



Feminization of Agriculture: Trends and Driving Forces¹

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Executive Summary

Women's work in agriculture has become more visible over the last few decades. In part, this is due to research and data collection that has attempted to more accurately measure women's activities in rural areas. But, more importantly, women have broadened and deepened their involvement in agricultural production over the last few decades as they increasingly shoulder the responsibility for household survival and respond to economic opportunities in commercial agriculture. This trend has been called the feminization of agriculture. This paper will describe how women have increased their labor in two types of agricultural production—smallholder production and agro-export agriculture—and the economic and socio-cultural forces that are driving this trend.

In smallholder agriculture, the traditional gender segregation of tasks in agricultural and livestock production is becoming blurred. Women are taking over more of the agricultural tasks once done only by men such as land preparation, and they are investing more work in cash crop production. Off the farm, large-scale production of non-traditional agricultural exports (or high value agricultural exports) offers wage-work opportunities in fieldwork, processing, and packing. Much of this work, in contrast to traditional agricultural export production, is done by women who are generally employed for limited periods of time. There is a strong gender segregation of tasks in the fields, processing plants, and packing plants. Women do the labor-intensive tasks and men do those tasks that entail strength or involve machinery. In addition, men predominate in the limited number of permanent positions and in supervision and management.

While women have increased their work time in agricultural production, there has been little change in the gender division of labor within the household with regard to reproductive work: men are not assuming reproductive and domestic tasks, even as women are increasing their participation in on-farm and off-farm productive activities.

The work conditions in high-value agricultural exports are strongly influence by gender relations. The high levels of women employed in this industry and their segregation into certain tasks and occupations reduces production costs because women's wages are lower than men's and their employment is highly temporary.

Finally, this paper examines whether women's participation in income-producing activities, whether as wage workers or as family workers in cash cropping, contributes to empowerment and improves their status within the household.

1. Major trends in the feminization of agriculture

Rural women have been involved in agricultural production since the invention of agriculture. The type and depth of participation has varied widely over regions and culturally differentiated areas. Women's work in agriculture has become more visible over the last few decades. In part, this is due to research and data collection that has attempted to more accurately measure women's activities in rural areas. Yet, there has also been a tendency over the last few decades for women to broaden and deepen their

involvement in agricultural production as they increasingly shoulder the responsibility for household survival and respond to economic opportunities in commercial agriculture. An FAO document (1999: 12-13) shows that while the proportion of the labor force working in agriculture declined over the 1990s, the proportion of women working in agriculture increased, particularly in developing countries. In some regions such as Africa and Asia, almost half of the labor force is women. This trend has been called the feminization of agriculture.

Much of the literature that examines recent changes in women's work in agriculture links these changes to the neo-liberal policies put into place by most countries since the early 1980s. Fiscal stabilization policy sought to correct balance of payments problems, reduce inflation rates, and increase exports. Accompanying stabilization, structural adjustment policy included import liberalization, privatization of government sector resources and services, and liberalizing the labor, land, and capital markets. These policies have changed the type of export agriculture practiced (high-value agricultural exports have replaced traditional lower-value exports), the type of wage labor demanded by commercial agriculture (a seasonal and temporary labor force rather than permanent labor force), and the viability of smallholder agriculture.

In broad terms, the feminization of agriculture refers to women's increasing participation in the agricultural labor force, whether as independent producers, as unremunerated family workers, or as agricultural wage workers. Women work not only in the fields and pastures, but also in agricultural processing and packing plants. Katz (2003: 33-35) and Deere (2005: 17) provide more specific definitions for the feminization of agriculture:

1. An increase in women's participation rates in the agricultural sector, either as self-employed or as agricultural wage workers; in other words, an increase in the percentage of women who are economically active in rural areas.
2. An increase in the percentage of women in the agricultural labor force relative to men, either because more women are working and/or because fewer men are working in agriculture.

This review of relevant literature will consider both definitions and be limited to changes occurring since the early 1980s, in the agricultural sector of the developing regions, within the broader context of neo-liberal policies and an increasing global economy. By examining the literature for Latin America and sub-Saharan Africa,³ we will attempt to determine whether women have been increasing their participation in the agricultural labor force in these developing areas, what forces have been driving this tendency, and the implications for development policies.

To understand recent tendencies in women's work in agriculture, it is useful to locate them within the broader agricultural context. In broad terms, export agriculture in

³ Because of the scarcity of available literature on this topic from other regions, this paper will be limited to these two regions.

developing countries has shifted from traditional export crops grown on plantations such as coffee, sugar, and cocoa to labor-intensive horticulture crops such as vegetables, fruits, and flowers. In Kenya, for example, the IMF and the World Bank recommended production of high-value niche crops such as flowers, fruits, vegetables, and spices, taking advantage of Kenya's comparative advantages of climate, land, and cheap labor. Vegetable production experienced dramatic growth during the 1980s as the principal traditional export crops earned declining revenue. The value of fresh horticultural exports grew in value from 9.7 to 71.6 thousand Kenya pounds. At the same time, smallholder agriculture in Latin America and Africa, producing mainly food crops and animal products for its own consumption and for local and national markets, is becoming an increasingly unviable activity.

In Latin America, increasing relative rural poverty and the economic crises of the 1970s, 80s, and 90s encouraged family members to seek wage labor; it is not clear, however, how much total wage labor and total labor in agriculture (agricultural EAP) has increased. Both traditional export and peasant agriculture have declined, but there is no adequate information on the size and distribution of the agricultural labor force across agricultural sectors (smallholder production, as well as traditional and non-traditional exports).

What is known is that in Latin America, as well as in Africa, women have been employed in increasing numbers for the production and processing of many non-traditional agricultural exports such as fruits, flowers, and vegetables. Women make up a significant proportion of field workers and a majority of process plant workers. Yet, since women's participation in traditional cash cropping and in smallholder agriculture is not well known, it is difficult to determine whether women's work across all sectors of agriculture today represents a feminization of agriculture.

As part of these changes in agriculture, women and gender relations play an important role. Whitehead (forthcoming) maintains that gender relations condition the operation of the economy, are a basic determining factor in the division of labor (between what is considered productive and reproductive), and provide one of the differentiating elements in the distribution and allocation of work, income, wealth and assets, and productive inputs. As we examine women's work in agriculture, the role of gender relations becomes quite evident.

The data and national statistics for women's participation in agriculture are stronger for Latin America than for Africa. Thus, most of the discussion will center on that region. There are, of course, important differences between the two regions. One of the most relevant is the stronger gender division of labor in African cultures; for this reason one could hypothesize that gender has more impact on the economy, and particularly on agriculture, in Africa than in Latin America. Another important difference is that African rural households, as compared to Latin America rural households, are less likely to share and pool resources, assets, and income. This has implications for smallholder household production, income allocation, and household welfare. This paper will not attempt to examine these differences and their implications in depth; rather, we suggest that research

on and policy recommendations for rural economies and populations need to take these gender differences into consideration.

Examining national statistics spanning the last two decades from the majority of Latin American countries, Katz considers women's participation in the agricultural sector as compared to other rural occupations and women's share of agricultural employment (2003: 36-40). With regard to the former tendency, Katz calculates that across the region, less than one-third of economically active women are employed in agriculture compared to over two-thirds of men. This overall number, however, conceals large differences across countries: only 10 percent of economically active rural women in the Central American countries work in agriculture while 86 percent in Bolivia, 70 percent in Brazil, and 43 percent in Paraguay work in agriculture. Data over time also show that trends with regard to women's participation in agricultural employment vary considerably across the region. In some countries, women's participation has been decreasing, in others it has been increasing, particularly since the 1980s. Katz concludes, nevertheless, that increasingly larger percentages of women are working in agriculture, in both wage work and unremunerated family labor.

Katz (2003) and Deere (2005), by looking at national data and local case studies,⁴ indicate two different agricultural labor force sectors that have become feminized in many Latin American countries. Women have increased their participation in the agricultural wage labor force, particularly in non-traditional export agriculture. In the smallholder sector, women are assuming more responsibility in agricultural production either as principal farmers or as unremunerated family workers. Case studies in sub-Saharan Africa indicate similar trends in that region.

1.1 Increased participation in the agricultural wage labor force

The dramatic growth of non-traditional or high-value agricultural exports, dominated by agribusiness and export firms, during the last few decades has dramatically changed the agricultural labor force. Where formerly plantations hired a largely permanent and male labor force supplemented by temporary male and female labor for the peak harvest period, agri-business and agricultural export firms now hire mostly temporary labor with a small cadre of permanent workers. Very few products (fresh flowers in Colombia and Uganda, for example) employ mostly permanent workers all year.

In Latin America, women were a small percentage of the agricultural wage labor force during the 1970s and 80s—mostly harvest workers on traditional export crops. Rural women were more likely to work on their own family farm, as unremunerated family labor. Beginning in the 1980s, non-traditional export agriculture increased significantly spurred by liberalization policies. Non-traditional agricultural exports grew from 10 percent of total exports in 1970 to 23 percent in 1990, creating a demand for a wage labor force (Deere 2005: 24-28).

⁴ Comparable analysis for other regions was not found, perhaps because of the lack of national-level data.

A study of the fruit export industry in Chile (Kay 2002) exemplifies these changes. Chile has had the highest rate of non-traditional agricultural export growth in Latin America over the last few decades. While in early 1970s two-thirds of the agricultural labor force was permanent and one-third was temporary, by late 1980s one-third was permanent and two-thirds temporary; 60 percent of the temporary workers were employed in the export fruit industry. Between 1986 and 1994, female agricultural workers increased by more than 20 percent, while male agricultural workers declined by 20 percent. Between 52 to 70 percent of temporary workers in the fruit export labor market are women and permanent workers are mostly male.

Studies from various countries in Latin America reveal that as the vegetable, fruit, and flower agri-businesses have grown dramatically in the last few decades, women make up a large proportion of the labor force. In the fruit production of Chile's central valley, women made up over 50 percent of the temporary workers (Bee 2000 as cited by Katz 2003). In Sinaloa's (Mexico) vegetable industry, women comprised 40 percent of the field workers and 90 percent of the packinghouse workers by the early 1990s (Lara Flores 1992 & 1995 cited by Deere 2005). In the northeast of Brazil, over 65 percent of the field workers in the vineyards were women (Collins 1993). And in the flower industry in Colombia and Mexico, women comprise between 60 to 80 percent of the workers (various studies cited by Dolan and Sorby 2003). These studies also revealed that the small proportion of permanent jobs in these industries is overwhelmingly held by men.

As in Latin America, economic liberalization policies have opened new work opportunities for rural women in sub-Saharan Africa. Dolan and Sorby (2003), citing a number of studies across different export crops and countries, found that women comprised between 53 and 85 percent of persons employed in high-value agricultural export production such as flowers, fruit, and vegetables. In Kenya's fruit and vegetable exports, for example, women work in the field and in processing and packing plants. By the late 1990s, they comprised between 70 and 80 percent of workers in certain tasks such as packing, labeling, and bar-coding of produce. Horticultural export firms prefer young, single women who were seen as appropriate for this type of work and flexible in their willingness to work at many tasks and without security of employment. Many of these women are also migrants (Dolan 2005: 17-18).

Gender segregated and segmented labor force. The non-traditional and high-value agricultural export labor force is highly segmented and gender segregated. It is evident that employers prefer women workers for the labor-intensive tasks associated with non-traditional and high-value agricultural export production. Women are regarded as submissive and docile, having greater dexterity for tasks that require care and patience, and flexibility with regard to work conditions (work hours, wages, contracts).

Agribusiness enterprises have gender-differentiated occupations: women do the labor-intensive tasks such as weeding and pruning in the fields, selection and cutting in processing, and sorting and wrapping in packing. Men do the tasks that entail strength such as lifting crates and construction of greenhouses, or that involve machinery such as driving tractors and trucks, applying pesticides, and maintaining equipment. Women's work is more likely to be considered unskilled and women are less likely to receive

training and acquire skills that make them eligible for higher-paid work (Dolan and Sorby 2003: 29-31).

Flexible labor force. The defining characteristic of the new female wage labor in Latin America and Africa is its “flexible” labor force—seasonal, temporary, or casual women workers⁵—with an underpinning of a small permanent labor, largely male, labor force. Because the world market for vegetables, fruit, and other fresh products such as flowers, is very competitive, agribusiness seeks a flexible labor force that works long hours, only part of the year, for low wages and no social benefits.⁶

The most critical groups of temporary workers are casual and migrant labor. In the casual agricultural labor market in Africa, for example, women’s casual wages (whether in cash or in kind) are usually half of men’s wages. Increasingly, the casual labor force is made up of women and in some countries they make up over 50 percent of casual labor force. While wage labor seems to significantly increase household income, bringing in higher returns than farming and self-employment, casual labor often indicates extreme poverty of smallholder agriculture particularly for women who are overwhelmingly clustered in low-entry, unskilled, and low-return activities (Whitehead, forthcoming: 36-37).

Women’s reserve price of labor is likely to be low where the income potential of their own production is low, where off-farm income generating opportunities are few or give low returns to labor, and where there is urgent need. There are few local opportunities and an excess of women needing work. When food supplies run out or they face other emergencies such as debt or illness, women seek casual labor, sometimes migrating to agri-business sites. Because of their urgent need and lack of assets, women will accept lower wages; often they are paid in kind (food) rather than in cash. Men are in a position to command better wages because they have assets and have better farming opportunities (Evans 1992 cited by Whitehead, forthcoming: 40).

Deere mentions the increased number of women in the migrant worker labor force (2005: 30). This characteristic is also found in sub-Saharan Africa such as Kenya where 100 percent of workers in packinghouses and 86 percent of farm workers are migrants (Dolan and Sutherland 2002: 13).

In some cases, wage work on cash crops often conflicts with own-farm production in that it may be taking family labor away at crucial times of the agricultural cycle. In this case, wage labor does not provide rural families with secure income and employment that provides adequate support for rural households. Rural families and women cannot live on the products and income they get from their land and resources, but then neither can they live off rural wage labor because of its very informal nature.

⁵ Temporary labor is non-permanent labor, hired for short and/or indefinite periods of time; it also includes part-time labor. Seasonal labor is a type of temporary labor hired for peak agricultural periods, such as harvest. Casual labor is very short-term labor, typically a day-to-day arrangement.

⁶ The fresh flower industry in Colombia, Uganda, Zimbabwe, and Kenya is the major exception employing a large proportion of permanent women workers.

Wages and benefits. Agro-industry tends to label female tasks and skills as feminine qualities that do not warrant skilled wage levels or wages equal to men's. On the other hand, many tasks undertaken by men are considered worthy of higher wages because they involve strength or operating machinery. As a consequence, women are concentrated in what are considered women's (unskilled) work and remunerated at lower levels than men's work (Dolan and Sorby 2003, Deere 2005, Barrientos et al. 2003). For example, in Brazil women who graft grape vines are paid at a lower rate than men who operate tilling machinery (Collins 2000). While wage rates continue to be biased against women, the wage gap between women and men is often smaller than in other rural activities.

Because of labor laws, permanent workers enjoy minimum wage rates and social benefits (such as sick leave, paid vacation, health insurance, pension). By hiring seasonal, temporary or casual labor (and mostly women), agro-industry avoids labor market regulation for the majority of its labor force (Dolan and Sorby 2003, Dolan 2005, Deere 2005, Katz 2003).⁷ For women, who often have children and other dependents to support, lack of social benefits represents a particular hardship.

Deere (2005: 28) notes that what is different in Latin American wage labor practices of non-traditional agricultural export production from those in traditional export agriculture is that women are working as independent wage workers, in other words, not represented by a family male member who collects wages for all family wage workers—women are now more likely to be independent and visible workers.

Training and skills. There are also gender differences in opportunities to acquire skills. Agro-industry generally offers formal training (for example, in management or the operation of machinery) to its permanent workers who tend to be men. The skills that women do acquire are generally acquired on the job through repetitive task performance (Dolan and Sorby 2003: 40). This means that most women do not have the opportunity to increase the wage level and to move into supervisory and managerial positions.

After reviewing numerous case studies in Latin America and Africa, Katz (2003), Deere (2005: 30-37) and Dolan and Sorby (2003: 29-33) draw these conclusions regarding non-traditional or high-value export agriculture:

- women are employed for the labor-intensive tasks
- women are generally earn lower wages than men and are more likely to be paid at piece rate
- workers, including women workers, in packaging and processing plants earn more than field workers and have better working conditions; work is nonetheless hard, often involving long hours of standing, and long work days during peak seasons

⁷ The one major exception is the fresh flower industry in Colombia where the growing and export of cut flowers is year round, so workers do receive the minimum wage and social benefits.

- women are the major supplier of temporary, seasonal, and casual labor and men occupy the majority of permanent jobs as well as administrative and supervisory positions
- women are a labor reserve for this type of production.

In summary, although demand for labor in non-traditional or high-value agricultural export production has created new economic opportunities for women, their working conditions are characterized by insecurity, long working hours, environmental health hazards, low wages, and limited opportunities for training and skill development. The competition among agri-business firms, particularly horticultural export firms, pressures them to reduce costs by hiring unskilled women as informal workers (i.e., temporary, seasonal, and casual) at low wages and without social benefits. Little or no advance notice is given when workers are laid off.

1.2 Women working in smallholder agriculture

In differing degrees, smallholder agriculture has been declining for at least the last several decades across regions. Land concentration in Latin America and land scarcity in Africa, together with national policies that privilege agribusiness production and marketing,⁸ has made smallholder agriculture less viable, increasing relative rural poverty. Rural families respond to these deteriorating conditions by diversifying livelihoods; often this includes migration of some household members to secure wage work. In some cases, these policies have allowed peasant producers to participate in the non-traditional agricultural export market. As a result, some women are increasing their participation in smallholder agriculture, either as principal farmers or as unremunerated family workers.

Women as principal farmers. Women are increasingly taking charge of farms as men either migrate for extended periods or engage in off-farm employment. Although national-level data is lacking with regard to women as independent producers, this type of feminization of agriculture has resulted in women's increased visibility as farmers. Most agricultural censuses do not collect data on who exactly owns owner-operated farms, the assumption being that the principal farmer (assumed to be the male head of household) owns the land. Only one country in Latin America has gender disaggregated census data for 2 points in time: Peru showed an increase in women farmers from 13.3 percent in 1972 to 20.3 percent in 1994 (Deere 2005: 47).

As smallholder production has become less viable and land ownership concentration has increased over the last half century, household members seek off-farm work, often through migration. In addition, male abandonment and death of husbands from HIV-

⁸ These policies include liberalized imports and the withdrawal of state support (such as subsidized credit and agricultural extension services) from domestic food production, the purview of peasant agricultural production.

AIDS is increasing. Women left on the farm undertake more and more of the agricultural fieldwork and tasks, work longer hours on the farm, and make most of the decisions. Regional statistics show that in Southern Africa female-headed households represent 42 percent of the total and in the Caribbean they represent 35 percent (United Nations 2000: pp 42, 46-50). Katz (2003: 42-43), examining demographic trends for Latin America, reports increasing rates of rural female headship. The proportion of rural female-headed households for the late 1990s across 13 countries in Latin America reached nearly 23 percent. In sub-Saharan Africa, women's traditional role has been independent farmer on land her husband has made available to her for the production of food for the household and for sale.⁹ This role as provider of food for the household does not appear to have changed over the last several decades. The major change has been the increasing difficulty by smallholder households and its women farmers in providing enough food for the household.¹⁰

Across communities, women's direct participation in the production of food for their households has increased; this increased participation has followed different paths. A case study of an indigenous community with high male out-migration, in Mexico's central highlands where the key staple is maize, has shown that in spite of high input costs, low prices for maize, and withdrawal of support for peasant agriculture, rural households continue to grow the local maize variety. Wage rates have dropped in real terms and community members began migrating, particularly to the United States in the late 1990s. Women have taken over production of maize (and other foods) for home consumption rather than for the market. Because they face constraints such as less access to land, credit, and technical assistance, women producers use less fertilizer and herbicides and do more weeding by hand (Preibisch, Rivera Herrejon, and Wiggins 2002: 70-75).

Brazil offers a different process. State policy in Brazil, since the mid-20th century did not support peasant food production for the local market; state support such as subsidized credit and technology was targeted to large producers of mechanized agriculture. Thus, neo-liberal policies did not significantly affect an already pauperized peasant sector. In fact, the peasant sector was successfully able to mobilize and organize and demand land reform and other support programs for family agriculture. Women have assumed responsibility for agricultural production in the northeast, the poorest region of Brazil, where men migrate long distances and the number of female-headed households is high (Deere 2005: 41).

In KwaZulu Natal (South Africa), Mtshali (2002: 87) reports that women have to take on more activities and tasks because of social changes such as male migration and education of children. Women who want their children to go to school take on the work children

⁹ In some matrilineal areas, a woman's access to land is through her own family and she generally has more control over that land.

¹⁰ Not only are men migrating in search of wage labor, women are also engaging in off-farm work, either as agricultural wage workers, in commercial activities such as petty trading, or in small enterprises.

traditionally did such as caring for small and large livestock. When men migrate, women are also clearing the land for planting.

There is also evidence that in some areas, women are being pushed out of smallholder agriculture. In southern Niger where land shortages have become critical over the last 20 years, women and young unmarried men are no longer receiving a parcel of land from the household head as used to be the custom. Previously, the household head would give out land to his wife (or wives) for them to cultivate; the production from this parcel was theirs to sell, allocate, or use as they wished. With the increasing shortage of land, wives are no longer given their own parcels. This is being culturally justified by instituting a type of female seclusion—women are not supposed to work in the fields. Women have taken up non-farm income-producing activities (such as extracting oil from groundnuts) in order to cover household food needs not provided by ever-smaller land parcels (Doka and Monimart 2004).

Women in smallholder production of agro-exports. The production of non-traditional agricultural exports is dominated by medium- and large-sized commercial farms and agribusiness. Nevertheless, smallholders with a certain level of assets are able to engage in contract farming of some agricultural exports, particularly those crops where human labor is not easily replaced by mechanization such as vegetables. The comparative advantage of smallholder families for labor-intensive production is unremunerated family labor. Agro-industry out-sources production of these crops to the smallholder sector, often under contract farming. Smallholder farms producing cash crops, particularly non-traditional or high-value agricultural exports, are highly dependent on their women's labor. For example, vanilla production by smallholders in Uganda found that the levels of female and male family labor were the same, and that family adult labor was ten times that of hired labor (Kasente et al. 2000 cited by Dolan 2003: 51).

A 1999-2000 study in the central highland of Kenya (Njuki et al. 2004) where both food and cash crops are grown revealed that while women and men invest their labor in both food and cash (coffee and tea) crops, women put in significantly more labor on food and cash crops with the exception of coffee. Njuki et al. (2004: 164) contend that the traditional division of crop labor between genders—men on cash crops and women on food crops—is changing as more men migrate to urban areas in search of wage labor. Women find themselves managing all crops on the farm and doing tasks, such as land preparation, that were traditionally male tasks.

In Guatemala, smallholder vegetable production for export began in the 1980s. Household members, including women and children, work in almost all agricultural tasks throughout the year. Wage workers, mostly women, are brought in for the harvest. A study undertaken in the late 1980s revealed that 40 percent of the women working in the fields were unremunerated family workers and 7.5 percent were independent women producers (Dary 1991 cited by Deere 2005). Most of these vegetable farms producing snow peas, broccoli, and cauliflower are year-round, work-intensive enterprises.

Smallholder production of non-traditional agricultural exports is not always viable. In Chile, for example, a sizeable number of peasant households attempted to participate in

the early years of fruit export market, particularly land reform beneficiaries. Household women worked in the fields doing traditionally male tasks, particularly during peak seasons. By the late 1990s, most of these peasant producers had lost their land because they did not have access to the credit and product markets that larger commercial farms had and were unable to support the levels of debt needed for export fruit production (Kay 2002: 302). Many of these peasant households, particularly the women, now work as wage laborers for the agribusinesses and medium-sized producers that purchased their land.

A similar process occurred in Kenya, one of the strong producers of non-traditional agricultural exports, where exports expanded from Asian vegetables to luxury fruits and vegetables (such as dwarf carrots, baby corn, snowpeas, and courgettes). Contract farming was promoted in the 1980s as the way to connect Kenya's smallholder sector to the global market and capital. Since state expenditures for credit, input subsidies, and agricultural extension were cut because of austerity measures, contract farming offered an alternative to smallholders. In central Kenya, for example, smallholders on $\frac{1}{4}$ acre plots grew winter vegetable for export firms. These vegetables require high levels of labor to ensure quality, labor supplied mostly by smallholder farm households. Export firms have controlled the production process in order to achieve certain quality standards, without any risks since they neither own nor manage the farms. The smallholder family assumes all the risks of agricultural production and is compensated by how much it sells, not the amount of labor invested (Dolan 2005:10-12).

Between 1993 and 1999, fresh vegetable exports grew in volume by 53 percent and over 206 percent in value to become Kenya's third largest source of foreign exchange by 2000. Most of the export vegetables went to Europe, particularly to the United Kingdom. As marketing of these fruits and vegetables was taken over by big supermarket chains, corporate farms and processing facilities took over the production and processing of these products. Contract farming by smallholders was no longer viable and smallholders in general lost their comparative advantage to the corporate farms and plants (Dolan 2005: 15-16).

Because women are responsible for supplying food to the household, they may be unwilling to switch production on their own plots from food crops to cash crops. Whitehead (forthcoming: 12) cites a 1997 study by Wold who concluded that women are more risk averse and do not respond to price incentives for certain crops with volatile prices such as high-value agricultural exports.

A study by Chavas and Smith (cited by Whitehead, forthcoming: 11) concluded that because men and women in African households have different preferences for their labor and other resources, households did not respond efficiently to market opportunities for certain commercial crops. This has implications for women's participation on men's cash crop production. Cotton production, a cash crop, was controlled by men and women were expected to work in the cotton fields. Women, however, obtained minimal income from their household's cotton and they preferred to invest their labor and other resources in food crops for their households. This preference for (non-cash) food crops decreased the amount of labor they put into the household's cash crop.

Whitehead offers other reasons for women's non-participation in direct production of commercial crops in sub-Saharan Africa. Based on a study in Tanzania, Whitehead (forthcoming: 33-34) argues that the private sector provides inadequate factor and product markets for smallholder farmers and that exposure to world markets increases vulnerability of smallholders, particularly because of the volatility of agricultural commodity prices. Even women who produce food crops find sometimes that their crops are overpriced when cheap food is imported.

1.3 Feminization and empowerment

Does women's increasing role as economic producers increase their decision-making power in the household and community? The evidence from the literature is not consistent. Early researchers focused on the poor and often abusive working conditions that working women encountered in *maquilas* and agricultural processing and packing firms. More recently, some scholars have mentioned a positive relationship between women's wage work and their status in the household. It appears that women who work off-farm as wage workers and directly receive their wages have more control over those wages, over how it is allocated, and therefore have more power in household decision-making. With the exception of female-headed households, women who work as unremunerated family workers are less likely to increase their status and decision-making power.

Dolan and Sorby (2003: 43) suggest that the point that needs exploring is that "gender equality is not simply a matter of equal numbers of men and women in employment but rather the degree to which their work contributes to women's well-being and empowerment." We will examine the impact of employment on women's empowerment in two areas: the gender division of labor and control over income.

Reproductive work and responsibilities. As women increase their time in wage work and cash cropping, their traditional responsibilities within the home are not assumed by men. Studies in Ecuador, Colombia, South Africa, and Kenya cited by Dolan and Sorby demonstrate that women and their daughters continue to put in the overwhelming majority of hours needed for domestic tasks. When women are away at work, their daughters take over the household work. This may mean that daughters are pulled out of school in order to stay at home to take care of younger siblings. The major exception is single women without children: they are able to escape household work while at work since they have no children to care for.

Control over income. In Deere's analysis for Latin America, she concludes that the benefits of wage employment for women include economic independence, mobility, and increased ability to make their own decisions. In addition, women working in the non-traditional agricultural export industry earn more than women in other rural occupations, particularly if they work in a processing or packing plant. Single women have almost complete control over their wages; nonetheless many of them do hand over part of their income to their mothers, particularly if they are living at home. For married women, while it increases their decision-making power in the household, in some cases it also contributes to increased conflict and domestic violence in the home (Deere 2005: 54).

A study in the Dominican Republic in the fresh fruit industry analyzed time-series data to measure changes in well-being of agricultural household between 1991 and 1996 (Pomeroy & Jacob 2004). It was found that while both male and female-headed households in agriculture have lower well-being indicators than households in other economic sectors, women are not worse off than men. More importantly, it appears that employment opportunities in export industries are giving women more control over household financial resources.

Dolan and Sutherland (2002: 25) also found that single women working in Kenya's vegetable industry manage and control their income, but that married women either decide jointly with their husband how to allocate their wages or turn over their entire wages to their husbands.

With regard to smallholder women's increasing participation in cash cropping, it has been suggested that these women status is not significantly improved. Katz (1995) found in Guatemala's smallholder export sector that although wives work in almost all agricultural tasks of vegetable cash cropping, the male household head is the manager, makes most of the decisions, markets the harvest, and controls the income from production. In addition, male-controlled income is allocated to male goods, not the household. Women who are able to control production and income are those few women who own land, particularly those in female-headed households. Several other studies in Guatemala concluded that peasant production for the export market increased women's workload, decreased their access to independent income, made them more dependent on men's allocation of household income, and resulted in women's lost bargaining power within the household (Dary 1991 and Blumberg 1994 as cited by Deere 2005). Later studies in the same area of Guatemala cited by Deere (Hamilton and Fischer 2003 cited by Deere 2005) found that women have acquired a higher level of decision-making power in the household over land use and over income allocation. In part, this finding may be a result of a much higher percentage of women owning land in this study, particularly as independent owners.

In sub-Saharan Africa where men control the overwhelming majority of land, women's work in high-value cash crops does not seem guarantee their control over the income generated by these crops. Kasente and others (cited by Dolan and Sorby 2003: 52) in Uganda found in the late 1990s that even though women put in as much labor as men, more than 90 percent of income from vanilla production was controlled by men. And in Kenya, 90 percent of French bean export contracts to smallholders were issued to male household members who received the payment and controlled family labor allocation, even though most of the production was done on women's usufruct parcels. Women supplied almost three-quarters of the needed labor but were given only 38 percent of the income (Dolan 1997 cited by Dolan & Sorby 2003: 51).

Women's increased contribution to cash income in smallholder households does not seem to alter the gender division of labor. Women's work on cash crops increases their overall work burden since they are still responsible for domestic chores and reproductive work. In some regions, particularly sub-Saharan Africa, women are also responsible for producing the household food on parcels given to them by their husbands. As we already saw in the previous section, women's work on cash crops often competes with the time

they need to put into their food crops. This may have effects on family welfare as studies have found that women's food production is reduced.

1.4 Differentiated access to productive resources and markets

Some of the studies cited in the previous section suggest that the potential for women empowerment and improved status, within the context of new economic opportunities offered by wage employment and cash cropping is influenced by their access to productive factors.

Women's land rights. Because of the patriarchal nature of most rural societies, women generally do not have the same rights to land as men. Sons, not daughters, inherit the family's land and marital property practices in most of Latin America¹¹ and sub-Saharan Africa results in wives not inheriting land from their husbands, nor receiving an equal share of marital property in case of divorce. State programs that allocate land, such as land distribution, land resettlement, and negotiated land reform programs, have targeted men as beneficiaries. In addition, women's secondary status constrains their ability to access land on the land market (rental or sale), as well as other productive factors, such as credit and labor.

In Latin America, even though men own more land than women, the most common way for women for women to acquire land is through inheritance. Recent legal reforms (in inheritance, marital property, and land titling) have improved women's legal land rights. As women become more educated and legally informed, they are better able to claim these rights (Deere 2005: 48).

There is some evidence that cash cropping by smallholders is resulting in women losing access to land provided to them by their husbands. In Guatemala, as smallholder land is dedicated to vegetable production, women are losing access to garden plots where they traditionally grew food crops for the household and for sale (Dary 1991 and Blumberg 1994 as cited by Deere 2005). Dolan (1997) also found that in Kenya one-third of women were obliged to use their usufruct plots to grow vegetables for export and that their husbands either controlled income from that production or retracted their wives' rights the land. Vegetables in Kenya are traditionally grown by women on their usufruct plots and they control income from vegetable production. With the introduction of contract farming, these cultural norms and practices were modified or reinterpreted. Since contracts are made with landowners, women do not obtain contracts in their own name and the export firms pay men for the sale of vegetables. While women provide three-quarters of the labor, they receive only one-third of the income. This has resulted in gendered struggles over land, labor, and income (Dolan 2005: 13-14).

¹¹ These practices are still followed in spite of legal provisions in many Latin American countries that give wives equal rights to property acquired during marriage, including land.

Whitehead (forthcoming: 45-49) observes that in Africa, cultural norms strongly support women's customary claims to land through her husband and through other means (such as borrowing). The problem is that women's indirect rights to land prevent them from gaining access to productive resources such as capital and labor. In addition, her claim to land is for the production of food to feed her family, not for producing income for herself through cash cropping. Furthermore, land titling and privatization of land rights has weakened women's claims to land.

Women's claims also become weaker where land is becoming scarce. As we saw in the case in southern Niger, increasing land scarcity resulted in male household heads no longer allocating land for food production to wives and resorting to the Islamic seclusion of women in order to justify their withdrawal, from agricultural production. Since women in southern Niger are no longer receiving land from their husbands, they have been increasingly insisting on inheriting land from their birth families based on Islamic inheritance law. Customary inheritance norms that had only sons inheriting land, had previously trumped Muslim inheritance that permits daughters to inherit a fraction of what sons inherit (Doka and Monimart 2004).

1.5 Data gaps in coverage on women's labor

Women provide a large proportion of the labor that goes into agricultural production, even though official statistics based on census and survey instruments often underestimate women's work and contribution to national wealth. Problems persist in the collection of reliable and comprehensive data on rural women's work in agriculture and other productive sectors because of (1) invisibility of women's work, (2) seasonal and part-time nature of women's work, and (3) unremunerated family (mostly women and children) labor. Both Deere and Katz, who scoured data sources and studies in Latin America, conclude that the data regarding women's work in agriculture is deficient, inadequate, and conflicting. They found little data on whether rural women who work in agriculture are non-remunerated family members, self-employed farmers, or wage workers. They were unable to determine how much total wage labor and total labor in agriculture (agricultural EAP) has increased. Both traditional export and peasant agriculture in Latin America have declined, but there is no adequate information on the size and distribution of the agricultural labor force across agricultural sectors: smallholder production, traditional exports, and non-traditional exports.

Deere (2005) for Latin America and Whitehead (forthcoming) for sub-Saharan Africa mention several sources of under-counting and reporting of women's work. First of all, there is the practice for census takers to count only income-producing activities as work. Secondly, there is also the tendency for women to report themselves as housewives. Whitehead mentions with regard to sub-Saharan Africa that women seem to be reluctant, except in the case of female-headed households, to reveal their decision-making power within the household and in agricultural production. Thirdly, with regard to agricultural data, agricultural production is limited to fieldwork, ignoring house gardens, small animal production, and post-harvest storage and processing work. Fourthly, national agricultural statistics do not break down the household holdings to collect household members' participation in agricultural production or disaggregate labor and managerial tasks by

gender. One consequence is that data on women's own-account farming is deficient. Finally, census data on agricultural production is taken from previous week—since much of women's agricultural work tends to be seasonal (both in own-farm and wage agricultural wage work), their work may not be counted.¹² Also, since the man is considered the main producer, other family members are considered part-time family laborers.

Deere (2005: 19-20) compares household surveys in 19 Latin American countries implemented in the 1990s by the Banco Inter-Americano de Desarrollo (BID) and the Instituto Interamericano de Cooperacion para la Agricultura (IICA) with the agricultural censuses. The comparison showed that women are much more active in agricultural production, either as family members or as main producer, than the national censuses have shown. In fact, the under-reporting of women's work in agriculture ranged from 60 percent to 500 percent across the 19 countries.

Some surveys, such as the Living Standard Measurement Survey (LSMS), attempt to collect all productive activity of all family members, regardless of the time worked. FAO has also made recommendations since the early 1990s to improve gender-differentiated data, including women's work activities, in agricultural census and household surveys (see, for example, FAO 1993). These efforts are too recent, however, to be able to compare trends over time.

In summary, what is known is that in Latin America, as well as in Africa, women have been employed in increasing numbers for the production and processing of many non-traditional and high-value agricultural exports such as fruits, flowers, and vegetables. Women make up a significant proportion of field workers and a majority of process plant workers. And there is scattered evidence that women's work as independent producers and unremunerated family workers is also increasing. Yet, since women's participation in traditional cash cropping and in smallholder agriculture is not well known, it is difficult to determine whether women's work across all sectors of agriculture today represents a feminization of agriculture.

2. Driving forces in the feminization of agriculture

The previous section on major trends has already alluded to the multiple forces behind women's changing and apparently increasing participation in agricultural production. In this section, two sets of inter-related forces are examined: economic and socio-cultural. The economic forces include neo-liberal policies and the global economy. The other set of forces is what Grown, Elson, and Cagatay would call the gender impact on the economy. The role that gender relation plays in society is quite evident when examining how social and cultural norms and practices are often based on gender differences. The point here is that gender also "influences the division of labor, and the distribution of

¹² This type of collection problem may contribute to the erroneous conclusion that rural women are more active in non-agricultural activities.

work, income, wealth, productivity of inputs, and economic behavior of agents” (Grown et al. 2000: 1148).

The level of influence of the different drivers vary by region and sub-region. For example, the HIV-AIDs epidemic has a much stronger impact in southern Africa than in Latin America. Migration patterns also differ with more women migrating in Latin American than in Africa. The same would be true for diversification of the rural economy, which may be more advanced in some areas of Latin America than in many areas of Africa. While the end result may appear to be similar, the causes and implications may differ, and hence policy responses should also be different. Broad regional and country differences argue for the need to have differentiated policies and strategies, as opposed to a one-size-fits-all strategy.

2.1 Economic policies

The adoption of neo-liberal economic policies and economic re-structuring became widespread in Latin America beginning in the early 1980s and in Sub-Saharan Africa in the late 1980s. These policies, particularly trade liberalization policies together with agricultural policies that favor export products, stoked the growth of agri-business, particularly in the production of high-value horticultural crops, and agricultural exports, provided a growing demand for wage labor.

At the same time, liberalization policies have resulted in higher input costs, lower farm-gate prices, and significant cuts in access to credit and extension services for the smallholder sector that produces mostly food for local and regional markets. Increasing land concentration in Latin America and the beginning of land scarcity in Africa compounds the impact of these policies (Whitehead forthcoming, Deere 2005). The decline in the profitability of food production and in food security has forced low-income and low-asset rural households to seek other income sources (off-farm employment) in order to maintain the household. Livelihood diversification included out-migration of both women and men and employment in the agri-business industry.

The labor-intensive nature of horticultural production motivated the industry to hire women workers who command lower wages, particularly in the rural sector. The global market and international competition drives product prices down, keeping wages low, but more importantly, keeping the labor market flexible.

2.2 Gender relations

As we already mentioned, gender relations and the gender division of labor that justify lower wage rates and flexible (read temporary) employment conditions for women have contributed to the growth of agri-business’s production and export of high-value agricultural crops.

Other gender dynamics, such as the greater mobility of men and their out-migration, leaves women farming the land in order to provide for their families. This, together with the increase in female-headed households,¹³ results in an increase in rural households that depend solely on women's work and income. In some regions, such as Africa, men's greater access to education and ability to leave the farm results in off-farm employment. Again, women are left on the farm to work the land (Whitehead, forthcoming: 37-38).

Gendered access to assets and resources may also impact on women's bargaining position in the household and in the wage labor market. Agricultural producers with assets and access to resources such as credit, technology, and product markets have been in a position to benefit from liberalized markets. Women, with decreased access to resources, are not able to participate equitably in these liberalized markets, except as wage labor and unremunerated family labor.

The intersection between economic policy and gender relations is also found within the household. Women's responsibilities to reproduce the household result in much of their labor falling into the reproductive and unpaid sector.¹⁴ Neo-liberal policies have intensified and extended reproductive (and unpaid) labor. Since the gender division of labor assigns reproductive and domestic work to women, their workday has been extended because of the decline of social services and the rise in costs of food and other household basic needs. Where the gender division of labor is stronger, such as in Africa, the increasing labor burden on women may be greater than in other regions. This is not to say that gender relations are not constantly shifting. Men and women negotiate access to and control over income, assets, labor, and other productive resources.

3. Implications for development policies

As women take on greater responsibility for agricultural production, either on their own farm (or household far) or as waged workers, they face different constraints and obstacles and have different needs. Development policies in the past have assumed that farmers and the principal breadwinners are men. Evidence that women are also farmers and also principal breadwinners calls for the need to address these gender constraints.

There are, of course, important differences between the two regions. One of the most relevant is the stronger gender division of labor in African cultures; for this reason one could hypothesize that gender has more impact on the economy, and particularly on agriculture, in Africa than in Latin America. Another important difference is that African rural households, as compared to Latin America rural households, are less likely to share and pool resources, assets, and income. This has implications for smallholder household production, income allocation, and household welfare. This paper will not attempt to examine these differences and their implications in depth; rather, we suggest that research

¹³ Epidemics (particularly HIV-AIDS in Sub-Saharan Africa), violent conflict, and civil war contribute to an increasing number of de jure female-headed households.

¹⁴ Most economists regard this type of labor (that is not paid and does not have a price) as free and flexible. Beneria's (2003: 131-160) "accounting for women's work project" attempts to put an economic value on this type of work.

on and policy recommendations for rural economies and populations need to take these regional and cultural gender differences into consideration.

3.1 Access to productive resources

Development policy should address the persistent problem of improving women's access to productive resources: land, credit, and labor. Women face constraints as effective producers in the rural economy. As more women become the principal supporters of their households, these constraints not only prejudice women's physical and emotional health, they also have impact on household welfare.

Privatization and commercialization of community landed resources such as communal land, forests, and water sources are also prejudicial to subsistence agriculture and smallholder households. Women who are unable to leave rural areas are particularly impacted by loss of community natural resources.

3.2 Agricultural support services

Women do not have the same access to agricultural services and resources (such as agricultural extension, input suppliers, product markets, and credit institutions) as men. Policies are needed to ensure that women participate in and benefit from the dissemination of technology and knowledge needed for commercial agriculture and food production.

3.3 Delivery of health and education services to rural areas

Persistent and increasing rural poverty has been exacerbated by neo-liberal policies that cut state support for health and education. Education and health policies should address the needs of women and children in rural areas who often are not as mobile and educated as men, and who often lack basic documentation to be eligible for these services.

Related to health, greater regulation on the use and handling of chemical inputs, particularly in the non-traditional agricultural export industry is needed to protect women's and men's health. Also needed is greater education and awareness among agricultural workers and producers about exposure to chemicals.

3.4 Reduction of women's domestic work load

As women take on more responsibility for agricultural production, policy makers should explore how to provide services and innovations that reduce the time and work involved in domestic tasks. Development policy and programs should also address the rigid gender division of labor. Greater awareness of women's domestic and reproductive workload and their increasing participation in market economy activities is a first step in creating a climate for modifying gender roles.

3.5 Gender-disaggregated data collection

Gender-disaggregated data is sorely needed to understand intra-household labor and resource allocation and control. As already pointed out, lack of how men and women allocate labor and resources within the household has made it difficult to determine women's overall participation in agricultural production. Data is needed not only on women's and men's productive labor, but also on the levels of labor invested in the reproduction of the household and rural labor force. Decisions made within the household determine who (women, men, female children, and male children) benefits from the allocation decisions.

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