

## **A Meta-Analysis of Land Rights and Women's Economic Well-Being**

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## **I. Introduction**

An important innovation in agriculture is the formalization of land ownership through individual land titling to women farmers and joint titling to married couples. The existing evidence closely ties land tenure with increased investments in land and improved agricultural productivity, but also shows that very few women farmers share land or own land directly. In every developing region, women own substantially less land than men (Deere and Doss 2006). This study offers a meta-analysis of the channels through which land titling affects women's productivity and earnings in agriculture, as well as other indicators of women's well-being and autonomy. As is understood, a strengthening in autonomy can have direct beneficial effects for women in terms of lower fertility, improved health and freedom from domestic violence.

Because the measures of women's well-being and autonomy are diverse, this study takes the form of a narrative meta-analysis according to ideas that have emerged in the literature on land rights and women's well-being.<sup>1</sup> This literature is as diverse in its methods and data sources as it is in indicators of women's well-being. Methods of analysis range from econometric techniques and descriptive statistics to focus groups and individual interviews, while data sources range from nationally representative household surveys to small-scale surveys at the individual level. Indicators of women's well-being and autonomy include a host of measures such as their agricultural productivity and earnings, self-esteem, the respect they garner from other family members, employment, educational attainment, mobility outside of the home, and decision-making power. This review highlights some of the key themes and results from the many studies in this broad area beginning with a conceptual framework of how land rights affect women's well-being, and ending with implications for more successful implementation of land

registration and greater integration of such reforms with existing institutions and traditional frameworks.

## **II. Conceptual Framework**

In principle, land rights are positively linked to household behavior through increased security of land tenure and freedom from expropriation; greater access to credit from being able to use land as collateral; reduced vulnerability to food price shocks; and gains from trade in the rental and sales markets for land.<sup>2</sup> With regard to the security of land tenure, land-right holders are more likely to make long-term investments in their land if they are confident that the state cannot expropriate their holdings. Allowing land to remain fallow for longer periods of time to permit soil fertility, investing in improved drainage and irrigation, and planting perennial crops rather than annual crops are all examples of relatively costly investments that farmers might be reluctant to undertake in the absence of secure land rights. Strong land rights thus serve as an incentive for farmers to invest in the fertility of their land, which, in turn, contributes to increased agricultural output. In addition to enhancing investment incentives, a lower risk of expropriation decreases the need for farmers to spend private resources on protecting their land, which may liberate capital for agricultural investments.

In terms of the second channel, stronger land rights can make it easier to obtain loans in the credit market. Land is a particularly important asset for garnering loans from banks that require collateral. On the third channel, securing women's rights to land has beneficial welfare impacts by reducing vulnerability when economic shocks occur, or after divorce or widowhood. These beneficial welfare effects do not necessarily arise from simply improving household's access to land since intra-household distribution is not always equitable (Lastarria-Cornhiel *et al.* 2011). In terms of the final channel, when land rights are transferrable, households have an

opportunity to generate gains from trade in land sales and rental markets. Households can then use the income to finance household expenditures and investments in their land.

Each of these channels affects women's control over resources, which in turn has important implications for their economic security and autonomy. Higher yields due to agricultural investments, greater access to credit, and gains from trade in land markets can give women the financial capital they require to finance a host of economic activities including self-employment. Moreover, some long-term investments in land may be labor-saving after the initial planting stage, with a resulting shift of labor hours into other non-agricultural activities (Do and Iyer 2008). Opportunities to begin new entrepreneurial ventures and to increase the scale of existing microenterprises can be particularly beneficial in regions with limited paid-employment opportunities for women due to discrimination in labor markets or insufficient labor demand (Karlan and Morduch 2009). The income generation that can result from well-defined land rights and greater access to credit serves as a viable means of incentivizing women's shift from low-paid work in marginally productive activities to more remunerative work.

In this context, employment in home-based enterprises can provide women with earnings that improve their social security and that of their households. More broadly, greater control of income by women results in changes in norms and attitudes that influence economic decisions and social behaviors within and outside of the home. Income generation and access to credit can have feedback effects on measures of autonomy such as an increased role in household decision making, greater mobility, and improved bargaining power vis-à-vis male members in the household (Pitt *et al.* 2006). Central to the social context in which people operate is bargaining power, and control over assets can have empowering effects for women in intra-household power dynamics. Women's employment in income-generating activities can strengthen their negotiating

power in the household by improving their fallback position, which facilitates decision-making to improve well-being. For example, households may move away from adherence to less useful traditional practices when women are more liberalized. Greater autonomy and a shift in intra-household power dynamics that favor women can have many beneficial effects including a reduction in the incidence of domestic violence, lower fertility, and improved health outcomes. Hence women's control over assets is positively associated with women's autonomy and authority within the home (Agarwal 1994).

### **III. Land Rights, Agricultural Investments, and Output**

Women own substantially less land than men across developing regions. To illustrate the scope of these inequities, Figure 1 shows the percent of individual landholders who are women for selected countries in Latin America and the Caribbean, Asia, and Africa. The figure is based on the Food and Agriculture Organization's (FAO) *Gender and Land Rights Database*, which provides data on landholdings rather than land ownership. According to the FAO, a landholder is a "civil or juridical person who makes the major decisions regarding resource use and exercises management control over the agricultural holding operation."<sup>3</sup> While this definition includes land owners, it also includes producers and managers.

In Latin America and the Caribbean - where women primarily gain access to land through inheritance and through community property rights that come with marital laws, women's share of individual landholders ranges from 30 percent in Chile to 8 percent in Belize and Guatemala (Figure 1, Panel A). This range is comparable to that of Asia, where land reforms in numerous countries appear to have done little to redress gender inequities caused by inheritance practices that traditionally favored men. The disparities are large within Asia, ranging from 27 percent of individual landholders who are women in Thailand to 8 percent in Nepal (Panel B). In most

African countries, women's control over land depends on customary tenure systems based on patriliney. Panel C shows that the variation in women's control over land is more substantial in Africa than the other regions, partially reflecting the larger number of countries for which there are data on landholders and also reflecting variations in the extent to which countries have strong matrilineal communities. In Cape Verde, about 50 percent of all land holders are women. That said, Cape Verde is by far an outlier compared to other countries within and beyond the region. There are four African countries where women constitute about one third of land holders (Botswana, Comoros, Malawi, and Lesotho), which is in contrast to Egypt, Algeria, Morocco, and Mali, where share of land held by women is 5 percent or less.

The implications of these gender inequities in land holdings for agricultural investments and output are enormous given the fact that among other things, insecure land tenure reduces the incentive of households to invest in their land. Although the literature on land rights, agricultural investments and output is large, most of these studies have not disaggregated land rights by gender. For example, in Asia, Jacoby *et al.* (2002) found that farmers in Northeast China are less likely to apply organic fertilizer when they face an increased risk of land expropriation. In Thailand, Chalamwong and Feder (1988) found that the price of legally-documented land is significantly higher than the same quality of land which is held illegally, with positive effects on farmers' investment decisions. These effects are mainly due to ability to use land as collateral rather the risk of expropriation. In Latin America, Bandiera (2007) found that Nicaraguan farmers are less likely to grow tree crops – which are more expensive and require more effort but are also more profitable and better for maintaining soil fertility – on rented plots than on owner-cultivated plots.

In Africa, an empirical meta-analysis of 54 countries in Fenske (2011) combined with original empirical results for Ghana, Nigeria, Ethiopia, Rwanda, Kenya and Zimbabwe provides robust support that land tenure indeed has strong effects on farmers' investment decisions. That said, the evidence is more robust for some measures of investment as compared to others. In particular, land tenure has strong significant effects on farmers' investments when investment is measured as fallowing and tree planting; the relationship is less robust for labor use and other inputs such as chemical fertilizer and manure. For example, one of the studies found that tenure security and transferability of land rights both provide Ethiopian farmers with greater incentives to invest in terracing and tree planting, with relatively larger effects on productivity-enhancing investments coming from transferability of rights (Deininger and Jin 2006).

Of those studies that have an explicit focus on gender, several have documented substantial gender differentials in agricultural output and profits that have been linked to inequitable access to agricultural inputs and to women's relatively insecure land rights. For example, in rural Ghana, Goldstein and Udry (2008) found that women have relatively less social and political power in villages, are less likely to have secure land rights, and are less likely to invest in land fertility. The authors attribute women's substantially lower profits per hectare compared to men primarily to women's insecure land tenure and the heightened risk that women face of having their land expropriated. Similar results were found in an earlier study for Ghana and for Burkina Faso. In Ghana, women have significantly less access to land, which contributes to their lower likelihood of adopting modern maize varieties and chemical fertilizer (Doss and Morris 2000). In Burkina Faso, plots controlled by women were farmed less intensively than similar plots simultaneously planted with the same crop but controlled by men in the same household. The main explanation for this result was not that women were less efficient

cultivators; rather, there was an inefficient allocation of land, labor and fertilizer among household members. The authors indicated that reallocating factors of production in a more efficient manner could increase output by 6 percent (Udry 1996). In a follow-up study, Akresh (2008) noted that during years of negative rainfall shocks, there is an increase in labor resources to plots of land controlled by wives. Hence in unfavorable years, households act to reduce losses from pareto inefficiency. An inefficient allocation of resources was also found in Côte d'Ivoire by Duflo and Udry (2004), where strong gender norms dictate that men and women intensively farm their own plots of land without trying to maximize household production.

In an investigation of differences in agricultural productivity by gender of household head, Horrell and Krishnan (2007) found that in Zimbabwe, *de facto* female-headed households have lower productivity as compared to male-headed households because of their restricted ownership of agricultural inputs such as land. However, this differential disappears when agricultural inputs are taken in account. Hasnah, Fleming, and Coelli (2004) noted that female laborers may appear to be relatively less efficient in production among oil-palm producers in West Sumatra, but this was only because they worked longer hours as a consequence of handling domestic chores as well. Bindlish *et al.* (1993) found that female farmers in Burkina Faso have less awareness of new techniques and thus benefit from the availability of training and visit based extension services. Udry *et al.* (1995) noted that women-controlled plots of land in Burkina Faso have yields that are up to 18 percent lower solely because they are farmed less intensively.

Another reason for lower yields on women-controlled plots is that important inputs such as fertilizer are used almost exclusively only on male-controlled plots. Tiruneh *et al.* (2001) noted that female headed households in the central highlands of Ethiopia have less productivity



as compared to male headed households only because they use fewer agricultural inputs. With equitable access to inputs such as land, female headed households would increase their productivity. Similarly, Aly and Shields (2010) found that female rice farmers in Nepal are as productive as male rice farmers when access to irrigation and seed technologies are taken into account. Alternatively, Oladeebo and Fajuyigbe (2007) showed that in the Osun state of Nigeria, female rice farmers are actually more technically efficient than male rice farmers, particularly when age and years of education are controlled for in stochastic frontier production function models. Moreover, using data on cash crops such as cocoa from Ghana and coffee from Uganda, Vargas Hill and Vigneri (2009) demonstrated that female farmers are as productive as male farmers as long as they have access to the same resources (credit) and output markets as male farmers. Female participation in cultivation and sale of cash crops is particularly important given the significant positive welfare benefits this type of farming brings as compared to subsistence agriculture.

A number of other studies have demonstrated that women farmers are as efficient as men farmers. For example, Alene *et al.* (2008) noted that women farmers are as responsive to price incentives in terms of output supply and input demand as men farmers, and as relatively economically efficient when inputs and human capital factors of production are taken into account. Key physical inputs that made a difference include access to land. In addition, Rahman (2010) noted that in two agro-ecological regions of Bangladesh, women's labor accounts for up to 28 percent of total labor input and is a significant determinant of productivity and technical efficiency. In an experiment in Malawi, Gilbert *et al.* (2002) found that female farmers were no less efficient than male farmers in terms of crop yields when inputs were provided. This was the case even though existing extension services were evaluated as being tailored towards relatively

well-off male farmers with more experience and with larger areas of land planted with cash crops.

Similarly, Moock (1976) noted the lack of difference in the technical efficiency of male and female managers among small-scale maize cultivators in the Vihiga region of Western Kenya. Again, extension services were found to be of greater use to male-managed farms especially because of the “male orientation” of these services (most staff are men and information meetings are dominated by male attendees). These results are echoed in Kinkingninhoun-Medagbe *et al.* (2010) which found that in Benin, female rice farmers are discriminated against by collective action groups in terms of access to inputs such as land and equipment and consequently, have lower productivity than male farmers even though they are as technically efficient. Thus increasing access to land equipment such as ploughs at appropriate times in the crop cycle would greatly improve productivity and women’s incomes.

In addition to formal laws directed at addressing equity in land ownership, informal practices also play a significant role. More specifically, in regions of the world where crops that increase the demand for labor are planted, labor provided by wives is a statistically significant determinant of their share of land. Quisumbing *et al.* (2001) saw evidence for the importance of women’s farm labor from a study of Western Ghana, where land was conferred to wives as gifts by husbands in return for labor provided on the husband’s plot. However, additional land controlled by women did not lead to subsequent expected increases in productivity, leading the authors to conclude that other sources of inefficiency in input and credit markets that did not favor women also needed to be addressed.

A summary report for four Sub-Saharan African countries (Burkina Faso, Kenya, Nigeria, and Zambia) re-iterated these concerns (Saito *et al.* 1994). Specifically, women’s

reduced access to inputs and support services has resulted in lower agricultural output. A major contributing factor to gender inequities in agriculture has been growing population pressures on increasingly scarce land, which has weakened women's land rights since the early 1960s. More recently, Chu (2011) highlighted the importance of customary law in Sub-Saharan Africa in determining women's rights to land, and how these practices have contributed to gender inequities in the face of cross-border, large-scale land transactions or global "land grabs."

In Latin America, there is still a large gender gap in land ownership with women rarely accounting for more than a quarter of all landowners (Deere and León 2001a, 2001b, 2003). The main reason is that inheritance serves as the primary means through which women acquire land, and most countries are still characterized by male preference in bequeathal practices. These inequities have placed relatively more constraints on women's ability to become successful commercial farmers as compared to men. To ensure a more equitable distribution of property rights for women, Deere and León (2001a, 2001b, 2003) argued not only for greater gender equity in land inheritance, but also for more legislation which contains provisions for mandatory joint titling of land to couples and provisions that give priority to female household heads. Moreover, joint titling helps to protect women's rights to land in the event of separation, divorce, or widowhood.

Another source of gender disparities occurs in land rental and sales markets. For example, Deininger and Jin (2008) found that Vietnamese women who head households face bias in the market for land sales. Moreover, Linde-Rahr (2008) found that Vietnamese households with a higher proportion of female members appear to have a lower willingness to pay for secure property rights as compared to households with fewer female members. Closely related, women may be more risk averse than men in offering their land as collateral. These

arguments are supported with evidence in Fletschner *et al.* (2010) that women in Central Vietnam are more risk averse than men. Women are substantially less likely than men to choose risky options even after controlling for the area of land owned by the household. In gender-separated estimates, land ownership had a statistically significant positive effect on risk taking behavior for men but not for women. These studies may also indicate that women are more risk-averse given imperfections in land markets.

#### **IV. Evidence on Land Rights and Women's Autonomy**

A number of empirical studies have examined the effects of women's land rights on various measures of their autonomy and their economic security. In Asia, Mason (1998) found that land ownership has a positive impact on women's authority in deciding household-expenditures in India and Thailand. Several other studies have found similar results for India using other data sources and methods. In particular, Menon and Rodgers (2011) found that land ownership serves as a strong predictor of self-employment for women in the rural sector. These empirical results for India are confirmed in qualitative evidence from comprehensive interviews conducted in Datta (2006). In particular, jointly-owned land increases various measures of autonomy for poor urban women in Chandigarh, India, including their participation in household decision-making, their access to information about financial matters and broader economic concerns, their self-esteem, and the amount of respect they received from their husbands. In Karnataka, India, Swaminathan *et al.* (2012) found that home ownership and land ownership have positive effects on women's mobility outside the home, and on their ability to make decisions about their own work, health, and expenditures. Thus by implication, women without land rights are relatively worse off, a conclusion reached in Garikipati (2008) based on extensive field work in Andhra Pradesh, India. Garikipati (2008) argued that landlessness and inequitable

poverty alleviation programs that favored men left poor rural women with no other means of financial support beyond agricultural wage work. The lack of better paying options served to perpetuate low wages and poor working conditions, which contributed to their lack of power in household decision-making processes.

Also in Asia, Allendorf (2007) found that Nepalese women who own land are substantially more likely to be empowered and to have the final word in making household decisions. Allendorf estimated an inverse relationship between women's land rights and children's malnutrition in Nepal. This relationship is attributed primarily to the additional income and resources that women's ownership of land brings, rather than the empowering effect of land ownership. In China, a study on the consequences of landlessness (Hare *et al.* 2007) found that landlessness among women in low-income households in Shaanxi and Hunan provinces is associated with reduced decision-making power and a lower status for women. The authors noted the problematic implications of this result in the context of their other finding that China's land management policy reforms after 1978, which shifted land use rights from collectives to households, have resulted in a higher incidence of landlessness among married women.

Land and property rights have also furthered women's well-being and autonomy in Latin America. In Peru, Field (2007) found that increasing tenure security with the issuance of property titles to urban households enabled former squatters to work more hours in the labor market instead of staying at home to guard their land, with a resulting increase in income. Although this effect was positive for women, it was substantially larger for men. More substantive results for Peruvian women were documented in Field (2003), with Peru's national land titling program leading to a substantial increase in the incidence of women's names on

property documents and in women's decision-making power within the home. In Ecuador, Deere and Twyman (2012a) found when women own a larger share of household wealth, there is a greater likelihood that the couple will make an egalitarian decision regarding decisions to work and to spend income. The same result applies when a husband and wife own real estate jointly, although the effect is smaller in magnitude. In related work using the same data for Ecuador, Deere and Twyman (2012b) found that joint land ownership, as opposed to individual ownership, is a positive and statistically significant predictor of household decisions about crop cultivation.

In Sub-Saharan Africa, Peterman (2011) found that stronger property and inheritance rights for women in rural Tanzania have a positive effect on women's employment outside the home, self-employment, and earnings. Legally, property and inheritance rights in Tanzania were strengthened in 1999 with a radical land reform act that shifted the administration of land registration and titling to the village level. Women also gained land rights through the Law of Marriage Act, which allowed women to hold and sell property. However, as in many other Sub-Saharan African countries, customary law is stronger than formal laws in governing women's right to land. The authors found that in local communities where cultural and economic development indicators favored women, women were more likely to be employed and to have higher earnings. Further, Peterman (2012) noted that in a sample of households with widows in fifteen countries in Sub-Saharan Africa, total value of inheritance, especially land inheritance, is significantly correlated to higher levels of assets and long-term household consumption. Similarly, Kumar and Quisumbing (2012a) found that the area of inherited land is an important determinant of women's overall well-being in rural Ethiopia. Further, recent legislative changes in Ethiopia's family code that favor women in terms of control over assets (land, livestock,

home) in instances of divorce are found to have strong impacts on child schooling (Kumar and Quisumbing 2012b). Children, particularly girls, are more likely to fall behind their cohort in highest grade attained when women perceive divorce laws as devolving assets to their husbands.

Closely related to women's bargaining power within the household is women's control over resources in this domain, and several studies have found causal relationships between women's land ownership and their control over intra-household resources. In particular, Quisumbing and Maluccio (2003) examined household survey data for four countries and found that in Bangladesh and South Africa, the assets that women brought with them into a marriage, including land, had a positive effect on the household budget share spent on education. The authors also observed women's control over intra-household resource allocation in Ethiopia and in Sumatra, Indonesia, where mothers with more land invest preferentially in their sons, most likely so they can rely on their sons later for old-age support. Also for Ethiopia, Fafchamps and Quisumbing (2002) found that the land that women bring with them into a marriage as assets serves as a strong predictor of their control over productive assets during the marriage, including the right to rent land. Closely related, in Ghana, Doss (2006) found that women's land ownership is a positive predictor of budget shares spent on food and education, while it has a negative effect of budget shares spent on alcohol and tobacco.

Greater autonomy within the home can translate into improved well-being for women along such dimensions as health, freedom from domestic violence, and educational attainment. In Field's (2003) Peru study, there were reductions of approximately 20 percent in annual birth rates among program beneficiaries. Most of the observed decline in fertility is accounted for by women's increased agency in household decision-making processes. Moreover, Panda and Agarwal (2005) examined the likelihood of domestic violence using data collected from surveys

in Kerala, India. The authors found that women's land and home ownership are both associated with a lower likelihood of being subject to physical and psychological abuse by their husbands. Similarly, Bhattacharyya *et al.* (2011) found that a wife's house ownership is associated with a decline in marital violence in Kaushambi, India.

Also in India, Deininger *et al.* (2012) used 2006 survey data to examine the effects of the Hindu Succession Act, a legal reform that gave girls the right to inherit land. Results from a set of fixed effects estimations indicated that the legal reform led to an increase in daughters' likelihood of inheriting land and to an increase in girls' educational attainment. That said, the reform did not fully compensate for the existing gender bias in land inheritance, suggesting the need for further study of the channels through which land law reforms change household behaviors. This conclusion is mirrored in Doss *et al.* (2011), which studied asset ownership and wealth at the individual rather than household level. The authors found a sizeable gender gap in land ownership and in the ownership of other assets in Karnataka, India. Despite India's mandate of equality for sons and daughters under the Hindu Succession Act, daughters are still disadvantaged relative to sons in all forms of property. The authors found gender gaps in assets of similar magnitudes in Ghana, but smaller gender gaps in Ecuador due to a marital regime of partial community property in which large assets are jointly owned by the principal couples rather than individually owned by household heads. The authors also found smaller gender gaps in wealth in Ecuador, with resulting positive implications for women's empowerment.

## **V. Land Titling and Access to Credit**

While the beneficial effects of land rights on farmer's investment incentives and on women's autonomy are well documented, there is less evidence on the impact of land rights on access to credit. An important reason why the formalization of property rights has led to little if



any improvement in credit access, especially among the poor, is limited opportunities for investment, risk aversion, and structural impediments that increase the difficulty of converting land into liquid assets (Besley and Ghatak 2010, Ali *et al.* 2012). In principle, land titling may enable greater access to credit through the creation of an asset that can be used as collateral. However in practice, the ability to successfully use such assets as collateral depends on reliable information on property rights and transparency in the regulatory structure. For example, Do and Iyer (2008) found that issuance of land-use certificates in Vietnam did not result in greater borrowing from formal credit markets largely because lack of clarity around regulations made it difficult for banks to seize land in cases of default.

While some studies have documented a positive effect of land rights on access to credit, these positive effects have mostly applied to richer households, urban areas, and larger-scale farms, with little impact on poverty reduction.<sup>4</sup> Ravallion and van de Walle (2008) argued that if poor households are excluded from local organizations in charge of identifying those with the most need, then credit may be misdirected. For example, if farmers unions are relied upon to identify individuals who would benefit the most from access to credit (with or without land-use certificates), then women with land-use certificates who are not farmers and who do not belong to such unions may have restricted access by virtue of not being associated with such a union.

A growing number of studies indicate that when women do have greater access to credit, they experience improvements in economic security and bargaining power within the household.<sup>5</sup> For example, Pitt and Khandker (1998) found that microcredit in rural Bangladesh has a strong positive effect on women's labor supply, while income effects associated with the increased credit reduced men's labor supply. Moreover, Menon and Rodgers (2011) found that

greater access to credit through India's rural banking reforms led to an increase in women's self-employment as own-account workers and employers.

## **VI. Research Lessons and Policy Implications**

### Research Lessons

*1. Gender Discrepancies in Land Ownership Remain Pervasive.* This analysis has shown that the means by which men and women acquire land vary across regions and communities. Such means include inheritance, participation in land sales and rental markets, government land titling programs, state-driven land reform, and resettlement schemes. Women in numerous developing countries also gain access to land through informal methods or traditional household arrangements that vary considerably across regions and countries. However, a large body of literature has documented that women experience disadvantages relative to men in many of these processes. In Latin America, where inheritance serves as the primary method through which women gain access to land, women's share of individual landholders is no higher than 30 percent (in Chile) and can be as low as just 8 percent (in Belize and Guatemala). While women in South Asia typically do not own land because it is passed along patrilineal lines, their representation among all individual landholders has a similar range as in Latin America. In the Middle East and North Africa, Sharia law dictates land inheritance processes, while in many Sub-Saharan African countries, women have gained land-use rights through male family members. The female share of all individual landholders varies tremendously in these regions from near parity to less than 5 percent.

*2. Gender Equality in Land Ownership and Inputs Increases Agricultural Productivity.* The research reviewed in this study collectively makes a strong case for the efficiency-enhancing effects of women's land rights. When women have more formal control over land – whether it be

through land titling, improved documentation, or stronger communal rights – their productivity as farmers increases. Studies across developing regions have clearly documented that once access to inputs (land, fertilizer, credit) is controlled for, women are as productive and technically efficient as men. For example, in Burkina Faso, reallocating factors of production in a more efficient manner could increase output by 6 percent, and in Zimbabwe, the gender gap in farmers’ productivity disappears when women’s restricted ownership of land and other inputs is taken into account (Udry 1996; Horrell and Krishnan 2007). A large body of work supports the assertion that women farmers are as efficient as men farmers, and greater gender equality in land ownership and in access to other agricultural inputs would increase agricultural output overall.

3. *Women’s Land Ownership Improves Economic Security and Well-Being.* Further, the meta-analysis has also made a strong case for the welfare-enhancing effects of women’s land ownership. Women with stronger ownership rights over their land have more decision-making power in the household, experience greater autonomy, and garner more respect from family members. They are also more likely to bolster their own economic security through self-employment and higher wages, which, in turn, can reduce a household’s vulnerability to poverty. For example, results in Menon and Rodgers (2012) indicate that land-use rights held by women in Vietnam have a number of beneficial effects including higher household expenditures, higher education for women, lower daily hours of housework and lower poverty. When land-use rights are in a woman’s name in Vietnam, per capita household expenditures are 5 percent higher, and the incidence of poverty at the household level is 4 percent lower. More broadly, stronger autonomy for women as a result of land rights has also been linked to improvements in women’s physical health, education, and freedom from domestic violence. A growing body of work has

also substantiated that additional income controlled by mothers leads to greater household expenditures on inputs into child well-being including food, education, and health services.

### Policy Implications

*1. Large-Scale Land Titling Programs Help Women.* Access does not ensure ownership or actual rights to the land (ICRW 2005). As described in this analysis, rights need to be guaranteed in such a way that women can exchange, lease, bequeath, sell or mortgage their land in an enforceable manner. Recommendations for policy reforms supported by these findings center on changing the legal structures that govern women's land rights. A growing number of governments have implemented large-scale land titling programs, with results indicating that joint titling of land for married couples serves as an effective way for more women to gain legal land rights. Mandatory joint titling in particular raises the likelihood of women gaining secure land rights, with voluntary joint titling somewhat less effective in providing large proportions of women with secure rights.

Policy recommendations also center on improvements in the implementation of land law reforms, especially when uneven implementation results in gender disparities in the issuance of land titles. A common problem across developing regions is that land titles are often distributed to heads of household only. Since the majority of household heads in most developing countries are male, this practice has led to an overwhelmingly disproportionate number of land titles allocated to men. In Vietnam, Ravallion and van de Walle (2006, 2008) noted that the original 1993 Land Law issued land rights at the household level with space for only one name on the land-use certificates. Thus, even though Vietnamese women were economically very active, this practice meant that rights were often registered in the names of men only. Women thus lost control of the main productive asset owned by the household even though they might have

carried primary responsibility for working that asset. Although the reallocation process of agricultural land in Vietnam favored male household heads, a follow-up law in 2001 clarified that land should be registered in the names of both husband and wife. However, it is not certain how effectively this amendment has been implemented.

Similar issues were found in Ethiopia which had a successful first-time process in registering land that was rapid, participatory, and effective in achieving the objective of increasing household investments in land (Deininger *et al.* 2008a). However, there was substantial variation across regions in whether land was registered in the name of the husband only, wife only, or jointly, largely due to regional variation in whether or not the program required joint certification and photographs of the land owners. Also needing improvement was women's representation on village-level land-use committees, with distant overnight meetings serving as a substantial disincentive for women's participation in these political bodies.

As a final example of a successful large-scale titling program, new evidence for Rwanda's Land Tenure Regularization (LTR) program indicates that the resulting land tenure security had large positive effects on agricultural investment especially in female-headed households. In particular, Ali *et al.* (2011) estimated the effects of the Rwandan LTR program and its design to clarify land rights, reduce tribal conflicts, and reduce gender discrimination in land access. Results indicate that the legal reform led to increased land access for married women, improved documentation of inheritance rights, and led to large increases in soil conservation efforts, especially among female-headed households.

2. *Greater Attention Must be Paid to Customary Laws.* Recommendations for policy reforms supported by literature also center on ensuring that statutory and customary laws are in accordance with legal guarantees, especially in Africa, where both customary land redistribution

schemes and official land law reforms have led to reallocations that have frequently been biased against women. Government agencies have typically distributed land to household heads, a process that favors men in general and specifically the more senior men who already have power through customary land holdings. Moreover, even though government efforts to reform land laws may give female household heads the right to receive land, in practice they may not receive plots in the reallocation process when local officials redefine them as dependents of male relatives. If customary laws in Sub-Saharan countries have placed restrictions on women's access to land or prevented women from pursuing title, then these laws need to be revised so that they are in accordance with constitutional provisions that govern equality (Joireman 2008). Yet many Sub-Saharan African countries still have somewhat arbitrary inheritance and property rights for women due to competing provisions in laws and legal statutes. Greater attention needs to be paid to gender relations and power structures in rural areas that disadvantage women in their attempts to own land (Whitehead and Tsikata 2003). State-sponsored efforts to formalize property rights need to address not only customary laws and women's right to property, but also enforcement, especially in under-resourced areas.

Examples of such policy lessons are found in Burkina Faso, Senegal, Kenya, Zambia, and Tanzania. In Burkina Faso, a land resettlement scheme favored men in plot allocations ignoring norms in which women cultivated what were traditionally considered to be their own fields (Kevane and Grey 1999). Kevane and Gray (1999) argued that providing land rights to women is not a one-dimensional act and, instead, requires close attention to informal contracts and traditional sharing norms that govern the allocation of land and labor within households. In Senegal, land redistribution policies did not correct gender inequality in access to land as only a small proportion of women could obtain land rights as household heads. Following extensive

droughts in the 1970s, the government distributed equal-sized plots to all heads of household. Yet by 1990, women - all household heads - held only 6 percent of irrigated plots. Moreover, married women in Senegal did not have customary land-use rights, and many widows and divorcees who were entitled to plots were denied this right because those in charge of the redistribution process redefined these women as dependents of male relatives (Koopman 2009). Koopman (2009) argued that consequently, tiny plots and tenuous land rights for women in the Senegal River Valley have constrained food output and marketable surpluses.

In the River Njoro Watershed area of Kenya, policy reforms have led to a shift in land ownership patterns away from communal ownership toward private individual ownership, with indigenous Maasai pastoralist communities having to adjust to further changes introduced by agricultural settlements. Interview data in Willya and Chiuri (2010) indicated that the property rights reforms have caused substantial changes in gendered tasks and workloads, with women seeing increased domestic workloads and fewer user rights to resources such as cows, small farm animals, and firewood. Local men however have gained from the cash payments they have earned from the migratory livestock herders. The authors concluded that communities as a whole have gained from finding ways to blend indigenous and modern institutions, but women are bearing the burden of the transition.

The final examples of the need to address customary laws and local practices in Sub-Saharan Africa are the cases of Tanzania and Zambia. In Tanzania, the “double-safeguarding of land rights,” which involves legitimizing customary land inheritance practices and contemporary land rights, may lead to the exclusion of marginal groups including women. Odgaard (2002) argued that unintended gender disparities may appear even in a country like Tanzania that has traditionally been considered to have a surplus of land as a consequence of increased competition

and subsequent conflicts for land. In Zambia, the HIV/AIDS epidemic has caused enormous suffering and loss of life. Chapoto *et al.* (2011) found that more than two-thirds of the households that experienced the death of the male head after 2001 had less land within a three year span, and about one third of the widow-led households controlled less than half of land they controlled before the male head died. The authors noted that government decrees to protect the security of land access by female widows have had little to no impact when local authorities were not included in the decree arrangements, thus indicating the importance of working with local community authorities in developing programs that enforce property rights for female widows.

3. *Land Access for Women Requires Innovative Approaches and Institutional Reforms.*

In addition to land titling and customary law reforms, collective approaches can also increase women's access to land. Such approaches include group investments in capital inputs, individual ownership combined with group cultivation, and the distribution of group rights by governments to poor rural women (ICRW 2005). Although collective action groups can be helpful in mobilizing communities to engage in development, they do need to be monitored carefully to ensure that existing inequities are not exacerbated (Kinkinginhoun-Medagbe *et al.* 2010).

Another policy lesson relates to the dissemination of information about land reform policies and efforts to improve legal knowledge associated with land rights. For example, in Tanzania, Ali *et al.* (2012) found that in Dar es Salaam, dissemination activities had a positive impact on the willingness of urban slum households to list a female co-owner on a Certificate Right of Occupancy (CRO), the most secure type of land documentation. Moreover, in the case of Uganda, Deininger *et al.* (2008b) found that only a minority of land users were aware of provisions related to tenure security and legal protection for customary owners and for women



contained in the 1998 Land Act. Given the finding that legal knowledge is a positive and statistically significant determinant of farmers' land-related investments and land values, the authors argued that programs that educate households about their land rights may yield very high returns.

Finally, a key institutional reform is increasing access to credit. While reforms that promote the security of land ownership are associated with higher agricultural productivity, women may face more obstacles than men in obtaining credit. Such obstacles could weaken the potential of land titling in benefitting women. For example, Vietnam's large-scale land titling program appears to have positively impacted rice yields in male-headed households but not in female-headed households (Van den Broeck *et al.* 2007). A possible explanation was that men may have experienced relatively greater access to credit following land titling as compared to women, implying that the land reform would have been more effective in reaching women and raising farm yields had it been accompanied by programs to enhance credit access. More broadly, while the evidence from empirical studies on land ownership provides a clear rationale for procedures that increase women's land ownership, the literature also suggests that such procedures would have more potent impacts if they were embedded in a framework that sought to widen the scope of institutional structures so that they assist women who live at the margin.

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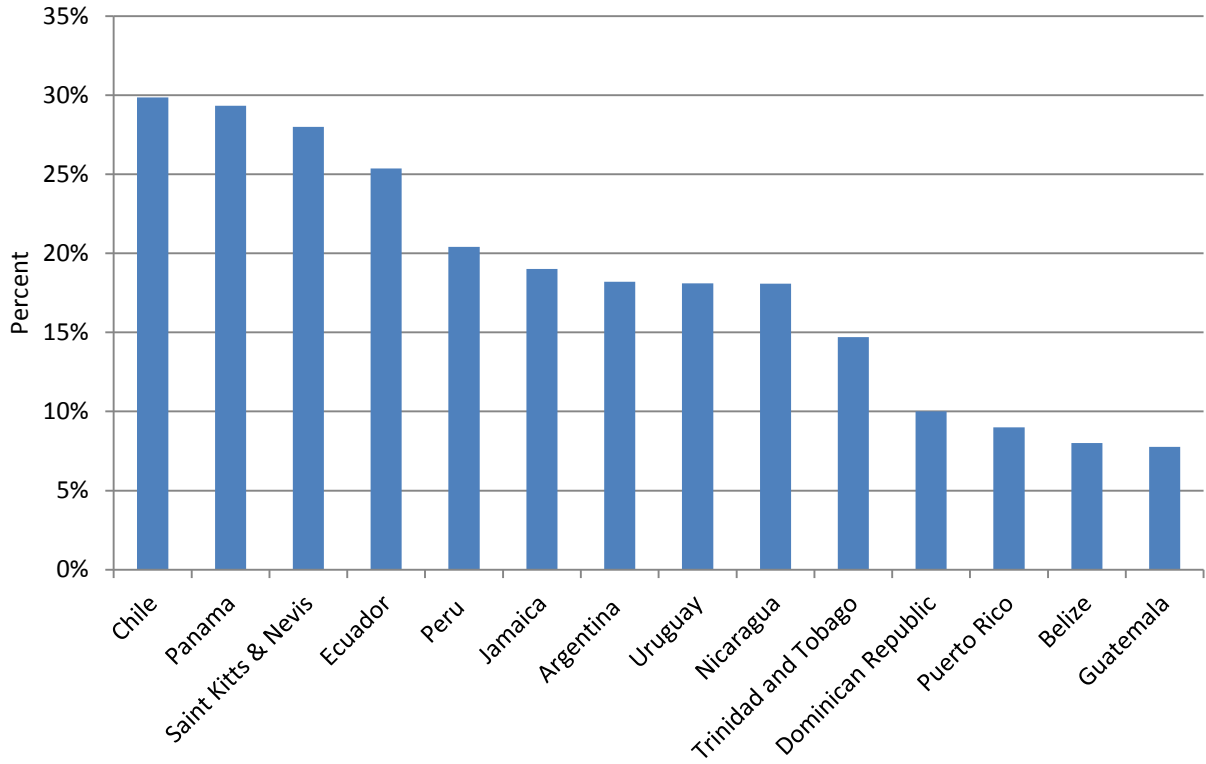
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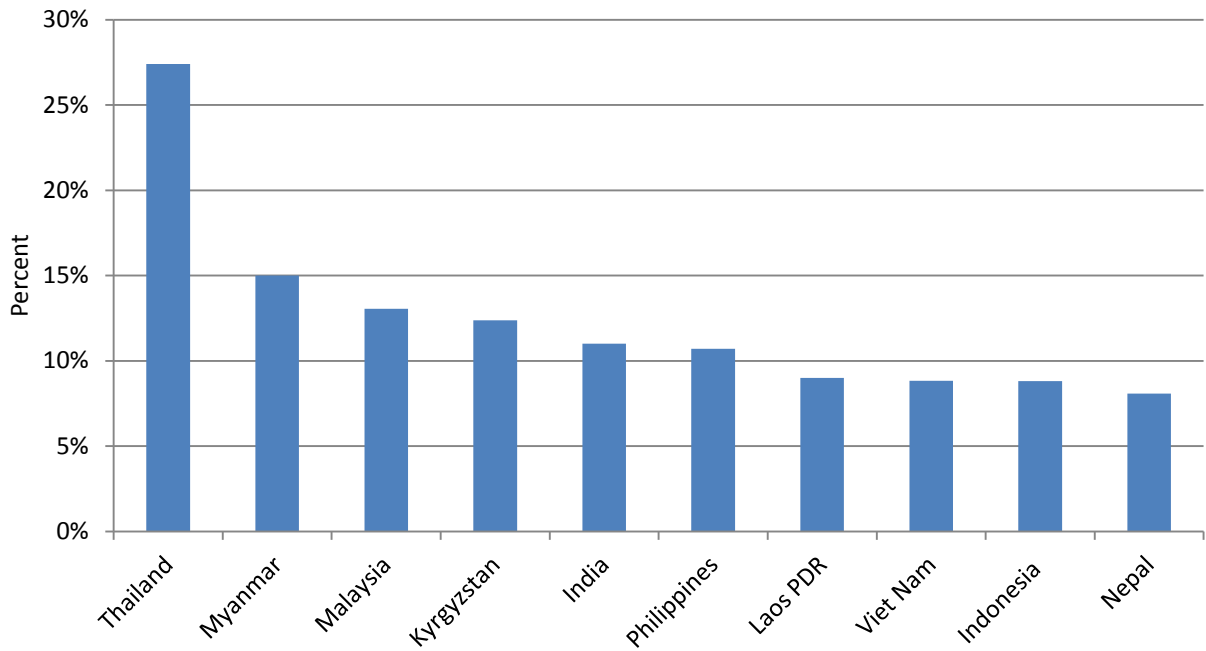
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Figure 1: Percent of Individual Landholders Who are Women

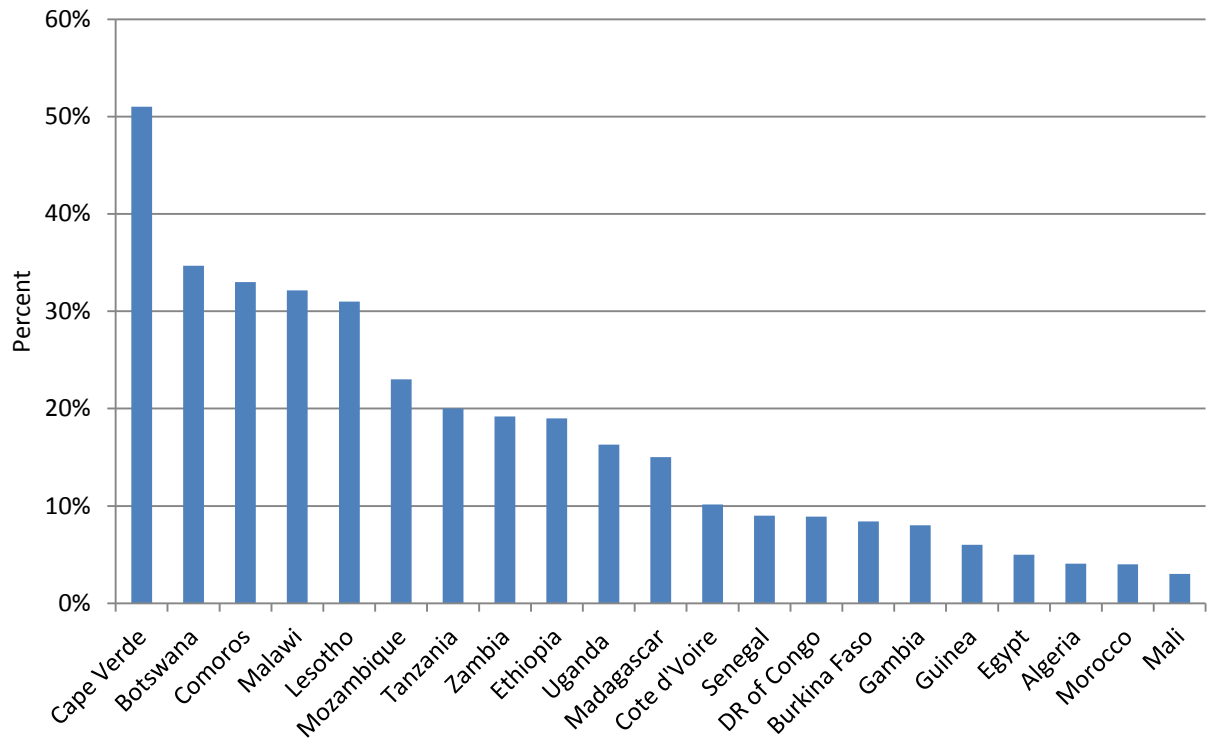
Panel A: Latin America and the Caribbean



Panel B: Asia



Panel C: Africa



Source: FAO (2011, 2012)

## ENDNOTES

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<sup>1</sup> In contrast, an empirical meta-analysis would require a fairly large number of studies that address a similar narrowly-defined question – such as how increased security of land tenure affects farmers’ investment incentives – with empirical methods (Stanley 2001, Fenske 2011).

<sup>2</sup> See Besley (1995), Besley and Ghatak (2010), and Kumar and Quisumbing (2012c) for more discussion of these channels through which land rights affect behaviors.

<sup>3</sup> This definition is repeated in numerous FAO sources, including the on-line “Agri-Gender Statistics Toolkit” at <http://www.fao.org/gender/agrigender/en/>.

<sup>4</sup> For analyses of land rights and credit access, see especially Chalamwong and Feder (1988), Carter and Olinto (2003), Deininger and Goyal (2010), and Field and Torero (2006). None of these studies focus explicitly on gender.

<sup>5</sup> In many cases, women have seen improvements in their access to credit through microfinance programs. For an overview of the microfinance movement, including impact assessment, gaps filled in cases of asymmetric information, and incentive structures, see de Aghion and Morduch (2005).