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Examining Gender Inequalities in Land Rights Indicators in Asia

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A broad consensus has emerged that strengthening women's property rights is crucial for reducing poverty and achieving equitable growth. Despite its importance, few nationally representative data exist on women's property rights in Asia, hindering formulation of appropriate policies to reduce gender gaps in land rights. This paper reviews existing micro-level, large sample data on men's and women's control of land, using this information to assess gaps in land rights. Utilizing nationally representative individual- and plot-level data from Bangladesh, Tajikistan, Vietnam, and Timor-Leste, we calculate five indicators: incidence of landownership and distribution of landownership by sex, and distribution of plots owned, mean plot size, and distribution of land area, all by sex of owner. The results reveal large gender gaps in landownership across countries. However, the limited information on joint and individual ownership are among the most critical data gaps and are an important area for future data collection and analysis.

Keywords: Gender; Land rights; Property ownership; Bundles of rights; Asia

1. Introduction

In 1994, Bina Agarwal published a groundbreaking book claiming that the most important economic factor affecting women is the gender gap in command over property, particularly land. Since then, there have been numerous studies of the impacts of women's property rights. A broad consensus has emerged that strengthening women's property rights over land, livestock, and other nonland assets is important for both poverty reduction and equitable growth. Yet, twenty years after Agarwal's book was published, there remain surprisingly little nationally representative data on women's property rights and ownership in most of Asia and no comparative studies assessing women's landownership in Asia. This data gap is particularly surprising because measurement of land, which is a key asset in rural areas that is often necessary to access many other services, can be standardized and verified using spatial data. Land policy reform has typically focused on changing household rights to land, not those of individuals within the household (Lastarria-Cornhiel et al. 2014). However, accumulating evidence from South Asia, Africa, and Latin America demonstrates that women are disadvantaged in both statutory and customary land tenure systems (Agarwal 1994; Lastarria-Cornhiel 1997; Kevane 2004; Deere and León 2001; Deere et al. 2012), and that men and women within households do not necessarily pool resources (Haddad et al. 1997). Thus, strengthening household rights to land does not automatically imply that women within those households have equal and secure land rights.

Surprisingly, there are more nationally representative data on women's landownership in Africa than there are in Asia. The recent Demographic and Health Surveys include a question asking both men and women whether they own land solely, jointly, or both. These data are available for ten countries in Africa (Doss et al 2015), but only five in Asia.[1] The recent Living Standards Measurement Study-Integrated Surveys of Agriculture (LSMS-ISA) for six countries in Africa collect detailed information on landholdings, including plot size and individual ownership

[1] Countries include: Burkina Faso (2010), Burundi (2010), Cambodia (2010), Ethiopia (2011), Indonesia (2012), Kyrgyz Republic (2012), Lesotho (2009), Malawi (2010), Nepal (2011), Pakistan (2012-13), Rwanda (2010), Senegal (2010-11), Tanzania (2010), Uganda (2011), Zimbabwe (2010 – 11)

information for each plot. The data gaps in Asia on men's, women's, and joint landownership are particularly severe. These gaps may arise from misconceptions about the nature of property rights, given the assumption that all Asian agriculture is "joint".

Early work on farming systems in developing countries (Boserup 1970; Lele 1986) identifies three general types: (1) extensive, land-surplus systems; (2) intensively cultivated, labor-surplus systems with a unimodal farm size distribution; and (3) dualistic systems with different factor intensities between large and small farms (Boserup 1970; Lele 1986). These systems have been thought to coexist with different family structure "types": the polygamous societies of Africa, in which there is less congruence between the interests of women and their husbands; and the monogamous extended/nuclear family type in Asia and Latin America, in which men make most agricultural decisions. For example, it is common to differentiate the unified "family farm" in Asia from those in Africa south of the Sahara where households hold several granaries or purses, controlled by different individuals (Dey 1985). However, these systems are themselves evolving, with empirical evidence challenging preconceived notions of gender division of labor by crop into "men's crops" and "women's crops" (Doss 2002).

Such assumptions about the nature of "family farming" in Asia have shaped the availability of sex-disaggregated data and research in the region. While there has been a larger body of research with a regional focus on Asia in the past few decades, these studies typically use disaggregated labor rather than landownership data to consider gender issues. This is likely the result of assumptions that farming is conducted jointly and output is shared (Peterman et al. 2014), and therefore, that productive assets, including land, are held jointly.

The aim of this paper is three-fold. First, by reviewing the literature that provides measures of women's landownership in Asia, we illustrate the lack of data available on women's landownership to conduct both cross-country analysis and within country analysis. Second, we attempt to conduct the first comparative study based on nationally-representative data on women's landownership in Asia, building on the conceptual framework and five indicators developed by Doss et al. (2015) for Africa. Detailed analyses are presented from the four countries where data are available to calculate all five indicators: Bangladesh, Tajikistan, Timor-Leste, and Vietnam. While we realize that ownership and management rights are distinct and important, we focus our analysis on the most secure form of rights for which data are available in

each country, which is official ownership in Bangladesh, legal title in Tajikistan, decisionmaking rights in Timor-Leste, and land use certificate in Vietnam. Finally, we argue that the data gaps on women's landownership, particularly the lack of information on joint and individual ownership, present a barrier to developing effective policies and programs to redress gender inequalities in landownership.

2. MEASUREMENT OF SEX-DISAGGREGATED LAND INDICATORS

One of the challenges of the existing literature on women's property rights is that each study uses different definitions of landownership or property rights and presents different indicators. Each indicator provides information on different aspects of these issues, but they are often discussed interchangeably. Drawing from Doss et al. (2015), we identify five key indicators of landownership as a framework for reviewing the existing literature and for analyzing the available data on women's landownership in Asia.

Indicators 1 and 2 use individual men and women as the unit of analysis and identify whether each individual owns land. Indicator 1 presents the incidence of ownership: the percentage of women who are landowners and the percentage of men who are landowners:

$$(1)\ \frac{\text{women landowners}}{\text{total number of women}};\ \frac{\text{men landowners}}{\text{total number of men}}$$

Depending on the available data, these could be further disaggregated and the numerator could specify the form of ownership such as sole or joint ownership.

Indicator 2 distributes the landowners by sex, indicating the percentage of landowners who are women and the percentage of landowners who are men:

$$(2)\ \frac{\text{women landowners}}{\text{total number of landowners}};\ \frac{\text{men landowners}}{\text{total number of landowners}}$$

While the numerator is the same as in (1), the denominator is now landowners.

The first two indicators use people as the unit of analysis, the remaining indicators are based on land. Indicator 3 is the distribution of plot ownership by sex:

(3)

$$\frac{Number\ of\ plots\ owned\ by\ women}{Total\ number\ of\ plots}, \frac{Number\ of\ pots\ owned\ by\ men}{Total\ number\ of\ plots}, \frac{Number\ of\ plots\ owned\ jointly\ by\ men\ and\ women}{Total\ number\ of\ plots}$$

This measure does not account for the difference in size and quality among plots, but gives a simple measure of how the plots are owned.[2]

Indicator 4 compares the mean size of plots:

(4)

$$\frac{Land\ area\ owned\ by\ women}{Number\ of\ plots\ owned\ by\ women}, \frac{Land\ area\ owned\ by\ men}{Number\ of\ plots\ owned\ by\ men}, \frac{Land\ area\ owned\ jointly\ by\ men\ and\ women}{Number\ of\ plots\ owned\ jointly\ by\ men\ and\ women}$$

This information is often presented in agricultural studies because it is relatively easy to calculate, but for this measure to provide information on patterns of women's landownership, data on both mean plot size and the number of plots owned by men and women are required.

The most useful measure using land as the unit of analysis compares the land area owned by women, men, and jointly by men and women as a percentage of the total owned land area. Although it may also be relevant to calculate measures based on land values, these may reflect land market imperfections as well as location—if land markets are absent or imperfect, the land value measure will be less informative than the area measure.

(5) $$\frac{Land\ area\ owned\ by\ women}{Total\ land\ area}, \frac{Land\ area\ owned\ by\ men}{Total\ land\ area}, \frac{Land\ area\ owned\ jointly\ by\ men\ and\ women}{Total\ land\ area}$$

$$\frac{Land\ value\ owned\ by\ women}{Total\ land\ value}, \frac{Land\ value\ owned\ by\ men}{Total\ land\ value}, \frac{Land\ value\ owned\ jointly\ by\ men\ and\ women}{Total\ land\ value}$$

[2] This measure could also be used to consider the form of ownership, using categories of individually owned by women, individually owned by men, owned jointly by a couple, and other forms of ownership as was used in Doss et al. (2015).

Together, these five indicators provide a comprehensive picture of women's landownership.

3. EXISTING EVIDENCE FROM MICRO-LEVEL STUDIES IN ASIA

The existing literature provides little information on gendered bundles of rights over land in Asia. We reviewed studies that analyze data collected on or after 2000 that are either nationally or sub-nationally representative, with sample sizes of at least 400 observations.[3] While some specify agricultural land, others include a broader definition of land. In total, we identified 23 studies from 13 countries (Bangladesh, Cambodia, China, India, Indonesia, Kyrgyz Republic, Nepal, Pakistan, Philippines, Sri Lanka, Tajikistan, Uzbekistan, and Vietnam) which present landownership information by sex.[4] Eleven data sets are nationally representative.[5]

Other data sets collect individual level data on landownership, but these data and the papers associated with them do not meet our review criteria. For example, the Women's Empowerment in Agriculture Index (WEAI) gathers data from the primary male and female decisionmaker of each household regarding who owns most of the household's agricultural land. Because it does not identify all of the landowners, none of the indicators can be calculated. Other studies analyze data by the sex of the household head (de Brauw et al. 2013 on China, Shahiari et al. 2009 on Tajikistan), but not by the sex of the individual owner. Some studies may have the data to calculate these indicators, but do not do so. A study on China by de Brauw et al. 2008 compares

[3] We initially reviewed original research on gender and land in Asia. Then we conducted online searches for studies related to gender and land in Asia using Google and Google scholar and also searched reputable land databases, such as the FAO Gender and Land Rights Database, USAID's Land Tenure and Property Rights Portal, the World Bank's LSMS and Landesa's website to see if there were citations to original research. Finally, we added specific country names for the searches (i.e. gender, land, India; gender, land, Indonesia; etc). We examined the citations of these works to look for additional studies that may fit our criteria using a "snowball" citation technique.

[4] Note that some studies only present data for women or for married men and women, even if the sampling frame is nationally representative.

[5] Nationally representative studies include: Bangladesh (World Bank 2008), Cambodia (National Institute of Public Health et al. 2006), Indonesia (Statistics Indonesia (Badan Pusant Statistic—BPS) et al. 2013), Kyrgyz Republic (Committee on the Elimination of Discrimination Against Women 2005), Kyrgyz Republic (National Statistics Committee of the Kyrgyz Republic et al. 2013), Nepal (Ministry of Health and Population et al. 2012), Pakistan (National Institute of Population Studies (NIPS) [Pakistan] & ICF International 2013), Philippines (Philippines Statistics Authority (PSA) [Pakistan] & ICF International 2014), Tajikistan (Statistical Agency under the President of the Republic of Tajikistan et al. 2013), Uzbekistan (Analytical and Information Center, Ministry of Health et al. 2004), and Vietnam (Menon et al. 2014).

the difference in cultivated land per laborer among 'female managed' as well as 'other managed' farms. The Suaahara Baseline Survey, conducted in Nepal in 2012, collected information on decisionmaking regarding each plot of land; however, to date no one has used these data to calculate the indicators of landownership.[6] Finally, the Indonesia Family Life Survey (IFLS) datasets collect individual landownership information (not at the plot level), but no papers analyzing these data report any landownership indicators.[7]

Table 1 presents the results of the existing studies, listed alphabetically by country and, for countries with multiple studies, by year of data collection. Although there are challenges to comparing across indicators or countries because the measures are not reported consistently, the review reveals great gender inequality for almost all statistics presented. The most commonly reported indicator is the incidence of ownership (Indicator 1)—which is usually given as a *self-reported*[8] measure. For every instance of Indicator 1 where statistics on both men and women are presented, with the exception of one study in India (ICRW 2006), the incidence of women's ownership is much smaller as compared to men's. Three of the studies reporting Indicator 1 also indicate whether ownership is documented, that is, whether or not there is a legal certificate, title, etc. The share of landowners who are men/women (Indicator 2) is reported three times, for studies in India and Nepal, and also indicates great gender inequality. Statistics on the percentage of joint ownership of men and women are presented in two of the studies and range from two percent in Karnataka, India (Swaminathan et al. 2011) to 32.6 percent in Nepal (Pandey 2003). The distribution of plots (or certificates) by sex of owner (Indicator 3) is reported in five studies. One study in the Kyrgyz Republic (CEDAW 2007) reports plots owned by men and women, two studies in Vietnam (Scott et al. 2010; Menon et al. 2014) report the distribution of land use certificates that list women's names, men's names, or both, while another study in Vietnam

[6] We exclude this dataset from our own analysis as it is also not nationally representative.
[7] The IFLS is representative of 83 percent of the Indonesian population and interviews 30,000 people living in 13 of the 27 provinces. Individual landownership information is available for the 1993/94, 97/98, 2000, and 2007/08 rounds of the survey. Indicators 1 and 2 could be calculated, but to the best of our knowledge, no one has done so. We exclude this dataset from our in-depth analysis as we are unable to calculate all five indicators.
[8]Self-reported measures, such as those obtained through the majority of these questionnaires, ask the respondent for information directly. The self-reported ownership measure allows the respondent to define ownership.

(Newman et al. 2015) reports the percentage of certificates in the names of husband and wife, and one study in China (Landesa et al. 2012) reports the percentage of both land rights certificates and contracts which list women's names. The mean plot size (Indicator 4) is reported in just two studies, only one of which calculates the statistics for both men and women (Swaminathan et al. 2012). This study in India finds that women's plots are, on average, smaller than men's plots (2.16 acres compared to 2.74 acres). Finally, the distribution of land area by sex of owner (Indicator 5), also reported by only two studies, shows that women fare much worse than men—owning just 9 percent of arable land area in the Kyrgyz Republic and 12 percent of land in India.

Although the representativeness of the samples and the specific statistics presented varies across studies, several trends emerge: (1) Regardless of indicator and country, in the majority of cases, women are disadvantaged compared with men in regards to *reported* landownership, *documented* ownership, and plot size; (2) however, there is a wide range in the magnitude of the gender gap, depending on the country, region, type of land, definition of landholding, and inclusion of joint ownership, even within the same country (e.g. India and Vietnam); (3) few studies include sex-disaggregated information on area or value of landholdings; however, when reported, women have less land both in area and value terms; and, (4) most studies only present one indicator; however, for the few studies that present more than one, there are differences in the extent of gender inequality measured by different indicators, suggesting the importance of collecting and presenting multiple measures of landownership.

In addition to confirming the pervasive gender gap in land rights, this review highlights gaps in the availability of gender-land statistics. Only 13 of the 32 Asian countries[9] have papers or reports that calculate at least one landownership indicator. While 6 out of 23 studies were conducted in India, none of these studies use nationally representative data. A second data gap highlights that almost all of the nationally representative data sets collect data exclusively on the

[9] There is no consensus regarding the countries that make up Asia. We use the UN Statistics Division definition of the countries included in Central Asia, Eastern Asia, Sothern Asia, and South-Eastern Asia, but exclude Western Asia (http://unstats.un.org/unsd/methods/m49/m49regin.htm#asia).

incidence of ownership (Indicator 1), with the exception of Kyrgyz Republic (CEDAW 2007) and Vietnam (Menon et al. 2014). Third, all studies reported forms of *ownership* and not a single study presented *management* rights over the land. This is in contrast to much of the comparable literature in Africa. Much of this difference can be explained by the extent of customary land tenure in Africa, in which land is not formally owned, in contrast to Asia, where private ownership is well-established in many settings but land rental markets are also active. In much of Asia, management would reflect both land that is owner-cultivated as well as land that is rented or sharecropped in and not owned. Furthermore, the definition of landownership is often not specified in analyses; when stated, it varies across countries as well as studies within the same country. Some present *reported* ownership, as defined by the respondent, while others include only *documented* ownership, as evidenced with a legal title. Moreover, *joint* ownership between men and women (whether reported or documented) is only reported for three countries (India, Nepal, and Vietnam).[10] While joint ownership appears to be very low in Karnataka, it is more common in Nepal and Vietnam, suggesting that joint ownership may also exist in other countries in Asia. Collecting this information can provide valuable insights regarding how women own land (i.e. by themselves, with their spouse/partner, with other household members, relatives, etc), which is important to understand when designing policies to redress gender gaps.

4. EVIDENCE FROM NATIONALLY REPRESENTATIVE DATA IN ASIA

Presented below are two major sources of nationally representative sex-disaggregated data on landownership, including the Demographic and Health Surveys (DHS) and agricultural census data reported on FAO's Gender and Land Rights Database.

[10] It remains unclear from this literature review why data on joint ownership are not commonly collected and reported. Although the DHS do not collect information on whether male and female respondents own land jointly with individuals of the opposite sex, the fact that both male and female respondents report some joint ownership suggests that they may own land with individuals of the opposite sex.

4.1 Demographic and Health Surveys

Data have been collected in over 90 countries through the DHS Program.[11] In 2009, select DHS countries began collecting individual level landownership data through the Woman's and Man's Questionnaires. Respondents are asked, "Do you own any land either alone or jointly with someone else?" and responses of "alone only", "jointly only", "both alone and jointly", or "does not own" are allowed. These data facilitate calculation of the incidence of landownership by sex (Indicator 1). Unlike many surveys, the DHS do collect data on joint ownership, but do not ask about who the other owners are. Figure 1 displays the DHS weighted results from the five countries in Asia that collect landownership information at the individual level for both men and women: Cambodia (2010), Indonesia (2012), Kyrgyz Republic (2012), Nepal (2011), and Pakistan (2012-13). With the exception of Cambodia (2010),[12] this information is also conveyed in the DHS reports included in Table 1. DHS reports for Cambodia (2005), Philippines (2013), Tajikistan (2012), and Uzbekistan (2002) are also included in Table 1, but are not analyzed in Figure 1 because these data sets collect and report information exclusively on the incidence of women's ownership. Without accompanying information on the men's ownership, it is not possible to identify the gender gap in incidence of ownership.

The DHS are nationally representative population-based surveys in which all women aged 15 to 49 in sampled households are eligible to respond to the Woman's Questionnaire. In Pakistan, however, only women age 15-49 who were ever married are eligible to participate in the survey. In some countries, including all five countries in Figure 1, a subsample of men are also eligible to respond to the Man's Questionnaire. In Cambodia and Nepal, this includes all men age 15-49, in Indonesia, men age 15-54 who were ever married may participate, in Kyrgyzstan, men age 15-59 are eligible, and in Pakistan, men age 15-49 who were ever married are sampled.

[11] See http://dhsprogram.com/ for more information on the DHS Program.
[12] Although the 2010 DHS in Cambodia did collect this information from both men and women, this information is not reported in the DHS report and is therefore not included in Table 1. The 2010 DHS in Cambodia had a sample size of 18,751 women age 15-49 and 8,236 men age 15-49.

Landownership among both men and women in Cambodia is very common, with men only slightly favored in the incidence of ownership by sex. Notably, a higher percentage of women than men own some land solely.

In Indonesia, landownership is also common, particularly among men, 58 percent of whom own land either solely, jointly, or both. The incidence of women's landownership is much lower and women are half as likely as men to own any land solely.

Similarly, women in Kyrgyz Republic are almost half as likely as men to own any land solely. However, the gap between women and men is much smaller in terms of joint ownership.

In Nepal, a much higher percentage of men than women own land. Interestingly, the vast majority of women landowners own land solely only. Less than one percent of women own any land jointly. Joint ownership is also rare among men, with 2 percent owning land jointly only and 0.5 percent owning land both alone and jointly (Nepal DHS 2011).

Similar to Nepal, the incidence of landownership in Pakistan is low relative to the other countries, with just 30.8% of men and a mere 4 percent of women owning land solely, jointly, or both. This is by far the largest gender gap observed across these five countries. Although 16.5 percent of men own land jointly, only 1.9 percent of women do. This suggests that many married men in Pakistan own land jointly with other men rather than with their wives, a common feature of extended family systems where brothers jointly cultivate (and inherit) their father's property. Although a higher percentage of men than women are landowners in all five countries, the gender gap in the incidence of ownership varies widely. A smaller proportion of the population owns land in Nepal and Pakistan than in Cambodia, Indonesia, and Kyrgyz Republic. We observe the smallest gender gap in Cambodia and the largest gender gap in Pakistan, both overall and in terms of sole ownership. While a higher percentage of women than men own any land solely in Cambodia, this is clearly the exception. In Indonesia and Kyrgyz Republic, men are almost twice as likely to own land solely, and in Nepal and Pakistan, men's incidence of sole ownership is even higher relative to women's. In general, greater equality exists in joint landownership. Although a higher percentage of men than women own land jointly across all five countries, the gender gap is smaller, as compared to the gap in sole ownership, in all countries except Pakistan.

Food and Agriculture Organization: Gender and Land Rights Database

The FAO Gender and Land Rights Database (GLRD)[13] presents statistics on the share of agricultural holders who are women and men as well as information on country-level laws and institutions relevant to women's land rights. The database compiles data from a variety of sources, but much of the micro-level data on land are collected within the framework of the World Programme for the Census of Agriculture (WCA).

In interpreting the statistics presented in the FAO database, it is essential to note that information is collected on the sex of the *holder* rather than the *owner* of each agricultural holding.[14] The holder is defined as a "…person who makes major decisions regarding resource use and exercises management control over the agricultural holding operation. The holder has technical and economic responsibility for the holding and may undertake all responsibilities directly, or delegate responsibilities related to day-to-day work management to a hired manager."[15] Therefore, this measure is more closely aligned with management than ownership, which in many contexts may be the most relevant to issues of agricultural productivity and delivery of extension services. Management issues are important in Asia where there is an active land rental market, so many people farm land that they do not own themselves. It is also important to note that agricultural censuses collect data exclusively on agricultural land and thus cannot be used to make claims about other land categories.

Given the immense resources required to undertake a census, agricultural censuses are typically conducted once every ten years. Only ten countries in Asia have conducted agricultural

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[13] For more information, see http://www.fao.org/gender/landrights/home/en/.

[14] An agricultural holding is defined as "an economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size." See http://www.fao.org/docrep/009/a0135e/A0135E04.htm. This is sometimes referred to as a "landholding", but an agricultural holding does not necessarily include land.

[15] The GLRD (http://www.fao.org/gender/landrights/en/http://www.fao.org/gender/landrights/en/) identifies the total number of holders and the number of women holders for countries where this information is available.

censuses that collect information on the sex of agricultural holders on or after 2000. Figure 2 indicates the distribution of holders by sex, which is the indicator presented in this source. Across all ten countries, men comprise the majority of agricultural holders, although the gender gap varies dramatically. For example, in Thailand women make up over one quarter of all agricultural holders, while in Bangladesh women represented just 4.6 percent of holders in 2008, an increase from less than 3 percent in 2005.

5. EVIDENCE FROM NATIONALLY REPRESENTATIVE INDIVIDUAL AND PLOT-LEVEL DATA: BANGLADESH, TAJIKISTAN, TIMOR-LESTE, AND VIETNAM

Only four countries in Asia have collected both individual- and plot-level landownership and/or management data on agricultural land on a nationally representative scale. These countries include Bangladesh, Tajikistan, Vietnam, and Timor-Leste. Recent estimates indicate at least two-thirds of the population in these countries lives in rural areas (World Bank 2013), that between 25 and 79 percent of the economically active population in each of these countries is active in the agricultural sector,[16] and that value added from agricultural in terms of Gross Domestic Product (GDP) constitutes between 16.3 and 27.4 percent of total GDP[17] (World Bank 2013), indicating the importance of agriculture—and therefore agricultural land—to these economies. Plot level data that include information on plot area and the owner and/or manager facilitates analysis of all five landownership indicators, which are presented in Table 2. The Bangladesh and Vietnam surveys report multiple owners for each plot of land, enabling analysis of both sole and joint landownership. The other two surveys do not. These four countries capture the diversity in landownership systems and gender norms across Asia, representing each of the four major types of cultural and land management systems in Asia (Rao 2011), namely: (1) largely patrilineal South Asia, with land a private asset owned and acquired mainly through inheritance down the male line (Bangladesh); (2) bilateral and matrilineal South East Asia, where

[16] 25 percent in Tajikistan, 41.6 percent in Bangladesh, 61.4 percent in Vietnam, and 79 percent in Timor-Leste. Calculated from FAO Statistics Division data (http://faostat3.fao.org/download/O/OA/E) (FAO, 2015a).
[17] Specifically value added from agriculture comprises 16.3 percent in Bangladesh (2013), 27.4 percent in Tajikistan (2013), 18.4 percent in Timor-Leste (2012), and 18.4 percent in Vietnam (World Bank 2013).

land is a private asset acquired through customary inheritance systems (Timor-Leste); (3) communist/socialist states, where land is vested in the State but households are granted use rights by the local village committees (Vietnam); and (4) the Central Asian states marked by conflicts between centralized state institutions and private, clan-based, land management systems (Tajikistan).

5.1 Methodology

There are a few points to note regarding which type of land is captured by these surveys. First, these surveys only capture land that is owned and/or managed at the *household* level; thus, communal and public land as well as land under state control and operation is excluded. The definition of surveyed land varies across countries, but all capture *agricultural* land, which broadly defined, includes land area that is arable,[18] under permanent crops, and under permanent pastures (FAO 2015b). In Bangladesh, all land and water bodies owned or under operation in the last twelve months are included, in Tajikistan and Timor Leste, all plots of land that a household member cultivated are captured, and in Vietnam, the survey collects data on all farming land, forestry land, water bodies, residential land, or gardens and ponds that the household used or managed in the previous twelve months.

For each of the four countries, we excluded from the analysis all landowners and managers under the age of 18. In order to calculate plot area, the highest 1 percent of area values were trimmed (equating to a reduction in sample size between 40 and 529 plots). All area measures were converted to acres from other units of measurement.

5.2 Bangladesh

5.2.1 Contextualizing the Data

Similar to other societies in South Asia, Bangladeshi society is dominated by a patrilineal and patrilocal kinship system. Despite Islamic law, which in principle applies to 85 percent of the

[18] Arable land includes land under temporary crops, temporary meadows for mowing or for pasture, land under market or kitchen gardens, and land temporarily fallow (FAO 2015)

population and allows women to own property, the practices of *benami*, where husbands acquire property in their wives' names, but retain actual control of the land, and *naior*, where daughters are encouraged to relinquish their inheritance claims to their brothers, illustrate limitations women face in exercising their property rights (Subramanian 1998).[19] While Islamic law allows women to own property, Islamic inheritance law stipulates that sisters inherit half the share of their brothers. Although Bangladeshi law putatively guarantees equal access to property, these customary and religious laws underlie the gender inequality in landownership.

5.2.2 Bangladesh Integrated Household Survey (BIHS), 2011-12

The survey was designed and supervised by the International Food Policy Research Institute (IFPRI) and was administered by Data Analysis and Technical Assistance (DATA), Ltd., Dhaka, Bangladesh. The 6,500 households in the sample are nationally representative of rural Bangladesh. For each plot of land that was owned or operated by someone in the household in the previous twelve months, respondents answered questions regarding its current operational status and the identity of is owner, with three member ID codes allowed.[20] The owner reported is the person who is actively using the plot. Respondents also identified the "official" or documented owner of the plot, who is the person or people whose name(s) are on the legal title for each plot of land. Due to large overlap between and similar patterns across the two ownership categories, we focus on documented ownership,[21] and also exclude land exclusively owned by people outside the household from the analysis.

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[19] *Benami* is a term in Hindu law describing a transaction, contract, or property that is made or held under a name that is fictitious or is that of a third party who holds the property as ostensible owner for the principal owner. Strictly speaking, *naior* is the custom whereby married women visit their parental home for a few days or weeks. Many women trade in their inheritance rights from their parents to keep their right to *naior* and maintain good relations with her brothers and birth family.

[20] Codes included options for ownership by all members jointly or by a man or woman outside of the household, options indicating that they have a temporary user right, or the land is Government/Khas land or owned by other institutions.

[21] The only major exception is that although 9.5 percent of women and 63 percent of men are reported as owners, only 8.5 percent of women and 52 percent of men are documented owners. By restricting our analysis to documented owners, we exclude 949 reported landowners from our analysis (755 men and 194 women).

5.2.3 Data Analysis

There are evident gender inequalities across all measures of landownership (See Figure 3).[22] Overall, almost 35 percent of the population owns land, with approximately 29 percent owning documented land. Using the individual as the unit of analysis, the first indicator demonstrates that men are more than six times as likely as women to be documented landowners in Bangladesh. The second indicator tells us that women comprise less than one quarter of the documented landowners.

Using the plot as the unit of analysis, men solely own more than 86 percent of the officially owned plots. Just under 12 percent of plots are owned by women and just under two percent are owned jointly by men and women. However, the plots owned by women are statistically significantly smaller than those owned by men or jointly by men and women. The distribution of land area by the sex of the owner shows that the vast majority of the officially owned land area is owned by men only and just a small fraction of land area is owned jointly by men and women.

The data paint a clear picture of substantial gender disparities in landownership in Bangladesh, although the extent of the inequalities differs across the indicators. The gender gap in the share of landowners who are women and men is smaller than the gender gap in other measures of landownership. However, women landowners own fewer and smaller plots.

5.3 Tajikistan

5.3.1 Contextualizing the Data

Although Tajikistan became an independent country in 1991 following the collapse of the Soviet Union, all land continues to be owned by the state (FAO Gender Land Rights Database). While landownership is not permitted and land cannot be bought and sold (Lerman 2012), long-term use rights can be allocated and inherited (Shahriari et al. 2009). In effect, post-Soviet agricultural

[22] A man or a woman is considered a landowner if he or she owns land solely or jointly.

reform has produced four categories of agricultural producers: household plots,[23] individual and family dehkan farms,[24] collective dehkan farms, and agricultural enterprises (the successors of former state farms) (Lerman and Sadik 2008). However, only household plots and individual and family dehkan farms provide individual household tenure rights (Lerman 2012) and are captured in the dataset analyzed in this paper.[25] Furthermore, although a 1996 decree established an individual's right to withdraw an individual land share from a collective dehkan enterprise and obtain a certificate (Lerman and Sadik 2008), it is an expensive and largely unsuccessful process (USAID 2014). Additionally, collective dehkan members, especially women, do not generally know about their tenure rights (USAID 2014).

While women legally have the same land use rights as men, cultural objections and patrilineal inheritance practices limit their land rights in practice (USAID 2014; FAO Gender and Land Rights Database). Women's land rights are particularly important since female-headed households constitute almost one-fifth of all households as a result of male casualties from the 1992-97 civil war, mass young male out-migration, and lower male life expectancy (Shahriari et al. 2009).

5.3.2 Tajikistan Living Standards Survey (TLSS), 2007

Four LSMS surveys have been conducted in Tajikistan (1999, 2003, 2007, and 2009). This paper utilizes data from the 2007 survey, the most recent date with available agricultural plot information. The 2007 survey was implemented by the National Committee for Statistics (Goskomstat) in collaboration with the World Bank and UNICEF. The TLSS sample is comprised of 4,860 households in 270 clusters and is representative of the entire country. The survey collected data on every plot of land cultivated by a household member within the

[23] The government also granted, to thousands of mainly rural households, temporary use of small plots on 75,000 hectares called "presidential lands" (OECD 2014). Presidential lands served to bolster the size of household plots under the national minimum size (USAID 2014).

[24] Dehkan farms are midsized peasant farms that are legally distinct from household plots and were created during a phase of reorganization of traditional large scale collective farms (Lerman and Sadik 2008).

[25] As of 2014, the agricultural sector is now largely individualized; however, as of 2005 only 5,000 private and family farms were established; by 2012, it was over 85,000, representing 65 percent of total arable land (Lerman 2012).

previous 12 months, with data on how each plot was acquired, if the plot had a legal title or ownership rights (including certificates, sealed documents (acts), and sales receipts), and the names of household members listed on the title.[26] Information on joint ownership is not available because only one household member's ID per plot for the legal title was collected.

5.3.3. Data Analysis

Gender inequalities in Tajikistan are evident with respect to all five indicators (See Figure 4). Just over one quarter of men but under five percent of women own land in Tajikistan (Indicator 1). Among landowners, the distribution favors men as only 17.1 percent of landowners are women. Similarly, only 16.1 percent of plots are owned by women. Men's plots are larger than women's (for both plots with and without documents), though the difference is only statistically significant for documented land. By area, documented land accounts for 91.8 percent of all owned land in Tajikistan. The inequality in land area distribution is similar to that of plot ownership. Women own only 14.3 percent of the total household land area.

While the gender imbalances in landownership favor men, the low incidence of landownership--only one in four men and one in twenty-three women own land--suggests that policies addressing land rights for both men and women are required. Many factors make it difficult for both men and women to obtain individual legal ownership rights, including the lack of knowledge regarding land rights and legacies of the collectivist system that make it costly and difficult to obtain individual land rights, although women are especially disadvantaged.

5.4 Timor-Leste

5.4.1 Contextualizing the Data

Timor-Leste was colonized by Portugal and later occupied by Indonesia, resulting in waves of violence, evictions, and expropriations, and the displacement of an estimated three-fourths of its population at the time of independence in 2002 (World Bank 2014). Today Timor-Leste struggles to overcome the challenges around landownership and use rights which involve

[26] The types of land included are: household plot/garden, remote plots/presidential land; dacha; individual dehkan and other plots (excludes group/communal land).

traditional interests, Portuguese ownership titles, Indonesian ownership titles, and long-term occupation (Narciso and Henriques 2010). The situation is further exacerbated due to the destruction of most public records in 1999, though only one-quarter of plots have ever been formally registered (USAID 2012). Thus, competing land claims have been a source of friction in Timor-Leste, especially since independence in 2002 (UNDP 2013). In 2003, the country's first significant land law passed ownership of property previously controlled by the Portuguese and Indonesians to the new state (The Economist 2012). While a series of land laws have been passed since then,[27] the complexities and predominance of customary ownership systems, which cover about 97 percent of rural land in 2005 (Dale et al. 2010), have delayed the development of a formal land administration system.

Given the ambiguity and evolving nature of land laws as well as inadequate government support structures, most people use the traditional system of justice, *adat*, and other informal processes for resolving land disputes (Narciso and Henriques 2010; USAID 2012). Customary practices govern land rights in most rural areas (USAID 2012) and customary rights are recognized so long as they do not contradict Timor-Leste law. The vast majority of people occupy land without a formal title and long-term land users may have a stronger claim over a particular parcel of land than those with formal titles (USAID 2012).

Although the Constitution guarantees both men and women the right to own property, the presence of the formal justice system is limited (Dale et al. 2010). Inheritance is the primary way in which land is acquired in Timor-Leste, a predominantly patrilineal society (Dale et al. 2010; Henriques et al. 2011).[28]

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[27] As of 2010, a government land registration program called *Ita Nia Rai*, had collected over 10,000 claims in preparation for laws that would later determine the ordering of competing claims (Dale et al. 2010). In 2012, parliament passed laws allowing authorities to grant titles for land with uncontested ownership, set up a system for resolving land disputes outside dysfunctional courts, and recognized communal land as a legal category for communities to register shared plots (The Economist 2012). The goal of a land law introduced to Parliament at the beginning of 2013 is to address many of the ambiguities present in the landownership laws (Piaskowy 2013).
[28] The Bunak and Tetun Terik are matrilineal people and comprise about 12.0 percent of the population.

5.4.2 Timor-Leste Survey of Living Standards (TLSLS), 2007

The most recent LSMS survey was collected in 2007 and contains individual plot level agricultural information. The 2007 TLSLS includes 4,477 households and is nationally representative. The survey collected data on every plot of land that a household member cultivated or controlled, and subsequently asked who in the household made decisions about the plot as well as the tenure status of the plot.[29] While no question was asked to determine individual legal ownership of a plot (i.e. legal title), the aforementioned questions were used to construct a measure of land management rights, which serves as a proxy for landownership rights given the historical circumstances and largely customary tenure in the country.[30] However, given the difference in the land rights definition as compared to the other countries, we use the term *manager* instead of *owner* when referring to Timor-Leste. The Timor-Leste survey allowed one name per plot to be listed as manager and does not address joint management.

5.4.3 Data Analysis

Significant gender inequalities are evident across all five indicators in Timor-Leste (see Figure 5). Indicator 1 shows that 41.0 percent of men and 6.9 percent of women manage land. Indicator 2 also reveals gender imbalance; only 14.7 percent of land managers are women. The percentage of plots owned by sex reflects a similar distribution, with only 12.8 percent of plots owned by women. Men's plots are bigger than women's; average plot size is 0.64 acres for women and 0.74 for men. Examining the distribution by total land presents a similar picture, with women owning only 11.6 percent of total land area.

Every indicator of land management in Timor-Leste indicates a substantial gender gap in land rights that consistently favors men. Given the nascent and evolving land tenure system,

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[29] To infer ownership, our analysis uses the answers to the following questions: (1) "Tell me about any plot of arable land a member of your household controlled, even though it does not belong to your household." (2) "What is the tenure status of this plot?" with response codes: owner, part owner, rented from someone, rented to someone, public land, private land, and other specify. Note that plots rented from someone and public land are were excluded from this analysis in keeping with analysis for the other countries. (3) **"**Who in this household makes decisions about this plot of land?"

[30] The 2001 survey asks about legal ownership; however, it was conducted around the time of independence when a large proportion of the population was displaced.

these findings suggest there is ample room for policies to help redress the gender imbalance in landownership. However, acknowledging the predominance of customary law, policies exclusively targeting statutory law may not redress inequalities faced by women under the traditional justice system.

5.5 Vietnam

5.5.1 Contextualizing the Data

Vietnam's transition from a socialist to a market-oriented economy, a process known as *Doi Moi*, has sparked numerous agrarian changes since 1986. The shift from collective property models to the quasi-privatization of land has significant implications for women's land rights (Scott et al. 2010). Although the State owns all land, the 1988 Land Law allowed households to obtain Land Use Certificates (LUCs), granting long-term use rights (Spichiger et al. 2013). The 1993 Land Law expanded these rights to allow farmers to transfer, trade, bequeath, rent, and mortgage their LUCs. Providing space for only one name meant that most LUCs bore the name of the household head, resulting in gender disparities in property rights (Menon et al. 2013).

A government decree in 2001 as well as the 2003 Land Law required that all documents registering family assets include the names of husband and wife (Vietnam Laws Online Database 2014). In addition, the 1986 Law on Marriage and Family, revised in 2000, asserts that jointly owned property must be registered under the names of both spouses, all land acquired during marriage is a common asset, and any decisions regarding joint or common property must be made with the agreement of both spouses (FAO Gender and Land Rights Database). Despite these provisions, women's land rights remain limited due to inconsistent implementation and poor enforcement (Menon et al. 2013) compounded by *de facto* discrimination (Hatcher et al. 2005). Customary rules tend to regulate ownership and inheritance rights and property disputes in areas where the state is incapable of administering state law (Phan 2011). Differences are most pronounced between the northern and southern regions due to variations in cultural norms as well as agrarian reforms (Scott et al. 2010).

5.5.2 Vietnam Household Living Standards Survey (VHLSS), 2004

The Government of Vietnam's General Statistical Office (GSO) administered the VHLSS in 2004.[31] In 2004, the nationally representative sample for the VHLSS included 9,189 households. The survey collected data on every plot of land that each household used or managed in the previous twelve months and identifies up to two household members who are listed on the LUC if there is one.[32] We refer to those individuals with certified land use rights as landowners.

5.5.3 Data Analysis

Although analysis of the 2004 VHLSS revealed a smaller gender gap in land rights in Vietnam than in the other three countries, significant gender inequalities remain (See Figure 6). Just over one quarter (26.8 percent) of the overall population has land use certificates. Approximately 16.7 percent of the population manages land for which they do not have a certificate. Men are more than twice as likely as women to have their name on an LUC.[33]

Far more plots are solely owned by men than by women, and an even smaller proportion of plots are owned jointly by men and women. Plots owned solely by men or jointly by men and women are larger, on average, than those owned solely by women. Given the larger size of men's plots, it is not surprising that the distribution of land area by sex of the owner reveals even greater gender inequalities than the distribution of plots by sex of the owner.[34]

Every indicator of landownership in Vietnam confirms the existence of a gender gap that consistently favors men.[35] However, the extent of the inequalities varies substantially across the

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[31] Note that Menon, et al. (2014) analyze both the 2004 and 2008 VHLSS, but the analysis presented in this paper is limited to the 2004 data.

[32] If no LUC exists or no household members are listed on it, the survey identifies which household members manage and use the plot.

[33] A person is considered a landowner if his or her name is on an LUC, whether or not a second person is listed.

[34] Note that fewer plots were included in the calculation of Indicators 4 and 5 (26,615 plots) than in the calculation of Indicator 3 (26,896 plots) due to lack of data on the size of 281 plots.

[35] The survey collected data o who manages the plots that do not have a household member listed on the LUC. Using this information, we calculated the five indicators for land management. Both men and women were more likely to have their name listed on an LUC than to only have management rights (for men: 37.7% as compared to 21.4% and for women: 16.4% as compared to 12.1%). Although the mean size of plots owned by men is slightly

different measures. We observe greater equality when conducting the analysis at the individual level as compared to the plot level, reflecting the smaller size and quantity of women's plots.[36]

5.6 Cross-Country Analysis

Regardless of differences in timing and survey methodology, all of the indicators of landownership and management across the four countries confirm that more men than women control land and men landowners and/or managers control more land than women landowners and/or managers. Although Vietnam has greater gender equality in land rights than the other countries, the gaps persist.

Substantial heterogeneity exists not only across the countries but also across the indicators within some of the countries. In both Timor-Leste and Tajikistan the disparities in the share of landowners who are women are very similar to the disparities in the percentage of plots and land area owned or managed by each sex. In Vietnam and Bangladesh, on the other hand, there are substantial differences across these three indicators. We observe higher levels of gender equality using individual rather than plot-level indicators. These results highlight the importance of collecting multiple indicators of men's and women's control of land within each country.

Not surprisingly, across all four countries, the vast majority of male landowners are married, ranging from 89 percent in Timor-Leste to 96 percent in Vietnam. Among women landowners, however, the patterns differ across countries. In Bangladesh and Vietnam, the

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smaller than the mean size managed by men and the mean size of plots owned by women is slightly larger than the mean size managed by women (Indicator 4), the distribution of plots by sex (Indicator 3) and by area (Indicator 5) show that both men and women own more plots and land area than they manage. While this pattern remains the same for Indicator 2 for men (that is, 62.7% of those listed on LUCs are men and only 57.9% of land managers are men), it is reversed for women (that is, the share of those listed on LUCs who are women is only 37.3% while than the proportion of land managers who are women is 42.1%). It is also worth noting that a much higher proportion of managed plots and land area are jointly managed than the proportion of owned plots and land area which are jointly owned. This suggests that there may be more equality in land management than in land use certificates.

majority of women landowners are married (57 percent and 66 percent, respectively), while in Tajikistan and Timor-Leste, married women make up a minority of women landowners (29 percent and 20 percent, respectively). This finding demonstrates the importance of collecting data on individual land rights, rather than disaggregating household landownership data by the sex of the household head. Given that the majority of married women live in what is typically categorized as a male-headed household, it is evident that analysis by headship would miss as much as two-thirds of all women landowners in Vietnam.

Developing policies and programs to redress these disparities requires identifying where the largest gender gaps lie and, given the cultural and land rights context, what reforms are feasible.

6. CONCLUSIONS AND POLICY RECOMMENDATIONS

Our review of existing evidence and analysis of nationally representative data highlights gaps in the available data on women's landownership and management in Asia. Although the literature reports a wide range of landownership indicators, they use varying definitions of ownership and may include both agricultural and non-agricultural land.

Depending on how data are collected and whether unit record data are publicly available, estimates can be made for some, but not all, indicators of landownership. For example, the DHS only allow for the calculation of the percentage of men and women who are landowners (Indicator 1) and the FAO's Gender and Land Rights Database only reports on the percentage of agricultural holders who are men and women (Indicator 2).[37] With data on individual owners and their plots, it is possible to estimate all of the landownership indicators. As our analysis revealed, collecting multiple indicators is advantageous because the gender gaps may differ across the indicators, which is illustrated most clearly in Bangladesh and Vietnam.

[37] Some of the Agricultural Censuses have more information than is reported in the Gender and Land Rights database, but the information is not publicly available. The FAO recently incorporated additional indicators of land rights into the GLRD, including those presented in this paper and in Doss et al. (2015).

Our results underscore the benefits of collecting data not just on who owns or manages land but also on sole and joint ownership or management. The relatively high level of joint ownership in Vietnam as compared to Bangladesh may be, at least in part, the result of the government decree stipulating that LUCs contain the names of both husband and wife if the land is owned by a family. Identifying the individual and joint owners of each plot makes it possible to analyze how such individual characteristics as age, headship, or marital status, and household characteristics such as wealth and ethnicity, affect landownership. Asking about both individual and joint ownership allows analysis of the patterns of landownership, rather than simply assuming that the family farm model in which the male household head owns and manages the land is appropriate. The VHLSS and BIHS datasets also reveal which household members are joint owners with one another. This contrasts with the DHS datasets which simply tell us whether respondents own land jointly but do not identify the other owners, which makes it difficult to assess the extent of intrahousehold inequality.

Additionally, this paper contributes a deeper understanding of gendered land rights by going beyond the traditional disaggregation of land holdings by male-headed versus female-headed households, and instead, using the sex of the plot owner as the unit of disaggregation. In so doing, we capture married women owners living in what we refer to as *dual*-headed households. Had we focused only on the sex of the household head, we would not have learned that married women comprise the majority of women landowners in both Bangladesh and Vietnam.

Although this paper has avoided direct comparison of indicator values across countries because the methodologies and definitions of land rights differ across the surveys, having a standard set of indicators would expand the scope for comparison across countries or regions as well as the ability to track the indicators over time within a country or region. Given the diversity of cultures, political systems, and land tenure systems across Asian countries, having a standard set of indicators removes the variability in measurement that further clouds our understanding of men's and women's land rights and why women fare better or worse in certain countries on these indicators. Nevertheless, this study is a useful starting point because the four countries span the four major types of cultural and land management systems in Asia (Rao 2011).

Both existing evidence and our new analysis highlight the lack of large sample individual- and plot-level data on landownership. Only 17 out of 32 countries in Asia have any sex-disaggregated individual- or plot-level landownership data.[38] Two of these countries (China and Uzbekistan) only report these data for women, which prevents analysis of a gender gap. To our knowledge, prior to the analysis conducted in this paper, no large-sample, sex-disaggregated landownership or management data were reported on Tajikistan or Timor-Leste. Only Vietnam has nationally representative panel data that allows analysis of the patterns of landownership over time. In addition, the lack of standardization in methodologies and indicators reported, even within the same country, poses a challenge to triangulating evidence from different sources.

As women's land rights are increasingly on the policy agenda, it is critical that national governments begin to collect data on women's landownership in a systematic way. This will both identify the critical gender land gaps and provide a baseline for monitoring programs and policies to improve them. Our hope is that, twenty years from now, not only will women's land rights have been strengthened substantially, but we will have the data to document both the decreasing gender gaps and the resulting improvements in agricultural growth and the wellbeing of women and their families.

[38] The countries include Bangladesh, Cambodia, China, India, Indonesia, Kyrgyz Republic, Malaysia, Myanmar, Nepal, Pakistan, Philippines, Sri Lanka, Tajikistan, Thailand, Timor-Leste, Uzbekistan, and Vietnam.

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Table 1: Review of published large-scale micro-level estimates on gendered land outcomes in Asia (2003–2015)

Authors (year published)	Country (year data collected)	Sample size	Sampling strategy and characteristics	Type of land surveyed	Indicator[1]	Further description of indicator	Women	Men	Joint	Other	Data Source(s)	Level of analysis
World Bank (2008)	Bangladesh (2006)	5,000 adults; analysis limited to subsample of 1,500 women (ages 15 – 49) plus approx. 300 women	Nationally representative	Any land	1	Name on marital property paper	<10.0%	NA	NA	NA	World Bank Gender Norms Survey (WBSGN)	Person
National Institute of Public Health, et al. (2006)	Cambodia (2005)	14,243 households 4,201 women (ages 15 – 49)	Nationally representative	Any land	1	Own land alone	13.6%	NA	NA	NA	Cambodia Demographic and Health Surveys (CDHS)	Person
Landesa, China Renmin University, and Michigan State (2012)	China (2011)	1,791 households	Representative of the rural population of 17 provinces	Document does not specify	3	Own land Contract lists name Land-rights	17.1%	NA	NA	NA	Landesa 6th 17-Province China Survey	Contract
Panda & Agarwal (2005)+	India (2001)	502 ever-married women (ages 15 – 49; 302 rural and 200 urban)	10 wards in Thiruvananthapuram district of Kerala	Agricultural and residential land	1	Own land only	5.6%[2]	NA	NA	NA	Panda & Agarwal	Person
Velayudhan (2009)	India (2003-04)	4,754 women and 5,170 men[4]	Gujarat: 10 districts, 15 tehsils and 23 villages	Agricultural land	1	Own land	11.8%	81.0%	NA	NA	Working Group for Women and Land-ownership (WGWLO)	Person
International Center for Research on Women (2006)	India (2004-05)	402 married couples	10 wards in Thiruvananthapuram district of Kerala. Follow-up to 2001 study	Agricultural and residential land	1	Own land only	5.2%	5.7%	NA	NA	ICRW and Population Council, New Delhi, India	Person

Deininger et al. (2010)	India (2006)	1,371 households 1371 women in generation 1[5]	Maharashtra and Karnataka	Any land	1	Own land	3%	NA	NA	NA	Rural Economic and Demographic Survey (REDS) conducted by Indian National Council for Applied Economic	Person
Swaminathan, et al. (2011)	India (2010-11)	4,110 households (man and women interviewed from each)	Karnataka state (eight districts)	Agricultural land	2	Rural Urban Rural, documented Urban, documented	14.0% 15.0% 15.0% 12.0%	71.0% 64.0% 51.0% 56.0%	2.0%[6] 0.0%[6] NA NA	12.0%[7] 20.0%[8] 33.0%[9] 28.0%[9]	Karnataka Household Asset Survey (KHAS)	Person
Swaminathan, et al. (2012)	India (2010-11)	2,626 households, 4,677 respondents	Karnataka state (eight districts) (represents 64% of sample)	Agricultural and residential land	1 2 4 5	Owns agricultural land Rural only Average plot size (acres)[10] Distribution of value (USD)[10]	13.0% 20.0% 2.16 12.0%	60.0% 80.0% 2.74 78.0%	NA	NA	Karnataka Household Asset Survey (KHAS)	Person
Statistics Indonesia (Badan Pusat Statistik—BPS) et al. (2013)	Indonesia (2012)	43,952 households 45,607 women (age 15 – 49) 9,306 ever married men (age 15 – 54)	Nationally representative	Any land	1	Owns land alone Owns land alone and jointly	12.5% 26.2%	27.5% 28.4%	NA	NA	Demographic and Health Surveys (DHS)	Person

Committee on the Elimination of Discrimination Against Women	Kyrgyz Republic (2002)	245,125 farm units	Nationally representative agricultural census	Agricultural land	3	Registered farm units	12.3%	87.7%	NA	NA	Kyrgyz Republic Agricultural Census	Plot
					5	Arable land area	9.0%	91.0%				
National Statistics Committee of the Kyrgyz Republic et al. (2013)	Kyrgyz Republic (2012)	8,040 households 8,208 women (age 15 – 49) 2,413 men (age 15 – 59)	Nationally representative	Any land	1	Owns land alone	2.8%	18.8%	NA	NA	Demographic and Health Survey (DHS)	Person
						Owns land jointly	19.6%	22.6%				
						Owns land alone and jointly	10.1%	4.5%				
Pandey (2003)	Nepal (2000-2002)	400 adult married women	Kathmandu metropolitan area. Widows excluded. Women belonged to a similar caste group (Chhetri/Brahmin).	Agricultural and residential land (may own home, ag land or both home and ag land)	2	Own land	22.0%	45.3%	32.6%	NA	Center for Social Development	Person
					4	Value of land owned (USD)[11]	34,407	NA	48,051			

Allendorf (2007)+	Nepal (2001)	8,633 households; analysis limited to 4,884 households with married women (age 15 – 49)	Agricultural households with married couples living together	Any land	1	Owns land[12]	9.0%	NA	NA	NA	Nepal Demographic and Health Survey (NDHS)	Person
Ministry of Health and Population [Nepal], et al. (2012)	Nepal (2011)	10,826 households 12,674 women (age 15 – 49) 4,121 men (age 15 – 49)	Nationally representative	Any land	1	Owns land alone Owns land jointly	9.7% 0.4%	24.7% 2.0%	NA	NA	Nepal Demographic and Health Surveys (NDHS)	Person
National Institute of Population Studies (NIPS) [Pakistan] & ICF International	Pakistan (2012-13)	12,943 households 13,558 ever married women (age 15-49) 3,134 ever married men (age 15-49)	Nationally representative	Any land	1	Owns land alone Owns land jointly	2.0% 1.8%	13.4% 16.5%	NA	NA	Pakistan Demographic and Health Surveys (DHS)	Person
Philippines Statistics Authority (PSA) [Philippines] & ICF International (2014)	Philippines (2013)	14,804 households 16,155 women (age 15 – 49)	Nationally representative	Any land	1	Owns land alone Owns land jointly Owns land alone and jointly	6.5% 9.2% 2.3%	NA	NA	NA	Philippines Demographic and Health Surveys (DHS)	Person

International Center for Research on Women (2006)	Sri Lanka (NR)	378 married women (under 55 years) and their husbands	3 sites containing a mix of rural and urban settings in various geographic locations	Agricultural and residential land (may own home,	1[13]	Own land	30.4%	73.2%	NA	NA	ICRW and Center for Women's Research (CENWOR),	Person
Statistical Agency under the President of the Republic of Tajikistan et al. (2012)	Tajikistan (2012)	6,432 households 9,656 women (age 15-49)	Nationally representative	Any land	1	Owns land alone Owns land jointly	1.8% 14.6%	NA	NA	NA	Tajikistan Demographic and Health Surveys (DHS)	Person
Analytical and Information Center, Ministry of Health et al. (2004)	Uzbekistan (2002)	4,168 households 5,463 ever-married women (age 15-49)	Nationally representative	Any land	1	Owns land alone Owns land jointly	1.6% 48.2%	NA	NA	NA	Uzbekistan Demographic and Health Surveys (DHS)	Person
Scott, et al. (2010)+	Vietnam (2004)	653 Land Use Certificates for married individuals (281 in Southern community and 372 in Northern community)	Regionally representative (Ha Ta and Can Tho provinces)	Agricultural land	3	Land Use Certificates (LUCs)	35.8%	60.3%	1.7%	2.2%	Authors survey	LUC/plot
Menon, et al. (2014)+	Vietnam (2004, 2008)	1,728 matched households[14] (7,623 individuals in 2004 and 7,203 in 2008)[15]	Nationally and regionally representative sample.	Any land	3	LUCs	21.3%, 19.8%[16]	63.0%, 62.0%	15.7%, 18.3%	NA	Living Standard Measurement Survey (LSMS)	LUC/plot

				Any land					8.5% (any land)	84.9 % of plots and 87.1% of rice plots have one name on		
Newman et al. (2015)+	Vietnam (2006, 2008, 2010)	Approximately 2200 matched households and 7,500 rice plots[17]	Representative of rural households in 12 provinces	Plots cultivated with rice in most recent season	3	Plots with name of husband and wife on LUC	NA	NA	7.0% (rice plots)		Vietnam Access to Resources Household Survey	LUC/plot

Notes: + Peer-reviewed paper published in academic journal.
1 Indicators: (1) the incidence of ownership, (2) the share of landowners, (3) the distribution of plots, (4) the mean plot size, and (5) the distribution of area.
2 Rural: 6.6 percent, urban: 4.0 percent
3 Rural: 3.0 percent, urban: 32.0 percent
4 Sample size not stated in either paper but back calculated based on given statistics.
5 Note that only 30 percent of generate 1 women were alive in 2006.
6 Married couples
7 This figure is a combination of the following categories: Other joint-ownership (4 percent), Joint ownership between household and non-household member (8 percent).
8 This figure is a combination of the following categories: Other joint-ownership (3 percent), Joint ownership between household and non-household member (17 percent).
9 Joint ownership between household and non-household member.
10 This indicator is restricted to the subsample of rural households (64 percent of entire sample).
11 This refers to the average value of property owned by women and owned jointly, rather than the average plot value.
12 71 percent of women live in a landed household (in which the woman herself or other household members, men and/or women, own land); 20% of women live in landless households.
13 Authors own calculations based on numbers provided.

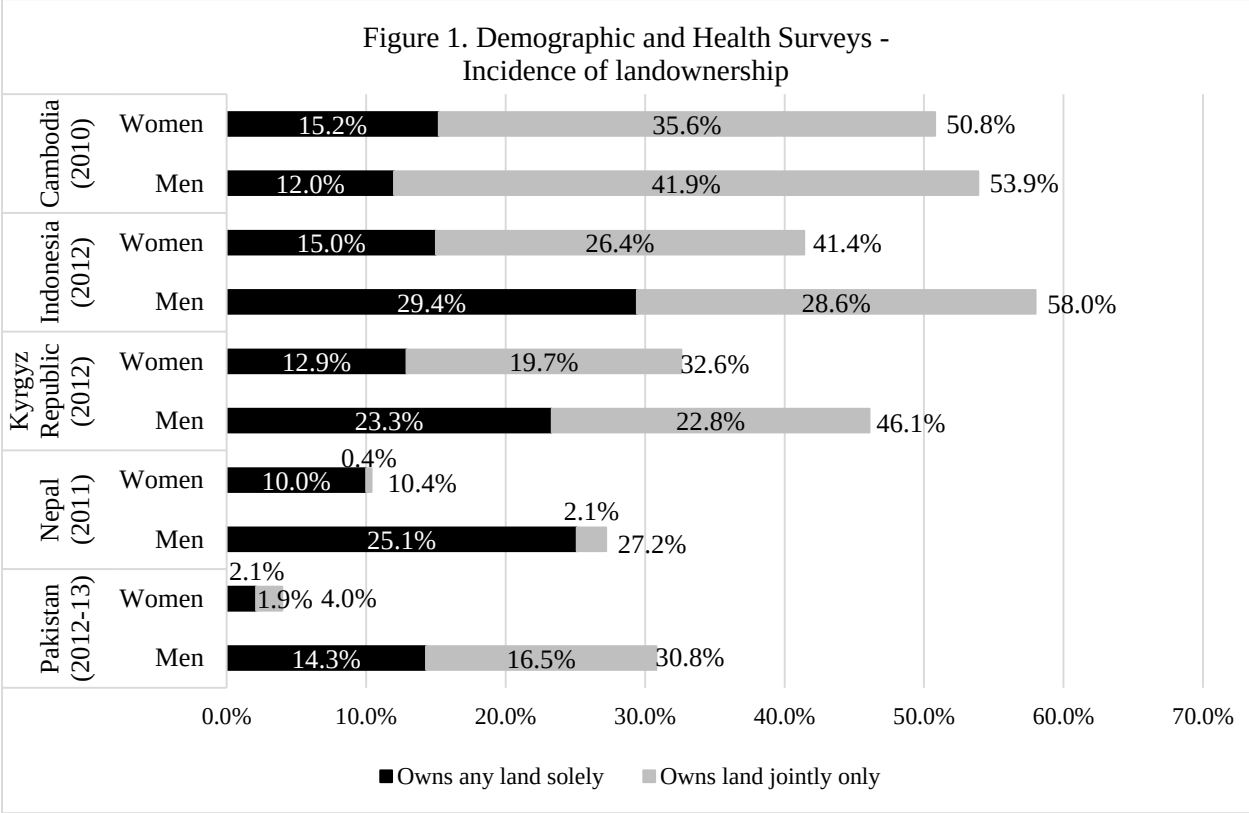
14 This is a panel dataset.

15 Refers to the number of Land Use Certificates (LUCs) held by men, women and jointly.
16 Statistics for 2004 and 2008 respectively.
17 This is a panel dataset.
18 This study reports the number of plots with no LUC, with LUC, with no household member names on the LUC, with one household member name on the LUC, with two household member names on the LUC, and with the husband and wife's names on the LUC. The number of plots with two names is only slightly higher than the number with the name of husband and wife. The authors note that most LUCs with one name contain the name of the household head.

Table 2: Indicators 1 -5 for landownership in Asia (weighted)[1]						
Indicator number		**1**	**2**	**3**	**4**	**5**
Country	**Category of analysis**	**Incidence of Ownership** *women landowners/total # of women; men landowners/total # of men*	**Distribution of landowners by sex** *women landowners/total number of landowners; men landowners/total number of landowners*	**Distribution of plots by sex of owner** *number of plots owned by women/total number of plots; number of plots owned by men/total number of plots; number of plots owned jointly/total number of plots*	**Mean plot size** *mean size of women's plots in acres; mean size of men's plots in acres*	**Distribution of area by sex of owner** *land area owned by women/total land area; land area owned by men/total land area; land area owned jointly by men and women/total land area*
Bangladesh (2011-12)[2]	**Men**	52.3%	77.3%	86.4%	0.19[3,4]***	88%
	Women	8.5%	22.7%	11.6%	0.16	10%
	Joint	NA	NA	2%	0.2[5]***	2%
	Sample size (n)	16,056 adults	4,330 documented landowners	15,627 documented plots	2,951 documented acres	2,951 documented acres
Tajikistan (2007)	**Men**	28.6%	82.9%	83.9%	0.31[6]***	85.7%[7]
	Women	4.3%	17.1%	16.1%	0.27	14.3%[8]
	Joint	NA	NA	NA	NA	NA
	Sample size (n)	17,384 adults	3,017 landowners	3,729 plots	1,294 acres[9]	1,294 acres
Timor-Leste (2007)[10]	**Men**	41.0%	85.3%	87.2%	0.74*	88.4%
	Women	6.9%	14.7%	12.8%	0.64	11.6%
	Joint	NA	NA	NA	NA	NA

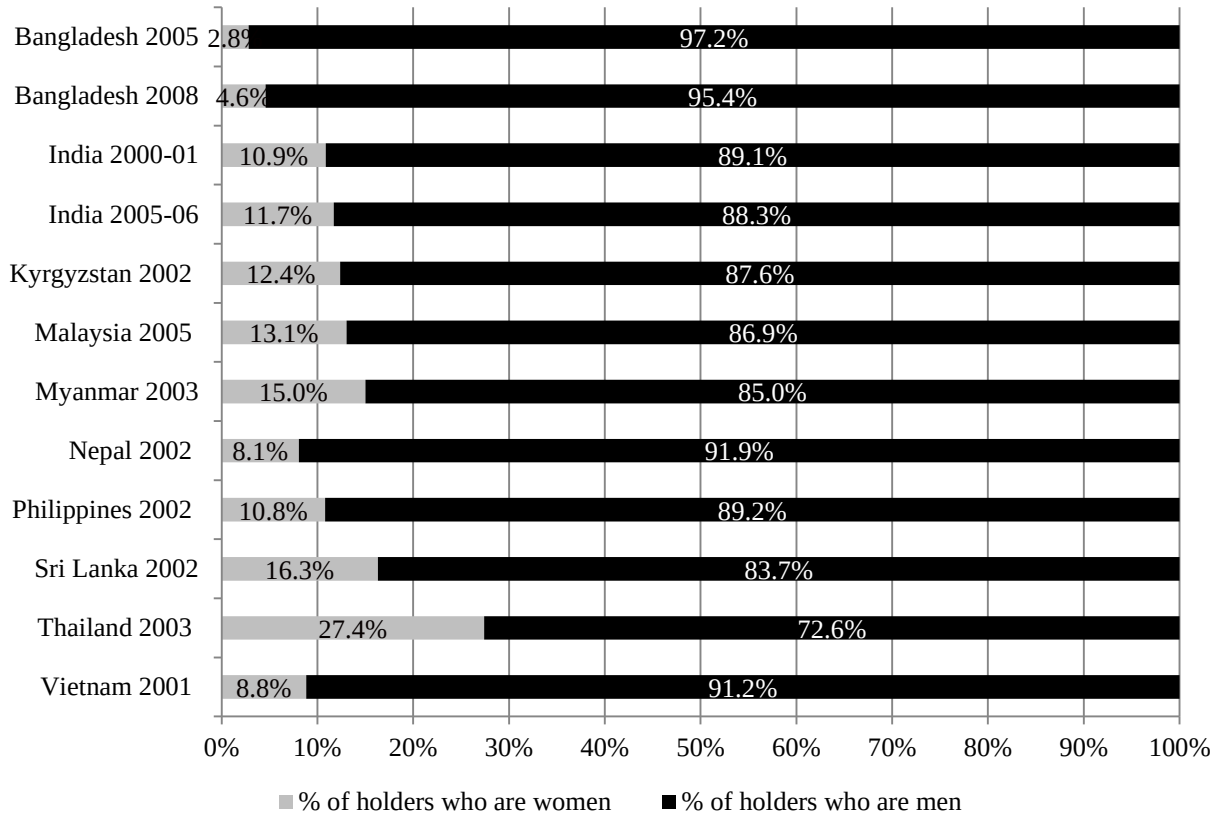
	Sample size (n)	12,646 adults	3,696 land managers	6,090 plots	3,565 acres[9]	3,565 acres
Vietnam (2004)[11]	**Men**	37.7%	62.7%	67.8%	0.26[4]***	71.8%
	Women	16.4%	37.3%	19.4%	0.2	15.4%
	Joint	NA	NA	12.8%	0.25[5]***	12.8%
	Sample size (n)	26,228 adults	8,266 landowners	26,896 plots with LUC	7,151 acres with LUC[9]	7,151 acres with LUC

1 Note on weights: for Indicator 1, we created an adult population weight by multiplying the household weights provided for each household by the number of individuals 18 and over in each household. For Indicator 2, we created an owner weight by multiplying the household weights provided for each household by the number of individuals 18 and over in each household who owned (or managed) land. For Indicators 3-5 we used household weights. * indicates statistical significance at the 90% level, ** at the 95% level and *** at the 99% level.
2 The statistics represented on Bangladesh refer to documented owners and to plots with documented ownership rather than to reported owners and plots with reported ownership.
3 Converted all decimals to acres using 1/100 decimal-to-acre conversion rate.
4 Denotes comparison of plots owned by men solely and plots owned by women solely. Plots owned by men are statistically significantly larger than the plots owned by women.
5 Denotes comparison of plots owned solely by women solely and plots owned jointly by men and women. Plots owned jointly by men and women are statistically significantly larger than plots owned solely by women.
6 Refers to plots owned by men and women with documents (n = 2,944 and 576 respectively); plots owned by men/women without documents are excluded (n = 211 and 42 respectively).
7 79.1% is documented and 6.7% is undocumented.
8 13.6% is documented and 0.7% is undocumented.
9 Note that, due to missing and trimmed plot area data, slightly fewer plots are included in analysis of Indicators 4 and 5 than Indicator 3. Across all countries, the top 1 percent of plots, by plot area, were trimmed.
10 Note that all statistics reported on Timor-Leste are based on land management rights, which may or may not include ownership rights. Ownership questions were not asked in this survey.
11 The statistics reported on Vietnam refer to individuals whose names are listed on LUCs and to plots with household members listed on LUCs. These statistics exclude those individuals who only have management rights and those managed plots which do not have a household member listed on the LUC.



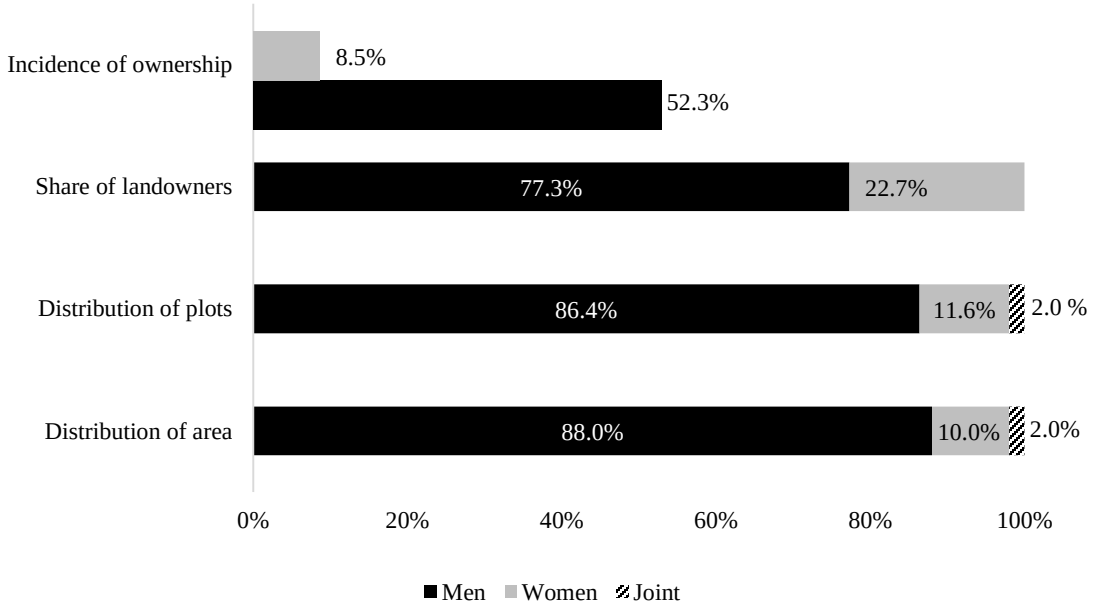
Source: Authors' calculations from the DHS Cambodia (2010), Indonesia (2012), Kyrgyz Republic (2012), Nepal (2011), and Pakistan (2012-13).

Figure 2: Percentage of landholders who are men and women



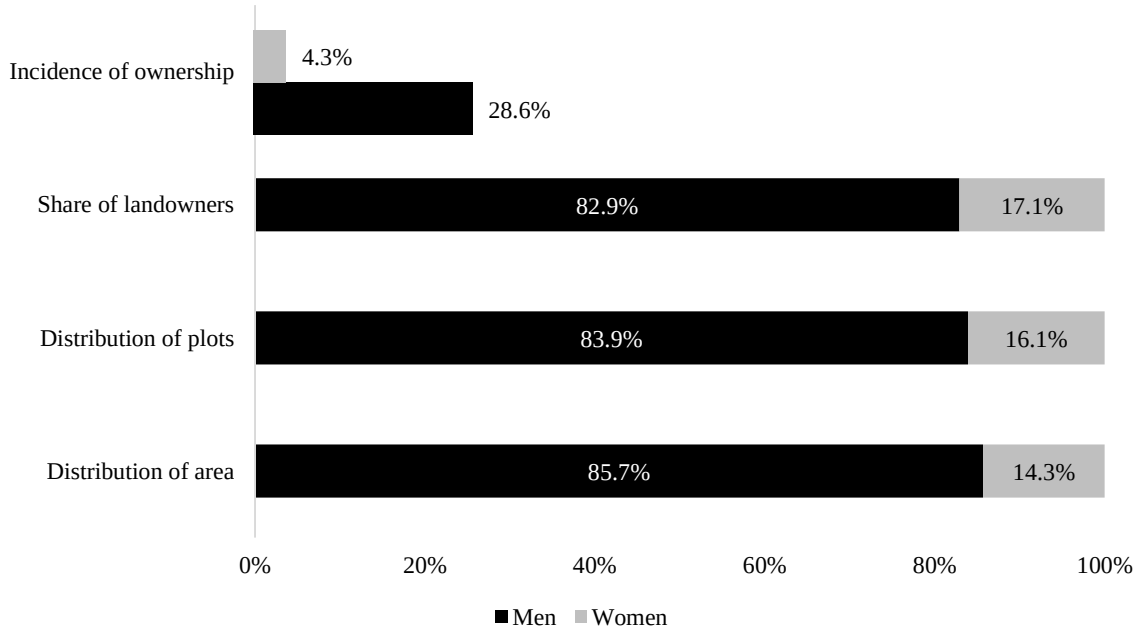
Source: FAO Gender and Land Rights Database (http://www.fao.org/gender/landrights/home/en/.)

Figure 3. Bangladesh: landownership



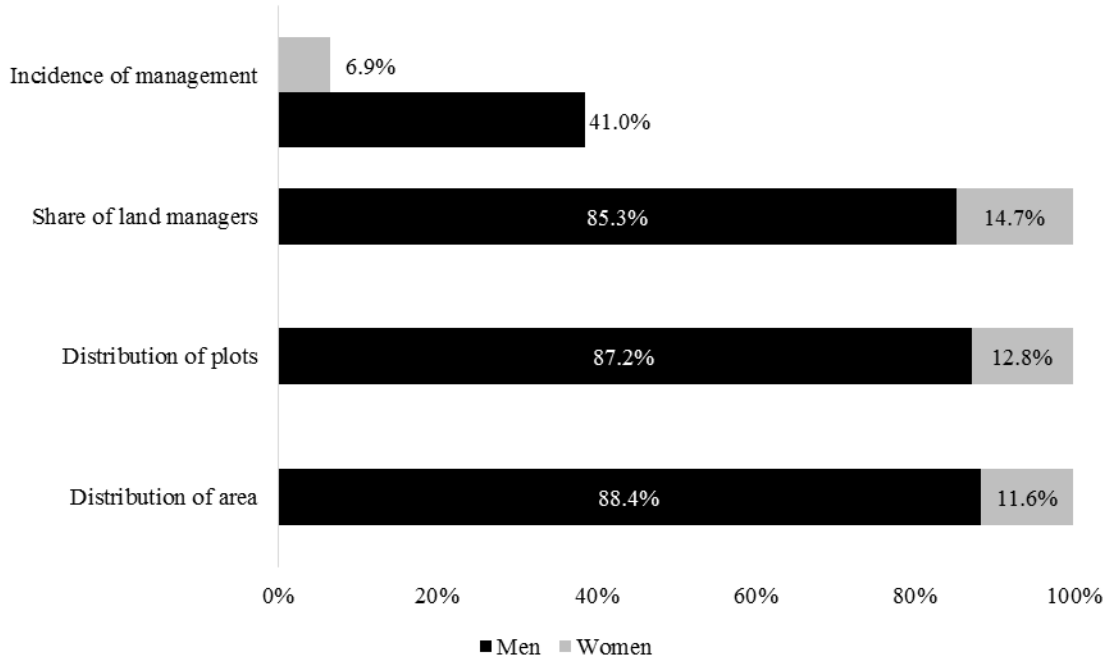
Source: Authors' calculations from the Bangladesh Integrated Household Survey (2011-12)

Figure 4. Tajikistan: landownership



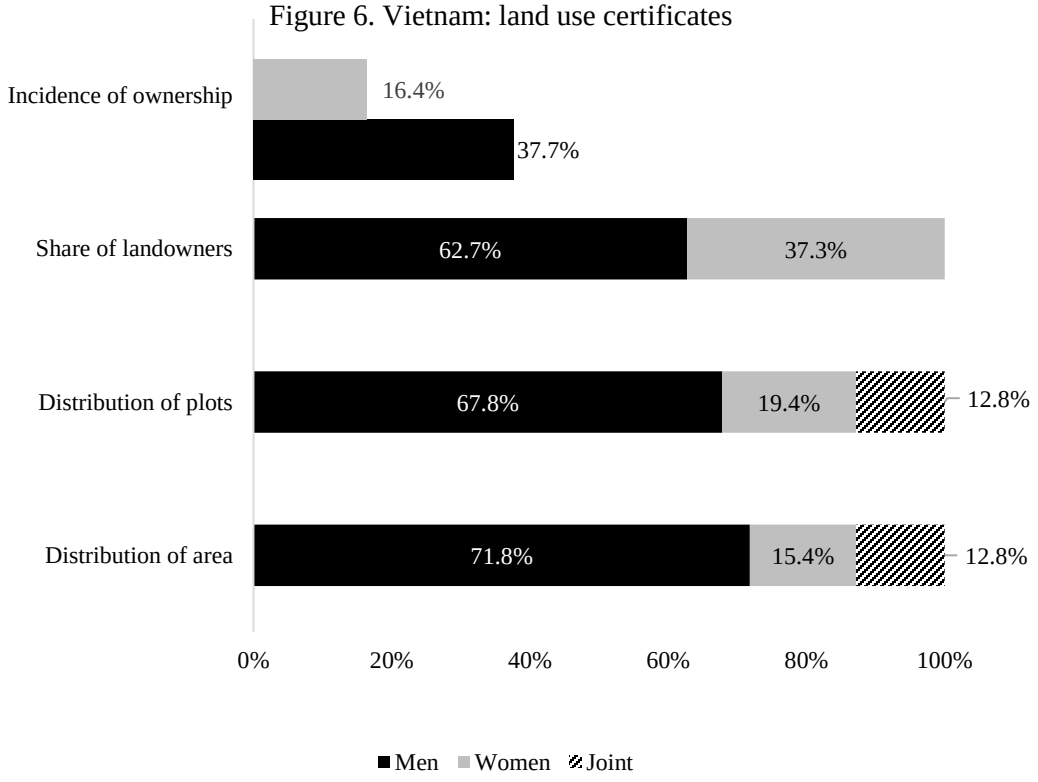
Source: Authors' calculations from the Tajikistan Living Standards Survey (2007)

Figure 5. Timor-Leste: land management



Source: Authors' calculations from the Timor-Leste Survey of Living Standards (2007)

Figure 6. Vietnam: land use certificates



Source: Authors' calculations from the Vietnam Household Living Standards Survey (2004)