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Paper #3: Gendered Labor Access and Opportunities in the Rural Landscape and in Agricultural Markets

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Executive Summary

This chapter considers gendered labor access and opportunities in the domains of the rural landscape and agricultural market place of developing countries. By rural landscape we mean women's time use in non-remunerative activities like fuel and water collection, reproductive care and domestic work, and uncompensated agricultural labor in rural regions. When considering the agricultural market place we focus on women's ability to engage with local or international markets in obtaining fair value for their labor or produce. In particular, we consider agricultural wage labor in non-farm work, in local and global value chains, and in self-employment (especially small businesses). The rural landscape and the agricultural market place may be gender-contested for a variety of reasons including credit and land market imperfections that have differential consequential impacts by gender, as well as long-standing socio-cultural norms that dictate gender relations and sanction the manner in which women are expected to engage with non-domestic spheres. For example, explicit restrictions on mobility or restrictions that result from being time constrained due to engagement in multiple activities might mean that women have restricted access to profitable markets or have to mediate sales of their produce through men.

A large body of evidence points to several salient features of gender-contested arenas in the rural landscape and rural market place. The upshot of these features is that women bear the burden of reproductive care work and housework, and for several reasons including the ease of simultaneously accommodating childcare and income generation, women's representation in non-remunerative productive work in farming activities is relatively high. This high representation of women in unpaid work within the home and on the farm may be symptomatic

of “survival” as opposed to “accumulation” activities however, and may contribute to and be a result of widespread poverty and inequality.

Moreover, substantial gender gaps in agricultural productivity have arisen not because women are less efficient farmers, but because there are inequitable distributions of necessary inputs arising from entrenched socio-cultural norms and expectations. Women are also more income-constrained than men and this has repercussions on their ability to access appropriate levels of inputs and fertilizers. Another stylized fact is the increasing representation of women in wage work, where women now constitute about 43 percent of the agricultural labor force in developing countries. However, women’s wage work in the market economy is relatively insecure, low-paid, and unskilled, while men hold more of the stable high-paid jobs. Coupled with the responsibilities of housework and childcare, women’s long hours of labor outside the home shackle them with a double work burden. This double burden is especially true in poor rural regions since lack of adequate compensation from a single agricultural activity implies that women have to engage in multiple opportunities for paid work, thus further exacerbating their long hours of labor. Hence for women, income poverty and time poverty are mutually reinforcing. The time-poverty issue in the rural landscape and agricultural market place is a form of deprivation that warrants not just careful scrutiny but also rectification with effective policy action since male and female labor does not have equitable access to resources and opportunities.

In this context, dismantling a structure of constraints is crucial for reducing women’s work burdens, raising their labor returns, facilitating meaningful income generation options, and eliminating barriers that curtail women’s participation in market activities. The means toward these ends include initiatives to reallocate women’s time from unpaid to remunerated work; to provide opportunities that augment education and vocational skills; to strengthen women’s

representation in platforms for collective bargaining such as trade unions and co-operatives; to build, improve and extend basic infrastructure particularly in rural areas; to level the playing field in terms of access to agricultural information and services including the market prices of inputs and commodities; and initiatives to improve women's access to credit. For example, rural electrification programs that reduce the time that women need to collect firewood, or building of secondary roads that ease both the cost and time of transport, have the potential to bring tangible benefits.

Although policy lessons are different depending on the particular areas of focus, a careful examination of empirical evidence and case studies generates a set of important lessons on general best practices in eradicating inequities in the gender-contested domains of the rural landscape and agricultural market place. In the broad areas of labor rights, investments in workers, and policies to improve physical infrastructure, these include:

- (1) For those engaged in market wage work, placing women in leadership positions and strengthening their engagement in unions and collective bargaining processes improves women's status, and gives them stronger voice and agency.
- (2) Employer investments in women who work for a wage – such as provision of free transportation services to work or initiatives to build employees' human capital – reap high returns over the short run.
- (3) Initiatives that improve women's access to credit and provide skills training strengthen their ability to operate enterprises productively, and help to end their isolation from social and business networks that facilitate the flow of profit-enhancing information. In a similar vein, measures to connect small women farmers to marketing networks and local agricultural value chains improve their overall success and viability.

(4) Rectifying the debilitating effect of poor or absent infrastructure on women's unpaid work has large positive effects on their productivity in both the non-market and market spheres.

(5) Accountability matters for the success of programs. Approaches based on multiple stakeholders who are committed in the long-run are especially effective as compared to those with single stakeholders with limited commitment.

These lessons, whether applied in isolation or in tandem, have the potential to transform women's lives in developing countries such that their labor is valued on an equal basis with that of men, and to shift the balance of power in the gender-contested spaces of the rural landscape and agricultural market place in their favor.

I. Introduction

The relationship between economic development and women's participation in the labor market exhibits a fairly predictable and well-documented relationship. In countries that still have relatively large agricultural sectors and an emphasis on household farm production, the female labor force participation rate is high. In such economies, the distinction between paid work and home production is blurred, thus inflating the number of women who are considered economically active in the market. Although there is large variation even within narrowly defined ranges of countries, a generalization is that in these low-income countries, women often play the primary role in collecting and managing water and firewood, and in cultivating and maintaining the land. When countries begin to industrialize, female labor force participation rates fall as the household farm model becomes less common and more women engage exclusively in non-market activities such as childcare and housework. In more advanced economies, female participation rates begin to rise again as women combine working in the labor market with raising a family. This trend in women's labor force participation rates as countries industrialize generates a U-shaped function that fits time-series and cross-sectional data for a number of countries at different stages of development (Mammen and Paxson 2000).

As compared to 1990, female labor force participation rates in 2013 have increased in the Middle East and North Africa and in Sub-Saharan Africa, but decreased in South Asia and East Asia and the Pacific (UN Women 2015). Regardless of region however, men's labor force participation rates always exceed those of women (UN Women 2015). Gender differences become more pronounced when we consider the realms of unpaid reproductive/care work in rural areas, non-remunerative productive work on the farm, and the agricultural market place. Women generally work longer hours than men and they perform more unpaid housework and

care work than men, and men tend to experience a fairly stable time use profile over their lifetimes. Women experience more variable paid and unpaid work-loads as family structures change, and differences between men and women are largest when caring for young children (see Figure 1 discussed below which shows women's share of total time spent in care and housework duties). Rates of non-remunerative productive work on the farm (that is, unpaid family workers in farming activities without wages) tend to be higher for women than men as well in lower income countries, often due to the need to combine productive farm work with childcare (Rodgers and Menon 2013). Further, as we discuss below, many countries exhibit lower rates of agricultural productivity for female farmers due to their unbalanced access to land and other agricultural inputs (Duflo and Udry 2004, Oladeebo and Fajuyigbe 2007). Gender differences are also observed in the agricultural market place, which includes both wage labor and self-employment as small-business owners. While men are more concentrated in higher-paying skilled labor jobs in agricultural wage labor markets, women often cluster in lower-paying unskilled jobs.

In order to better understand these gender gaps in rural economies and agricultural markets, it is important to follow an integrated framework and a set of causal pathways that link gendered differences with social norms, economic constraints, institutions, international processes, and policy prescriptions. This chapter uses a framework in which male and female labor (a primary endowment) interacts in gender-contested spaces to yield sub-optimal outcomes and inequities that warrant attention from policy makers. Since labor itself may embody different capabilities due to gender differences in human capital investments, differences in economic opportunities between men and women may be driven by gender differences in capabilities. The gender-contested spaces in which male and female labor interacts include,

among others, the rural landscape and the market for wage labor – the spaces that we examine closely in this review of empirical work on gender and labor.

Consistent with the categorization in Knobloch (2014), we consider labor access and opportunities in three domains. The first domain is the division of labor across paid and unpaid work, a relatively traditional division in which men are disproportionately represented in the market sphere engaged in wage labor and self-employment, while women are disproportionately represented in unpaid work activities (both within the home performing housework and caring for children, as well as outside of the home collecting water and fuel). The second and third domains are components of the first domain and are defined with respect to that framework. In the second domain – the gender-based division of labor in the market sphere - there is a high degree of occupational segregation by gender, and jobs that are predominantly held by women tend to pay less and have lower status (women engaged in weeding in the fields while men operate agricultural machinery would be an example). The third domain is characterized by a gender-based division of unpaid work in which women tend to spend proportionately more hours than men on unpaid tasks that are less visible and relatively less valued (women engaged in relatively more house cleaning while men produce crops to sell locally would be an example). The gender-based division of labor across these domains is problematic not so much because it is inefficient as it is inequitable and prevents people from attaining their full capabilities (Knobloch 2014).

The three domains are closely intertwined. In particular, an unbalanced division of labor in the non-market economy, while an important contribution to the well-being of all, presents women with constraints and obstacles that limit the extent to which they can participate and advance in the market economy.¹ In the reverse direction, women's concentration in low-paying

jobs with little employment security in the labor market reduces the incentive for women to engage in market-based work and reinforces gendered access in the non-market economy (World Bank 2012).

These patterns are often bolstered by social norms and traditional expectations of gender roles. Social norms around gender are not simply constructs that individuals sense, they are tangible structures and impediments that are rooted in organizations, economic transactions, and group characteristics that vary by region and along social and demographic dimensions such as caste, ethnicity and age (Gammage *et al.* 2016, Kabeer *et al.* 2013). The fact that gender norms are entrenched in institutions is increasingly reflected in analytical work on gender and agriculture. For example, Egypt and Bangladesh have mostly patrilineal and patriarchal family structures that coincide with tight restrictions on women's freedom to navigate public spaces. These structures of constraints have contributed to extremely low female labor force participation rates, relatively few well-paid jobs, and sub-optimal economic growth (Kabeer *et al.* 2013). Strong social norms around gender have also contributed negatively to women's labor force participation in Chile, where the existence of machista and conservative cultural values together outweigh the positive impact of human capital investments to contribute to reduced female labor participation rates (Contreras and Plaza 2010). Ghana, alternatively, is characterized by the co-existence of both matrilineal and patrilineal kinship systems, both of which assign women major productive roles in the rural landscape and market domain to such an extent that Ghana is known as a country of female farming (Kabeer *et al.* 2013).

Although these brief examples may not do justice to the complex systems of gender relations and norms in rural economies and agricultural markets, they do help to illustrate how primary endowments such as men's and women's labor can have very different productive roles

in contested spaces that are subject to strong gender norms and a structure of constraints. The existence of these gender-contested spaces means that development policies and projects in agriculture (such as training programs and farmers associations), as well as technological innovations used in these areas, may vary in their levels of success across local settings. Moreover, policies in and of themselves may reinforce gender biases (Kabeer and Subramanian 1996). Ultimately governments should be more cognizant of the need for gender-aware legislation that is binding, and that changes existing institutionalized constraints such as inheritance laws to even the economic playing field for men and women (Kabeer *et al.* 2013).

II. Gender, Labor, and Agriculture: Patterns and Evidence

A. The rural landscape

One of the most salient features of gendered labor patterns in the rural landscape of developing countries is women's disproportionate amount of unpaid family work and their lack of paid employment. Women allocate their time not only to employment, but also to domestic responsibilities such as childcare, cooking, and cleaning. Fuel and water collection are particularly time-intensive activities that can occupy a substantial portion of a woman's working hours, especially in low-income countries with poor infrastructure.² Some of these time burdens have increased in the face of deforestation and larger village populations (Cleaver and Schreiber 1993, Mishra and Mishra 2012).

Time use data across a sample of countries representative of different regions indicate that within this group, women work longer than men in total, and they perform more unpaid work than men (World Bank 2012). Figure 1 shows women's share of the total time spent in housework/care and in market work for a sample of developing and industrialized countries (the list of countries is not exhaustive and may reflect the fact that reliable time use data are not

abundant). In the figure, housework encompasses reproductive and care activities, cooking, and collecting water that could potentially be undertaken using market substitutes, while market work encompasses both paid and unpaid activities dedicated to producing goods and services for the market place. Women spend as little as 10-11 percent of total time devoted to market work in Iraq and Pakistan, and as much as 42 percent of total time devoted to market work in Cambodia. In contrast, women spend as much as 86 percent of their total time on housework and care in Iraq and Guatemala. A generalization of the patterns in Figure 1 would be that women's time use in market activities tends to be lower in the Middle East and North Africa (MENA) and in parts of South Asia (India and Pakistan) and higher in industrialized countries, while the opposite is true in these countries for women's time use in housework and care. Boserup (1970)'s classification of "male farming systems" where women enjoyed fewer freedoms and "female farming systems" where they enjoyed more is still relevant in Figure 1, since the MENA countries are those in which patterns follow the former framework whereas the latter structure is more evident in Sub-Saharan Africa and Southeast Asia. A case in point is Cambodia, which is a noticeable outlier when it comes to a high percentage of women's time in total time spent in market work, and a relatively low percentage of women's time in total time spent on housework and care.³

Figure 2 shows lines of best fit between women's share of total time spent in housework/care and agriculture's share of total employment in the economy (Panel A). It is clear from Panel A that there is a strong positive association between agriculture's share of total employment in the economy and women's time in care and housework activities. Hence in the case of developing countries where agriculture dominates as the primary source of employment, women spend a substantially larger share of their time in reproductive, care and domestic activities. This relationship is less clear cut when we consider women's share of total time spent

in housework/care and the female to male employment ratio in agriculture (Panel B). The line of best fit exhibits a slight downward trend signaling that a greater representation of women working in agriculture is associated with slightly less time for housework/care. However the line is not steeply negative. Hence women engaged in agriculture do not experience lighter workloads in housework/care, suggesting that much of the simultaneous engagement in the domestic realm must be sourced from their leisure time. The domestic burden for these women thus remains high.

This conclusion of sizable gender gaps in paid and unpaid workloads based on aggregate country-level data has been confirmed with analyses of micro-data for individual countries across regions, especially in sub-Saharan Africa. For example, in Botswana, the labor market overall is characterized by widespread employment segregation with a substantial over-representation of women in unpaid family work and under-representation in wage and self-employment both in the agricultural and non-agricultural sectors (AFDB 2011). In Guinea, men are much more likely than women to work as wage employees in the capital city of Conakry, a pattern that is partly explained by men's higher years of schooling (Glick and Sahn 1997). Yet even after controlling for productivity characteristics, women still have a far lower likelihood of entering into wage employment (Glick and Sahn 1997). In South Africa, time use data indicate that women's difficulties in finding market-oriented work are interconnected with their relatively large workloads that result from being engaged in unpaid housework simultaneously (Floro and Komatsu 2011).

Projects that include digging wells and programs that supply households with new technologies such as cooking stoves and electricity have helped to reduce some of women's domestic work burdens. For example, in Burkina Faso, various organizations have started

initiatives to construct wells, supply carts to villages for hauling wood, build fuel-efficient ovens, and introduce hullers and grain mills to convert grain into flour. Evidence in Kompaoré *et al.* (2007) suggests that the introduction of these new technologies reduced women's workloads and helped them to use their freed-up time to create new businesses. Similarly, in Tajikistan, the time that women spend doing domestic housework is less responsive to personal and household characteristics than it is to access to infrastructure (Meurs and Slavchevska 2014). Absence of infrastructure, especially in rural areas, is an important determinant of the relatively high burden of unpaid domestic work borne by women (Dinkelman 2011).

Hand in hand with women's disproportionately large work burdens caring for children, performing housework, and collecting water and fuel is their high representation among unpaid family workers who engage in family labor in farming activities without receiving wages but produce goods that are either consumed or sold in the market. Although it is difficult to obtain comparable cross-country data on unremunerated productive work in the agricultural sector, there is readily available data for national labor markets from the ILO for unpaid family workers. Figure 3 draws on this data in comparing the share of all male workers and all female workers employed as unpaid family workers in a sample of African economies, most of which have relatively large agricultural sectors. As shown in Panel A, the proportion of women who are employed as family workers is higher than that for men in every country except for Mali, perhaps a reflection of its matrilineal society. Women's employment shares as unpaid family workers are particularly high in Ethiopia, Madagascar, and Zambia. These high unpaid family work shares stand in contrast with the proportion of women engaged in paid work - either in the wage labor market or in self-employment (Panel B). In this case, men are relatively more represented in paid work than women in almost every country, with the exception of Mali (as

just noted) and Botswana (where a high proportion of workers are classified as “other,” making it difficult to determine if they are engaged in paid or unpaid employment).

In addition to women’s relatively higher work burden in unpaid work, another salient feature of the rural landscape is substantial gender differentials in agricultural productivity that have been linked to biased access to agricultural inputs and to women’s relatively insecure land rights. For example, the gender gap in agricultural productivity is estimated to be \$100 million in Malawi, \$105 million in Tanzania, and \$67 million in Uganda per year (UN Women *et al.* 2015). These gaps are calculated by first converting the agricultural output produced by female and male farmers at the plot level into monetary values by multiplying plot output by crop-specific prices, then estimating the proportion of land cultivated by female and male farmers and combining that proportion with the gender productivity gap, and then calculating the size of the gap in relation to of agricultural GDP (UN Women *et al.* 2015). In all three countries, women’s limited access to inputs and support services serves as the main explanation for this gap. Among the imbalances, gender differences in the use of implements and machinery explain 18 percent of the gender gap in Malawi, 8 percent in Tanzania, and 9 percent in Uganda (see Table 1). These gaps in agricultural productivity are large, and the potential economic gains from eliminating them would translate into significant reductions in poverty and improvements in nutritional outcomes. As many as 238,000 people in Malawi, 80,000 people in Tanzania, and 119,000 people in Uganda could be lifted out of poverty by the closing of the total gender gap in agricultural productivity within each country (UN Women *et al.* 2015).

With respect to land, across developing regions, women own and control substantially less land than men. To illustrate the scope of these inequities, Figure 4 shows the percent of individual agricultural holders who are women in countries around the world that report gender-

disaggregated data on landholdings and management. By definition, an agricultural holder is “the civil or juridical person who makes the major decisions regarding resource use and exercises management control over the agricultural holding,” (FAO 2016). This definition includes land owners, producers, and managers.

Figure 4 shows that women’s control over land varies considerably across regions. In Latin America and the Caribbean - where women primarily gain access to land through inheritance and through community property rights that accompany marital laws - the data underlying the figure indicate that women’s representation among agricultural holders ranges from 30 percent in Chile to 8 percent in Belize and Guatemala. This range is better than in Asia where land reforms in numerous countries appear to have done little to redress gender inequities due to inheritance practices that traditionally favor men. In particular, the disparities are large within Asia ranging from 27 percent of agricultural holders who are women in Thailand to 8 percent in Nepal. In most African countries, where women’s control over land depends on customary tenure systems based on patriliney, the variation in women’s control over land is more substantial than in the other regions, partially reflecting the number of countries for which there is gender-disaggregated data and also reflecting variations in the extent to which countries have strong matrilineal communities. In Cape Verde, about 50 percent of all agricultural holders are women. However Cape Verde is by far an outlier compared to other countries. There are four African countries where women constitute about one third of land holders (Botswana, Comoros, Malawi, and Lesotho); on the other end of the spectrum lie Egypt, Algeria, Morocco, and Mali, where the 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 that insecure land tenure reduces the incentive of farmers to invest in their land.

As the decomposition results in Table 1 show and as argued in Whitehead (2008), land is not necessarily the most important binding gender constraint depending on countries' economic structures and other structural features. In particular, labor market and credit market imperfections can have greater adverse effects for women in their ability to engage in income-generating activities and to purchase farm inputs (Palacios-López and López. 2015). These varying social, structural, and market constraints mean that the underlying causes of agricultural productivity gaps by gender will vary not only across regions but also across countries within regions (Croppenstedt *et al.* 2013). Yet studies across developing regions have documented that once access to inputs (land, fertilizer, credit) is taken into account, women are as productive and technically efficient as men. That is, the main explanation for the gender gap in agricultural productivity is not that women are less efficient cultivators; rather, there is an inefficient allocation of land, labor and fertilizer among household members. Although access to land in particular may not always be a constraint that binds, it has implications for the scale of farming women can engage in and how productive they can be. This, in turn, affects their ability to generate a marketable surplus. Hence greater gender equality in land ownership and in access to agricultural inputs could possibly increase women's engagement in agricultural markets.

Much of the evidence to support this claim comes from Sub-Saharan Africa. For example, in Burkina Faso, plots controlled by women were farmed less intensively than similar plots simultaneously planted with the same crop but controlled by men within the same household. The main explanation was that inefficient allocations of land, labor and important inputs such as fertilizers meant that areas controlled by women were less productive. Results indicate that reallocating factors of production in a more efficient manner could increase output by 6 percent (Udry 1996). 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 farm their own plots without trying to maximize joint household production. In Kenya, women farmers were found to be as responsive to price incentives in terms of output supply and input demand as men farmers, and as economically efficient when agricultural inputs and human capital factors of production are taken into account (Alene *et al.* 2008). Moreover, in Malawi, female farmers were no less efficient than male farmers in terms of crop yields when inputs were provided, 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 (Gilbert *et al.* 2002). In an oft-cited study for 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. As a final example of the large number of studies on the gender gap in agricultural productivity in Sub-Saharan Africa, 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 (Oladeebo and Fajuyigbe 2007).

Although much of the literature on the gender gap in agricultural productivity has focused on Sub-Saharan Africa, the finding that this gap can be closed with equal access to inputs is not unique to the region. Within Asia, crop output in two agro-ecological regions in Bangladesh would increase by up to 10 percent if technical inefficiencies – which include a low share of female labor in total labor – were eliminated (Rahman 2010). Moreover, female rice farmers in Nepal are as productive as male rice farmers when access to irrigation and seed

technologies are taken into account (Aly and Shields 2010). And in West Sumatra, 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 (Hasnah *et al.* 2004). Another source of gender disparities occurs in land rental and sales markets. 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 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.

In Latin America, sizeable gender gaps in land ownership account for much of the agricultural productivity gap (Deere and León 2001, 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 (2001, 2003) argue 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.

These gender gaps in labor inputs and agricultural productivity can have sizable macroeconomic repercussions. A growing body of literature shows that the marginalization of women's labor impedes poverty reduction efforts, dampens productivity, and reduces economic growth (DFID *et al.* 2013). In agricultural economies, the effect of gender on growth prospects is linked to the gender division of labor within this sector, and gender inequality in land ownership and loan access. As demonstrated by the case studies reviewed in this section and as supported by cross-country evidence in Croppenstedt *et al.* (2013), gender equality in access to land, technology, and agricultural inputs holds the key to increasing productivity in food production. Not only is gender inequality economically inefficient, the sizable macroeconomic repercussions of its presence provide a rationale for better understanding and eliminating the barriers that prevent women from having full access to agricultural resources and productive paid employment opportunities. The predicted benefits from removing these barriers in terms of increased productivity of land and overall output are substantial (Croppenstedt *et al.* 2013).

B. The agricultural market place

The increasing representation of women in the workforces of developing countries has become a stylized fact of economic progress and structural transformation. Women constitute about 43 percent of the agricultural labor force in developing countries with their numbers projected to increase in all major developing regions of the world – especially in the Near East and North Africa – in data that has been tracked since 1980 (SOFA and Doss 2011). But this aggregate figure and general increase hides quite a bit of variation in the types of work that women perform. In this section, we focus on wage employment in the rural sector and examine gender differences in participation rates and the terms of employment, as well as patterns of occupational segregation. To do so, we rely on cross-country data for a sample of 14 countries

across 4 regions collected by SOFA and Doss (2011), which are reported in Table 2.⁴ As shown, men's participation in the rural wage market place is considerably higher in every country in the sample, especially in Latin America. For example, in Guatemala, just 8 percent of women hold wage jobs in the rural labor market compared to 31 percent of men, and this gap is of a comparable size in Ecuador, Nicaragua, and Panama. All other countries except for Bulgaria also show a wide spread between men and women in their rural wage labor market participation rates. Other sources have also noted the relatively small gender gaps in wage labor market participation rates in Eastern European countries, as exemplified by Bulgaria and most likely a repercussion of their socialist histories (UNDESA 2010).

Moreover, men are more likely to have a full-time contract rather than a part-time contract. For example, in Nepal, 54 percent of male wage laborers in the rural sector have full-time contracts (with the remainder holding part-time contracts), compare to just 28 percent of female wage laborers. In every country except for Nicaragua and Panama, the proportion of males holding full-time contracts exceeds the proportion of females with such contracts. Women are also over-represented in seasonal jobs instead of year-round jobs, which penalizes women since seasonal jobs tend to have lower pay and do not include benefits (SOFA and Doss 2011).

Table 2 further shows a sizable gender wage gap in rural areas, which in about half the sample is substantially larger than in urban areas. On average, excluding Panama where women actually earn more than men, men earn about 28 percent more than women in the rural sector across the sample of countries. The gender wage gap in the rural sector is highest in Vietnam and Ghana, while it is close to parity in Bangladesh and Nepal. Interestingly, there is no clear pattern across regions in comparing the gender wage gap in urban versus rural areas; in half of the countries the gap is higher in urban areas and in the other half it is higher in rural areas.

Finally, Table 2 reports the portion of the gender wage gap in rural areas that is explained by observable productivity characteristics and assets, and the residual portion. The explained gap varies widely across countries. As much as half of the gap is explained in Bangladesh and Nepal (where the total gap in the rural sector is very small), and close to half is explained in Ghana and Vietnam (where the total gap in the rural sector is very large). At the other end of the spectrum, the explained gap is actually negative in several of the countries, implying that if women were paid the same returns as men for their observable characteristics, then they would earn more than men. The unexplained portion is large and positive, resulting in a net higher average wage for men than women in every country except Panama.

Since the 1970s, women's labor has become a primary source of foreign exchange earnings for many developing economies. Women's low wages, due to women's job segregation in export industries that are subject to intense price competition and downward pressure on wages (especially in garments, textiles, and electronics), have played an instrumental role in the feminization of foreign currency earnings. While the concentration of women in export manufacturing has received the most attention, what is less recognized is that in many agricultural economies, women's seasonal or daily wage labor on farms has proven critical to keeping costs low and export demand high (Lastarria-Cornhiel 2006; Croppenstedt *et al.* 2013).

Market-oriented economic reforms and trade liberalization policies in developing regions have been accompanied by strong growth in the production of cash crops along with increasing segmentation and gender segregation of the agricultural labor force. Female participation in the 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. Across developing regions, increasing integration into world markets has brought new job opportunities for rural

women in high-value agricultural export goods such as cut flowers, fruits, and vegetables (FAO/IFAD/ILO 2010). The horticultural export sector is not the only area where women have seen new paid employment opportunities; livestock keeping, fisheries, and aquaculture have also become important sectors for job creation for women (SOFA and Doss 2011). In two large fish-producing economies – India and China – women constitute close to one quarter of all fishers and fish farmers, and in Indonesia and Vietnam, women represent 42 percent and 80 percent of the rural aquaculture workforce, respectively. Women’s increasing participation in fisheries and aquaculture has also been reported in West Africa, where “Fish Mamas” are active in most parts of the fishery value chain, from production to sales (SOFA and Doss 2011).

Overall, women constitute the majority of workers in these sectors in numerous countries. In a review of women’s employment in high-value agriculture industries, Dolan and Sorby (2003) estimate that women form at least 64 percent of the workforce (in Colombia) and as much as 87 percent of the workforce (in Zimbabwe) in a sample of countries that export cut flowers. The range is similar for countries exporting vegetables (66 percent female in Kenya to about 85 percent female in Mexico), but somewhat lower for picked fruit (45 percent female in Chile to 65 percent female in Brazil). A number of country case studies reviewed in Quisumbing *et al.* (2012) indicate that women make up more than half of the workforce in some horticulture industries, including Senegal’s French bean industry (90 percent female) and tomato agro-industry (60 percent female), Sri Lanka’s tuna plant workers (more than 90 percent female), and Latin America’s seafood industry (ranging from 52 percent female in Uruguay to 72 percent female in Argentina).

In most countries the relative age profile of these women is, on average, quite young. For example, in Kenya, 85 percent of women workers in the vegetable export sector are less than 29

years old as compared to 78 percent of men who are less than this same age benchmark (Dolan and Sorby 2003). Consistent with trends in many labor-intensive manufactured export industries, horticultural export employers tend to hire young women for certain tasks because of their relatively low wages and lack of bargaining power.⁵ As compared to men, women workers are perceived by employers to be more obedient and passive, have nimble fingers for detail-oriented tasks, and have weaker bargaining power in negotiations for terms of employment related to benefits and job security. These perceptions, along with other gender norms related to appropriate roles for men and women in agricultural production, have contributed to high rates of occupational segregation in agribusiness enterprises. Women perform relatively labor-intensive, unskilled jobs such as weeding and trimming in the fields, snipping and picking in the processing stage, and packaging, while men engage in jobs that are considered to require more strength and skill such as lifting heavy loads, construction, and operating and maintaining agricultural machinery (Lastarria-Cornhiel 2006). This type of segregation both reinforces socio-cultural norms and perpetuates existing employment structures in agricultural markets (Quisumbing *et al.* 2012).

The agricultural market place also encompasses small businesses and self-employment, an important source of productive employment for women and men across developing regions. While some individuals start their own businesses as a means toward greater flexibility in generating income and new opportunities for innovation, others resort to self-employment as a coping strategy in the face of scarce employment opportunities. In developing countries particularly, the very poor are more constrained in their economic choices by the market environment, lack of infrastructure, and insufficient sources of affordable credit. Hence small-scale entrepreneurship serves as the primary vehicle for income generation. Self-employment

rates differ by region. Self-employment in agriculture tends to be highest among women in Sub-Saharan Africa, East Asia and the Pacific, and the Middle East and North Africa (FAO/IFAD/ILO 2010). Self-employment in non-agriculture is highest among women in East Asia and the Pacific, Latin America and the Caribbean, and Sub-Saharan Africa (FAO/IFAD/ILO 2010).

An important issue to consider is whether poor rural women are better off being incorporated into agricultural value chains (either local or global) as wage laborers or as self-employed farmers. In principle, poor rural women are better off being incorporated as self-employed farmers since as “residual claimants,” although they bear more risk sometimes, they also have the opportunity to be more profitable in the long run. As wage laborers, wages are set for the term. Although risk is minimal (one always earns a wage as a wage laborer), the level at which the wage is set is low enough to reflect the fact that there is essentially no risk. An ideal scenario might in fact be path dependent, in which women begin their progression as wage laborers so that they may accumulate some earnings/savings and then those who want to transition into self-employed farm work (where women now have savings to buffer risk but also have the opportunity to make substantial profits that would accrue mostly to them).

Another important consideration is the extent to which women have benefited from international trade and foreign investment through new paid employment opportunities. Although low wages for women have raised concerns, some scholars argue that jobs in the export sector offer better pay compared to the existing alternatives for women, and the evaluation of wages in the export sector should hence consider wages in alternative jobs as well. This arguments applies to both manufactured exports as well as high-value agricultural exports, while in contrast, casual agricultural daily wage laborer is often viewed as a job of last resort

(Kabeer 2012). According to Maertens and Swinnen (2012), even though the rapid growth of modern supply chains in developing countries is characterized by a high degree of gender segregation, these supply chains have on the whole been beneficial for women in terms of reducing gender inequalities in the rural landscape. Production through large-scale estates and processing through agro-industries has led to greater employment generation for women and more direct benefits compared to farming through smallholder contracts. Others argue that as firms face pressure in international markets to keep production costs low, the jobs offered to women are increasingly insecure. Employment is often temporary, casual, flexible, and characterized by poor working conditions (Barrientos *et al.* 2004). The extent to which job creation resulting from global value chains helps to empower women is a source of extensive debate and depends not only on the terms of employment, but also on changes in women's bargaining power at home and their ability to leave relatively more exploitative, dangerous, and menial work (Kabeer 2012).

Integration into world markets has also been accompanied by financial liberalization and increasing vulnerability to global financial shocks. In times of economic crisis, women may join the labor force in an "added worker" effect as they attempt to compensate for declines in household income caused by crisis. In such times, it is common for households in these countries to cope with declines in income by sending household members to seek employment in paid work, or for those who were already working, to supply more labor. Added worker effects for women can also occur in the context of male migration from rural areas and from male deaths due to war. Changes in the status quo that are brought about by the displacement of men through migration, conflict or mortality are the catalyst for transforming women's lives and catapulting them into roles that may result in additional burdens, but may also lead to substantial benefits for

women in the long run (Quisumbing *et al.* 2012). For example, there was a strong added worker effect for women during Nepal's civil war from 1996 to 2006: women who lived in areas of Nepal with high conflict intensity were likely to work more in relation to comparable women in regions of low conflict intensity (Menon and Rodgers 2015). The results are interpreted as evidence of a labor supply effect rather than a demand effect: that is, the displacement of male workers during the war led more women to engage in market-based agricultural work and in self-employment in order to support their households, rather than being enticed to enter the wage labor market because of the creation of new economic opportunities. However, not all cases of male migration and the subsequent decline in the presence of men in the agricultural sector result in positive effects for women. For example, as a consequence of greater male involvement in non-farm activities and wage employment, Igbo women in Nigeria faced a double burden of cultivating food crops and undertaking traditional household chores with few reductions in the barriers relating to accessing production resources (Ezumah and Di Domenico 1995). In a more recent study, Degirmenci and Ilkharacan (2013) also find evidence of an added worker effect for women in Turkey, especially for women in rural areas, but structural constraints such as insufficient support for childcare and eldercare serve to weaken the potential for the added worker effect to serve as a large-scale coping strategy in times of economic crisis.

Another consideration in the gendered labor effects of increased integration in world markets is vulnerability to global price shocks and adverse effects on local production and labor demand. For example, saffron production is the major economic activity in Morocco's mountainous Taliouine-Taznakht region and the biggest source of paid work for women. Filipski *et al.* (2015) shows that saffron price volatility, which can be extreme, has large effects on saffron production and labor demand, especially for female harvest workers. Saffron price

upswings promote increased labor market activity, with producers hiring more male and female workers, especially from households endowed with relatively less capital. Yet the work is segregated – men are hired into cultivation activities while women into harvesting activities. As a consequence of their market employment, less time is devoted by women to unpaid care work at home, with potentially harmful effects on children. Saffron price reductions entail more negative effects for women than men in terms of wage income, largely because men have alternate opportunities for paid market work beyond saffron production while women have few other options for remunerated market work.

III. Success Drivers: Lessons from Case Studies

Thus far the study has presented a comprehensive review of empirical analyses of women's time use, paid work and employment patterns that focus on two gender-contested spaces in developing countries: the rural landscape and the market place. This description has painted a detailed picture of the challenges faced by women in these spheres, thus providing a context within which to understand the mechanisms at work and the framework of policies and tools needed to address these challenges. This section takes steps in the direction of formulating effective policies and techniques by outlining lessons from case studies and evaluating outcomes in contested spaces. The objective is to analyze drivers of success (and failure) in the spheres of human capital, livelihoods, and economic well-being, and to glean lessons that may be taken to the design of future initiatives and programs to improve women's status. Particular goals include increasing women's labor share in food production and agricultural work, reducing their unpaid work burdens (policies to this end may need to differ depending on whether the context was rural or urban), and eliminating gender imbalances in the labor market including wage gaps and occupational segregation.

A. Reallocating women's labor time away from unpaid work

An issue central to women's work in the gender-contested spaces of the rural landscape and market place is the disproportionately large amount of time spent in unpaid work, which constrains their ability to engage in other spheres (FAO/IFAD/ILO 2010). Although women's total work burdens are often higher than those for men, much of the work remains invisible and unremunerated. One reason is women's disproportionate representation in the labor force in the informal economy where lack of regulation implies that hiring and pay practices often work against women even when they are sole proprietors of enterprises. But even in the registered formal sector, there is an inequitable distribution of unpaid work that is shouldered by women. Consider workers in the horticultural export sector in South Africa, Kenya and Zambia. The majority of the workers are women, yet men are mostly in permanent employment whereas women are predominantly in temporary work. These flower and vegetable export industries face a proliferation of codes of conduct from importers and trade associations. In a set of studies that evaluated gender issues in employment patterns following the enforcement of codes of conduct, Dolan *et al.* (2002) and Smith *et al.* (2004) note that there are several code-related issues that are relevant for women. These issues include insecurity (especially relevant for women as they are in risky, temporary jobs), overtime (which is difficult to accommodate without additional childcare), insufficient wages (which make childcare infeasible for women who are sole caregivers), pregnancy (which is often a cause for discrimination in hiring), and family/maternity leave policies (which often do not exist). Hence, although competition and the pressure to lower wages favors hiring women (who are often paid relatively less and have lower bargaining power) in such global value chains, enforcement of codes of conduct may weaken women's positions.

Furthermore, the prevailing socio-cultural context in the horticultural sector does not encourage the promotion of women which further denies them opportunities for earning additional income, and exposes them to environmental hazards including chemicals which are widely used in the horticultural export sector. While harmful to both men and women, such chemicals are especially toxic to unborn babies and young, nursing children. Studies note that an approach with multiple stakeholders enacted at the local level would be most effective in addressing gender issues in these industries (Dolan *et al.* 2002, Smith *et al.* 2004 and FAO/IFAD/ILO 2010). Best practices to improve working conditions especially for women employed in wage work include provision of education on company policies to all workers as well as improved communications with workers and unions by employers.

In addition to the lack of job security and help with childcare, another factor that dictates women's time in unpaid work is poor infrastructure. In a study of time use by gender in Tanzania, Fontana and Natali (2008) find that planners and policy makers do not adequately recognize the role of improving infrastructure in transforming the market economy to work more effectively. Policies that would save time for women by reducing work not considered to contribute economically in the System of National Accounts (that is, unpaid domestic work and care work) include infrastructure improvement in the water sector, electrification, road construction, better transportation options and sanitation services. These needs are especially stark in rural areas. The authors calculate that women in Tanzania spent disproportionately more time in water collection, fuel collection and food preparation as compared to men. Provision of better infrastructure would, under certain assumptions and on average, result in a 24 percent increase in total annual cash earnings from reducing food preparation times, and in increases of 4 percent and 2 percent of total annual cash earnings respectively from reductions in water and fuel

collection times (Fontana and Natali 2008). Since most of these earnings would accrue to women as they spend the bulk of their time in these activities, there may be additional beneficial spillover effects in terms of poverty reduction, investments in children, and increased economic well-being within the home. Evidence in Fontana and Elson (2014) supports many of these findings but cautions that women's alternate employment in paid work that may be afforded by the provision of infrastructure to ease access to water is not automatic and depends importantly on existing options.

B. Provision of skills training opportunities

In the gender-contested space of the market place, women lag behind men in terms of acquiring skills. Even in the general rural landscape, whether they work in agriculture or are engaged in non-farm enterprises, women would benefit from opportunities to replenish and accumulate skills. A relevant case study is that of Cargill's labor improvement program in Thailand (Lawler and Atmiyanandana 2000). This program was implemented to reduce high turnover and absenteeism rates in one of the large poultry processors in Thailand that mainly hired female workers. Causes for the high turnover and absenteeism rates among women workers included widespread dissatisfaction with the job, burdensome family responsibilities, and for those coming from agricultural households, the seasonal need to assist other household members with farming operations. High rates of turnover were costly for the processor because it meant that there was little time to recover the costs of training the employees (training was provided upon entry with the aim of increasing productivity), and because workers had less time-on-the-job to augment experience – an important ingredient to improving output.

Several measures were adopted to reduce turnover and the rate of absenteeism. The first was that compensation was linked to performance and time in the company. Production

workers' pay and opportunities for promotion were both tied to their productivity, and basic pay increased with tenure in the company. Other policies linked bonuses to attendance and reduced accident rates. The company also invested in several gender-sensitive policies. Supervisors were trained to be more responsive to employee needs. For example, supervisors were allowed to give production workers extended leave as needed (without pay) to deal with family emergencies that might arise. Policies on maternal leave were reinforced, annual physical examinations were required for all employees, and monetary assistance was provided for children's schooling. Free bus service was arranged for all employees and women in particular viewed this service favorably as it addressed work and safety concerns. Another policy was an educational program that allowed employees to attend classes outside of normal work hours and receive pay. Women – many of whom had only the basic level of schooling required to be in their job – viewed this policy as an opportunity to attain a higher level of education and to demonstrate a more positive influence on their children. Finally, shifts between daytime work and nighttime work were rotated among the production workers every two weeks. These policies, some gender-sensitive and some not explicitly so, strengthened the worker's attachment to the employer.

Another relevant case study when it comes to provision of training and other opportunities is that of workers in the Sao Francisco valley grape farms in Brazil (Selwyn 2007). This valley provides export quality grapes to markets in the UK and Europe, places that in turn enforce strict quality control standards. In order to meet these standards and to select the most appropriate workers for these jobs, several policies were implemented including a minimum wage that was 10 percent higher than the national wage, overtime pay that was higher than base pay, a higher wage and provision of protective gear for workers involved in applying pesticides,

provision of childcare facilities, a paid day per month for women workers to see doctors, and the right for nursing mothers to tend to their babies for an hour more than the originally sanctioned lunch hour. Other policies tailored towards women included a three-month paid maternity leave, provision of free bus transportation to and from work, and the provision of drinking water.

These policies were especially attractive to the women workers of the Sao Fernando valley who, in comparison to the other regions of Brazil, were more likely to be employed on permanent contracts. Women are important in the export grape business as they are considered by supervisors to be especially adept at skilled tasks such as bunch pruning. Given quality control pressures, tending to the needs of such workers was considered to be of paramount importance. Unlike other studies of export agriculture that have pointed to the lack of power among laborers employed in these industries, Selwyn (2007) underlines that the strategic leverage exercised by workers in the Sao Fernando valley and the presence of powerful trade unions that provide a backdrop against which to exercise this power, have allowed workers to experience substantial gains. Hence these Brazilian grape farms are an example of how global value chains impose a northern retailer's standards on southern suppliers, and directly improve conditions for workers employed by suppliers in the process of increasing the production and packaging of export commodities for world markets.

Finally evidence in FAO/IFAD/ILO (2010) highlights the case of Junior Farmer Field and Life Schools (JFFLS) which have been successful in improving the skills and training of farmers, especially women farmers. Both boys and girls are taught agricultural concepts including sowing, weeding, conservation, processing of crops and marketing. This training is bundled with basic education and learning, and other concepts of equality, health and nutrition. Evaluations of these programs have been positive especially in terms of their impact on the

empowerment of women and girls who have benefitted from the new methods and innovative means of skill delivery.

C. Strengthen women workers' labor rights

In addition to reallocating women's labor time away from unpaid work and providing skill training and other opportunities, strengthening of women's labor rights is crucial in ensuring that women workers can compete on an even ground in the gender-contested space of the market. Take again the case study of South Africa's fruit market, Kenya's flower market, and Zambia's vegetable and flower market: studies note that codes of conduct that are applied from the UK and European buyers need revision to be applicable to these largely-informal markets where women are in a majority (Barrientos *et al.* 2003; Tallontire *et al.* 2005). Codes of conduct are applied by Northern buyers to improve working conditions among Southern suppliers, but often inequity in power between buyers and producers implies that many of the risks of production and distribution are borne by producers. Some of the management strategies that producers bear in order to manage such risks and to maintain high quality standards include taking on the burden of falling market prices and meeting deadlines using "just-in-time" production techniques which dictate the use of flexible employment methods. These strategies, in turn, often necessitate the use of informal workers who have little job security, labor organization or social protection. As noted above, informal work, while attractive to women because of the ease of movement it affords between productive and reproductive roles, is marked by the absence of collective bargaining frameworks among a set of other disadvantages.

The lack of worker organization is particularly true for informal work in agriculture including horticulture. Representation of women's interests by trade unions is weak and among them, formal union membership is extremely low – for example, only 8 percent of women in

South Africa were members of unions (Barrientos *et al.* 2003). This low union representation has implications for women's rights and responsibilities and keeps them insulated from formal labor regulations and the benefits such regulations might bring including maternity leave, childcare, and employment protection. While codes of conduct may be enforced by buyers on poor producers, a deeper understanding of the socio-cultural context in which the codes operate is essential, as is cognition of the fact that the context is often not gender neutral. As discussed above, codes that are developed with multiple stakeholders are often found to be the most gender sensitive, but mainly in formal sector employment (Barrientos *et al.* 2003; Tallontire *et al.* 2005).

Another example of the importance of strengthening women worker's labor rights is the case of informal sector workers in Ghana's national labor laws (Chen 2009). In this case, a three-way effort by the government, employers, and the Ghana Trade Union Congress (GTUC) successfully extended rights covering formal sector employees to those in the informal sector. Although this was a joint effort that resulted in the New Labor Act of 2003, it was instigated independently by the GTUC which undertook a review of the national laws and found that they were not attuned to ground realities or the Ghanaian constitution. The aim had not been to improve the lives of women workers as such. Rather, since women in Ghana are concentrated in the informal sector with low levels of earnings and high levels of employment risks, they were the indirect beneficiaries of regulations that furthered job security and employment protection. These regulations included provisions for temporary and casual workers that were the same as those afforded to permanent workers including equal pay for work of equal value, the full minimum wage for days worked including public holidays, and medical benefits. Further, employment of a temporary worker for more than six months implied that that worker must now be treated on par with a permanent worker. This was an example of an action by a national trade

union that resulted in extending social protection and other benefits to informal sector workers, a large majority of whom were women.

Other examples of legislations and initiatives that have worked to strengthen women worker's rights include the Employment Equity Act and the Wine Industry and Agriculture Ethical Trading Association (WIETA) in South Africa, the Uganda Code of Practice, rights training that was promoted by Women Working Worldwide, and the National Union of Plantation and Agricultural Workers in Uganda (World Bank/IFAD/FAO 2009; Women Working Worldwide 2007, 2008; FAO/IFAD/ILO 2010).

D. Extending rural sector public works programs

One of the biggest determinants of women's time in unpaid labor is the state of public infrastructure including roads and electrification, and ease of access to drinking water and firewood. These areas are the domain of women in developing countries, many of whom have commensurately less time to work in a remunerated sector even if they are able given the time-intensive nature of water and firewood collection and other household activities. For example, women spend up to four times more time than men when it comes to transportation-related activities in Tanzania (IFRTD 2016). Easing this burden can liberate women's work and improve rural infrastructure simultaneously if adequate provisions are made to enable them to participate to the extent that they can through, for example, the provision of child care services on-site (FAO/IFAD/ILO 2010). Further, making women stakeholders in projects that build infrastructure such as roads often brings significant returns. Nowhere is this approach more evident than in the Peruvian rural roads maintenance program (World Bank 2004). This program, which operated in Peru from 2003 to 2006, increased women's participation in decision-making roles by setting female quotas of 10 percent in microenterprises that were in

charge of maintaining rural roads. Researchers found that these quotas served to increase women's representation in executive roles such as President, Secretary, Treasurer, and Supervisors. Women took on all types of maintenance activities and performed them on par with men, sometimes better. Thus the Peruvian roads program is an example of a rural program that improved women's participation and created an asset that, in turn, benefitted them primarily.

Another infrastructure-focused development scheme that brought significant benefits to women is South Africa's rural electrification program. In particular, Dinkelman (2011) finds that the introduction of rural electrification increased female employment within five years, primarily by allowing for micro-enterprises and by liberating women from home production. With electrification, households used less wood within the home and increasingly adopted electric lighting and cooking. Electrification thus worked as a labor-saving device in the rural landscape allowing women to move from home production to market work (Dinkelman 2011).

Another case where development of infrastructure has been especially fortuitous to women is the National Rural Employment Guarantee Act (NREGA) of 2005 in India. This Act guarantees each rural household a minimum of one hundred days of work per year. Although there are few eligibility requirements, it was believed that the nature of the work and the level of wages were such that only the poor would self-target into accessing the program. According to the government, the main aim of NREGA is to increase wage employment and wage security in rural India. Secondary objectives included addressing underlying reasons for poverty such as deforestation, soil erosion and drought. As part of these secondary services, sponsored projects involved road construction, improved irrigation, and water conservation.

Although these categories of work reflect manual labor, there are several reasons why women workers in particular may be attracted to NREGA work. First, wages in NREGA work

do not differentiate by gender which means that the offered wage differential between rates for alternative options and NREGA work is especially attractive for women. Second, much of the work can be undertaken locally, a stipulation that reduces commuting times to work sites and also reduces the burden for women who bear the bulk of the responsibility for house work. Third, NREGA worksites also have the mandated availability of childcare facilities. While this provision was not fully enforced at all sites, it eased the burden of child care in areas where this functioned relatively well (Narayanan 2008). This further eases women's time restrictions that may now be re-directed towards labor-intensive yet remunerated work. Results of an evaluation of the program suggest that NREGA has had positive impacts on public works employment and on labor force participation rates, especially for women (Azam 2012). There were also gender disaggregated impacts in casual wage rates: wages of women workers increased by 8 percent more in NREGA districts compared to control districts whereas the impacts on male workers were of smaller magnitudes. These wage increases for women may have resulted in important feedback effects such as stronger bargaining power within the household, just as the program itself led to the construction of much-needed rural infrastructure than would have occurred in the absence of the scheme.

E. Improving access to information and services

One of the ways in which women in agriculture are constrained in the gender-contested spaces of the rural landscape and market economy is by having limited access to information and other services. Women often are not represented in agricultural cooperatives to a large degree. They are also mostly absent from professional and service networks which allow for the quick diffusion of information. Much of this is because socio-cultural norms limit their mobility and social circles. In considering patterns of agricultural support services in particular, extension

agents who are women may be more likely to reach women farmers especially in societies that are highly segregated by gender (Quisumbing *et al.* 2012). Improving access to information for women in order to improve their productivity and success in the rural landscape and market place is of special importance. India's "Gyandoot" network serves as one good example of the means by which women's access to information has been fostered (DFID/FAO/ODI 2002). This network is a system of village "kiosks" that are linked through an intranet system where people may access public information such as land records, technical advice, marketing information for agricultural commodities and prices, and details on government projects. It also serves as a communication outlet as individuals may submit complaints directly to the local government. This computer intranet system is used for other functions as well such as e-marketing, for obtaining information on education, syllabi, exams and textbooks for children from the government's education staff, and even as a matrimonial service (DFID/FAO/ODI 2002). Gyandoot's innovations, especially the ability to post questions to agricultural extension staff and the ability to gain information on market prices of grains and other commodities, are invaluable to India's female farmers. This technology has the power to bring measurable benefits to a segment of farmers who are often not recognized in their own right, and who are often curtailed in their everyday dealings with the market.

Another example of what improving access to information and services means to women in the contested spaces of the rural landscape and market place is the case of mobile phones in Africa. The coming of this new technology has had widespread impact on economic development (Aker and Mbiti 2010). But there is evidence that mobile phones have had disproportionately positive effects for women. For example, Klonner and Nolen (2008) find that the introduction of a mobile phone network in South Africa had widespread labor market

consequences that were stratified along gender lines. In particular, with the advent of this network, employment increases by 15 percentage points in rural areas, and much of this effect is for women who do not have large childcare responsibilities within the home. Most of these women find work in wage employment. There is also evidence of sectoral shifts with the advent of network coverage as agricultural employment declines, especially among men. These large employment increases and sectoral shifts translate into increases in household income and measurable declines in extreme poverty in South Africa. Although the study does not clarify how women's wage employment increased with the introduction of mobile phone networks, a mechanism may be the opening up of avenues for new businesses and self-employment work in rural settings that could now hire women. Hence, improving access to services and information can bring substantial targeted benefits to women.

F. Improve women's access to credit

One of the consequences of remaining isolated from networks is restricted access to credit markets. This restricted access also results from women's relatively meager control over assets that can be used as collateral. Further, formal lending institutions often view women as risky clients because women have lower levels of education and skills which increases the perception that they cannot be "banked." These restrictions handicap women in their abilities to undertake profitable work and further contribute to their disadvantage in the gender-contested spaces of the market place and rural landscape. India's rural sector serves as a good example of an arena in which women experience such a disservice. However, widespread government efforts to tackle poverty by increasing access to banks in poor areas can have strong impacts on women in such venues. Menon and Rodgers (2011) examines the impact of India's rural social banking program which the government initiated in 1969 following the nationalization of banks.

Between 1969 and 1990 when the program ended, up to 30,000 new bank branches were opened throughout the country. Provisions of the program included mandates based on population and the stock of branches per capita, with a particularly strong requirement from 1977 onwards that required banks to open branches in four previously unbanked locations (often in rural areas) in order to obtain a license to open a branch in a place that already had a bank. The government also set deposit and lending policies to provide incentives for people to use the new banks. The savings rates were higher and lending rates were lower than in urban areas, and there were targets set for lending in priority areas that included agriculture and small-scale entrepreneurship.

Increased availability of credit that was afforded by this program was of particular significance to women. Since much of the rural women's labor in India is uneducated and restricted in its mobility, women were most likely to be employed in small-scale "female" trades such as spinners, weavers, and makers of tobacco products. These activities tended to be limited in nature and only marginally profitable. In this context, the easing of credit constraints allowed transitions to more profitable work on a larger scale.

Results in Menon and Rodgers (2011) indicate that women's self-employment, especially as own-account workers, responded positively to the increase in rural bank branches. In particular, women's self-employment increased by 0.16 percentage points for a unit increase in the number of bank branches opened in rural unbanked locations per capita while there were no significant effects on men's self-employment. Interestingly, women's probability of self-employment as own-account workers showed greater responsiveness to loans from banks as compared to loans from other informal sources such as moneylenders, employers and family members. This result is consistent with an argument that pre-existing failures in the market for formal credit curtailed talented women from becoming self-employed. Once these constraints

were alleviated, able women entrepreneurs found discourse to the means to finance and operate new microenterprises. The provision of loans did not come bundled with the provision of extension or training services. It is possible that with such provisions, rates of success for women may have been even higher. Hence India's rural banking reform is an example of a government intervention which, although not specifically targeted to women, worked successfully to release women from funding constraints and provided them with an advantage in the gender-contested spaces of the rural landscape and market economy.

IV. Summary and Policy Lessons

This study has shown that even though women's labor force participation rates in agriculture have risen in recent decades and agricultural export markets in developing countries have seen a feminization of foreign exchange earnings, sizable gaps remain in gendered labor access in the rural landscape and in the agricultural market place across different regions of the world. Although there are variations across countries, salient features that arise in the rural landscape are women's relatively greater burden of unpaid housework and reproductive and caring labor, women's relatively greater representation in unremunerated productive work as family helpers in farm activities and family businesses, and agricultural productivity gaps that arise not from lower female efficiency but from inequitable access to land, credit, technology and agricultural inputs. Moreover, women's engagement in paid work in the labor market in post-production local or global value chains and in non-farm wage labor, and in self-employment in small businesses or as petty traders and sellers, is also on an uneven playing field with several inherent disadvantages. These inefficiencies not only have negative repercussions for overall agricultural output and growth, they severely curtail women from achieving their full productive capabilities.

Women continue to perform more hours of housework than men with the greatest disparity occurring during prime child-bearing and child-rearing ages. Although the proportion of time in housework varies across regions, a large part of the unequal distribution of unpaid labor in the household stems from the perpetuation of social and cultural norms that dictate that childcare and housework is primarily a woman's domain. Together with high economic activity rates for women in very poor countries, these patterns underline a double work burden for women. In particular, since a single agricultural activity often does not provide adequate compensation, women often engage in multiple paid activities simultaneously (Johnston *et al.* 2015, UN Women 2016). Coupled with domestic responsibilities, this further increases their hours and intensity of work. Framing the double work burden as a time-poverty issue couches these gender differences in the more compelling language of deprivation, and increases the importance of finding ways to eliminate them. Empirical evidence shows that a main determinant of women's time in unpaid work is poor infrastructure.

Given differences in history, socio-economic characteristics and culture across regions, it is infeasible to prescribe "one-size-fits-all" policy lessons. However, there are certain themes that are common across these contexts which, if implemented in tandem, may serve to mitigate the challenges that women face in these arenas. These lessons include the need to economically value unpaid work and to adopt practices that redistribute the burden of care and housework; the implementation of public works programs that build time-saving infrastructure (for example, provision of piped water); the development of programs that reinforce women's skills that enable them to increase their future employability; and the incorporation of other key policy ingredients that allow women to engage in work in a meaningful manner (for example, the guaranteed provision of on-site child care facilities). The emphasis on skills formation is particularly

important so that such policies achieve more than just a simple switch away from unproductive employment in agriculture to unproductive employment in non-agriculture for women.

Empirical patterns also point to the importance of creating more wage-employment and rewarding self-employment opportunities. Again, this specific policy prescription may not be universally applicable. For instance, there is little point in encouraging new avenues for rural non-agricultural employment in contexts where markets to sell the output produced by such employment are absent. Further, small business self-employment activities owned and operated by women tend to be limited in scale. There are several explanatory factors that vary across regions but in general these include land, credit and technology constraints which disfavor women and which can be mutually reinforcing. Although access to land is an important hurdle, there is evidence that it may not be the most binding restriction, especially in countries that have an abundance of land. But issues such as lack of education, skills and basic awareness impede women's ability to access credit in particular on an even basis. Thus policies that build skills and knowledge – perhaps through local grassroots and community-led education clinics tailored to women – and other initiatives that foster the development of networks for marketing purposes (given context specific constraints, many women owned businesses have to depend on men for purchase of inputs and sale of output), may increase the scale of small businesses and transform them into powerful engines that generate marketable surpluses and productive employment.

Along these lines, public and non-governmental institutions could play key roles by investing more in infrastructure and providing subsidies and support for the marketing and sale of products produced by female-operated businesses. In this context, an avenue for quality jobs has been employment in local or global supply value chains that generate non-traditional agricultural exports. Although wages are relatively high, women in these occupations are at the

lowest rungs of the organization and face a plethora of challenges. Since bolstering their position in the labor market is likely to bring greater returns than a focus on their actions as producers, public and NGO groups have a further key role to play by encouraging the creation of farmer cooperatives and unions especially among smallholders, and by generating conditions that foster women's active participation in them. Making women more aware of their employment rights, and community-led strategies to enforce labor standards embedded in codes of conduct, would serve to increase their voice and agency on multiple platforms. Of course, national laws and regulations must fully cover women workers both in theory and in practice. Governments can promote gender equality in employment through provision of critical public goods and effective natural resource management.

One of the biggest hurdles to the formulation of effective policies to improve women's positions in the realms of unpaid and paid work in the rural landscape or the agricultural marketplace is the lack of reliable micro-level data on women's time commitments, the environment in which women operate, detailed characteristics of their work, the constraints that they face, and demographic and other information on individual and household features including assets ownership and control over resources. This absence of detailed data has impeded the ability to comprehensively understand the situation that women face, and the true extent to which their costs bind. Collection of reliable quantitative evidence over time would thus be invaluable in terms of fostering policies that truly work for women. In an age of competing needs given limited resources, such evidence would help to persuade policymakers that gender-sensitive goals and strategies need to be prioritized. Hence sex-disaggregated data from rural communities is a necessary condition for effective policy design across countries.

This study has also reviewed a large body of work showing that female farmers are as efficient as male farmers, but a socio-culturally rooted structure of constraints has contributed to sizable gender gaps in the adoption of high-value crops, and in the use of agricultural implements, pesticides, and fertilizer. Analysis of the costs associated with these gender gaps may help planners prioritize alternative entry points to assist women. The evidence shows that closing gender gaps in access to labor, the use of cash crops, access to agricultural machinery and implements, and in the use of pesticide and organic fertilizer will serve to raise agricultural production. When introducing innovations into the rural landscape for a target population of producers, policymakers should be informed about existing gender-differentiated constraints that affect input use, technology choice and the subsequent generation of income. These constraints are often the result of explicit and implicit gendered norms that lead to unequal rights and terms of access to inputs. In such contexts, agricultural extension services that are gender-sensitive and taught by female extension agents may be extremely effective in training women and in raising their productivity. Similarly, improving women's experiential learning through farmer field schools is another avenue that has the potential to significantly benefit women.

Finally, several broader policy lessons may be drawn from the case studies on best practices in reducing inequities in gendered labor access and agriculture. First, accountability for the success of programs should be widely held. As demonstrated from the case study of horticulture exporters from several African countries, approaches based on multiple stakeholders work better than single/limited holder interests. The case studies also highlight the importance of flexibility in terms of work policies in dealing with women workers, evidence of willingness to invest in workers (such as the provision of free transportation to and from work), and provision of initiatives that invest and build the human capital of workers. Another policy lesson

is the importance of increasing women's representation in unions and their engagement in the collective bargaining process. Broadly speaking, placing women in leadership positions increases accountability and ownership, and serves to promote women's success in the gender-contested spaces of the rural landscape and market place.

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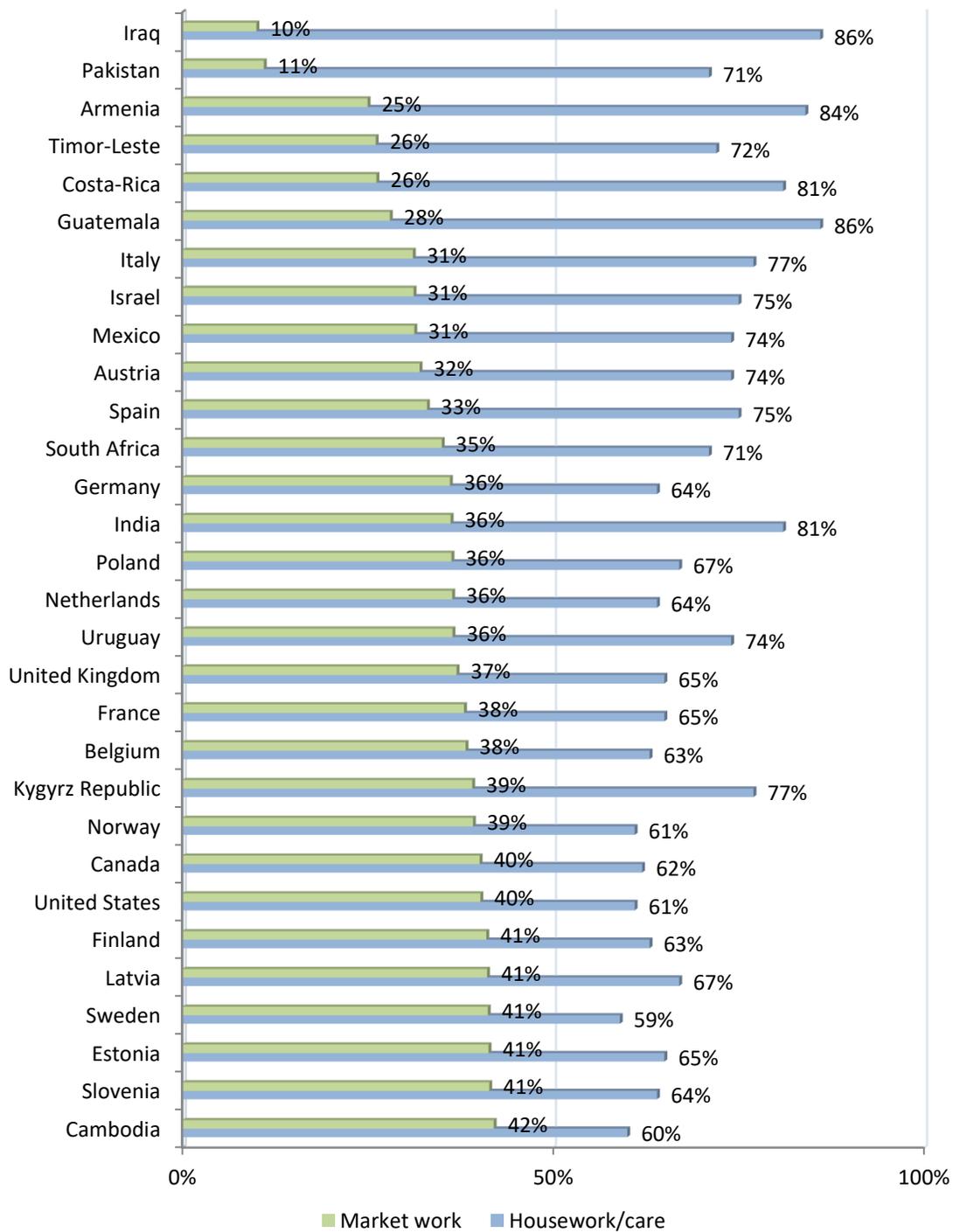
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Figure 1. Women's Share of Total Time Spent in Market Work and Housework/care



Source: World Development Report 2012 team estimates based on time use surveys.

Figure 2. Association between Women's Share of Total Time Spent in Housework/Care and Measures of Agricultural Employment

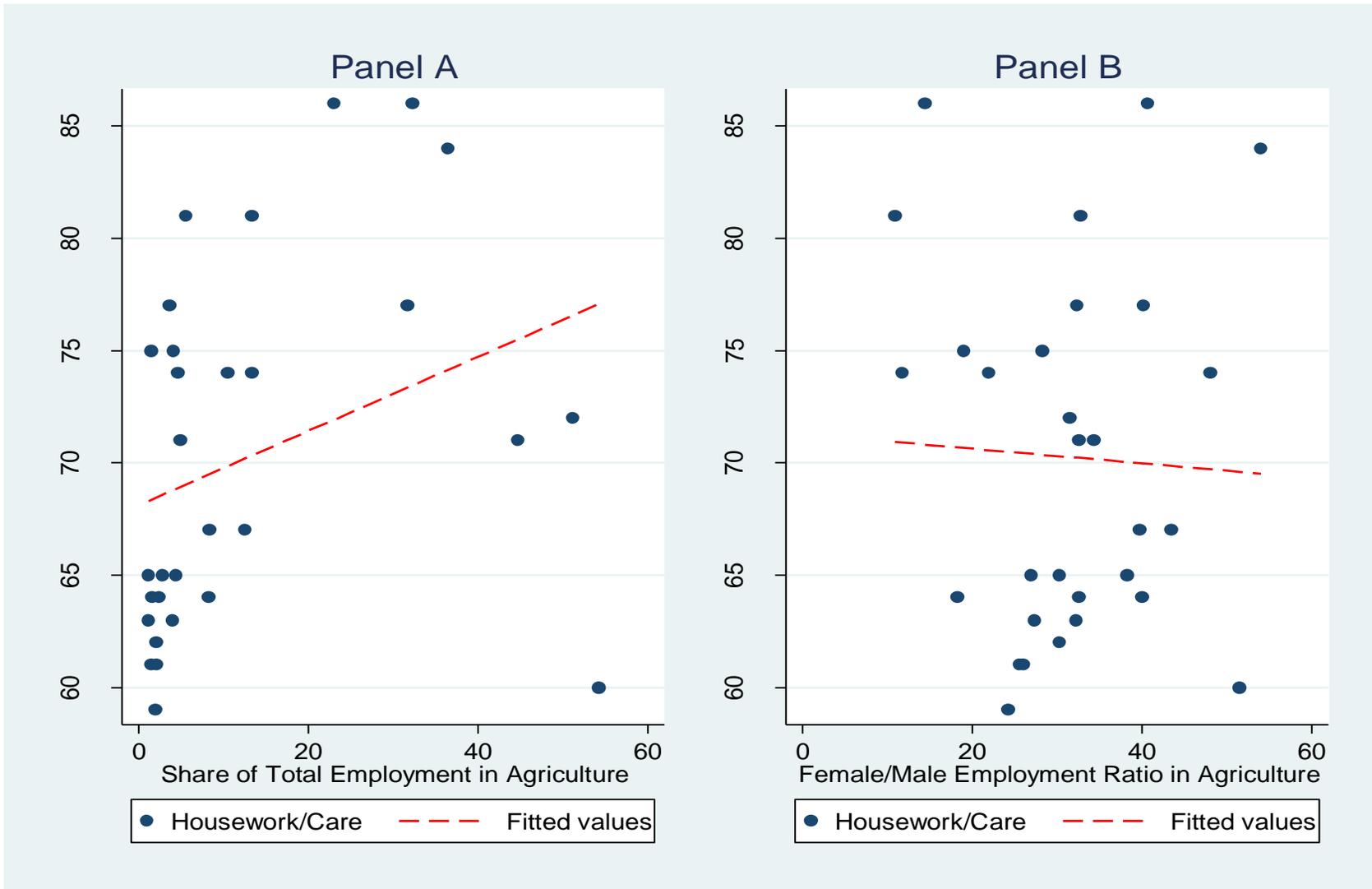
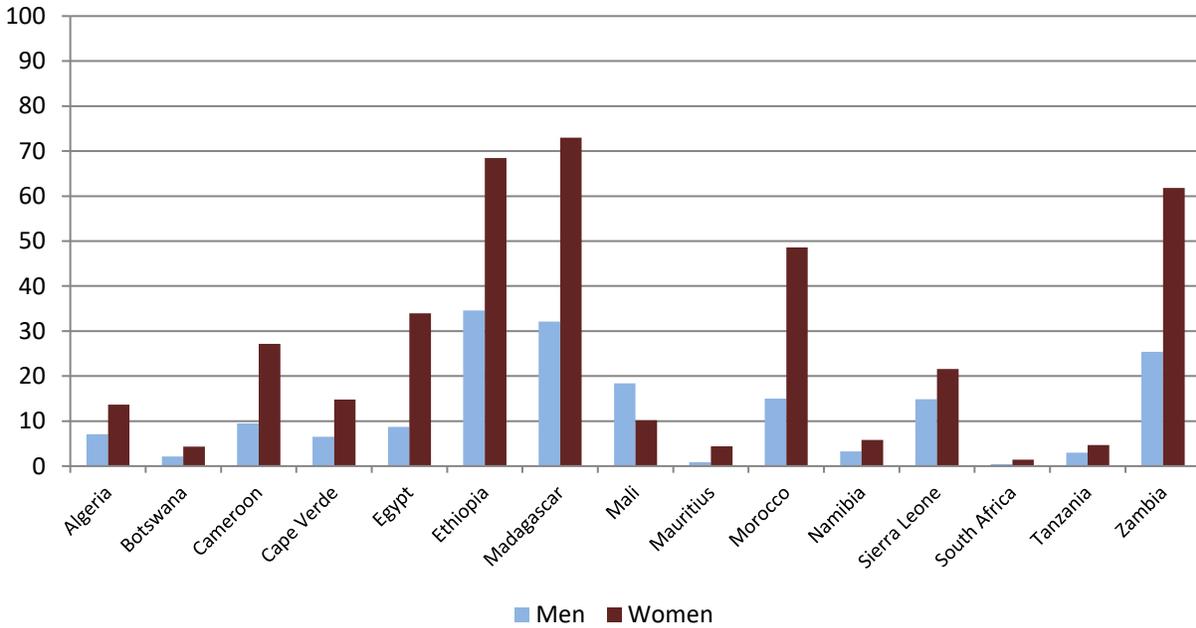
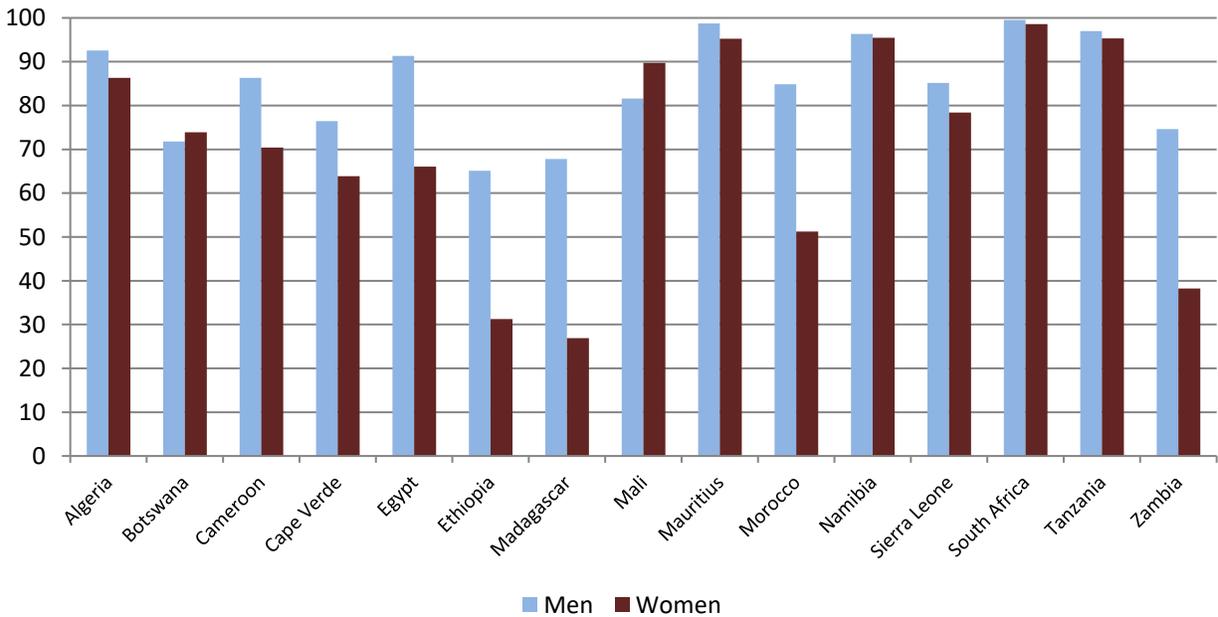


Figure 3. Non-Remunerative Productive Work Shares and Labor Market Shares by Gender in African Economies.

Panel A. Percent of Employed Men and Women in Non-Remunerative Productive Work



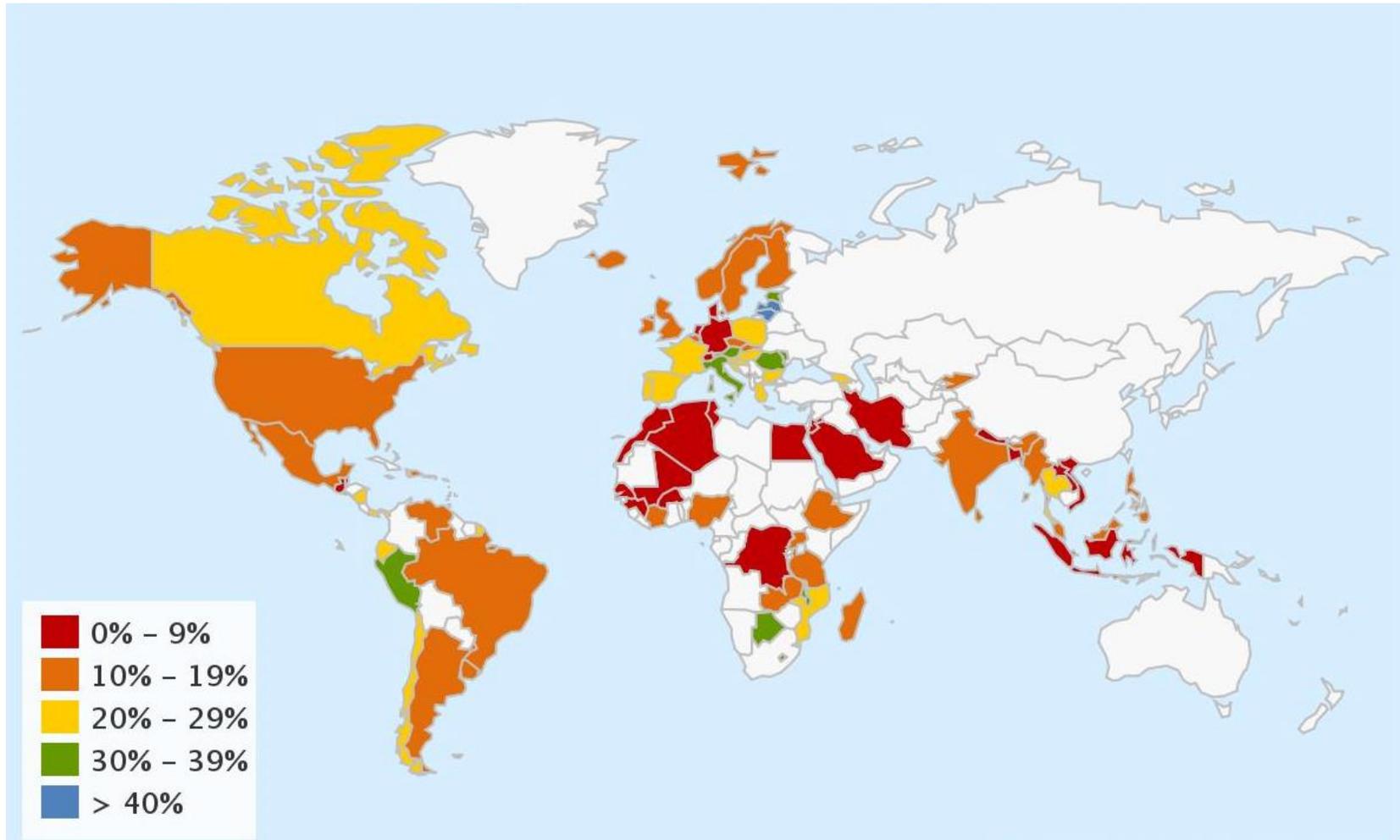
Panel B. Percent of Employed Men and Women in Paid Work (Wage Labor or Self-Employment)



Note: For each country, the data are for the most recent year available between 1999 and 2008.

Source: Rodgers and Menon (2013) based on ILO data.

Figure 4. Percent of Agricultural Holders who are Women.



Source: Food and Agricultural Organization (2016).

Table 1. Decomposing the Gender Gap in Agricultural Productivity

<i>Determinant</i>	Malawi			Tanzania			Uganda		
	<i>% of gap</i>	<i>In terms of GDP (\$)</i>	<i>% of GDP</i>	<i>% of gap</i>	<i>In terms of GDP (\$)</i>	<i>% of GDP</i>	<i>% of gap</i>	<i>In terms of GDP (\$)</i>	<i>% of GDP</i>
Access to male family labor	45.19	45,110,180	0.84	97.34	102,180,543	0.45
High-value crops	28.43	28,378,296	0.53	3.00	3,153,441	0.01	13.29	8,872,253	0.06
Agricultural implements	17.76	17,722,900	0.33	8.18	8,591,710	0.04	9.02	6,021,846	0.04
Pesticide Use	0.97	964,601	0.02	12.03	12,630,384	0.06	4.45	2,973,106	0.02
Inorganic fertilizer use	5.32	5,313,775	0.10	6.39	6,707,789	0.03	3.04	2,026,367	0.01
Wealth index	3.29	3,288,461	0.06	-0.10	106,908	0.00

Source: UN Women *et al.* (2015).

Table 2. Rural Sector Wage Employment and Wage Gaps

	Participation in rural wage labor market (%)		Workers holding full-time contracts (%)		Wage gap (%) ($(W_m - W_f)/W_m$)		Rural wage gap decomposition	
	Male	Female	Male	Female	Urban	Rural	Explained gap	Unexplained gap
Africa								
Ghana	14.6	3.8	63.6	40.7	31	58	26	32
Malawi	25.8	16.6	33.4	10.9	18	35	8	26
Nigeria	3.6	1.4	72.9	72.1	30	14	-18	31
Asia								
Bangladesh	24.2	3.1	85.1	69.2	21	4	2	2
Indonesia	18.1	8.6	74.4	63.8	37	43	2	40
Nepal	21.2	12.5	53.6	28.2	9	4	2	2
Tajikistan	19.4	13.4	18.9	16.4	23	20	4	15
Vietnam	17	11.5	69.3	63.2	48	61	28	33
Europe								
Albania	11.5	2.4	89.4	88.8	29	40	15	25
Bulgaria	23.8	23.2	85.6	84.2	15	9	-3	12
Latin America								
Ecuador	28.7	8.7	66.9	63.6	36	38	2	36
Guatemala	30.9	7.8	86.9	75.3	23	27	-10	37
Nicaragua	24.9	7.8	80.3	80.6	11	6	-9	15
Panama	27.8	9.9	81.5	81.9	12	-11	-25	14

Note: Participation rates are for the working-age population for each sex. Full-time contracts are specific to each sex and the excluded group is workers holding part-time contracts. Wages are specific to wage-based employment and not self-employment. The explained gap is the portion of the gap explained by gender differences in assets and productivity characteristics; a negative value indicates that women are actually paid more than men for the same assets and characteristics.

Source: Based on RIGA data as cited in SOFA and Doss (2011) and Hertz *et al.* (2009).

Endnotes

¹ Women's contribution in unpaid domestic work is important in terms of the economy and needs to be better recognized.

² Components of women's unpaid work are several and include water and fuel collection, child care, and unremunerated work on family farms (FAO/IFAD/ILO 2010).

³ Within the same country, time use patterns tend to vary by expenditure class and by location. Women who are poor in terms of income may also be poor in terms of time. It is possible that these two forms of poverty feed each other in that being time-poor constraints one's ability to escape being income-poor.

⁴ Note that these results are specific to the sample and may not be representative of other countries.

⁵ More recently, this pattern of hiring young female workers has been changing— at least in the manufacturing sector – where some employers see older women and married women with children as more pliable and reliable and more willing to accept flexible terms of employment. Evidence to support this argument is found in Fussell (2000) for Mexico's maquiladoras and in Dedeoğlu (2010) for Turkey.