burkina Faso come from DHS Burkina Faso Country Report 2010 and refer to women ages 15–49 unless otherwise noted, except for statistic on land, which comes from FAO Gender and Land Rights Database and is drawn from the Agricultural Census 1993. Data for India come from India National Family Health Survey Report 2005–2006 and refer to women ages 15–49, unless otherwise noted, except for statistic on land, which comes from FAO Gender and Land Rights Database and is drawn from the Census of Agriculture 2000–2001. Data for Kenya come from DHS Kenya Country Report 2008–2009 and refer to women ages 15–49. Data for Tanzania come from DHS Tanzania Country Report 2010 and refer to women ages 15–49, unless otherwise noted, except for statistic on land, which comes from FAO Gender and Land Rights Database and is drawn from the Tanzania Agricultural Census 2002–2003. Data for Mozambique come from DHS Mozambique Country Report 2011 and refer to women ages 15–49, unless otherwise noted, except for statistic on land, which comes from FAO Gender and Land Rights Database and is drawn from the Mozambique Agricultural Census 1999–2000. Data for Uganda come from DHS Uganda Country Report 2011 and refer to women ages 15–49, unless otherwise noted, except for statistic on land, which comes from FAO Gender and Land Rights Database and is drawn from the Report on the Uganda National Census of Agriculture and Livestock 1990–1991.

### Data Sources for Table 4.2

Data for Bangladesh come from DHS Bangladesh Country Report 2011 and refer to ever-married men ages 15–49 unless otherwise noted. Data for Burkina Faso come from DHS Burkina Faso Report 2010 and refer men ages 15–59 unless otherwise noted. Data for India come from India National Family Health Survey Report 2005–2006 and refer to men ages 15–54 unless otherwise noted. Data for Kenya come from DHS Kenya Country Report 2008–2009 and refer to men ages 15–54 unless otherwise noted. Data for Tanzania come from DHS Tanzania Country Report and refer to men ages 15–49 unless otherwise noted. Data for Mozambique come from DHS Mozambique Country Report 2011 and refer to men ages 15–49 unless otherwise noted. Data for Uganda come from DHS Uganda Country Report 2011 and refer to men ages 15–54 unless otherwise noted.

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