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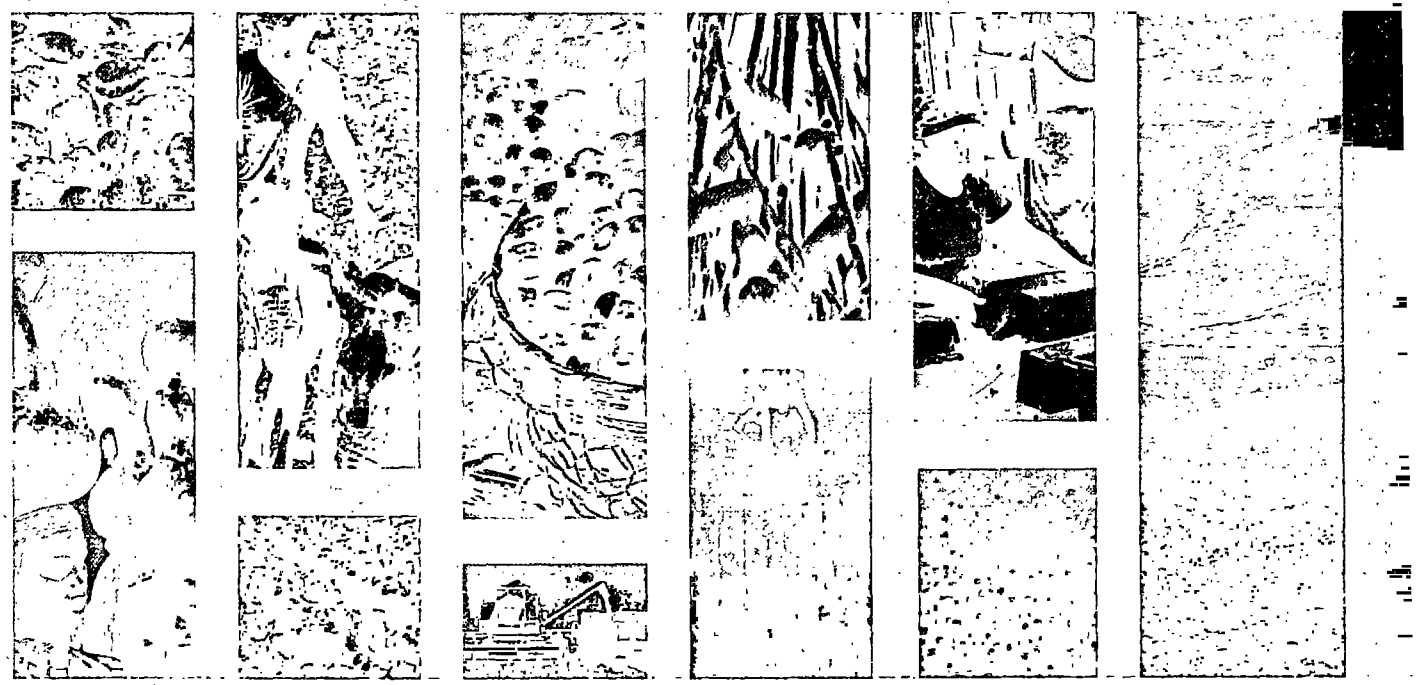
Gender and Employment in High-Value Agriculture Industries



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Gender and Employment in High-Value Agriculture Industries

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Acronyms

ACP	Asian, Caribbean and Pacific countries
ADC/IDEA	Agribusiness Development Center of the USAID-funded Investment on Developing Export Agriculture Project
AEAA	Agricultural Ethics Assurance Association of Zimbabwe
ASC	Africa Studies Centre
ASIES	Asociación de Investigación y Estudios Sociales
BICO	U.S. agricultural export and import data on Bulk commodities, high-value Intermediate, and Consumer-Oriented foods and beverages
BIT	bilateral investment treaty
CBI	Confederation of British Industry
CDR	Centre for Development Research
CEDAW	United Nations Convention on the Elimination of All Forms of Discrimination against Women
CEDE	Centro de Estudios Económicos
CEPLAES	Centro de Planificación y Estudios Sociales
CEQ	United States Council on Environmental Quality
CES-CIIF	Instituto de la ciencias de la salud (Colombia)
CIDA	Canadian International Development Agency
CIE	Center for Emerging Issues
CNAS	Center for North American Studies
COLEACP	Europe-Africa-Caribbean-Pacific Liaison Committee
CTE	Committee on Trade and Environment (WTO)
DFID	Department for International Development (UK)
ECU	European Currency Unit
EDGE	The Coalition for Women's Economic Development and Global Equality
EO	Executive Order (US)
ERS	Economic Research Service (US)
ETI	Ethical Trading Initiative
EU	European Union
EUREP	European Retailers Representatives Group
FAO	Food and Agriculture Organization of the United Nations\
FIAN	Food, Land and Freedom Global Campaign for Agrarian Reform
fob	free on board
FTA	Free Trade Agreement
FTAA	Free Trade Area of the Americas
GAP	Good agricultural practice; Gender and Agribusiness Project (Zimbabwe)
GATT	General Agreement on Tariffs and Trade
GSP	Generalized System of Preferences
ha	hectare(s)
HACCP	Hazard Analysis Critical Control Point
HVA	high-value agriculture
HVAE	high-value agriculture exports
ICMSF	International Commission on Microbiological Specifications for Foods
IDS	Institute of Development Studies, East Anglia (UK)
IFCTU	International Confederation of Free Trade Unions
ILO	International Labour Organisation
INE	Instituto Nacional de Estadísticas, Chile
IPM CRSP	Integrated Pest Management Collaborative Research Support Program
ISO	International Organization for Standardization
ITC	International Trade Center
KFC	Kenya Flower Council
KHRC	Kenyan Human Rights Commission

KSh	Kenyan shilling
LDC	least developed country
LEI	Agricultural Economics Institute (The Netherlands)
MERCOSUR	Southern Common Market
MFN	most favored nation
MGLSD	Ministry of Gender, Labour and Social Development (Uganda)
MRL	maximum residue levels
NAFTA	North American Free Trade Agreement
NRI	Natural Resources Institute
NSSA	National Social Security Authority
NTAE	Nontraditional Agriculture Export
OECD	Organisation for Economic Co-operation and Development
PANUPS	Pesticide Action Network Updates Service
Q	Quetzales (Guatemala)
RAP	Regional Agribusiness Project
RTA	regional trade agreement
SA8000	Social Accountability standard
SAF	Society of American Florists
SAGAR	Mexican Department of Agriculture
SAMAT	Southern Africa Multidisciplinary Advisory Team
SAP	Sectoral Activities Programme (ILO)
SENA	Vocational Training Institute (Colombia)
SSA	Sub-Saharan Africa
SPS	Sanitary and Phytosanitary Standards
TBT	Technical Barriers to Trade
TED	Trade and Environment Database
TNC	transnational corporations
TSh	Tanzanian shilling
UNIFEM	United Nations Development Fund for Women
UNRISD	United Nations Research Institute for Social Development
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
USh	Ugandan shilling
USTR	United States Trade Representative
WHH	women-headed household
WHO	World Health Organization
WIDE	Network Women in Development Europe
WTO	World Trade Organization

Abstract

For many developing countries, declining revenues from traditional commodities and the opportunities of a globalized market have led to the adoption of high-value agricultural exports to diversify production and achieve national growth and development. Over the last decade, these exports have generated significant amounts of foreign exchange, contributed to upgrade agricultural production skills, and created substantial opportunities for waged employment and self-employment. In many countries, diversification into high-value agricultural exports has become a key means of linking the world's rural poor to global product markets. Women in particular have been able to profit from these new labor market opportunities both as smallholders and as wage employees. The growth in women's participation in these industries raises important questions for international financial institutions such as the World Bank.

As the Bank's new Rural Development Strategy acknowledges, to achieve effective poverty reduction and sensitive economic growth, gender issues and actions need to be mainstreamed in the rural development process. This report provides a cross-industry approach to the analysis of gender and trade in high-value agriculture (HVA), reviewing a range of empirical studies on five agriculture commodities: cut flowers, fresh fruits and vegetables, vanilla, and poultry. We explore what we know about the conditions and quality of female employment by comparing the production structure across commodities and regions. The report demonstrates that, while high-value agriculture can be an engine of growth for developing countries, it is not always a pathway toward enhanced welfare and social well-being. At times, employment is empowering for women, but it also is characterized by several shortcomings, from occupational segregation and environmental health issues to gender-based constraints in rural farming systems.

The Bank's objectives to combat poverty and inequality as stated in the new rural strategy necessitate the promotion of propoor yet socially responsible growth. High-value agriculture commodities can help fulfill this mission. They offer substantial opportunities for countries to generate foreign exchange as well as new opportunities for women to enter the labor force. However, while it is important that the Bank support countries' entering these markets, it also must ensure that export growth does not come at the expense of rural women and their families. Negative repercussions can be alleviated and averted through effective worker training, as well as the enforcement of national and international labor protections and codes of conduct.

1. Introduction

The economic restructuring associated with globalization and liberalization has substantially reshaped the composition of global agricultural trade. In addition to an expansion of the overall volume of production, the agriculture industry has shifted away from basic commodities such as grains, oilseeds, cotton, and tobacco toward differentiated, high-value, and processed food products, which now account for two-thirds of total agricultural trade (Regmi 2001, Morrison 2001).[1] The growth in these exports has been stimulated by a number of factors associated with both demand and supply. Changes in consumer diets in developed countries combined with policy packages in developing countries (devaluation, relaxation of foreign exchange controls, trade liberalization, and tariff reductions) have induced a shift away from the production of nontradable to tradable commodities, and from import substitution to export-led growth. A number of developing countries have become successful exporters of these high-value agriculture (HVA) commodities, achieving double-digit growth rates for a decade or more. Successful cases involve a range of horticultural commodities (fresh fruits, vegetables, and flowers), as well as fish, meat, and oilseeds.

In many countries, diversification into high-value-added exports has become a key means to link the poor to global product markets. Women in particular have been able to capitalize on these new labor market opportunities to an unprecedented extent. In Africa, Asia, and Latin America, HVA exports are female-intensive industries, with women dominating most aspects of production and processing. Women are farm laborers on rose plantations, packers in poultry processing plants, and unpaid family workers on small farms growing green beans and vanilla for export. In Chile, Ecuador, Guatemala, Kenya, Mexico, South Africa, and Zimbabwe, evidence suggests that women occupy at least 50 percent or more of the employment in these industries.

The rise in women's participation in the production chains of high-value agricultural exports raises important questions for international financial institutions such as the World Bank. The recognition that gender equality is a development objective in itself, as well as a means for furthering poverty reduction and economic growth, is now widely recognized, with gender assessments being standard practice in the design of development projects and programs (Gammage and others 2002, World Bank 2001, 2002). However, gender equity depends on more than income and economic growth; quantitative increases in female labor market participation are not always matched by a qualitative improvement in women's lives.[2] While women may be advantaged in terms of employment, their competitive strength may lie in lower pay and poorer working conditions, which erode the long-term welfare and empowerment process of themselves and their families (Çaǧatay 2001).

The ability to gain from trade and labor market shifts hinges on several factors, ranging from the social nature of gender relations and household organization to employment aspects, such as job stability, wages, working conditions, and opportunities for career development. Furthermore, even within one household, the impact of working in these industries can vary. For example, a woman taking up employment in the poultry industry may find her own income and bargaining power increased. However, her employment may require that her eldest daughter leave school to assume domestic work, thus

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[1] High-value food products are commodities that either require special handling, such as fresh produce, or are processed, which adds substantial value beyond the farm (Regmi and Gehlar 2001).

[2] Evidence shows that workers are do not always capture the gains from these increased export revenues. For example, in the female-dominated *maquila* sector of Mexico, women's earnings declined despite a fourfold increase in overall employment (Fleck 2001).

diminishing her opportunities for education and long-term growth. Consequently, understanding the gender impacts of growth in these industries requires several layers of analysis:

1. The characteristics of the workforce: What are the factors driving the demographic profile of these industries?

2. The nature of employment and/or opportunities for career mobility: Are these high-value industries generating high-value jobs for women?

3. The social norms and intrahousehold issues that govern the gains women are likely to realize through labor force participation.

To date, these types of issues have been approached by analyzing female employment in specific industries or specific regions. This report is a first step at providing a cross-industry approach to the topic, asking what we can learn about the conditions of female employment in agribusiness by comparing several commodity chains in different regions. Three main questions are posed. First, what are the specific features of employment and labor market opportunities in high-value agricultural export industries? What patterns prevail and what conclusions can be drawn? Second, how does employment in these production chains influence the welfare of workers, both as wage earners and small-scale farmers? Third, what sort of policy instruments or programs might the World Bank develop to ensure that the employment in HVA contributes to gender equality without jeopardizing the levels of employment generated?

By comparing a number of commodities, this report will document what we know and do *not* know about the gendered impacts of participation in high-value agricultural exports. We review a range of empirical and analytical research on five commodities: cut flowers, fresh fruits and vegetables, vanilla, and poultry. These five have been chosen for several reasons:

- They are labor-intensive and women *dominate* in important segments of the production chain. In most cases, female participation in these commodities has provided women with a new and highly significant form of income generation.

- The gendered impacts of these commodities remain comparatively under-researched, particularly in relation to manufacturing industries;[3] "traditional" agricultural commodities such as coffee, tea, and tobacco; and women's role in food production.

- Most are highly significant in their respective regions in terms of employment and contribution to economic growth and exports.

- They are part of global commodity chains driven by powerful Northern companies.[4]

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[3] For example, while several studies have documented the link between trade liberalization and the feminization of the manufacturing labor force (Çaġatay and Ozler 1995, Joekes and Weston 1994; Joekes 1995; Standing 1989), these links have been less explicit with regard to agriculture. Likewise, while a great deal has been written on gendered roles in agricultural sector (see for example, the collection edited by Bryceson (1995), most concentrate on women's role in food production, or their exclusion from traditional cash crops.

[4] While all the commodities are inserted into global commodity chains, the varying institutional structures of these commodity chains present different opportunities for firms and workers in developing countries. For example, a commodity such as cooked chickens, which is controlled by a multinational agribusiness from production through processing to sales presents a different set

- Most are industries that have faced and responded to the growing pressure to meet improved labor, environmental, and quality assurance standards. Thus, they provide opportunities for improved welfare through good practices in corporate ethics.

Taken together, these factors provide a strong basis for a comparative analysis. They also are production chains for which some research on the gendered effects of trade has been conducted and is accessible.[5]

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of opportunities for change than export vegetables, which are purchased from small farmers and resold on to wholesalers (Cloud, personal communication). These differences led to varying points of possible intervention for World Bank policies and projects.

[5] Other high-value natural resource based sectors in which significant numbers of women are found (e.g., spices, aquaculture) were excluded due to the lack of gender-based material available for analysis.

2. High-Value Agriculture

Agricultural exports are highly significant to many of the poorest countries. Agriculture accounts for 61 percent of employment and 14 percent of GDP in developing countries and an even higher proportion in the least developed countries (85 percent of employment and 36 percent of GDP). Participation in these commodity chains also provides considerable opportunities for growth and poverty reduction. For example, developing countries with positive GDPs had trade and agricultural growth rates 300 percent greater from 1989/90 to 1990/95 than those of developing countries overall (Bathrick 1998 in Henson and Loader 2001).

However, for many countries, agricultural performance has waned, leading to a decline in growth in several LD.C. countries (UN 2000). Trade in traditional agricultural commodities (coffee, tobacco, cotton, and cocoa), on which developing countries largely depend, has been beset by adverse world market conditions, restrictive macroeconomic policies, excessive market controls, and political instability. The decline of revenues from these classic export commodities, coupled with trade liberalization and structural adjustment reforms, have prompted many countries to diversify their export portfolios into higher value-added agriculture products.

- For many countries, diversification into high-value agriculture commodities has entailed the production of several nontraditional agricultural exports (NTAEs).[6] Such exports have been defined as:

- Products that have not been produced in a country before (snowpeas in Guatemala, roses in Zambia)

- Products that originally were produced for the domestic market but have expanded into export markets (mango, papaya, other tropical fruits)

- Traditional products reoriented to new market niches (the export of bananas to the Soviet Union) (Barnham and others 1992:43).

- Over the past few decades, these commodities have grown considerably in importance. In the next section, we discuss the factors underlying this growth.

Factors Underlying Growth in High-Value Agriculture Exports

Weak Performance in Traditional Commodities

As noted, from the early 1970s to the 1990s, the terms of trade for several traditional commodities declined significantly For example, according to FAO, Africa's share of cocoa production fell from 71.6 percent in the 1960s to 58.7 percent in the 1990s while the market share dropped from 78.9 percent to

[6] The Harmonized System of Tariff Codes defines high-value agricultural products as those products that require little or no additional processing and typically are ready for final consumption at either the food retail or food service level. Good examples include fresh fruit and vegetables and nursery products. In some cases, however, products classified as consumer foods also may be used by food processors as ingredients in other foods. These products include spices, dairy and egg products, tree nuts, and dried fruits (CIDA 2002).

64.7 percent in the same period. For coffee, the production and market shares declined from 25.9 percent and 28.8 percent, respectively, in the 1960s to 18.6 percent and 18.5 percent in the 1990s. The reduction in market share for groundnut and palm oil was even more severe, declining from 88.4 percent and 36.8 percent, respectively, in the 1960s to 7.6 percent and 2.6 percent in the 1990s. According to data on world agricultural trade (Gibbon 2001), the seven main tropical agrocommodities (coffee, tobacco, cotton, sugar, rubber, tea, and cocoa) accounted for only 28.8 percent of the total agricultural exports of Africa, Asia, and South America combined (computed from FAO 1999, cited in Gibbon 2001). This decline provides considerable scope for exploiting the potential of NTAEs.

Trade Liberalization

The adoption of fiscal austerity measures under structural adjustment coupled with the onset of the debt crisis in the 1980s led many countries, particularly in Africa and Latin America, to dismantle protectionist policies in favor of trade openness, economic liberalization, and export diversification.[7] During the 1990s, this stance opened the way for several new trade agreements that facilitated trade in high-value agriculture (appendix 1). For example, liberalization under the North American Free Trade Agreement (NAFTA) underpinned the rapid growth in US agricultural imports from Canada and Mexico, which increased by more than one-third between 1995–99 (9.5 billion to 12.9 billion) (Putnam and Allhouse 2001). Similarly, the elimination of tariffs under the Andean Trade Preferences Act fuelled the growth of cut flower exports from Colombia and Ecuador. In the European Union (EU), horticulture products also have benefited from preferential trade access. Overall imports of leguminous vegetables into the EU from outside Western Europe increased by 133 percent between 1989–97, the majority of which came from African countries with preferred trade status under the Lomé Convention (Humphrey 2002).

Policies of International Lending Institutions

Over the years, the Bank and other development institutions have supported a number of project and policy interventions and provided technical assistance to encourage export growth and the expansion of value added commodities. In fact, a recent collaborative report on Sub-Saharan Africa (SSA) sponsored by leading African development institutions and the World Bank identified export diversification as one of four key requirements for Africa to overcome its current malaise and achieve sustained growth in the twenty-first century (Jaffee 1999). In SSA, several operations were launched and implemented in the 1990s aimed at increasing exports of high-value, nontraditional agricultural products with promising results in cut flowers, papaya, and mango. Similar efforts have been undertaken by the United States Agency for International Development (USAID), the Commonwealth Development Corporation, and the Inter-American Development Bank with objectives to generate rural employment and foreign exchange, as well as to upgrade the agricultural technologies of developing countries (Little and Dolan 2000).[8]

Increased Market Demand

Growth in these commodities also is linked to changing trends in consumer and food retailing in European and North American countries. These trends include

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[7] In the NTAE sector, this shift was particularly notable in the dramatic reduction in regulations for foreign direct investment (Reardon and Berdegué 2002).

[8] For example, the Colombian floriculture industry benefited from the advice on exporting flowers as part of a 1965 project by USAID (Tenenbaum 2002).

Demand for nutritious foods and healthier diets. Growing health awareness has fuelled the increased consumption of most high-value commodities. For example, concerns during the 1970s that red meat was potentially linked to heart disease and colon cancer prompted many consumers to switch to poultry (Hetrick 1994). Similarly, the dietary benefits of fresh produce underlies the 25 percent increase in fresh fruit and vegetables consumption in the United States between 1977 and 1999 (Regmi and Gehlar 2001).

Rising incomes. Rapid growth in mean per capita incomes in Northern countries during the 1990s has enabled consumers to purchase a broader range of commodities with higher price tags, such as organic produce, flavored coffees, free range chickens, and cut flowers.

Growing immigrant populations. Immigration has led to increased ethnic diversity in Europe and North America. Immigrants have created market demand for the types of foods they consumed in their home countries, while exposure of host communities to "ethnic" foods has broadened tastes and accelerated demand for a range of new products.

Rising demand for convenience foods. Increased participation by women in the labor market and the opportunity costs of their time has created a demand for processed, ready-to-eat products.

Availability of out-of-season crops. In developing countries, transportation technology, refrigeration methods, and storage have improved dramatically over the last 30 years. These improvements have enabled perishable products to be shipped over long distances while preserving quality. Consumers in Northern countries who previously were restricted to eating citrus, bananas, and apples during winter months now can enjoy a wide range of fruits and vegetables all year round.

New crop varieties. Plant breeding has expanded the range of fruits and vegetables available. As a result, a vast array of products—seedless grapes, Cape gooseberries, Mexican strawberries, New Zealand kiwis, and Guatemalan snowpeas —are fast becoming staple commodities in households throughout Europe and North America.

Concern with environmental, food safety, and social issues. Increases in income have raised the demand for other "quality attributes." Consumers have become increasingly discriminating. They now are concerned not only about the quality and safety of their food but also about the social and environmental conditions under which it is produced. This trend, in turn, has led to the increased importance of organic, fair trade, and certified brands. It also has led to the proliferation of standards. These include generic-international standards like International Organization for Standardization (ISO) 9000, ISO 14000, Hazard Analysis Critical Control Point (HACCP), Social Accountability standard (SA 8000), and the Ethical Trading Initiative (ETI) Base Code, industry-specific standards such as EUREPGAP, as well as company-specific supermarket and importer codes of practice.

Taken together, these changes have sharply increased the value-added share of processing and distribution within agribusiness, and of nonstaple subsectors relative to staples, opening up new markets for developing countries. However, high-value agriculture commodities also are subject to a number of external pressures that have ramifications for the extent and type of labor market opportunities generated.

Governance of High-Value Agriculture Industries

While tariff and quota barriers to trade in agricultural and manufactured products continue to decline, nevertheless, high-value agriculture industries remain subject to several different types of governance structures that influence their capacity to engage in, and benefit from, global trade. These governance structures can be categorized broadly into two types: (1) public governance through trade rules under the

World Trade Organization (WTO), regional agreements (for example, NAFTA), and national legislation; and (2) private governance through codes of practice, certification and labeling schemes, and other voluntary standards.

Public governance structures. On a global scale, the food trade is regulated through various trade agreements and standards under the General Agreement on Tariffs and Trade (GATT) and WTO such as Sanitary and Phytosanitary Measures (SPS) and Technical Barriers to Trade (TBT), as well as through international bodies, such as the Codex Alimentarius Commission of World Health Organization (WHO) and Food and Agricultural Organization (FAO), International Commission on Microbiological Specifications for Foods (ICMSF), and Montreal Protocol governing chemical use.[9, 10] At a regional level, agriculture is regulated through agreements such as Mercosur, NAFTA, Lomé, and now Cotonu.[11] Public governance also is enacted through international labor standards and supranational laws that govern the rights of individuals working in agriculture. These include International Labour Organisation (ILO) Conventions and Recommendations, international declarations such as the Beijing Declaration and Platform for Action and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), as well as supranational law such as European Community directives (ILO 2000) (see appendix 1 for a full description).[12, 13]

In addition, individual countries can provide a stronger (or weaker) degree of protection to workers through national laws and legislation. For example, many countries have specific legislation supporting equality of opportunity and nondiscrimination in employment that extends beyond the provisions contained in international frameworks. However, there is often considerable variability among countries in the degree to which national legislation is gender sensitive. Unions and private governance structures can play an important role to fill any gaps in national laws to ensure gender equity.

Private governance structures. Increasingly, high-value agriculture industries are subject to private sector governance through voluntary grades and standards. These standards are adopted voluntarily, either extending beyond current regulatory requirements or establishing new standards in areas in which government regulations are lacking. Some are established by international organizations such as the International Organization for Standardization (ISO) which develops voluntary consensus standards such as the ISO 9000 series on quality and the ISO 14000 series on the environment. Standards also

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[9] The Montreal Protocol demands alternatives to soil fumigants such as methyl bromide in developed countries, with a scheduled phase-out in Third-World Countries over the next 10 years.

[10] The joint Codex Alimentarius Commission (CODEX) of the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) develops standards on food safety, pesticide residues on foods, food additives, veterinary drug residues, food contaminants, and labeling. The WTO aims at ensuring that these standards do not constitute unnecessary barriers to trade. For example, the main objective of the WTO SPS agreement is to minimize the negative effect on trade from the adoption of SPS measures (Wilson 2002).

[11] Many studies have evaluated the impact of the international trading system on developing countries. Most recently, the Bank has published a comprehensive review of trade policy reform (see Hoekman and other 2002). See also Srinivasan (1998), Whalley (1996), and Blackhurst and other (2000).

[12] The Beijing Platform of Action, for example, calls for states to "ensure that national policies related to international and regional trade agreements do not adversely impact women's new and traditional economic activities" (UN 1996, para. 176 cited in Çaǧgatay (2001).

[13] The variability in standards has raised questions on the most effective ways to promote women's rights at work Recently, several northern NGOs have begun to advocate for a linkage between market access and labor standards through trade agreements. Advocates of this stance argue that trade-related measures would provide the enforcement mechanisms to give ILO conventions the teeth they need. Such measures might include fines and assistance to countries to develop and/or upgrade their monitoring and enforcement mechanisms (Çaǧgatay 2001).

increasingly are adopted by multinational firms or consortia of stakeholders. One of the main forms this assumes is voluntary codes of conduct–written statements of principles, standards, and indicators with which a company or association voluntarily sets out to comply (Blowfield 2000). Codes have proliferated in recent decades in response to several tendencies under globalization (appendix 2). Codes have become particularly widespread in industries, such as garments, textiles, toys, cut flowers, and fresh food, in which corporate image and brand name are important.[14] A recent article (Blowfield 2000) cited over 200 codes related to worker welfare specifically, and over 20 codes applied to agriculture in developing countries. Codes typically encompass both product standards (product quality and safety) as well as process standards that govern the conditions (social, environmental) under which a product is produced.[15] While compliance with regulations is obligatory, most private sector codes are voluntary although adherence may be a precondition for supplying a particular buyer, or more broadly for market acceptance (Jaffee 2001).[16]

The impact of public and private forms of governance on production and employment is only starting to be documented. However, early indications suggest that they will have a profound impact on developing countries, influencing not only their access to, and competitiveness in, international markets but also the quality of opportunities open to workers and farmers in these industries. Recent research, for example, has indicated that codes of conduct covering employment in the fresh fruits, vegetables, and cut flower industries can improve the conditions for full-time permanent employees while leaving workers who are in "flexible" employment categories unprotected (Barrientos, Dolan, and Tallontire 2001).

Key Trends in High-Value Agriculture

The nature of labor market opportunities generated by high-value agriculture production are influenced by several key tendencies. These tendencies include the following:

Rise in Global Supply Chains

In addition to a quantitative increase in the high-value agriculture trade, there has been a corresponding qualitative shift in the structure of distribution and consumption. From Africa to Latin America, supermarkets and large-scale food manufacturers have changed the nature of agrifood markets and the type of employment opportunities within them.

Most high-value agriculture exports are inserted in global supply networks dominated by powerful global buyers such as Dole, Cargill, Walmart, and DelMonte. Over the last two decades, multiple stores (large supermarkets and major retail chains) have grown tremendously in terms of both size and market share, and now exercise substantial power over a wide range of products and countries (Dolan and Humphrey 2000). Supermarkets in the EU now sell more than half of all fruits and vegetables on the market; in the UK, the figure has climbed to 82 percent (Humphrey 2002).[17] The concentration of the retail sector is not

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[14] In 1990, 85% of the largest 100 US corporations were found to have a company code. In the UK this figure was 42% while in the Netherlands only 22% (van Liemt 1999).

[15] In the high-value agriculture sector, voluntary codes range from international standards such as the ETI Baseline code and SA 8000, to sectoral codes such as the Kenya Flower Council and EUREPGAP, to company-specific codes developed by retailers and importers.

[16] For example, in some cases, criteria established in codes of conduct are more stringent than those provided by international agencies (for example, CODEX).

[17] Most importantly, supermarkets have acquired an increased market share of the "luxury fruits and vegetables"–snowpeas, dwarf/French beans, runner/stick/string beans, sweet corn, courgettes, baby carrots, asparagus, sliced mango and papaya

a phenomenon restricted to the EU and USA. Recent evidence indicates that, in 2000, supermarkets had captured 60 percent of food retailing in Mexico and South America, with shares of fruits and vegetables 50 percent, 30 percent, and 30 percent in Brazil, Argentina, and Mexico respectively (Reardon and Berdegué 2002).

Most retailers have consolidated their supply base, developing close relationships with a group of "preferred suppliers" and more tightly integrating (and restricting) their supply chains. The growth in tightly managed and consolidated supply chains imposes higher barriers to entry for suppliers and forces those with market access to alter their production systems to remain competitive.

Restructuring of Employment

The emergence of powerful downstream players thus has affected upstream organization, sparking significant changes in the production systems of developing countries. Nowhere is this more evident than in the use of labor, which can absorb up to 50 percent of production costs in industries such as fresh vegetables and cut flowers. While the specific employment strategies adopted by companies and growers vary both across and within commodities, in all cases, a restructuring of work regimens is underway. At the center of this restructuring are two main processes: the feminization and flexibility of the labor force.

Feminization of the Workforce

A sizeable body of literature shows that growth in such high-value exports has been based on the "comparative advantage" of female labor.[18] For example, in 1990 women constituted approximately 15 percent of the agricultural labor force in Mexico. However, their participation was as high as 50 percent only if the production of fruits and vegetables was considered (Preisbich 2000). In the majority of cases, companies justify their preference for women workers by citing "feminine" traits that are deemed better suited to the production process, (conscientiousness and concentration) and by drawing assumptions about women's role in the labor market. These include several well-known stylized facts:

Female compliance. The assumption is widespread among industries that women are more subservient to managerial authority, less prone to participate in union activities, and more committed to their jobs (Lawler and Atmananda 1999). This assumption is particularly common in industries, such as, Colombian flowers, in which strikes and political activism are commonplace (Meier 1999).

Dexterity. Women's jobs often are related to perceived female characteristics such as dexterity and carefulness. Firms believe that women's "conscientiousness" makes them better suited to achieve the rigid standards for product quality and homogenization. Female employment also is associated with traditionally "female" activities within the household such as cooking, cleaning, sewing, tending the sick, and personal services. For example, Katz (1995) notes the similarity between women's "trellising" of the snow peas in Guatemala with their traditional income-generating activity of weaving.

Women's wages are less. Employers assume that they can pay women less because of women's lower aspiration for wages. Although wage levels vary widely across countries, women's wages typically are

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(Humphrey 2002)–products for which developing countries such as Thailand, Kenya, Chile, Peru, and Guatemala have a comparative advantage.

[18] See Barrón (1994), Lara (1995), Barrientos (1997), Arizpe and Aranda (1981), Collins (1995), Collins and Krippner (1999), Goldín and Asturias de Barrios (2001), Raynolds (1998, 2002), and Dolan (2001).

lower than men's (Tzannatos 1999). This is particularly true in rural labor markets, enabling companies to hire women at lower cost (Cloud 2002).[19]

Women's earnings are supplemental. Women are perceived to be "secondary" earners. Companies exploit the notion that the income earned by a woman will be supplemental to the main family income generated by the husband/father/or son (Arizpe and Aranda 1981).

Women's work is unskilled. The work performed by women is perceived as less skilled and hence is not paid comparatively with men's tasks.

However, the concentration of women in these industries, and in certain segments within these industries, also reflects a number of supply-side factors:

- *Poverty-push factors.* In many regions, economic vulnerability stemming from landlessness and high unemployment forces many people to migrate in search of employment.

- *Culturally assigned gender roles.* Women's "traditional" responsibilities mean that they often are more comfortable in certain industries and in certain parts of the production process than in others. For example, poultry processing is similar to women's conventional responsibilities for food preparation and women are more comfortable with skinning and deboning than with tasks such as slaughtering.

Flexibility

Globalization has placed increased pressure on industries to reduce costs to remain competitive in a trade-liberalized environment. One way to achieve this is through making the labor force more flexible and work arrangements less rigid. In general, the use of "flexible" labor allows export companies to tailor their labor supplies to seasonal demands to cushion against periods of economic downturn. In the majority of high-value agriculture commodities, this change is achieved by shifting from regular, stable, and permanent employment to various forms of flexible, nonstandard forms of employment. Such "flexibility" includes moving from permanent employment to informal work arrangements and systems of remuneration (temporary, seasonal and casual work, and piece-rate wages) as well as externalizing production through the use of unregulated contract labor and smallholders.[20] Today, a large proportion of the workforce is recruited on a flexible basis, the majority of whom are women. In this way, exporters do not need to pay their employees when there is little work (such as during the US summer) and are absolved from issuing benefits such as severance pay, annual leave, social security, maternity leave, medical benefits, and housing.

Some producers are externalizing employment relations by contracting labor through intermediaries (South African fruit) or by harnessing labor through smallholder production (Guatemalan snowpeas; Ugandan vanilla). Others are moving toward more centralized production on their own farms (Kenyan vegetables). Even within one industry, the production strategies can be heterogeneous. For example, the production of vegetables in Mexico includes a mix of seasonal and migrant labor as well as the integration of smallholders under contract.

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[19] Lower wages for women is the pattern in most industries. However, there are cases (for example, South African fruit) in which women working at piece rate often can earn much more than men.

[20] Flexibility also includes a shift in the functionality of work arrangements with more multiskilling and multitasking within firms.

Hence, high-value agriculture industries are characterized by a number of external pressures (from trade liberalization to consolidated supply chains) that affect the structure and composition of the labor force in similar ways. On the other hand, each of these industries is uniquely shaped by specific socioeconomic conditions that give rise to differences in the nature of production and the type of labor market requirements. These conditions are discussed in the next chapter.

3. Case Studies

This chapter provides a literature review of a selection of case studies from producing countries. For each country, relevant market and production data are provided. The selection of case studies is based on the availability of information on both the production and the gender composition of industry. While far more countries are involved in the trade of these commodities, the following analysis concentrates on developing countries that have emerged as leading exporters and have acquired significant foreign exchange and employment generation through integration in global markets. However, due to limited available information, the poultry and vanilla cases are described through one country case study each. While this chapter is quite detailed, it also provides a good baseline of information to understand the development of high-value agriculture across countries and industries.

Cut Flowers

In recent decades, the global demand for cut flowers has grown considerably. While, at one time, cut flowers were purchased solely for special occasions, over the last two decades, they have become a standard commodity of middle- and upper-income households. In Northern countries, consumption is estimated at $30 billion annually (Brassel and Rangel 2001). In the year 2000, Americans alone spent approximately $16 billion on cut flowers and green foliage (Society of American Florists 2001 cited by Rainforest Alliance 2001). Over 125 varieties of cut flowers now are grown commercially worldwide– roses, carnations, and chrysanthemums being the most important varieties (ITC 2001). The total acreage allocated to global cut flower production is estimated at 200,000 hectares (ha).

The growth in market demand has attracted increasing numbers of developing countries to the global fresh flower trade. While the Netherlands remains the largest producer of cut flowers worldwide, accounting for 59 percent of global exports in 1996, developing countries such as Colombia, Ecuador, Kenya, Uganda, and Zimbabwe are strong players in the global market (Thoen and others forthcoming). Developing countries' share in world exports has risen from approximately 21 percent in 1991 to 28 percent in 1995 to over 29 percent in 1998, an average annual growth rate of 7 percent (ITC 2001). Exports from the least developed countries (LDCs) increased at even higher rates. Total LDC exports of cut flowers and foliage have increased rapidly from US$18 million in 1995 to nearly US$45 million in 1999, an average growth rate of 32 percent per year.[21] Approximately 190,000 people in developing countries are employed in the cut flower business (PANUPS 2002).

Consumption of cut flowers is concentrated in the high-income countries of Europe and North America. At present, the six largest importing countries (France, Germany, the Netherlands, Switzerland, UK, and USA) account for nearly 80 percent of global imports (ITC 2001). In Europe, the market is supplied primarily by domestic and regional production and supplemented with supplies from Africa, Israel, and, more recently, South America. Total EU imports from developing countries grew from 243 million ECU (14.4 percent of total EU imports) in 1990 to 409 million ECU in 1995 (20.8 percent) (Profound 1996). African countries such as Kenya and Zimbabwe are the most important non-EU suppliers to EU markets, although Colombia, Ecuador, and Costa Rica also rank among the top 10 suppliers to the EU (LEI-Eurostat 1999, table 3.1). The Japanese market relies mainly on domestic production, with only 20

[21] This figure is comprised of approximately 95% cut flowers and buds and 5% foliage and other vegetation (ITC 2001).

percent of its market being supplied through imports from countries such as the Netherlands, New Zealand, Singapore, and Thailand.

Table 3.1 Imports in EU from non-EU countries, 1995-99

(million ECU)

Country	*1995*	*1999*	*Growth 95–99 (%)*
All non-EU	441.8	531.6	20.3
Kenya	75.7	129.1	70.5
Israel	110.5	98.7	-10.7
Colombia	94.7	92.6	-2.2
Ecuador	21.7	62.1	186.2
Zimbabwe	36.0	50.8	41.1
Thailand	20.5	16.1	-21.5
Zambia	4.4	15.9	261.4
Tanzania	3.2	7.3	128.1
Uganda	2.1	5.6	166.7
India	3.5	4.0	14.3

Source: Brassel and Rangel 2001.

In contrast, 70 percent of cut flowers sold in the US were supplied through imports, particularly from Colombia, Ecuador, and other Latin American countries (van Liemt 1999, Thoen and others forthcoming). From 1995 to 2000, Colombia and Ecuador represented over 80 percent of the value of cut flowers imported to the US (table 3.2).

In the US, wholesale markets and small retail outlets (retail florists, farmers' markets, bucket shops, street corners, and craft fairs) are the most common outlets for cut flowers. In contrast, growers exporting cut flowers to the EU supply either the wholesale market or, more frequently, the flower auctions in the Netherlands (Profound 1996, ITC 2001). While the Dutch auctions remain the most important market outlet for flowers worldwide, cut flowers increasingly are supplied directly from growers in developing countries to supermarket chains in the EU, bypassing the Dutch auctions altogether. This offers growers higher margins but places them under more pressure to meet the rigorous standards for quality, and social and environmental accountability.

Table 3.2 Average value of us cut flower imports, by country of origin, 1995/96–1999/00

(US$)

Country	*Export value*
Colombia	308,221
Ecuador	55,777
Mexico	16,576
The Netherlands	7,438
Costa Rica	6,769
Guatemala	6,677
Other	14,125

Source: USDA 2001a.

A number of factors favor large-scale production of cut flowers, including exchange rate instability, as well as resource and capital intensity, all of which make economies of scale a competitive advantage. In many countries, the grower base has become increasingly concentrated as small exporters turn to supplying larger companies that have access to infrastructure and technology, as well as distribution networks overseas, including direct contracts with retail outlets (Farné 1999). The information in table 3.3 provides an overview of how production and distribution are organized in several developing countries that are key players in the global cut flower industry (Kenya, Zimbabwe, Uganda, Colombia, and Ecuador). The data also examines the importance of the cut flower industry in terms of export performance and employment generation for these countries. The table highlights the differences in market structure described previously, with African production oriented toward European markets while production in Latin America countries is exported primarily to the US.

The table also illustrates the significant levels of employment provided by the industry, in which the majority of the workers are female.

Table 3.3 Comparison of cut flower production by country

Country	*Export value (US$million)*	*Market destination*	*Level of employment*	*Gender disposition*	*Type of employment*
Kenya[a]	110	EU (UK, Netherlands)	40,000 (+ 4-5,000 smallholders)	75% female	65% temporary
Uganda[b]	22	EU (Netherlands, Germany, UK, France)	3,000	75%–85% female	–
Zimbabwe[c]	–	Netherlands, UK, Germany, Italy, Sweden, USA, Australia	27,000	79% female	58% total permanent (of which 38% female)
Colombia[d]	580	Mainly US; Europe	70,000 (+ 50,000 in packing industry)	60%–80% female	–
Ecuador[e]	195	USA, Europe, Russia	30-50,000	50%–60% female	–

Notes. a. Palán and Palán 1999, Djikstra 2001, Asea and Kaija 2000, Blowfield and others 1998, Gachanga 2002. b. Palán and Palán 1999, Djikstra 2001, Asea and Kaija 2000, Blowfield and others 1998. c. AEAA 2002, Davies 2000. d. Data from National University and Aflosaca in Diaz 1994, Farné 1999, Favre 1999, Maquila Network 2002. e. Palán and Palán 1999, Djikstra 2001, Asea and Kaija 2000, Blowfield and others 1998, Korovkin 2002, Maquila Network 2002.

Kenya

Kenya has a long history in flower production and recently surpassed Israel as the second largest cut flower supplier to the European market (Hennock 2002). In 2001 the value of Kenya's cut flower exports was US$110 million (Gachanga 2002). According to Evans (2002), more than US$80 million filters back to the country's rural economy in the form of wages or payment for goods produced (Evans 2002). Sixty percent to seventy percent of Kenyan flowers are destined for retail chains, particularly in the UK, in which imports of Kenyan cut flowers accounted for 45 million to 60 million of supermarket flower sales in 1997.[22] Although Kenya has some 500 commercial flower growers, approximately 75 percent of its cut flower exports are grown by approximately two dozen large- and medium-scale producers. Their operations range in size from 20 to over 100 ha, with workforces of between 250 and 6000 employees (Thoen and others forthcoming). Total employment in the industry is estimated at between 40,000 and 70,000 workers, the majority of whom are women (Blowfield and others 1998).

Uganda

In Uganda, commercial floriculture emerged as a global industry in 1993. A central platform of the economic policy reforms under the Museveni government has been diversification into nontraditional exports, with the cut flower industry representing one of the most successful aspects of these efforts. The industry has grown from one small project of US$0.13 million in 1993–94 to over 20 projects in

[22] See "KFC (Kenya Flower Council) Newsletter" 1998. Direct sourcing of flowers began during the 1980s but in the past five years has expanded tremendously in response to the expansion of UK supermarkets.

1999/2000 with exports valued at USD$22 million FOB (free on board) (Djikstra 2001). The industry grew to represent the eleventh largest export earner in the country in 1997 (table 3.4).

Today, Uganda produces approximately 85 ha of rose and chrysanthemum cuttings annually (Asea and Kaija 2000), which it supplies to France, Germany, the Netherlands, and the United Kingdom. Over 80 percent of Ugandan flowers are supplied to the Dutch auctions, accounting for 2 percent market share of roses supplied to the Netherlands (Asea and Kaija 2000). The industry employs 3,000–4,000 Ugandans, contributing over US$2 million in wages to the rural economy (Asea and Kaija 2000).

Table 3.4 Role of floriculture in Ugandan exports

Export earnings	*1985*	*1997*
% of total export earnings	–	1.8
Rank of total export earnings	88	11

Source: Asea and Kaija 2000.

Zimbabwe

Zimbabwe is the second largest exporter of cut flowers from Africa (Davies 2000). The industry in Zimbabwe has been one of the fastest growing of any industry on the continent, increasing in value an average of 87 percent per year between 1990 and 1997. This increase is greater than those for fresh produce and citrus over the same period, which increased 28 percent and 13 percent respectively. By the late 1990s, floriculture comprised 50 percent of the country's total horticulture earnings (Davies 2000). Approximately 70 percent of Zimbabwe's flowers are destined for the Netherlands, with the remainder supplying Australia, Germany, Italy, Scandinavia, the United Kingdom, and the United States.. Approximately 27,000 Zimbabweans are employed in floriculture (Davies 2000), of whom 79 percent are women.

Colombia

Flowers are one of Colombia's greatest economic success stories, expanding from US$20,000 in the 1970s to over US$580 million in the year 2000 (Asocolflores 2002), a 26,000-fold increase. By 1999, Colombia was producing 10 percent of the entire world's cut flowers and was the second largest producer of flowers in the world after the Netherlands (Broderick 1999). The bulk of Colombian flowers are supplied to the US; two out of every three flowers sold in the US in the late 1990s originated in Colombia (Broderick 1999).

Historically, flower farms have been owned by wealthy Colombians. However, the structure of ownership changed in 1998, when Dole Food Company Inc. bought 23 flower farms in Colombia and neighboring Ecuador. Dole's fresh cut flower division, Americaflor Ltd. in Colombia is now the world's largest grower of fresh flowers. While estimates of employment vary, recent studies estimate direct employment at 70,000–75,000 workers (Farné 2000, Asocolflores 1998) (table 3.5).[23] The industry employs an additional 50,000 workers in related industries such as packaging and transportation (PANUPS 2002, Thrupp 1995). Sixty percent to 80 percent of employment in the Colombian industry is female (Meier 1999).[24] However,

[23] The multinational company Dole along employs 11,133 workers (Tenenbaum 2002).

[24] This 1999 estimate may be somewhat misleading. The first data on gender suggested that participation of women was on the order of 70% of total employment, but this number has been falling. A 1981 survey conducted by the Vocational Training Institute, SENA, in 106 enterprises in Sabana de Bogotá revealed a figure of 64%. More recent surveys from the National University and Aflocsa suggest even lower figures: 62% in Madrid (Diaz 1994) and 59% among the production workers of the 53 enterprises affiliated to Aflocsa (1992).

women comprise only 5 percent of the top managers, 9 percent of the managers, and 10 percent of the mid-professionals, but 48 percent of the lower rank supervisors (Meier 1999 citing SENA 1992).

Ecuador

Ecuador is the second largest flower exporter in Latin America, and cut flowers rank fourth in the country's export portfolio, after oil, bananas, and shrimp (Rainforest Alliance 2001). The industry emerged in the early 1980s when a handful of Colombian growers discovered that favorable production conditions as well as lower labor and investment costs could be obtained across their southern border.[25, 26] However, it was not until 1990–97, following the implementation of the Andean Trade Preferences Act, together with encouragement from the government in form of favorable investment conditions, that Ecuador featured in global markets (Holt 2000). During this period, the number of producers increased from 39 to 179 with the total area under flower cultivation expanding from 286 ha in 1990 to 1,549 ha in 1997. In line with these increases, the production of flowers grew from $1.7 million worth of exports in 1986 to over $195 million in 1996 (Florastream 2002, Korovkin 2002). While the relative contribution of flowers to Ecuador's total exports is low, among nontraditional agricultural products, flowers represent 71.4 percent (Farné 1999). The main markets for Ecuadoran flowers are the US (66 percent), Europe (16 percent), and Russia (12 percent) (ILO 2002). The sales are either directly through large importers, particularly in Canada, Europe, and the US, or through contract and local exporters, as commonly found in Russia.

Table 3.5 Employment in Colombia cut flower industry, 1971–96

Year	*Cultivated area (ha)*	*Employment*
1971	48	1 200
1975	360	9 000
1980	1 100	27 500
1981	1 100	27 500
1990	3 500	59 500
1991	4 000	68 000
1996	4 200	71 400

Source: Farné 1999.

Ecuador's comparative advantage lies in its low-cost labor.[27] While estimates on the scale of the workforce vary, most figures peg employment at between 30,000–50,000 workers, of which 50 percent to 60 percent are women (EXPOFLORES 1997, Brassel and Rangel 2001, Korovkin 2002).

Poultry

Consumer demand for poultry products has grown rapidly in recent years. In the decade after 1987, poultry's share of the global meat market increased from 21 percent to 29 percent (USDA 2001b). Globally, chicken (primarily broilers) is the most popular poultry meat, representing about 85 percent of the total poultry meat output (Bilgili 2002). Annual global consumption of chicken rose from 24 pounds per capita in 1960 to 72 pounds in 1994. As is the case for the fruit and vegetable industries, this increased demand is related to broad trends in the global food trade. Rising incomes in developed countries have made chicken a staple commodity in many middle income households. The poultry market also has benefited from consumer awareness of health issues, leading to the replacement of red meat with chicken in many diets. Whereas in 1970 red meat and poultry constituted 79 percent and 21 percent

[25] Colombian producers remain very active in Ecuador–40% of greenhouses in the country are owned by Colombians (FIAN 2001).

[26] In 1982 the initial investment required for one ha of roses in Ecuador was $300,000, in contrast to $1,300,000 for the Netherlands and the US (Korovkin 2002).

[27] A study commissioned by the ILO calculated that the income required to maintain a job in the flower export sector was US$5,092 in 1997, which was significantly less than other competitor countries in Latin America (Palán and Palán 2000).

respectively of total meat consumption in the US, in 2000 consumption of red meat had declined to 64 percent while poultry consumption had increased to 37 percent (Haley 2001).

During the first half of the 1990s, global production of poultry averaged 35.8 billion pounds of ready-to-cook chicken annually, an increase of 6.9 billion since the early 1960s (CIE 2002). Production was estimated around 59.6 million tons for 2001, up 3 percent from 2000 (USDA 2002a). Currently, Brazil, China, the EU, and the US are the primary poultry producers, with a combined output of 65 percent of total poultry meat production in 2000 (Bilgili 2002). Among the major poultry producing countries, production in the US and Brazil increased 2 percent and 6 percent respectively during 2000 and is slated to increase in China, the EU, Mexico, and Thailand (USDA 2001b). Table 3.6 provides broiler production figures for the seven biggest markets over time.

Table 3.6 Total broiler meat production

(1,000 Mt/ready-to-cook equivalent)

Country	*1998*	*1999*	*2000*	*2001*	*2002*
United States	12,525	13,367	13,703	13,989	14,382
Canada	798	847	877	915	930
Mexico	1,587	1,784	1,936	1,989	2,108
Brazil	4,498	5,526	5,980	6,580	7,040
Argentina	850	885	870	870	860
EU	6,789	6,614	6,654	6,822	6,970
Russia	280	350	380	430	470
China	3,450	4,400	5,050	5,200	5,400
Japan	1,097	1,078	1,091	1,080	1,085
Thailand	930	980	1,070	1,230	1,350
Others	37,869	41,109	42,847	44,455	46,097

Source: USDA 2002a.

Among developing countries, Brazil and Thailand are significant exporters. Brazil's poultry exports for 2001 are projected at 1.1 million tons, up 16 percent from 2000, and Thailand's exports of poultry meat in 2001 are projected to reach 343,000 tons, up 6 percent from 2000 (USDA 2001b). Impressive growth rates also have occurred in Africa, Asia, and Oceania, where poultry exports more than doubled from 1989–1993.

Over time, two trends have emerged. First, like the fresh fruits and vegetables trade, the industry has become increasingly consolidated with fewer but larger companies.[28] Second, the market for poultry products has diversified away from retail outlets to the food service industry, which, in turn, has created a growing demand for processed (including cooked) products. Like the fresh produce industry, poultry products have been influenced by the global shift to "well-differentiated, name-branded" products (Bilgili 2002). Increasingly, firms such as Sun Valley in Thailand are customizing production processes to meet the needs of clients such as McDonald's and other restaurant chains.[29] One illustration of such shifts is the fact that, in 1960, 85 percent of broilers were marketed as whole carcasses, 13 percent cut into parts, and the remaining 2 percent further processed. In 1990 these figures were 18 percent, 56 percent, and 26 percent, respectively (CIE 2002).

The type of employment generated in the poultry industry varies from work in grain stores to slaughterhouses. Processing the meat, particularly for sale to the food service industry, is very highly intensive and absorbs a significant proportion of the workforce. Women represent a large percentage of workers in the industry. For example, in Brazil, 80 percent of workers in the meat industry overall are men, but 90 percent of poultry workers are women (Tomoda 1996).

[28] However, while in recent decades the number of poultry farms has declined, during 2000–01, output per farm increased an average of 3% (USDA 2001b).

29 Sun Valley is a subsidiary of Cargill, an privately held international marketer, processor, and distributor of agricultural, food, financial, and industrial products (Cloud 2002).

Thailand

There are few published studies on employment in poultry industries in developing countries. This section, therefore, is based primarily on the case of Sun Valley Poultry. Sun Valley is Thailand's third-largest poultry processor, accounting for about 10 percent of the country's poultry exports. The company consists of a production plant employing approximately 1,500 workers in slaughtering, cleaning, deboning, cooking, and freezing. Chickens are received from 20 breeding farms, 4 hatcheries, and 15 grow-out farms. These suppliers employ approximately 20–25 employees each and provide half of all chickens processed at Sun Valley. The remaining half are supplied by contract farmers.

Fruit

Production of nontraditional fruit has played an important role in the expansion of horticultural trade in the last three decades.[30] Growing concern with a healthy diet in the developed world has meant that many people are eating more fruit of more diverse types than several decades ago. For example, the importation of grapes to the US increased by 2,800 percent in 20 years, from 14,000 metric tons in 1970 to almost 400,000 tons in 1990 (Collins 2000). Table grapes and several other fruits have become staples in industrialized countries, with consumers demanding quality produce all year round.

Consumer demands for year-round availability of fresh fruit has prompted several countries to specialize in seasonal windows of production. The US market for table grapes, for example, is supplied by Californian producers during the summer and by Chilean growers during the US winter. European demand is met by southern European producers from July to September, by Chileans and South Africans from Jan. to March, and by Brazilians in the intervening seasons (Collins 2000). Fruit imports to the US have increased significantly from Brazil, Chile, and Mexico (table 3.8)

Table 3.8 Increase in dollar value of fruit imports to US, 1997-2001

(US$)

Country	*1997*	*1998*	*1999*	*2000*	*2001*	*% change*
Mexico	423,897	555,283	706,535	578,562	641,352	+51
Chile	415,675	405,756	516,013	541,825	613,522	+48
Brazil	7,122	8,248	8,991	18,561	22,650	+218

Source: USDA/FAS Online, BICO (U.S. agricultural export and import data on Bulk commodities, high-value Intermediate, and Consumer-Oriented foods and beverages) Reports: Mexico, Chile, and Brazil. Imports Fiscal year statistics <http://www.fas.usda.gov/scriptsw/bico/bico_frm.asp>.

In 2001 global production of fruit reached approximately 467,000,000 Mt (including citrus fruits and bananas), with 73 percent of the production taking place in developing countries (FAOSTAT 2002). Even where the production of developed countries outstrips that of developing countries (grapes, for instance), growth rates typically are much stronger in the latter. For example, from 1991 to 2001, grape production in developing countries increased by 38 percent while production in developed countries remained the same (FAOSTAT 2002). Similarly, while only 9.5 percent of total global apple production takes place in the Southern hemisphere, apples are becoming increasingly important for the South, with countries like Chile and New Zealand exporting more than 40 percent of their crop. South Africa exports only 27

[30] Nontraditional fruit includes deciduous fruit (apples, plums, pears, peaches, apricots) and vine fruits (including table grapes). Citrus, tropical, and other fruits are not included.

percent of its crop, mainly to Europe; nevertheless, these exports comprise 65 percent of South Africa's total profits from crop production.

The nature of fruit production also varies significantly across countries and commodities. First, production costs differ across countries. The cost of establishing an orchard in South Africa is US$11,600/ha, in comparison to US$4800/ha in Chile (Barrientos and others 2002b). Second, markets impose distinct pressures on growers. For example, supermarkets, particularly in the UK, have a strong influence on the producers of deciduous fruits by imposing rigorous standards for quality, consistency, and cost efficiency. As a result, countries, such as South Africa, that supply UK supermarkets face a different set of pressures than do Latin American suppliers, who generally face laxer standards from US retailers. Third, differences in employment characteristics depend on the production patterns and national labor legislation (table 3.9). In Chile, existing labor legislation promotes a system of temporary employment, while in Northeastern Brazil, due to the biannual harvests, the employment structure is primarily permanent. Traditionally, farm production in South Africa was based on permanent labor, but, with increasing international competition, farm production is shifting toward more flexible employment structures. Detailed descriptions of the case studies follow.

Table 3.9 Comparison by country of fruit and/or grape production

Country	*Export value (US$million)*	*Market destination*	*Level of employment*	*Gender composition*	*Type of employment*
Chile[a]	1,122.2 (grapes only) 676 (fruit & veg. excl. grapes)	US, Europe	336,739	52% of females are temporary 5% of females are permanent	85% temporary 15% permanent
Brazil[b]	1,691[c]	Europe, US, Argentina	–	65% female	74% permanent
South Africa[d]	0.686 (foreign exchange, 1996)	Europe	280,000[e]	53% female 69% of women temporary/casual 26% of women permanent	Mixed

Notes:
a. Barrientos 1998, Barrientos and Barrientos 2002, Venegas 1993. b. Irrigated fruit and vegetable production in São Francisco Valley. Collins 1999.c. Includes production and processing. d. Barrientos 1999. e. Workers in deciduous and vine fruits.

Brazil

Agriculture contributes 8.3 percent to the GDP in Brazil. The category "fruits, vegetables and preparations" accounted for US$1,691 million in 1999, representing 3.5 percent of total export revenues. The main importers of Brazilian fruits are Europe, the US, and Argentina,(EIU 2001). The majority of the produce is supplied by the northeastern region of the country. This review concentrates on grape production from the Sao Francisco Valley in northeastern Brazil.

In 1979 the completion of the Sobradinho hydroelectric dam in the Sao Francisco valley–a project supported by the World Bank and many bilateral donors–created a reservoir of 4,150km^2. From 1970 to 1993, the dry region changed from mainly low-input cattle ranching to almost 100,000 ha of highly intensified, irrigated fruit and vegetable production, including biannual harvests of table grapes and other produce. During the 1980s and 1990s, the Sao Francisco Valley experienced both technical intensification and increased labor demand and drew migrants from other parts of northeastern Brazil. On grape farms, where biannual harvests necessitate a continual supply of labor, the labor force has increased to 74 percent permanently employed (Collins 1999).

Chile

Chile's tremendous growth in export-oriented fruit production was facilitated by the strategy of export-led growth adopted by former leader Augusto Pinochet and pursued after the 1982 recession. Between 1982 and 1992, Chilean fruit exports increased by 256 percent (Barrientos 1999). In 2000 fruit exports were estimated at US$1,122.2 million, the equivalent of 72 percent of Chile's combined export earnings from agriculture, livestock, forestry, and fisheries, and 6.2 percent of the country's total exports earnings (EIU 2001). The farms that produce fruit are predominantly medium sized, with advanced production techniques that involve high levels of investment. These farms are closely connected to the export sector, which is dominated by multinationals and a few export companies that own most of the advanced packing facilities.

The liberalization of the labor market during the 1980s removed most employment protections, which, in tandem with high levels of rural poverty and a lack of alternative employment, has created a low-cost labor force. This labor forces serves as a competitive advantage for Chilean fruit exports (Stephen 1999). In 1993, 336,732 workers were employed in Chile's fruit industry, of whom 85 percent were temporary (Venegas 1993 cited in Barrientos 1999).

South Africa

South Africa has a long history of fruit farming, dating back to the seventeenth century. Due to its main season that stretches from December to April, the country is now the second largest exporter of deciduous fruit from the Southern hemisphere. Since the end of apartheid-era sanctions in the 1980s, exports of deciduous and vine fruits have risen steadily. In 1996 they accounted for US$686,000 in foreign exchange (Barrientos 1999, adapted from Capefruit 1998). Generally, agriculture represents only 5 percent of South Africa's GDP; however, agroindustry as a whole plays a significant role, contributing 30 percent of nongold export revenue. In 1999 the production of fruit (excluding citrus) was 4,352,000 tons, an increase of 11 percent since 1995 (EIU 2001). Apples and table grapes accounted for 31 percent and 27 percent respectively of revenue generated by the fruit industry respectively (Barrientos 1999, adapted from de Klerk n.d.: 2).

Sixty percent to 70 percent of South Africa's production of table grapes and 70 percent of its apples are exported to Europe. While deregulation of the export sector has increased the numbers of fruit exporters, the industry remains highly concentrated: 84 percent of all fresh fruit exports are derived from the 10 largest companies (Barrientos 2002, personal communication). These exporters have substantially boosted export volumes. An 11 percent growth was registered in one year (1997–98).

In 1994 an estimated 283,000 workers were employed on deciduous and vine fruit farms (Barrientos 1999, adapted from de Klerk, n.d.: 4). However, since the dismantling of apartheid and the deregulation of markets in 1997, improved labor laws and associated higher labor costs have forced changes in the employment strategies of many fruit growers. These changes primarily have entailed the reduction in labor costs by shifting from permanent to nonstandard forms of employment, mainly through the use of contract workers (Barrientos and others 2002a).

Vegetables

Exports of vegetables from developing countries increased at an average annual rate of 4.91 percent from 1986 to 1995, the equivalent of an increase of 3.6 to 5.8 metric tons (Segrè 1998). Central America is the leading global exporter of fresh fruit and vegetables, accounting for 37 percent of total exports in 1995 (Segrè 1998).

As a single country, the United States is the largest importer of fruits and vegetables worldwide (Cook 1998).[31] In contrast to Europe, the US is heavily dependent on imports from Central and South America. Over 65 percent of fresh vegetables in the US come from Mexico (table 3.10).

Table 3.10 US imports of fresh vegetables: 5 leading country suppliers, 1997-2001

(US$'000)

Country	*1997*	*1998*	*1999*	*2000*	*2001*	*Import share (%)*
Mexico	1,186,538	1,472,754	1,308,362	1,405,963	1,607,475	65.6
Canada	217,503	321,898	348,822	412,864	454,389	18.5
The Netherlands	98,361	121,643	106,350	98,487	107,163	4.4
Peru	26,700	33,581	50,137	50,056	63,123	2.6
Costa Rica	49,842	55,249	44,278	45,105	51,004	2.1

Source: Adapted from USDA 2002b.

The European Union (EU) remains the largest regional importer of fresh fruits and vegetables in the world (COLEACP 2002). African countries in particular are important suppliers to EU markets of high-value-added products such as snowpeas, French beans, sweet corn, baby corn, and zucchini. In 1989, 90 percent of leguminous vegetables imported by the EU came from Africa, a figure that rose to 93 percent in 1997 (Humphrey 2002). Within Africa, Kenya is the most important exporter. Key features of the three main countries exporting high-value exports are summarized in table 3.11. The major difference among the countries is the concentration on smallholder production that can be found in Guatemala, although also in Kenya. Latin American produce is exported chiefly to the US while African produce is consumed mainly by European markets.

Table 3.11 Comparison by country of export vegetable production

Country	*Export value (US$millions)*	*Market destination*	*Level of employment*	*Gender disposition*	*Type of Labor*
Mexico[a]	–	US, UK	1.2 million	50% female	Wage and smallholders
Guatemala[b]	1,216	North America, EU	18,000 smallholders	33% females in field work 100% in processing	Smallholders 90% of production
Kenya[c]	270	EU, UK, Middle East and East Africa	20,000–32,000	65% female	Wage and smallholders

Notes:
a. Barrón 1994:139, Barron 1999, Lara 1998. b. Hamilton, Asturias, and Tevalan 2002, Warnken 1989. c. McCulloch 2002.

Mexico

Mexico is the largest supplier of fresh and frozen vegetables to the US market. However, it was not until the mid 1980s–with the liberalization of the national economy and the implementation of the North

[31] As a share of domestic consumption in the US, in 1997 and 1998, vegetable and fruit imports averaged 14% and 40%, respectively (Pollack 2001).

American Free Trade Agreement (NAFTA)–that an export boom in fresh fruits and vegetables took root. During the 1990s, the Mexican government intensified strategies to re-orient the country's agricultural sector toward export markets, particularly in terms of fruits, vegetables, and some specialized processed foods. The resulting export growth in several labor-intensive commodities was dramatic. Between 1993 and 1999, asparagus exports increased from $41 million to $248 million and tomato exports averaged $555 million annually (Zahniser and Trevino 2001). By the end of the 1990s, fruits and vegetables accounted for approximately 40 percent of the total value of Mexico's agricultural exports (Appendini 2002). NTAE operations generate more than 20 percent of the total labor days within the agricultural sector (Barrón and Rello 2000). The number of NTAE jobs increased from 350,000 in 1982 to 1.2 million in 1990 and now engages 25 percent of the rural population (Lara 1995).

Guatemala

NTAE operations were introduced in Guatemala in the late 1970s and early 1980s and have grown steadily in terms of export earnings, investment, technical capacity, diversification of products, and number of producers. In 1992 Guatemala ranked fifth among countries supplying fresh vegetables to the US, and eighth among countries supplying the US with fresh fruit (other than bananas) (Julian and others 2000). In 1999 the value of the country's NTAEs was US$1,216 million, an increase of 204 percent since 1991 (Agexpront 2001) (table 3.12).

Table 3.12 Value of nontraditional agricultural exports from Guatemala

(US$millions)

Year	*Value*
1991	399.8
1993	523.6
1995	881.9
1997	1064.9
1999	1215.6

Source: Agexpront 2001.

Guatemala's largest export crop is snow peas, which account for 70 percent of the demand of the North American market. Most snow pea exports are destined for the US, with a small proportion supplied to Europe. While NTAE production has been dominated by large-scale operations in much of Latin America, in Guatemala, an estimated 90 percent of snowpeas are produced by smallholders.[32] Among smallholders, women contribute more than a third of the total field labor required and virtually all labor used in processing (Warnken 1989).

Kenya

While several African countries have capitalized on the growth of the EU's fresh vegetable market in the past 20 years, none has taken advantage of this opportunity to the extent that Kenya has. Kenya's export vegetable industry has expanded from small trade focused on Asian vegetables during the 1960s to extensive operations that deliver dozens of products to overseas markets today (Jaffee 1995). The most important export vegetables are French beans, snap beans, snow peas, and Asian vegetables. In total the volume and value of fresh vegetable exports in 2001 was 34,771 tons, equivalent to approximately US$116 million (Gachanga 2002).

Throughout the 1990s, Kenya maintained its position as the leading exporter of vegetables to the EU. The total value of vegetable exports from Kenya to the EU rose from US$36.5 million in 1989 to US$119.4 million in 1999 (Eurostat data cited by Humphrey 2002). The majority (89.4 percent) of fruit

[32] Guatemala has approximately 18,000 smallholders producing snowpeas. See Carter, Barham, and Mesbah (1996), Hamilton and others (2001), and Asturias de Barrios and Tevalan (1999)

and vegetable exports from Kenya are destined for the EU (the UK in particular) with the remainder supplied to the Middle East and East Africa.[33]

Although estimates vary widely, smallholders also are involved in the production of export vegetables from Kenya. The Kenya Horticultural Crops Development Authority (Gachanga 2002) estimates that 70 percent of vegetable production and 40 percent of fruit production for export is attributable to small-scale producers. However, Dolan and others (2000) have reported that, by 1998, the share of small-scale production in export vegetable exports had dropped to less than 30 percent, and recent research by Bawden and others (2002) indicates that fewer than 2 percent of the nation's smallholders are directly engaged in that subsector. Women play a major role in the production of horticultural crops in Kenya; more than half of the total smallholdings are cultivated almost exclusively by women (Dolan 2001).

Vanilla

Vanilla is the second most expensive spice traded on the world market (after saffron) (Jaffee 1995). It is universally popular as a scenting and flavoring (Dijkstra 2001) and is used in a wide variety of products, such as perfumes, pharmaceuticals, ice cream, baked goods, dairy products, and beverages. The Coca-Cola Company, for example, is one of the largest consumers of vanilla in the world.

The global demand for cured vanilla is estimated at 2,500–3,000 tons per year and growing, despite the availability since the twentieth century of artificially produced vanillin. This increasing demand reflects a renewed interest in vanilla by international flavor houses as part of the trend to use natural rather than synthetic ingredients in quality foods. The highest per capita consumption is found in Denmark (4.57 grams), the US (3.85 grams), France (2.54 grams), and Canada (1.00 grams) (RAP Bulletin n.d.). Nevertheless, from 1991 to 1993, three countries– France, Germany, and the US accounted for 80 percent of the world's imports of vanilla beans.

Only a limited number of countries have the ecological and climatic conditions to grow vanilla, which has created substantial concentration in the supply base. For many years, Madagascar accounted for close to three-quarters of the global production, followed by Indonesia and a number of countries producing lesser amounts, such as Tonga and Mexico. Recently however, a number of new entrants to the market, including India, Tanzania, and Uganda, have increased the competition, thus exerting greater pressure on prices.

Uganda

As previously discussed, NTAEs have played a central role in Uganda's agricultural diversification efforts. In 1990 Uganda's NTAEs were valued at around US$20 million, reflecting a 5-fold increase in 6 years (Dijkstra 2001). Vanilla has emerged as a new export alongside fish, cut flowers, and fruit and vegetables. Vanilla exports increased from 1.5 metric tons in 1990 to 30 metric tons in 1998 and reached a value of US$750 000 (table 3.13). In 1998 vanilla accounted for 1 percent of NTAEs and 0.14 percent of total exports. Ugandan vanilla is supplied primarily to the US, although it also is exported to Western Europe (Dijkstra 2001). In both cases, marketing chains tend to be short, with produce supplied directly to processor-exporters (Dijkstra 2001).

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[33] By 1999, the UK's share of Kenya's agricultural exports (Category 0708) surpassed 71%, a dramatic jump from 33% in 1990 (Humphrey 2002).[33]

Table 3.13 Ugandan vanilla exports, 1990–1998

Year	*Quantity*	*Value FOB (US$)*
1990	1,500	n.a.
1991	4,820	178,000
1992	3,446	171,000
1993	5,815	391,000
1994	13,488	674,000
1995	176	8,000
1996	14,868	475,000
1997	25,483	637,000
1998	30,000	750,000

Sources: 1990–97: ADC./IDEA 1998; 1998: ADC./IDEA internal files cited in Djikstra 2001.

Since production of vanilla is highly labor intensive, requiring pollination by hand and hoe weeding, it is better suited to smallholder production. In 1998 some 5,000 farmers were growing vanilla in Uganda. Production is not constrained by land availability land, because vanilla can be intercropped with coffee and bananas. However, labor shortages can pose difficulties for smallholders (Dijkstra 2001). Thus, the capacity of farmers to cultivate vanilla depends to a large extent on household size, or on their ability to hire labor.

In the next chapter, we take a closer look at the gender issues involved in the production of these five commodities and the differences in the country cases. We focus first on wage employment, documenting the nature of the workforce and characteristics of employment. We then turn to an examination of gender issues present in smallholder production.

4. The Nature of Work in High-Value Agriculture Commodities

Employment in High-Value Agriculture

As section two highlighted, a key feature of high-value agriculture sectors is that they draw large numbers of workers in developing countries into labor-intensive employment. In this section we explore the characteristics of the workforce, the nature of this employment, and the extent to which it contributes to gender equity.

Characteristics of the Workforce

Gender Composition

Many high-value agriculture commodity chains are characterized by growing levels of female employment, with gender a strong determinant for participating in these industries. In the Dominican Republic, women comprise roughly 50 percent of the labor force employed in vegetable processing, in products such as canned tomatoes and beans, frozen okra, and condiments (Raynolds, 1998). In Mexico, the proportion of women engaged in packing operations is 80 percent to 90 percent, with the numbers even higher in fresh produce field operations (Barrón 1999). Evidence from Africa reveals similar tendencies. In Kenya and Zambia, over 65 percent of workers in vegetable packhouses and on farms are female (Dolan and Sutherland 2002, Barrientos and others 2001). Women comprise 91 percent of horticultural employees in Zimbabwe (AEAA 2002).[34]

In fruit production, Chile alone experienced a 296 percent increase in the female agricultural labor force between 1982-92, compared to a national growth rate of 68.9 percent for female employment overall (INE 1992, Barrientos and Barrientos 1996 cited in Barrientos 1997). Similarly, in Brazil, 65 percent of fruit workers were women in the mid-1990s (Collins 2000). However, in horticulture, the highest levels of female employment have been documented in the cut flower industry.[35] In Tanzania, Ecuador, Kenya, and Uganda, women comprise approximately 57 percent, 70 percent, 75 percent, and 85 percent of workers respectively (Palán and Palán 1999, Dijkstra 2001, Asea and Kaija 2000, Blowfield and others 1998).

Regarding poultry production, processing is the most labor intensive segment and the one that absorbs the highest levels of women.[36] In 2000, 80 percent of workers for Cargill subsidiary Sun Valley in Thailand

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[34] The figure for Zimbabwe includes workers involved the production of flowers, vegetables, and fruits.

[35] However, there is evidence from Colombia and Ecuador that the proportion of female workers may be declining due to stronger maternity leave protections and restrictions on "informal" work in which women predominate (Korovkin 2002). Recent data from the National University and Aflocsa surveys in Colombia suggest that the proportion of female employment has dropped below 60% (Diaz 1994, Farné 1999).

[36] The poultry industry is characterized by greater levels of female participation than other parts of the meat and pork meat sector. In Brazil, for instance, 80% of workers in the meat industry overall are men, while 90% of poultry workers are women (Tomoda 1996). In Poland in 1993, 56% of all poultry workers were women, compared to 43% and 35% in the meat and fish industries (Lawler and Atmananda 1999).

were women, a proportion similar to that found among other poultry producers in the country (Lawler and Atmananda 1999). Table 4.1 provides an overview of characteristics of the workforce for the country case studies discussed in chapter 3.

Table 4.1 Characteristics of the workforce

Country by Product	*Gender composition*	*Age*	*Employment status*	*Use of migrant labor*
Cut flowers				
Kenya[a]	75% female	20–34	Seasonal	Yes
Uganda[b]	85% female	–	Permanent	–
Zimbabwe[c]	87% female	–	Seasonal & permanent	–
Colombia[d]	64% female	15-28	Permanent & contract	Minority
Ecuador[e]	70% female	16-29	Permanent & contract	–
Poultry				
Thailand[f]	80% female	16–23, 29–55	Permanent	–
Fruit				
Chile[g]	45% female	30	Temporary	Yes (seasonal)
Brazil[h]	65% female	–	Permanent	–
South Africa[i]	53% female	31	Seasonal , temporary, & contract	Yes
Vegetables				
Mexico[j]	80-90% female	–	Temporary, seasonal	Yes
Kenya[k]	66% female	18-29	Temporary	Yes

Sources:
a Blowfield and others 1998, KHRC 2001. b Djikstra 2001, Asea and Kaija 2000. c AEAA 2002. d Data from National University and Aflosaca in Diaz 1994, Farné 1999, Maquila Network 2002, Castellano 1997. e CEPLAES 1993 in Korovkin 2002, Maquila Network 2002, Palán and Palán 1999. f Lawler and Atmananda 1999. g Barrientos 1998, Barrientos and Barrientos 2002. h Collins and Krippner 1999. i Barrientos and others 1999b, Barrientos and Barrientos 2002. j Barrón 1999, Lara 1998. k Dolan and Sutherland 2002.

Age Composition

In many countries, the age profile of workers in these industries is young. Companies generally prefer to hire younger women, who are perceived as more flexible and dexterous. Generally, the production of export vegetables, fruit, flowers, and poultry is performed by workers between the ages of 20 and 25. In Kenya, one study found that 85 percent of all women and 78 percent of all men in export vegetable production were under the age of 29, with nearly half of the sample labor force being under the age of 20 irrespective of gender (Dolan and Sutherland 2002).[37] A similar age composition is found in the cut flower industry. In Ecuador, 86 percent of women in packing houses are between 15 and 29 years old (CEPLAES 1993 in Korovkin, 2002:13), and in Tanzania, 83 percent women and 65 percent of men are between the ages of 18 and 35 (Semboja and others 2000). In Chilean fruit production, 55 percent of female temporary workers were under 30 (Barrientos and Barrientos 2002). However, age can vary according to a number of factors, including how long the industry has been established, and local supply and demand conditions for labor. In general, the fruit sector is characterized by a more balanced age distribution than flowers and vegetables with a slightly older workforce (Bee 2000, Rodriguez and

[37] However, these demographic characteristics may change. For example, Fussell (2000) has shown that the young, unmarried maquiladora workforce of yesterday largely has been replaced by married women with children.

Venegas 1991 cited in Barrientos and Barrientos 2002). For example, Chilean export firms typically prefer married, middle-aged women, who are viewed as a more stable and skilled source of labor. Older workers also comprise a larger section of the labor force in South Africa, where 19 percent of female workers are 40 years or over (Barrientos and Barrientos 2002).

The situation in poultry production is somewhat different in that there is a bimodal age distribution. In Thailand, women working in the industry tend to fall within two age groups. A large group enters work between the ages of 16 and 23 and then again from the late 20s to early 50s (Lawler and Atmananda 1999). More than half of these women have children, which suggests that women are working from school age until they begin to have children, and taking up employment again several years later.

Marital Status

Evidence on the martial status of workers varies substantially across industries and countries. In Kenya, a recent study reported that less than a fifth of women working in export vegetable production were married (Dolan and Sutherland 2002). In contrast, in Mexico, the marital and age composition has changed since the industry's early years. A study of fruit and vegetable workers in Baja showed that while, during the 1970s and 1980s, much of the sector's labor force consisted of single women, by the 1990s, more married women with children had entered the sector (Barrón 1999). Similarly, significant numbers of married women are engaged in fruit production. According to studies of fruit production in Chile and South Africa,[38] over half of female employees are married (47 percent of temporary workers) (Bee 2000, Rodriguez and Venegas 1991 cited in Barrientos and Barrientos 2002, Barrientos and Barrientos 2002).

The proportion of women-headed households (WHHs) among workers also is high. In Kenya, WHHs comprise more than half of all households surveyed participating in export vegetable production. In the Dominican Republic, more than one-third of women workers are single heads of households, three-quarters of whom have children (Raynolds 1998). Figures are even higher in cut flower production. For example, in Colombia, 4 out of 5 of households that depend on the flower industry are headed by women (Ferrer 1997).

However, regardless of marital status, the majority of women engaged in these industries have children. In South African fruit production, a recent study documented that 90 percent of women had children, most under 5 years old (Barrientos and others 1999b). Among women working in Thailand's poultry industry, more than half have young children between 2 and 3 years old (Lawler and Atmananda 1999).

Education

In the aggregate, the educational levels of workers tend to be low, although there is significant variation across industries and countries. For example, in the Dominican Republic, most women in the export vegetable industry have less than a sixth grade education, and many have never attended school (Raynolds 1998). Low educational attainment also is a feature of workers in the flower and fruit industries. In Tanzania, 68 percent of the cut flower workforce were recorded as having left school in the primary grades (Semboja and others 2000). Fifteen percent of South African fruit workers had no education, in an industry that is characterized by high illiteracy rates (Barrientos and others 1999b). Educational levels also vary with age. Lawler and Atmananda (1999) found that the younger workers at poultry plants in Thailand generally had completed elementary school and often middle or high school. In contrast, the older cohort typically had completed less than fifth or sixth grade and often had reached only the fourth grade.

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[38] The South African figures also reflect the fact that on-farm labor traditionally was done by entire families (Barrientos and Barrientos 2002).

Nevertheless, in some cases, levels of educational attainment are relatively high, particularly given the low skill and wage levels of the industries. In Kenya, most workers in the cut flower and vegetable industries have completed at least 8 years of education, with several workers having completed 12 years what is the equivalent in non-British systems?] (McCulloch and Ota 2002). Similarly, in Uganda, over 40 percent of all male and female employees working in the cut flower industry have a secondary education (Asea and Kaija 2000).

While education is widely recognized as a gateway to employment possibilities, with the exception of poultry, few individuals in these industries have returned to school. In Ecuador, only 22 percent of the cut flower farms interviewed required formal education, and fewer than 50 percent of processing facilities did (Waters and Salalmea 1994). These low rates are attributable largely to the prevalence of occupational segregation and women's predominance in unskilled categories of employment. However, there are some indications that the situation may be changing. In Colombia, companies now require workers to have at least a primary education (Aflocsa 1992), and, across countries, a preference for workers who are numerate and literate is growing. This industry trend toward requiring more education is likely to strengthen as industries evolve beyond a "comparative advantage" based on low-cost labor to more sophisticated production and processing operations that necessitate higher skill levels. For instance, multinationals controlling the poultry industry already require literate and trainable workers for efficiency and food safely reasons, a tendency that may spill over into the fresh produce industries.

Assets/Entitlements

Overall, the majority of women working in these industries have few asset holdings (particularly land) and limited wage earning or farming opportunities available to them. In Africa, the export horticulture industry attracts larger numbers of land- poor and landless individuals who migrate from rural areas to the packing sites in Nairobi, Harare, and Banjul (Dolan and Sutherland 2002, Little and Dolan 2000). In Latin America, women enter the cut flower industry to avoid the alternatives– domestic work and the local textile industry–that are less well remunerated (Meier 1999).

Migration

The absence of assets and/or entitlements underlies the prevalence of migration in these industries, with workers moving to production areas due to their lack of alternative economic options.[39] In Mexico, more than 80 percent of the labor force employed in the production of tomatoes, peppers, zucchini, and cucumbers are migrants who work through seasonal contracts (Barrón 1999). Workers often migrate with their entire family, placing as many family members on the labor market as possible (Barrón and Rello 2000). Similarly, a recent study in Kenya found that 100 percent of workers in packinghouses and 86 percent of workers on farms were migrants from other parts of the country (Dolan and Sutherland 2002). In contrast to Mexico, in Kenya, most migrant women have left their children behind to secure employment, raising questions about the deleterious effects that this practice may have on children's long-term well being.

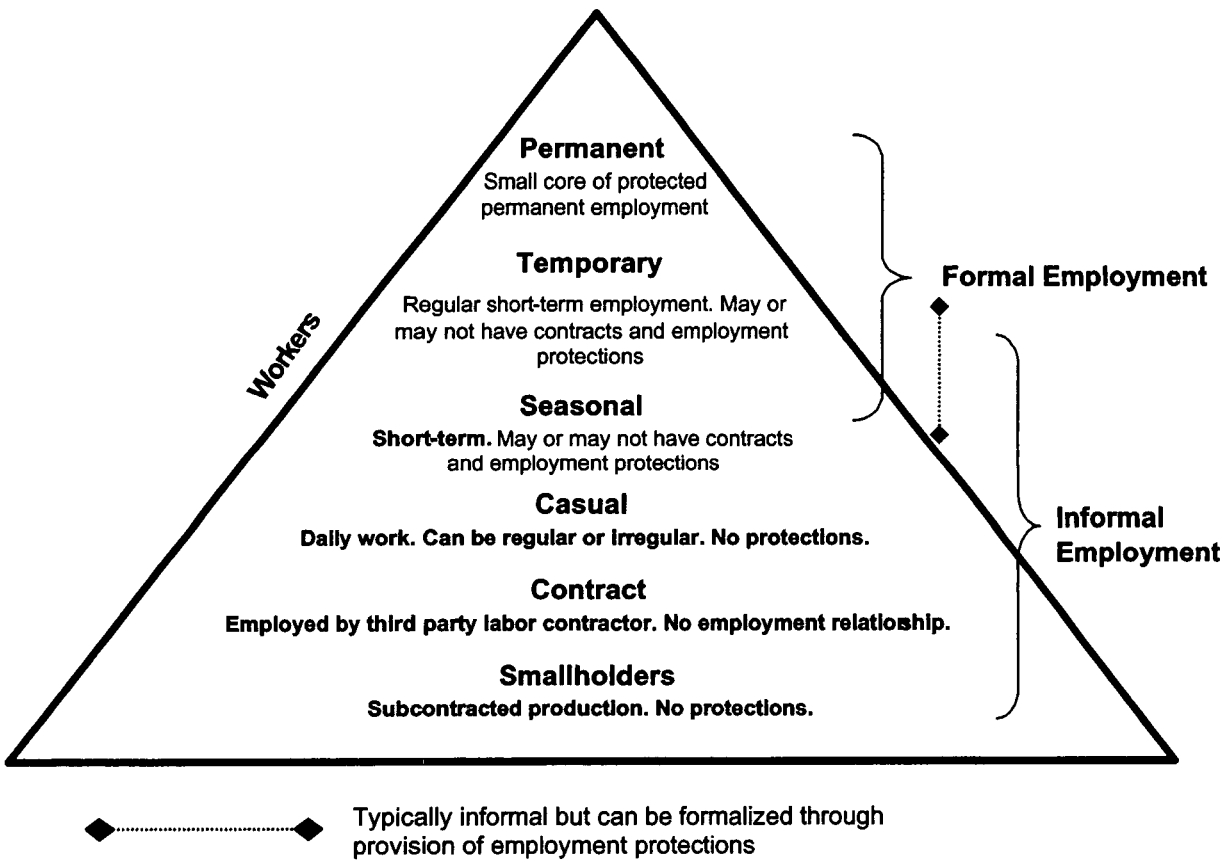
[39] Not all of the sectors are characterized by migrant labor. For example, while Kenya, Mexico, and Zimbabwe have a high number of migrants, Colombia does not. One of the reasons that women work in the export vegetable sector in the Dominican Republic is that it enables them to remain near their families (Raynolds 1998).

Characteristics of Employment

Flexibility

Many high-value agriculture (HVA) industries use a dual employment strategy consisting of a "nucleus" of skilled, permanent workers and a periphery of "flexible" relatively unskilled workers (table 4.1 above and figure 1). In HVA industries, flexibility is largely a strategy to manage risk. This stratagem stems partly from the seasonal nature of agriculture production, in which large numbers of workers are required only at certain points of the year (Dolan and Humphrey 2000). However, despite the persistence of seasonal rhythms, technological innovation in the sector has facilitated year-round production in most of these industries; hence, seasonality alone does not account for the persistence of flexibilization. Rather, competitive pressures under globalization and trade liberalization have obliged more companies to rationalize their internal operations (Standing 1999). The outcome of these pressures has been the intensification and restructuring of labor arrangements through the greater use of "nonstandard" and flexible forms of work. These include various categories of informality–such as casual, temporary, seasonal, contract, and migrant labor–most of which fall outside of labor market regulation. Flexible "contingent" workers do not receive contracts of employment nor employment benefits such as health care; insurance; pensions; or annual, sick, and maternity leave.

Figure 4.1 Labor force participation: Continuum of formalization in high-value agriculture



The forms of work used in high-value agriculture production are discussed in turn.

Permanent. As a whole, the proportion of workers engaged in full-time, secure, and permanent employment is relatively small. However, there are exceptions. Employment in Sun Valley poultry is permanent, a feature of most global poultry production. Brazilian grape farms also rely on permanent or semipermanent employment and offer a range of social benefits to workers, including training, housing, schools, and childcare facilities (Collins 2000). In the cut flower industry, the proportion of permanent contracts can be as low as 35 percent (Brassel and Rangel 2001), although there are signs that this rate may be changing. The flower industries of Uganda and Zimbabwe employ significant numbers of permanent workers, ranging from 58 percent to 66 percent respectively (Djikstra 2001, AEAA 2002). Evidence also exists that the floriculture companies in Kenya are shifting toward permanent employment in response to enhanced pressure by retailers and NGOs for social responsibility (Dolan and others 2003).

However, not withstanding these examples, the tendency in most of these industries is one of increased informality. The following is a brief overview of the forms such "flexible" work assumes in these industries.

Temporary. The definition of temporary work differs substantially across regions and commodities and embodies varying degrees of legitimacy and protections for workers. For example, in the flower-growing regions of Latin America, there are well established temporary work agencies that provide the industry with workers on a short-term basis. These temporary wor agencies pay the legal minimum wage as well as other mandatory benefits and meet the requirements of Colombian labor legislation (Mellon 2002, Farné 1998). In Colombia, temporary workers represent approximately 16 percent of the total number of field workers and often are hired for close to the full year (Farné 1998). In contrast, in neighboring Ecuador, temporary workers are incorporated in the production process on a very short-term basis, giving rise to large numbers of workers in vulnerable situations. After the three-month probation period, only those who achieve established production levels are contracted for a whole year (Palán and Palán 1999). In many countries, workers are employed on a "temporary" basis for long periods (for example, up to a year), but are dismissed prior to the mandatory conversion to permanent status.

High levels of temporary labor also have been recorded in the fruit industry. In Chile, approximately 80 percent of all employment is temporary. Women comprise approximately 52 percent of temporary workers and 5 percent of permanent workers (Venegas 1992 cited in Barrientos and others 1999). Similarly, the deciduous fruit industry in South Africa is beginning to employ off-farm temporary labor (Barrientos and Kritzinger 2002).[40] In the Dominican Republic, most employment in export vegetables also is temporary, averaging 3 to 6 months, but is vulnerable to abrupt termination in cases of demand shortfall (Raynolds 1998).

Seasonal. Typically, the definition of a seasonal worker reflects national labor legislation. For example, in Zimbabwe, a seasonal worker is defined as a person who works for less than 8 continuous months. In Kenya, however, seasonal workers can be on a 3- or 6-month contract. However, in many countries, despite the duration of employment, the seasonal nature of demand (European and North American winter, holidays) means that seasonal work is often the norm. Over two-thirds and one-third respectively of the total cut flower labor force is seasonal in Kenya and Uganda (Blowfield and others, 1998; Djikstra 2001). In some cases, on completion of their contracts, seasonal workers are offered permanent jobs.

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[40] The employment of off-farm temporary labor is a way to cut labor costs since housing, which typically is provided for permanent workers, normally is not provided for temporary workers (Barrientos and Kritzinger 2002).

However, in most cases, when the season is over, workers are dismissed and must reapply for jobs at the start of the next season.

Contracting. Contracting–the externalization of part of the production process to third parties who contract labor–is relatively common in certain areas, particularly Chile, Colombia, Ecuador, and South Africa. In Colombia, for example, former supervisory staff with knowledge of the industry are hired as labor subcontractors to provide flower growers with workers, who are paid piece-rate wages. Typically, these workers are hired on 6-month, 3-month, or 1-month contracts although some are hired for as few as 12–15 days at a time (Maquila Network 2002). Contract labor is also a feature in the Chilean grape and South African deciduous fruit industries. In Chile, it is estimated that 15 percent to 20 percent of labor is contracted (Diaz 2000 cited by Barrientos and Barrientos 2002). While the tasks entailed in subcontract work do not necessarily differ from other forms of "flexible" work, the fact that contract laborers lack a direct relationship with employers means that they face greater insecurity than other workers. Few contractors comply with existing labor regulations or provide benefits and/or contracts to their workers (Barrientos and Kritzinger 2002).

Casual. Casual employment typically consists of daily wage labor, with cash wages paid to workers at the end of the day. Casual workers often are drawn into the labor force during peak seasons for tasks such as harvesting and packing horticulture products. However, in some industries, casual labor is the norm. In the Tanzania cut flower industry, for example, most of the labor force remains casual (Kitumbo and Riwa 1999).

In many cases, "flexible" categories of work are compensated on a piece-rate basis, with remuneration tied to the completion of a specific task, such as number of flowers picked or packed. Piece-rate wages are common in the flower industries in Colombia (Farné 1998), Ecuador (Waters and Salamea 1994), Kenya (Dolan and Southerland 2002), and Mexico (Preibisch 2000, Appendini 2002, Lara 1997). While these wages can exceed the legal minimum wage, workers are not awarded benefits and do not have access to social security coverage (Farné 1998). Piecework not only offers companies greater labor efficiency but also requires less supervision than other types of labor arrangements because workers are responsible for monitoring their own performance (Ramamurthy 2000). In some cases, agribusiness has combined piecework payments with team organization so that workers' wages are contingent up the productivity and output of other team members. These organizational strategies are common in both Kenya and Mexico (Lara 1997, Barrón and Hernández 2000).

Gender Differences in Flexible Work

Both men and women are affected by employment flexibility. However, the use of flexible labor follows *gender-based patterns*, with women crowded into the more vulnerable forms of work (casual, temporary and seasonal), and men concentrated in the fewer permanent jobs. In Kenya, the proportion of women in the export vegetable labor force engaged in flexible work is 63 percent, compared to 38 percent of their male peers. Nearly two-thirds of men hold permanent positions, in contrast to just over one-third of women (Dolan and Sutherland 2002). In Zimbabwe, 90 percent of women in the fresh produce labor force are seasonally employed, compared to 10 percent of men (AEAA 2002). Similarly, in Chile, Mexico, and South Africa, men are concentrated in permanent positions, while women occupy "flexible" jobs (Barrientos 1997, Barndt 1999, Barrón and Rello 2000). For example, in the Chilean fruit industry, women constitute approximately 52 percent of temporary workers and 5 percent of permanent workers (Barrientos and others 1999a).

Implications of "Flexible" Work

While flexible employment can contribute to improved economic performance within firms, the evidence suggests that the disadvantages of flexibility are disproportionately absorbed by workers and intensify

their vulnerability. The absence of job security, benefits, and/or social protections associated with "flexible" work is exacerbated in contexts in which the state has withdrawn from its responsibility for social welfare and in which large numbers of women are responsible for sustaining their households. "Flexible" employment thus has several consequences for workers and their families:

Casual employment can help workers to earn reasonable short-term incomes, but only by working intensively through the expansion of hours during peak months. Therefore, the gains accrued during parts of the production cycle are offset during slack periods, leaving employees vulnerable to income shortages, particularly if they have abandoned traditional income-generating activities such as family farming.

Employment can be intermittent even during the harvesting season, giving rise to instability in income flows and overall employment insecurity and vulnerability. For example, studies in Kenya and Mexico found that many women did not know whether work would be available until they arrived at the packhouse, at which point they had spent considerable time and energy traveling to the company (Dolan and Sutherland 2002, Barndt 1999).

When workers know that their positions are temporary, they are much more likely to tolerate exploitative conditions, either because they view their situation as short-term or fear that they will lose the little work they have if they complain. This arrangement also militates against worker organization and collective bargaining. Furthermore, casual workers are more prone to dismissal, because employers are not legally required to award compensation when terminating temporary employees.

It is extremely difficult for casual workers to obtain skills and training or upgrade their employment status. Because most firms are reluctant to invest in temporary workers, the latter rarely accumulate skills that could be transferred to other employment opportunities.

Companies often circumvent formal labor regulations by rehiring workers through casual, seasonal contracts year after year. As a result, many workers find themselves as permanent casual workers, returning to the same position year after year on renewed temporary contracts, a tendency documented in Chile, Dominican Republic, Kenya, Mexico, and Zambia (Barrientos 1997, Raynolds 1998, Barrientos, Dolan and Tallontire 2001, Barrón and Rello 2000, Barndt 1999). However, there is no guarantee of re-employment, since labor supply far exceeds demand in the regions surrounding packhouses and farms.

It is often argued that women prefer flexible employment for two reasons. First, "flexible" work allows them the opportunity to balance the competing demands of productive and reproductive work or facilitates their entry into and exit from the labor market (Anker 1998, Hakim 1996). Second, in many countries, "flexible" workers are exempt from pension and national health levies.[41] However, women in these industries do not self-select flexible employment; rather, they are concentrated in unprotected job categories due to the absence of alternative employment and economic options.[42]

Occupational Segregation

In most of these industries, there is strong gendered segmentation in both production and processing that is supported by prevailing gender stereotypes. Women are perceived to be better equipped to perform tasks requiring manual dexterity and patience, such as harvesting, sorting, grading, deboning, and

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[41] In theory, both seasonal and permanent employees are required to pay National Social Security Authority (NSSA)contributions; however, in practice, seasonal workers do not pay contributions (Davies 2000).

[42] For example, Hakim (1996) argues that women will self-select "informal" employment since it offers them the opportunity to combine productive and reproductive work.

packing. Similarly, men's capacity for particular jobs is attributed to their perceived superior physical strength, supervisory capacity, and mechanical skills.

Despite the similarities in these industries, the form that occupational segregation assumes reflects the specificities of their production processes as well as prevailing local gender norms. For example, flowers generally are harvested manually and involve several types of laborers: cutters, fumigators, storage room managers, packers, and field supervisors. In general, women perform the more laborious yet feminine-ascribed tasks related to cultivation and processing such as weeding, tying plants with string, pruning, cutting, picking, and packing. Men perform activities linked to precultivation, irrigation, and fumigation such as fertilizer and herbicide application, construction and equipment maintenance (see Diaz 1994 for Colombia, Korovkin 2002 for Ecuador, Blowfield and others 1998 for Kenya, Lara 1998 and Appendini 2002 for Mexico, Semboja and others 2000 for Tanzania, and Asea and Kaija 2000 for Uganda). Table 4.2 illustrates the sexual division of labor in Ecuadoran flowers. For example, in South America, pruning and picking grapes are regarded as women's work, whereas in South Africa, these tasks can be performed by either men or women, depending on the farm.

Table 4.2 Occupation distribution by sex: Ecuadoran cut flower industry

Occupation	*Total*	*Women*	*Men*
Administration	100	43	57
Production	100	74	26
Irrigation and maintenance	100	0	100
Transport and marketing	100	20	80
Total	100	61	39

Source: Field survey, Nov. 1997 cited by Palán and Palán 1999.

The gender division of labor in export vegetable production is similar to that of other horticulture crops such as fruit and flowers. In packhouses, the majority of women are involved in preparing vegetables, which includes sorting and grading and value-added activities such as washing, trimming, slicing, and labeling (see Mexico in box 4.1). Men are responsible primarily for sealing packets of vegetables and loading crates into cold stores. Such patterns have been [well documented in Mexico (Barndt 1999), the Dominican Republic (Raynolds 1998), Kenya (Dolan and Sutherland 2002), and Zambia (Barrientos and others 2001). Similar patterns are in evidence in poultry production, in which men dominate in feed production and in slaughterhouses while women are concentrated in processing and packing.

Box 4.1 Occupational segregation in Mexican packhouses

In avocado packhouses and mango plants, work processes are organized along conveyor belts, with a rigid division of labor determined by sex. Men unload trucks, carry the fruit in boxes, load it on the conveyor belt, and monitor automatic rinsing and drying. In mango plants, women supervise the rinsing and drying of fruit and are in charge of scalding it in boiling tubs (a US FDA requirement to kill any possible larvae prior to export).

Women stand in fixed positions as the fruit rolls by on the conveyor belt, select the mangos, and pack them into boxes. Sometimes they may change tasks to assemble the cardboard packing boxes. This is usually a beginner's job or done to fill in dead time, and men may participate. Otherwise, men move around, stacking the boxes of fruit onto the trucks, which are driven by men to the border towns of Matamoros or Laredo, where the boxed fruit is turned over to U.S. brokers.

Source: Appendini 2002.

Skill

From a gender and poverty perspective, a long-term and sustainable system of production needs to generate capabilities and skills (Çaǧatay 2001). However, while the increase in processing has helped to increase the demand for labor in developing countries (particularly in packhouses), this growth does not appear to be associated with an attendant demand for skilled labor. In Kenya, a recent study found that the majority of men and women surveyed were engaged in unskilled work, with opportunities for skill

development segregated by gender. Similarly, in the South African deciduous fruit and Mexican flower industries, women had fewer options for vertical mobility and for promotion and/or new work opportunities than their male counterparts (Barrientos and others 2002, Appendini 1995). Hence, despite their numerical dominance in the workforce, women are under-represented in skilled employment and over-represented in unskilled positions.[43]

Working Conditions

The nature of working conditions in high-value agriculture varies across commodities and countries (table 4.3). However, on the whole, these conditions are influenced by three sets of factors:

- Exogenous influences such as the regulatory, fiscal, and institutional environment in which the industry operates
- Features intrinsic to the industry itself such as the type of commodity, the part of the production process (farm vs. processing facility), and an employee's position within the labor force
- The nature of household relations, which shape a worker's experience of the working conditions s/he confronts.

The following section focuses on the last two factors.

Working Hours

Typically, the production of high-value agriculture commodities entails long hours of high labor intensity for workers. In part, this pattern is related to the seasonal nature of some of these industries, in which large numbers of workers are required to plant, pick, and pack at certain times of the year (North American and European winter and holidays). However, long hours also are a function of the production imperatives exerted by overseas buyers, who demand an immediate response to shifts in consumer demand.

In the cut flower, vegetable, and poultry industries, the "normal" working week ranges from 46–48 hours (Dolan and Sutherland 2002, Lawler and Atmananda 1999, Meier 1999, table 4.3). In the deciduous fruit sector, working hours are somewhat longer. Recent research from South Africa documents 10–11 hour days. Such long working hours can inimically affect women, who are responsible for domestic obligations in addition to their paid work (Dolan and Sutherland 2002). In Kenya, women workers have described rising at 4:00 a.m. to put in long hours (up to 12 hours) 6 days a week, leaving little time for domestic responsibilities or leisure. Similarly, a nursery school teacher in Colombia described mothers bringing in their children at 4 in the morning and picking them up at 10 at night (Meier 1999: 283). In some cases, long work hours also pose safety risks for women traveling alone at night or early in the morning.[44]

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[43] The "unskilled" tasks that women perform often require extensive experience, but their experience is not recognized by the employers.

[44] In Guatemala, one producer of export vegetables addressed the problems related to irregular work shifts by hiring 2 teams of women, who rotated work in 2-week cycles. While working, women lived in company-provided lodging close to the packing facility (USAID 1999).

Table 4.3 Conditions of employment

Country by Product	*Wages*	*Hours*	*Benefits*	*Occupational segregation*
Cut flowers				
Kenya[a]	US$48/month US$9.50/month housing allowance	46 hours/week	Medical care, housing	Yes
Uganda[b]	US$1.19/day –unskilled US$2–3 – field supervisors	–	Housing, food, medical care, leave days, transport	–
Zimbabwe[c]	US$8–23/month US$1–3/month production bonus Hourly overtime or flat rate	51 hours /week	Food, transport, funeral assistance	Yes
Colombia[d]	US$130/month Piece rate common Overtime often not paid	8.5h weekdays, 6h weekends 20–60h overtime/month	Legal benefits, transport	Yes
Ecuador[e]	US$120/month Low wages for unskilled workers Piece rate common Overtime at 100%of normal wage	Over 45h/week 12h-days in peak season	Social benefits often provided	Yes
Poultry				
Thailand[f]	US$4/day w/ premium rate overtime	–	Full benefits provided	Yes
Fruit				
Chile[g]	US$4-10/da US$135/month	8–10h/day 12–16h/days in peak season	No benefits for temporary workers	Yes
Brazil[h]	Minimum wage	Up to 20h/day in peak season	Social benefits provided	Yes
South Africa[i]	US$2.60–7/day contract worker	7.5–9h/day, migrant workers up to 11h/day	Social benefits provided, not for contract workers	Yes
Vegetables				
Mexico[j]	US$4.3/day, piece work can increase earnings	49–56 hours/week[k]	–	Yes
Kenya[l]	US$9/week farm US$14 packhouse	9.6h/day for 5.4 days/week in peak season	Transport, food, medical care, housing	Yes

Sources:
a. KHRC 2001. b. Asea and Kaija 1999, Djikstra 2001. c. AEAA 2002, Davies 2000. d. Brassel and Rangel 2001, Maquila Network 2002, Farné 1999, Meier 1999, Asocolflores 2002. e. Brassel and Rangel 2001, Palán and Palán 1999, Waters and Salamea 1994, Korokovin 2002, field survey, Nov. 1997 cited by Palán and Palán 1999, data from National University and Aflosaca in Diaz 1994 and Farné 1999. f. Lawler and Atmananda 1999. g. Stephen 1999, Barrientos and others 1999a, Smiarosky 1996. h. Collins and Krippner 1999. i. Barrientos and others 1999b, Barrientos and others 2002, Barrientos and Kritzinger 2002. j. Barrón and Rello 2000, Flavia 2002. k. This figure is derived from a study conducted in 1995, which found that 26.2 percent of employees worked over 49 hours, and 15 percent over 56 hours. By 1997 these rates had increased 4 percent and 2.5 percent, respectively (Barrón and Hernandez 2000). l. McCulloch and Ota Field Data 2001 in Dolan and Sutherland 2002, Dolan and Sutherland 2002.

Overtime

Overtime work is either explicitly or implicitly a condition of employment in these industries. In the poultry industry, normal shifts are 8 hours a day, 6 days a week, yet most workers have their shifts extended by an hour or two of mandatory overtime. Similarly, workers face up to 12–15 hours a day during the peak season (winter during Europe and the US) of vegetable and cut flower production (Dolan and Sutherland 2002, Korovkin 2002) (table 4.4). In Mexico, during the run up to Valentine's Day, Preibisch (2001) described women working 17-hour shifts

Table 4.4 Working hours and overtime in the Ecuadoran cut flower industry

Activity	*Workdays per week*	*Work-hours per day*	*Total week hours*	*Week overtime hours*
Production	6.11	6.56	44.32	4.22
Post-harvest	6.33	6.35	46.77	6.56

Source: Field survey, Nov. 1997 cited by Palán and Palán 1999.

The perception of overtime depends largely on the personal situation of the worker. For example, overtime can allow young "unencumbered" women to garner higher incomes, which adds 10 percent to 15 percent to the monthly wage of flower workers (Palán and Palán 1999). However, workers frequently are not compensated for overtime. In Mexico, as well as in Ecuador, research shows that women often were not paid for overtime (although they often worked a 7-day week) nor for holidays (Preisbish 2000, Appendini 2002, Korovkin 2002). In addition, overtime can be highly stressful for women heads of households, who face substantial labor burdens at home (Barrón 1999, Meier 1999).

Piecework

In certain industries, the introduction of piece-rate work has extended the workday. Preibisch's (2001) study of flowers in Mexico found that 26 percent of the population employed in export crop production areas worked more than 49 hours and 15 percent worked over 56 hours in 1995. However, with the introduction of piece rate systems, these figures had risen by 4 percent and 2.5 percent respectively by 1997. Similarly, in the Ecuadoran cut flower industry, the introduction of the labor productivity system (*el sistema del rendimiento*) in the 1990s extended the responsibilities of employees. Whereas, in the late 1980s, workers were responsible for 20–30 flower beds, by 2000 the number had increased to 50 or more. While this near doubling of their responsibilities resulted in longer working days, no additional remuneration was provided (Korovkin 2002). Similar systems of performance-related pay have been recorded in the Kenyan cut flower industry (KHRC 2001).

Wages

The extent to which employment is considered empowering is linked partly to the wages and benefits conferred. While wage levels in these industries are low, they sometimes are above the government set minimum wages and the potential income available through alternative income-generating activities. For example, in Guatemala, women who work as day laborers on vegetable farms earn approximately Q4.00 per day (US 80 cents), which compares favorably with the alternative occupation of artisanal work (Katz 1995: 334). In Mexico, wages in the tomato agroindustry–40 pesos (US$4.30) per day–are similar to other commercial agriculture industries.[45] Similar evidence has been documented in the cut flower industries of Colombia, Ecuador, Kenya, Uganda, and Zimbabwe (Farné 1998, Palán and Palán 1999, Blowfield and others 1998, Dijkstra 2001, Davies 2000).

[45] At the time of this study, the currency conversion was US$1 =9.3 Mexican Peso.

However, wages vary according to the nature of the firm and segment of the production process, as well as by the gender and employment status of workers. For example, plantation workers in the Dominican Republic earned US$2.87 per day in 1990, which is less than two-thirds of the legal minimum wage. In contrast, the wage levels in processing facilities often were higher than the statutory minimum wage (Raynolds 1998). Similarly, in Kenya, the wages earned by packhouse workers are higher than wages paid to farm workers (McCulloch and Ota 2002).

Piece-rate wages also can provide workers with higher incomes, particularly in the packing of fruit and vegetables. While piecework can lead to self-exploitation, packing is one of the most sought-jobs by women in the Mexican avocado industry, since a day's work can generate well above the standard daily minimum wage (Appendini 2002). Similar sentiments have been recorded among women working in Kenyan vegetable (Dolan and Sutherland 2002) and in Chilean and South Africa fruit packhouses (Barrientos and others 1999a, Barrientos and Kritzinger 2002).

There also are gender disparities in wage levels. To a great extent, this reflects the types of jobs for which women are employed, which typically are concentrated in the "lower skill" and lower wage end of the employment spectrum. As noted earlier, companies tend to label female tasks and skills (such as concentration, speed, precision) as "feminine" qualities (for example, patience, delicacy, and dexterity), which do not warrant greater remuneration.[46] These gender ideologies permit firms to employ large numbers of women at lower costs, and conceal the fact that tasks involved in production and processing can require considerable skill. For example, in the Ugandan cut flower industry in 1999, unskilled workers (the majority of the workforce comprised predominantly of women) earned UShs 1,500–2,000 per day (US$1–1.3) while semiskilled workers were paid UShs 3,000–4,500 (US$2–3), and field supervisors UShs 7,500 (US$5) and above (Djikstra 2001). Differences in average income distribution by employment categories also were documented in a study conducted in Tanzanian cut flower industry (table 4.5). Here again, wage levels were strongly differentiated by skill level with a wide gap between casual and skilled laborers.[47]

Table 4.5 Average salaries for cut-flower employees since 1995–98 (TSh/mo) ('000)

Employee category/year	*1995*	*1996*	*1997*	*1998*
Management	93	113	156	230
Skilled labor	33.2	48	60	76.6
Casual labor	15.4	18	18	19.6
Consultants (TSh/yr)	5,000	5,000	9,750	13,600

Source: ESRF Field Survey 1999 cited by Semboja and others 2000.

The situation is similar in the fresh vegetable and fruit industries, in which women are concentrated in "unskilled" categories of work (harvesting, packing, grading, and sorting), which are less well remunerated than men's work tasks (table 4.6). In Mexico, a woman washing the tomatoes earns only half (48 percent) of the salary of a male machine worker (Lara 1998), and, in Brazil, men operating tilling machinery received one-and-a-half times the minimum wage, while women grafting vines received only the minimum wage (Collins 2000). However, gender differentials in wage levels are not always the case. There were no significant differences in earnings recorded between men

[46] See Collins 2000, Compton and Jones 1984, Pearson 1998 for a discussion of how companies reduce the skill level attached to certain activities when these activities are performed by women.

[47] If anything, income distribution has worsened. In 1997-98, for example, management salaries were raised by 48% but wages for the casual labor category by only 11%.

and women in Thailand's Sun Valley poultry company, in which both men and women earn just above the minimum wage (Lawler and Atmananda 1999).[48]

Table 4.6 Wages by skill level and gender

KS/hr

Type of Labor	*Packinghouse*		*Farm*		*All*	
	Male	*Female*	*Male*	*Female*	*Male*	*Female*
Unskilled	21.0[a]	17.8	12.8	12.6	15.0	14.7
Semiskilled	22.0	23.3	17.0	14.1	17.4	19.4
Skilled	49.0	–	15.3	–	23.8	–

a. On April 16, 2001, 10 Kenyan Shilling = US$0.12912.
Source: Derived from McCulloch and Ota field data, 2001.

However, the extent to which these wages provide income security depends largely on employment status. For example, permanent workers are guaranteed a relatively consistent income throughout the year and therefore are protected from the income volatility associated with the seasonality and instability of these industries. While permanent workers can budget for their personal and household costs based on a guaranteed wage, casual and seasonal workers are never assured of the duration of employment (whether it will last hours, weeks, or months), and therefore often alternate between periods of high overtime and unemployment (Dolan and Sutherland 2002).

Benefits

One way to compensate for low wages and income insecurity is through the provision of benefits. The benefits derived from employment include direct wage benefits, such as pensions, social security, and health insurance, as well as fringe benefits, such as transport, food, and daycare facilities. In many cases, the provision of benefits can affect women more than men, particularly benefits such as maternity and paternity leave, childcare, and transport, all of which facilitate women's ability to combine unpaid caring work with paid work in these industries These benefits not only influence women's experience of work but also enable them to stay in the labor force, broadening their work experience and their prospects for long-term career development (Gammage and others 2002).

Some industries are relatively good in providing the employment benefits stipulated by law. For example, research conducted in the Ecuadoran cut flower industry documented an average total compensation package (US$182.68 per month in 1997) that included a basic wage, overtime, and all social benefits mandated by law as well as a number of nonwage benefits (table 4.7) (Palán and Palán 1999). Likewise, an ILO study conducted in Colombia found that cut flower workers who were recruited directly received all legal benefits, including a written labor contract and social security (health and pensions), and were affiliated with family compensation benefits plans (Farné 1998).

However, there is a marked difference in the capacity of permanent and flexible workers to access these benefits. The prevalence of flexible work, the majority of which is performed by women, has enabled agribusiness to avoid issuing the benefits stipulated by labor law (Barrón 1994, Barrón and Rello 2000, Lara and Becerril 1995, Preibisch 2001). As a result, *the majority of workers are ineligible* for a number of essential social and legal protections such as such as pensions, health and injury insurance, maternity

[48] Nevertheless, in the early 1990s, the difficult nature of work in poultry factories coupled with women's ongoing responsibilities for domestic work meant that wages were insufficient to retain women in the workforce. However, since then, Sun Valley has implemented a number of measures, including performance-related pay, that have successfully combated high turnover and poor attendance (Lawler and Atmananda 1999).

leave, holiday leave, and sick leave. Notwithstanding this important issue, companies in these industries often provide workers with several important nonwage benefits. These include:

Table 4.7 Benefits obtained by workers in Ecuadoran cut flower industry

Benefit	*% of companies*
Uniform	100.0
Transport	77.78
Meals	77.78
Medical service	44.44
Emergency loan	33.33
Life insurance	33.33
Nursery	22.22
Dental service	22.22
Private medical insurance	22.22
Housing	11.11
Christmas bonus	11.11
Commissary	11.11

Source: Field survey, Nov. 1997, cited by Palán and Palán 1999.

Health care. In Thailand, poultry workers at Sun Valley are provided with an annual health exam and provided with supplementary medical assistance if hospitalization is required (Lawler and Atmananda 1999). In Kenya, Zambia, and Zimbabwe, many of the large cut flower farms provide medical clinics on site. In Kenya, these clinics frequently surpass what is available locally, with at least one company providing, for instance, screening, prenatal care, birthing facilities, and counseling (including HIV), as well as consultation and medicine (Blowfield and others 1998). However, the provision of medical care is uneven across countries. In Uganda, sick leave generally is not provided to flower workers. Those who do not show up for work due to illness do not get paid (Djikstra 2001).

Housing. Provision of housing is quite common in some of the horticulture industries. In South Africa's grape industry, housing generally is provided for permanent workers as part of their remuneration package. However, women's access to housing often is a condition of their husbands' employment contracts. In Uganda, flower companies provide accommodations to approximately 50 percent of workers (Dijkstra 2001). In Kenya, flower growers are required legally to provide workers with housing, or a housing allowance equivalent to 15 percent of their earnings. However, the conditions of this housing can be poor, with several workers and their families crowded into small rooms with no electricity or hygiene facilities (KHRC 2001).

Transport. The provision of transport or transport allowances often are provided to workers who are not living on site. This benefit has been documented in the fruit, flower, poultry, and vegetable industries in Africa, Asia, and Latin America. For example, in Colombia, 74 percent of the firms affiliated to Aflocsa provided transportation services (Farné 1998). In Thailand, to ensure the safety of workers, Sun Valley provides free bus service to and from work (Lawler and Atmananda 1999).

Leave of absence. In the poultry industry, Sun Valley in Thailand has provided leave to employees who require time off for personal emergencies or to take care of their household harvest. This benefit is particularly important to women in a country social norms require that women carry out their domestic responsibilities regardless of whether they also work full-time (Lawler and Atmananda 1999).

Education. Sun Valley has initiated an educational program to assist women who have not completed their education. Workers are permitted to attend classes several hours per week outside of normal work hours with pay. The company also provides financial assistance for the education of employees' children (Lawler and Atmananda 1999). In Kenya, several large flower farms also have established primary schools for worker's children.

Reproductive Benefits

Substantial variation exists in the extent to which employment benefits support the reproductive or care services typically provided by women. In many cases, maternity leave and childcare provisions, which are essential to the equality of opportunity between men and women, are insufficient.

Childcare. Adequate childcare facilities can greatly facilitate women's participation in wage employment. In the South African grape industry, childcare generally is provided during the season in which women are working, although this childcare varies in quality from proper day-care facilities to a former worker looking after children at home with no proper amenities (Barrientos and others 1999b). In most cases, however, companies in these industries continue to perceive women's reproductive needs as outside the purview of work.

Maternity leave. Provisions for maternity leave are essential for women working in these industries, particularly given the high prevalence of women–headed households. In most countries, maternity leave (for permanent workers) is stipulated in national legal frameworks; however, in practice, compliance with laws is variable. Many companies in the Thai poultry industry discouraged women from taking their maternity benefits (Lawler and Atmananda 1999). Similarly, in Ecuador, only 21 percent of female cut flower workers interviewed reported that they had been granted their legal right to maternity leave. In some countries, companies circumvent what they perceive as overly generous maternity leave legislation through the practice of mandatory pregnancy testing (Meier 1999).[49] Finally, informal workers, who predominate in these sectors, are not entitled to maternity leave protection, leaving a large swathe of the workforce unprotected.

Opportunities for Training

Opportunities for skills training often provide workers with a pathway to upgrade their employment situations. There are some examples of good practice in training. In Thailand's Sun Valley poultry firm, employees are trained to perform multiple jobs to avoid repetitive stress injuries. The company also offers an educational plan to assist employees (mainly female) to advance within the company (Lawler and Atmananda 1999). A recent study in Uganda also found that flower workers acquired a number of skills in tackling pests and diseases, fumigation, and grading (Asea and Kaija 2000). However, the numbers of workers trained in these industries remain low, and the opportunities for training and promotion are more common among technicians, management, and administrative staff.

Gender differences also exist in the prospects for training and skill acquisition. For example, evidence from a study of South African deciduous fruit production recorded that men have greater potential for receiving training and/or promotion than do women (Barrientos and others 2002). Likewise, women in export vegetable production receive very little formal training, and skills generally are obtained through repetitive task performance. In contrast, men acquire technical training (for example, operating pumps and generators and irrigation and spraying systems) that is linked to jobs with higher wage levels (Dolan and Sutherland 2002).

Opportunities for training also depend on the employment status of the workers. For example, in the Brazilian grape industry, companies offer their permanent workforce training to reduce turnover and retain a cadre of skilled workers (Collins 2000). However, in the Chilean fruit industry, in which the workforce is predominantly seasonal, companies are reluctant to invest in short-term workers. Likewise, in South Africa, permanent workers on deciduous fruit farms have more opportunities for training and/or promotion than seasonal workers. This pattern suggests that there may be limited potential for women (who are concentrated in "flexible" work) to gain skills that can facilitate upward mobility or can be transferred to other employment opportunities.

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[49] For example, in Kenya maternity leave is 2 months with 100% of wages covered, Zimbabwe is 90 days with 60% of wages covered, Ecuador, Mexico, and Colombia are 12 weeks with 100% coverage (UN 2002).

Occupational health

Occupational health issues are rife in these industries and often have serious ramifications for workers' and their families. These impacts have been documented in three main categories: risks associated with (1) ergonomics, (2) exposure to chemicals and pesticides, and (3) extreme temperatures.

Ergonomics

In the poultry, vegetable, flower, and vegetable industries, women are most vulnerable to repetitive stress and joint injuries as they typically are employed in production-line jobs that entail standing in one place for long periods of time. In Kenya, women working in sorting, grading, preparing, and packing vegetables often complain of back and joint problems, primarily because they repeat a single function (such as sorting beans) thousands of times per shift while standing for long hours (Dolan and Sutherland 2002). In the poultry industry, companies have attempted to curb the prevalence of ergonomic injuries by requiring workers to rotate tasks regularly.

Chemicals and Pesticides

Recent years have witnessed greater regulation and public awareness of the harmful effects of pesticide exposure. Yet, despite this increased awareness, there is some evidence that the use of pesticides in the horticulture sector is harming workers. In the tomato processing plants of Mexico, protective equipment is deficient, and illness due to the ingestion of pesticides and other agrochemicals is common (Barrón and Rello 2000). In Kenya's fresh vegetable industry, handling chemicals during storage, mixing, and spraying has led to skin allergies, headaches, and fainting (Dolan and Sutherland 2002). Similarly, women in fruit production experience headaches and eye pain from handling pesticides used in the field and to treat fruit before it is shipped (Barrientos and others 1999a). A study conducted in a hospital in Rancagua, Chile between January and September 1993 found that all 90 babies born with neural tube defects had mothers who worked as temporary fruit workers (Green 1995, cited in Barrientos and others 1999a). In the cut flower industry (in which regulations on chemical residues are less stringent than for edible agriculture products), the intensity of pesticide use has been linked to a host of neurotoxic, reproductive, and genetic effects on workers. [50]

Although most countries have established occupational health standards, their implementation and the compliance by flower companies is variable. In many cases, the most harmful side effects are associated with inadequate training of workers on the safety aspects of pesticide use and inadequate protective equipment (KHRC 2001). In Uganda, there is evidence that spraying is conducted when workers are unprotected in the greenhouse (Dijkstra 2001). Thrupp (1995) found that 40 percent of the workers interviewed in Ecuador had not been given protective equipment, and the remainder only occasionally received gloves, boots, and glasses.

However, the implementation of safety measures varies between larger and smaller enterprises. For example, some of the largest cut flower farms in Uganda and Kenya, which sell to UK supermarkets, are the most progressive in the provision of facilities and safety standards for their employees (Dijkstra 2001). Similarly, on the "good practice" farms in the South Africa deciduous fruit sector, health and

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[50] Several studies from different regions have documented the connection between pesticide use and high incidences of headaches, dizziness, nausea and vomiting, diarrhea, skin irritations, conjunctivitis, lung damage, premature birth, menstruation difficulties, and infertility (see Meier 1999 and Farné 1999 for Colombia; Holt 2000 for Ecuador; KHRC 2001 for Kenya; Djisktra 2001 for Uganda). In 1990 Restrepo and others detected a moderate increase in the prevalence of abortion, prematurity and malformations among children conceived after their parents began working in the Colombian cut flower industry. Furthermore, work in greenhouses has been specifically linked to reduced fertility among women and long-term pesticide exposure to lower sperm concentration among men (Tenenbaum 2002).

safety provisions generally are effective (Barrientos and others 1999b). In contrast, smaller flower operations in Uganda have flouted measures that ensure workers' safety such as protective clothing, facilities for personal hygiene, and regular medical examinations for sprayers (ILO/MGLSD 1999). In addition, on the "poorer practice" South African farms, complaints of skin and respiratory problems are common.

Temperature and Illness

Food safely standards of importing countries have imposed significant restrictions on disease prevention in the products of exporting countries. Maintaining a cold chain throughout the production process is integral to compliance. As a result, the low temperatures of refrigerated storage and packing facilitates found in the food and cut flower industries influence the health of workers. In the poultry industry, workers often are obliged to work in extremely cold temperatures causing colds, flu, frostbite, and respiratory disorders stemming from persistent exposure to low temperatures. One consequence, reduced dexterity, is especially dangerous in situations in which employees work with sharp knives (Tomoda 1996). In some countries, workers are paid extra to work in such conditions. In addition, infected animals and birds place those people who slaughter and process them at risk of zoonotic diseases, including include leptospirosis, tetanus, tuberculosis, and salmonellosis (Tomoda 1996). Finally, in the fruit, vegetable, and cut flower industries, workers often work in the rain, as failure to do so (particularly among "informal" workers) results in forfeiting their wages for the day.

Sexual Harassment

There is some evidence of sexual harassment in the cut flower and fresh fruit industries of Africa and Latin America (Ferrer 1997, Meier 1999, Acuña and Riquelme 1986 cited in Stephen 1999, KHRC 2001). In most cases, its prevalence is strongly influenced by local gender norms. In Kenya, women workers recounted their subjection to sexual harassment–including rape–but said they do not report it for fear of victimization. Some women workers told workshop participants in Nairobi that their supervisors demand sexual favors and that, if the women refused, they risked losing their jobs (Majtenyi 2002). It is very difficult for women in these industries to combat sexual harassment. First, most of them are unaware of their labor rights and thus are vulnerable to exploitation by employers and their immediate supervisors, most of whom are men. Second, the prevalence of flexible forms of work makes it difficult for women to organize against such abuse (Karega 2002). Barrientos and others (1999a) note that the informality of employment in the Chilean fruit industry creates opportunities for bosses to take advantage of female employees, for example by asking for "dates" in return for jobs. The most desperate women–single mothers or women without work experience–are the most likely to consent. Third, in Latin America, women often do not report sexual harassment due to social norms and patriarchal systems that legitimize and reinforce culturally based discrimination. However, several women in Barrientos and others' study in Chile (1999a) said that the attention from the bosses was merely a nuisance, or even regarded it as a compliment and as acceptable behavior in the culture. Most countries' national labor laws do not have adequate provisions to address sexual harassment (or many other violations) in the workplace, nor are there international laws in place to protect women against violence at work.[51]

Child Labor

The prevalence of child labor varies across commodities and countries. There was no documentation of children engaged in employment in either the poultry or fresh fruit industries. However the use of child

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[51] There are no international instruments that cover violence against women in the workplace. To date, the United Nations Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) is the most comprehensive international instrument specifically prohibiting sexual harassment (Article 11, General Recommendation 19). Furthermore, the ILO does not define freedom from sexual harassment as a "core" labor right.

labor in the cut flower industry has been the subject of considerable attention. While Colombia's Ministry of Labor denied allegations of child labor in the industry, Farné (1998) found children working in most stages of cut flower production. Companies employ children for many of the same reasons that they employ women: dexterity and speed (Shakespeare 1995). [52] These children typically are between the ages of 15 and 17 and generally are hired through labor subcontracts rather than directly by companies. In general, the presence of children is sporadic and tends to intensify during school vacation (Diaz 1994 and Hoyos 1996). There are signs that the use of child labor in Colombia is declining (Shakespeare 1995). Recent campaigns to eradicate child labor have prompted cut flower employers to commit themselves to limit the use of children under 18, and the Colombian Ministry of Labor also is now more restrictive in granting permits for the use of child labor (Farné 1998). Barrón and Rello (2000) also found that the use of child labor was declining in the Mexican tomato industry, primarily because the same wages are paid to children and adults.

The external costs of child labor can be high.[53] Nevertheless, research in Mexico found that the wages that children earn contribute substantially to household earnings and that a prohibition on child labor would significantly undercut the economic situation of migrating households (Barrón and Rello 2000). The National Program of Agricultural Day Laborers estimates that approximately 30 percent to 35 percent of total household income is earned by children (Barrón and Rello 2000).

Employment and Empowerment

The impact of wage employment on women's welfare has been the focus of considerable debate in recent years. On the one hand, researchers have argued that, despite the growing numbers of women employed, this growth has been based on abusive conditions: low wages, poor working conditions, and occupational segregation (Elson and Pearson 1981, Arizpe and Aranda 1981). Recently, however, a more nuanced picture has emerged with several feminist economists suggesting a positive association between women's wage work and their status in the household.[54] The key point to emerge from this debate is that *gender equality is not simply a matter of equal numbers of men and women in employment but rather the degree to which work contributes to women's well-being and empowerment.*

While the term "empowerment" has been used to represent a wide range of concepts and outcomes,[55] typically, it embodies four central elements: options, choice, control, and power. These terms generally represent women's ability to make decisions and to create outcomes of significance to themselves and their families (Malhotra and others 2002). In high-value agriculture, empowerment relates not only to the types, terms, and conditions of employment as reviewed above but, more specifically, to the nature of the returns that women glean from participation. These returns often are mediated by the dynamics of household and families. Household norms and rules generally determine whether women are able to seek employment outside the household, negotiate the allocation of time between paid and unpaid work, maintain control over their incomes, and, ultimately, to what extent entry into employment will benefit them. In this context, gender relations (roles, responsibilities, access, and control over resources and

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[52] Colombian legislation permits employment of children between 12 to 17 years in activities that are not harmful to their health and that are subject to agreement by the Ministry of Labor (with the caveat that their wages and benefits be equivalent to workers of 18 years of age and above).

[53] For example, many children in the Mexican horticulture industry have abandoned their education to work in fields and plants. Illiteracy rates are particularly high in exporting regions (Barrón and Rello 2000).

[54] See Özler review (1999).

[55] See review in Malhotra, Schuler, and Boender (2002).

services) take on particular significance. The following is a discussion of how gender and household relations influence employment outcomes for women and their families.

Reproductive Labor Burdens

Long-term research in gender and development has pointed to the fact that women are an over-used resource due to their often sole responsibility for unpaid household work, a responsibility that typically is not reduced by their incorporation into paid economic activity (Elson 1995). Much of the evidence from high-value agriculture industries supports this assertion. In most cases, women have remained dominant in unpaid household work despite their integration into HVA employment (table 4.8). Waters and Salalmea (1994) found that over half of the women interviewed in their study of Ecuadoran flower workers spent 3 to 4 hours performing domestic tasks in addition to wage employment in the industry. Similar conclusions have been drawn by other studies from Ecuador (CEPLAES 1993), South Africa (Barrientos and others 1999b) and Kenya (Dolan and Sutherland 2002).

Table 4.8 Household responsibility for domestic chores in Chile

Task	*1 woman (%)*	*2 women (%)*	*Shared male/female (%)*	*Male (%)*	*Hired labor (%)*
Cleaning	65	30	2	2.5	0.5
Cooking	78	17.5	1	2.5	0.5
Clothes washing	68.5	26.5	2	2.5	0.5
Shopping[a]	37	4.5	22.5	23	0
Money management	34	1.5	28.5	36	0
House repairs[a]	4	0	1.5	80.5	2

Notes: a. Shopping refers to trips outside the town for staple goods. Figures do not add up to 100% since some respondents did not go shopping outside the village or undertake household repairs.
Source: Data from two case studies in Tome Alto and Chañaral Alto, Chile, adapted from Barrientos and others (1999a).

As women take up employment, men do not generally assume more domestic responsibilities. For example, despite the fact that their wives were working long hours at the flower farm, Colombian men were reported to share few domestic duties (4 percent of the cooking, 1.3 percent of cleaning, and 7 percent of childcare) (Meier 1999 citing Villar). Likewise, interviews with women working in the Chilean fruit industry indicated that men were not assisting in household work, leaving women overstretched from a "double day" (Bee and Vogel 1997). In this situation, women may find their wages meager compensation for their increased work burdens. Of greater concern is the fact that women's long hours at work often force them to shift their domestic burdens to other household members, including mothers, mother-in-laws, sisters, and daughters, who often are already overburdened with work (Preibisch 2001).

However, work in these industries does not always lead to women assuming higher labor burdens. For example, unmarried women who had migrated alone to Kenyan packhouses encountered fewer difficulties in combining paid employment with domestic work than they had in their home villages. Newman's (2001) study on gender determinants of time use in the Ecuadoran cut flower industry found that women's employment was associated with higher levels of male participation in housework. The study showed that married men who worked in the flower industry contributed more time to housework than married men who worked in other industries: 69 minutes vs. 47 minutes per 24 hours. Ecuadoran men's slightly increased participation in household work likely reflects the comparable opportunity costs of men's and women's labor, since the wages paid by cut flower farms are roughly the same for men and women (5623 and 5523 *sucres* respectively) (Newman 2001).

This example notwithstanding, there is little doubt that women remain the primary providers of unpaid household work. This reality raises important policy concerns, particularly regarding the potential

transmission of domestic burdens to children and other vulnerable family members, as well as the impact on women's health and well-being. Developing appropriate support systems for child care is necessary for working mothers, as are reasonable wages and working hours.

Income Control

In the fruit, vegetable, cut flower, and poultry industries, the income earned has generated various positive changes for workers and their families. In Uganda, a survey of flower workers found that 60 percent of employees felt their economic conditions had improved significantly since obtaining work in the industry, and 20 percent felt that their incomes had improved slightly (ADC/IDEA 1997 cited by Asea and Kaija 2000). In Kenya, according to Jafeth Maina Wamwiri, the chair of Wamahoa Farmer Field School in Kiambu, "The export crops have changed our lives. We have new roofs, better homes, and our children can go to school" (cited by FAO 2002). Workers in Zimbabwe, too, claimed that they were able to send their children to school and buy furniture, clothing, and other basic commodities; and that their general welfare had improved through employment in floriculture (Davies 2000) (appendix 3 on allocation of wages).

While income can be a pathway to women's empowerment, whether it is depends to some extent on whether women determine how that income is used. An early study (CEPLAES 1993) recorded that more than 80 percent of women working in the Ecuadoran flower industry managed their own wages.[56] However, in most cases, control over incomes is contingent on the social and economic situation of workers. For example, among female employees in Kenya's vegetable industry, single women tend to manage and control the allocation of their wages. In contrast, married women either jointly manage their incomes (with spouses) or leave their incomes entirely under their spouses' control (Dolan and Sutherland 2002).

Gender Roles

The capacity of employment to modify or influence gender roles and responsibilities also depends on the industry itself as well as on the social and economic situation of individual workers. Korovkin (2002), for example, found that women's work in the Ecuadoran flower industry reduced gender inequalities among the younger generation. Younger female workers were able to control their own earnings and spend less time on household chores than other women in the indigenous community studied. In fact, the time the young female workers allocated to these tasks more closely resembled that of male flower workers than the other women in the community. There also is significant evidence from the vegetable industries of Guatemala (USAID 1999) and the Dominican Republic (Raynolds 1998), and the flower industries of Mexico (Appendini 1995) that women's participation in wage employment has led to greater independence in household decisionmaking and enhanced bargaining power with their spouses.[57]

On the other hand, employment opportunities have not always loosened gender roles and/or reduced restrictions on women's mobility. Bee and Vogel (1997) found that, in Chile, despite women's increasing employment in the fruit industry, household gender relations remained largely intact. Women were required to seek permission from their husbands to work outside the home and were permitted to engage only in seasonal work, which was perceived as secondary to women's domestic role and less threatening to the established gender ideologies. Similar conditions were reported in Ecuador, where improvements in women's decisionmaking capacity in the flower industry inspired accusations that women were stepping

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[56] Korovkin (2002) argues that similar figures could be derived from an analysis of women engaged in alternative sectors, such as commercial crafts.

[57] For example, Raynolds (1998) reports that working in the fresh vegetable industry has given Dominican women the confidence to escape abusive marriages.

beyond the boundaries of normative gender roles (Korovkin 2002). Several studies in Latin America have shown that women's integration in HVA production has been tolerated by men to the extent that cultural norms, patriarchal systems, and control of women's sexuality are preserved (Bee and Vogel 1997, Barrientos 1997, Preibisch 2001). This explains why young women and female heads of households have been able to participate in wage labor with greater acceptance than married women.

Social Capital

Research indicates that women's participation in these industries can enable them to forge new ties and social networks. For example, women in Colombia claimed that working in the flower industry enabled them to make friends of the same age and class, which otherwise could prove difficult in rural areas (Meier 1999). Similarly, Kenyan workers in the fresh vegetable industry report that their employment not only fostered economic independence but also offered new opportunities for socializing with women from other parts of the country (Dolan and Sutherland 2002, Kabeer 2000).

Nevertheless, there is equally compelling evidence that employment can erode social networks through the extensive time that is spent on the farm or in the factory. In Ecuador, Korovkin (2002) notes cut flower workers' lower rates of participation in intracommunal organizations. In her study, only one-third of flower plantation workers were active members of *mingas* (community labor associations) and assemblies, in contrast to two-thirds in the remainder of the community. Similar evidence was reported by Dolan and Sutherland (2002), who found that the majority of vegetable workers lacked the time to participate in community-related activities. Women who have migrated also can lose the close ties they had had in their home communities and become cut off from the benefits of those social networks.

Summary

The employment vs. empowerment debate is difficult to resolve in the context of high-value agriculture industries. On the one hand, employment can (and does) engender some tangible gains for women, who often obtain access to an independent income stream, increased autonomy, and new social networks. Data also show that certain employment benefits such as health care, training, and education bolster women's "human capital" and further women's empowerment. In contrast to their informal income-generating activities, which long have been overlooked, women's participation in waged work also makes them more visible in the economy. However, women also experience clear costs by working in these industries. One set of costs arises from the often poor working conditions and flexible and insecure employment. A second set has to do with the social and economic consequences of increasing women's time burdens on the health and well-being of themselves and their families. While the extent of these implications varies considerably across industries and countries, they do signal cause for concern.

Nevertheless, it also is the case that jobs in these industries provide many women with the best chance they have for improving their lives in a context of limited to nonexistent alternatives. In many of these industries working conditions are also improving due to initiatives undertaken by NGOs, trade unions, as well as national governments and international bodies to raise employment standards and ensure that workers' rights are not sacrificed in the face of competitive pressures.[58]

The way forward, then, is to broaden employment opportunities while ensuring that these opportunities are afforded full labor protections.

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[58] In particular, company codes of conduct hold great promise for improving women's working conditions. Further exploration of the potential of codes to protect worker's rights is warranted.

Small-Farm Production

While, in much of Africa and Latin America, the production of HVA crops has been dominated by large-scale operations, certain products still afford small-scale producers a comparative advantage. For example, export vegetables such as snowpeas and French beans, and spices such as vanilla and paprika, are less amenable to capital-intensive, mechanized production due to the labor-intensive requirements in both production and packing. Many companies prefer to outsource these type of crops to small farmers as it allows them to tap into "free" family labor and reduces the production costs associated with supervision, land, and infrastructure.

Most studies of smallholder HVA have focused on farmers who are integrated in the operations of cooperatives or large exporters under contract. In such schemes, farmers typically are organized in groups of varying sizes to facilitate the transmission of information, technical assistance, and supervision. In contract farming, the exporter/producer typically also provides seeds on credit, as well as a specified price for the product.

This section reviews the gender-specific impacts of smallholder production of HVA exports drawing on research from Guatemala, Kenya, and Uganda. The section begins by identifying what we know about the characteristics of the smallholders involved in HVAE production. It then explores some of the implications of HVAE production on gender relations, such as the linkages between HVA adoption and women's work burdens, household food security, and income distribution. Overall, however, the implications of HVA expansion for gender relations and women's well-being are less well understood for smallholders than for wage employees. While it is widely acknowledged that a sound rural development strategy includes raising the productivity of women farmers, comparatively little data is available on the gender division of labor and control over land and income in these industries, issues that underpin gender equity in smallholder production. Therefore, findings presented here signal a need for further research.

Characteristics of Smallholders

Assets

The definition of a smallholder varies across countries; nevertheless, in all cases, smallholders have particular characteristics that differentiate them from workers on plantations and in packing plants. The main difference lies in the asset stocks that they possess. To obtain a contract with an export company, small-scale farmers usually need to fulfill certain requirements. In Kenya, these requirements include land, the ownership of a chemical store, a dumping site, crop-spraying equipment, personal protection gear, water, and bathing and toilet facilities (Omosa 2002). In Mexico, growers must have access to a tractor, fumigation equipment, transportation for ferrying produce, and the financial capital to cover the salaries of daily laborers. Other Mexican firms require access to water for irrigation and, increasingly, that growers have crop insurance (Huacuja 2001).

In other words, most contract farmers possess some degree of capital-based entitlements. Not surprisingly, the most significant of these is land. In Kenya, smallholders growing export vegetables have been found to own more than twice as much and better quality land as those who do not. In addition, more than 90 percent of smallholder land is irrigated, compared to a little over one-third of the land of nonhorticultural smallholders (McCulloch and Ota 2002). In Guatemala, wealth among vegetable producers also has been positively associated with land ownership (Goldín and Asturias de Barrios

2001).[59] Households with less than 0.5 ha of land generally do not produce NTAEs (Hamilton, Asturias de Barrios, and Sullivan 2002).

The income levels of smallholder farmers under contract also can be higher than those of noncontract growers. In Kenya, the majority of contract households earn an average of KShs 5,000 per month (US$64) (Omosa 2002). Mean annual income for contract households was KShs 55,528 (US$711.78), which is well above the poverty line (McCulloch and Ota 2002). However, these figures do not suggest that contract growers are wealthy; in fact, under most circumstances, they would fall below indicators for well-being. For example, in the Dominican Republic, fewer than half of growers' households can eat three meals a day, and most lack the resources necessary to purchase small items such as a radio (Raynolds 2002). Table 4.9 presents an overview of the main characteristics of smallholder producers under contract.

Table 4.9 Gender issues in small farm production

Prouct	*Case study*	*Characteristics of farmers*				
		Gender composition	***Control of income***	***Labor division***	***Access to land***	***Access to credit and extension***
Vanilla	Uganda[a]	50% women in production Child labor used	90% of income controlled by men 30-40% of women authorize expenditures	Hoeing & pollination by women and children	Women do not own land but have access rights	Women lack access to resources
Vegetables	Guatemala[b]	6% women-headed households (WHHs)	Women hold 3% of contracts 69% of households share control of incomes	Women & men cooperate in production and marketing	Women's lack of right to land does not impact ability to benefit from HVAEs Land decisions made jointly	64% of smallholders improved economic situations with NTAEs
	Kenya[c]	1% WHHs	Men hold 90% of contracts & obtain 62% of income	Women supply 72% of labor in production	Few women entitled to land Men can retract wives' right to land	Receive higher income, access to credit & extension service

Notes:
a. Kasente and others 2000, Sorenson 1996. b. Hamilton, Asturias de Barrios, and Tevalan 2001, Katz 1995. c. Hamilton, Asturias de Barrios, and Tevalan 2001, Dolan 1997, Omosa 2002.

Household Size

Export firms often prefer to contract with large smallholder households, a practice that enables them to capitalize on the use of unpaid family labor in a highly labor- intensive industry. For example, two of the main horticultural export crops–snowpeas and French beans–require 600 and 500 labor days per ha, respectively (Carter and others 1996). It is the high labor intensity and quality imperatives that render

[59] Households with greater amounts of land tend to be economically better off and exploit this advantage by allocating a significant portion to HVAE crops.

certain crops particularly well suited to contract farming, and more specifically to household production units.

In these industries, household size tends to be larger among smallholders producing HVAs than among wage employees. In the Dominican Republic, the households of contract growers consist of 6 or 7 members, including a middle-aged husband and wife and 3 or 4 children (Raynolds 2002:787). In Kenya, a recent study recorded the average household size of smallholders at 5 people: 2 parents and 2 or 3 children, as well as some extended family members (McCulloch and Ota 2002). An earlier study in Kenya placed mean household size at 8 people, of whom close to half were of working age (defined as 15 to 60 years) (Dolan 1997). In contrast to the households of wage employees, women-headed households are less prevalent among small-scale farmers. One study in Guatemala found that only 6 percent of small-scale households were headed by women, a statistic that is less than 1 percent in Kenya (Hamilton, Asturias de Barrios and Tevalán 2001, McCulloch and Ota 2002).

Other Socioeconomic Characteristics

While little data are available on the age profile of small-scale producers, a study in Guatemala found that NTAE producers were younger than producers operating outside of NTAEs (Goldín and Asturias de Barrios 2001). In Kenya, it also was found that younger farmers were more willing to enter export horticulture, particularly if they could mobilize family labor (McCulloch and Ota 2002). The educational levels of smallholders tend to reflect national data. In the Dominican Republic, male and female heads of household average only 3 or 4 years of schooling, which is typical also for the region in which contract agriculture occurs. Smallholders tend to be better educated in Kenya, where heads of household average seven years of education (McCulloch and Ota 2002). As with the composition of the wage labor force, evidence from both Guatemala and Kenya suggests that the potential to garner economic benefits from small-scale production is not yet linked to education level (Goldín and Asturias de Barrios 2001). Again, this pattern might change as standards in developing countries put increased demands on smallholders to meet due diligence and food safety requirements.

Impacts of Contract Production

Early research in Central America documented a number of positive benefits associated with smallholder NTAE production including increased family incomes and improved investment in land, livestock, and other assets (von Braun, Hotchkiss, and Immink 1989, Carter and Mesbah 1993). These results have been supported by recent research from Guatemala, the Dominican Republic, and Kenya.[60] In Guatemala, small-scale farmers consider export vegetable production their best bet for economic advancement and long-term income accumulation, with two-thirds of respondents reporting an improvement in their economic situations since adopting NTAEs (table 4.10) (Hamilton, Asturias de Barrios, and Sullivan 2002, Asturias de Barrios and others 1999). Nearly the entire sample of women (95 percent) expressed a desire to continue producing for export, viewing it as the most lucrative avenue available to them.

Similar conclusions have been drawn from other studies (Goldín and Asturias de Barrios 2001, McCulloch and Ota 2002, Omosa 2002). In Kenya, contract smallholders also have garnered higher incomes through NTAE production, enabling them to meet basic needs (food, housing, children's education) and invest in a range of assets (land, livestock, irrigation systems). Over three-quarters of farmers claimed that they could not have purchased these items without their incomes from export horticulture. In almost all instances, farmers viewed themselves as better off than smallholders growing

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[60] See Omosa (2002) for Kenya; Hamilton, Asturias de Barrios, and Sullivan (2002) for Guatemala; and Raynolds (2002) for the Dominican Republic.

alternative crops or than their counterparts working as employees in export horticulture (Omosa 2002). Most importantly, contract horticulture was viewed as a reliable and secure source of income (table 4.11).

Table 4.10 Current NTAE producers' perception of total family economic trajectory during NTAE production, San Mateo Milpas Altas

Perception	*Number*	*%*
Much better	1	3
Better	25	64
Same	9	23
Worse	4	10
Much worse	0	0
Sum	39	100

Source: Hamilton, Asturias de Barrios, and Sullivan 2002.

A number of less tangible rewards also have been associated with smallholder NTAE production. Strengthening social networks and ethnic identification, as well as increased political solidarity and local control over development processes, have been associated with Guatemalan snowpea production (Hamilton, Asturias de Barrios, and Sullivan 2002). Likewise, vanilla production in Uganda has been linked to "empowering" initiatives among women, such as the formation of local clubs and banking institutions (Dijkstra 2001).

Table 4.11 Description of incomes earned from export horticulture by gender

Description of income from horticulture crops (%)	*Male farmer*	*Female farmer*	*Total*
Very secure	47.1	66.7	52.2
Reasonably secure	52.9	33.3	47.8
Total	100	100	100

Source: Field survey, 2001.

However, several social implications also are associated with smallholder HVAE production, including gender disparities in the distribution of benefits. These disparities are reflected in three interconnected areas: *land, labor, and income.* A fourth distinct but related issue is how participation in HVAE production impacts food security at the household level.

Land

A key issue governing the potential returns of smallholder HVAE production is the availability of land. As noted previously, in most cases, land ownership in itself is a requirement for participating in contract farming. More specifically, research has shown that the nature of women's property rights often determines the benefits that they are able to derive from commercial agricultural production.[61]

While gender inequities in land rights can constrain women's capacity to profit from export agriculture, this is not always the case. According to the majority of respondents in a Guatemalan study, land-use decisions were made jointly by men and women, and women had access to the crops grown on the land (Hamilton, Asturias de Barrios, and Tevalán 2001). Likewise women in Uganda typically have their own plots for vanilla production, which they cultivate in addition to their husbands' crops (Dijkstra 2001). However, other research suggests that smallholder diversification in HVAEs can lead to male

[61] Access to land also can engender less immediate material benefits by strengthening an individual's fallback position, not only as a direct entitlement but also through the conversion of land into capital (loans and credit) and other assets.

encroachment on female property, undermining women's abilities either to fulfill subsistence needs or to produce cash crops over which they might have control (Katz 1995, Dolan 1997). For example, one study in Kenya reported that one-third of women were obliged to use their usufruct to plots to grow French beans for export, while their husbands either assumed control over the income derived from that production or retracted their wives' rights to the land completely (Dolan 1997). In addition, Katz (1995) shows that while NTAE-producing households are more likely to purchase land than other farmers in Guatemala, women neither finance nor purchase this land and are rarely consulted regarding land purchases. Hence, in cases in which women's property rights are tenuous and/or hinge on their status as wives, mothers, and daughters, women's capacity to gain from the HVAE trade may be limited. HVAE trade also may have broader effects on women's bargaining power, for example, if their opportunities to grow local crops over which they have control are undermined through HVAE adoption.

Labor

As previously discussed, the comparative advantage of smallholder production lies in the acquisition of family labor. *In most cases, however, it is female labor that is the essential input in HVAE production.* In the Dominican Republic, for example, men sign contracts with companies with the understanding that they will enlist the labor of their wives/partners to fulfill them. Women devoted 152 hours per season to each vegetable crop–almost twice as much time as the husbands reported allocating (80 hours) (Raynolds 2002). In Guatemala, most men reported that their wives assisted them to harvest (did 92 percent of the work) and plant (did 77 percent of the work) export vegetables (Hamilton, Asturias de Barrios, and Tevalán 2001).

A strong gender division of labor prevails on smallholder farms. In vanilla production, women are responsible for the highly labor-intensive tasks of planting, weeding, harvesting, and processing (Kasente and others 2000). Although men are involved in production, they tend to be engaged in activities with shorter labor intervals that hold less significance for the quality of the final product. Table 4.12 identifies the gender division of labor in vanilla production.

Table 4.12 Type of labor used in vanilla production, by task

Labor	*Hired male*	*Hired female*	*Family male*	*Family female*	*Family child*
Land clearance	16	1	39	21	8
Land preparation	18	7	36	34	12
Planting	4	2	44	49	16
Appl. of fertilizer	2	1	11	5	1
Pruning	2	1	30	23	4
Weeding	7	1	42	50	16
Harvesting	2	1	40	46	12
Transport home	2	1	45	52	20
Processing	0	0	19	19	5
Transport to Market	3	1	41	50	21

Source: Kasente and others (2000).

Labor constraints can pose considerable challenges to smallholders, particularly women. In Kenya, over a third of female farmers surveyed reported that they faced constraints in allocating time to export crops (Omosa 2002). The activities with the greatest labor shortages also tend to correspond with tasks that are predominantly female-dominated such as planting, weeding, picking, and grading (Dolan 2001). Early studies from Guatemala (von Braun, Hotchkiss, and Immink 1989) found that the labor shortages associated with NTAE production forced women to decrease the amount of time they devoted to independent income-producing activities or to cultivating crops under their own control. Labor constraints

also encroached on the time that women allocated to food crops, thus threatening overall household food security (Katz 1995).

In other cases, the labor requirements of HVAE have compelled women to shift the burden of domestic responsibilities to other household members, particularly children. This choice was demonstrated by Katz (1995), who found that women could transfer their labor to male-controlled HVAE crops only if they had daughters available to take over the household work. In Uganda, seasonal peaks in labor demand have affected girls' school attendance (Fontana, Masika and Joekes 1998), because vanilla pollination must take place in the morning when the air is the most moist.

Income

Women who obtain an income through their participation in HVAE production are less dependent on the male head of household as a source of income and experience a stronger fallback position in household bargaining (Evers and Walters 2000). However, while HVAE production potentially can increase overall household incomes, evidence from the literature indicates distributive inequalities within households, with wide disparities in the allocation of income between men and women. In Uganda, Kasente and others (2000) found that more than 90 percent of income from vanilla production was controlled by men (table 4.13). Similarly, Dolan's (1997) research in Kenya showed that over 90 percent of export contracts were issued to male household members, who controlled labor allocation and secured payment. Women performed 72 percent of the labor for French bean production but obtained only 38 percent of the income. In Guatemala, Katz (1995) described how prior to NTAE adoption, women in Guatemala traditionally earned money through craft production, small livestock raising, storekeeping, and the sale of products on the domestic market. These activities were abandoned or reduced to assist their husbands to grow export vegetables. However, since it was men who received payment for the produce, women were dependent on their husbands to share the income to compensate the women for the loss of their own independent income streams. Katz (1995) discovered that women in NTAE households received less income from their husbands than did women in households where income was derived from other sources. Such situations can provoke intrahousehold conflict over the control of income derived from HVAE production. Dolan (2001) quotes one interviewee, "*Michiri (french beans) also are cause for beating.* When we try to keep our money, our husband asks where it is. If we don't give it to him, we are beaten. These crops cause us many problems."

Table 4.13 Authorization of expenditure of vanilla income

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	Income	*Percent*
1996		
Male	12,095,000	90.7
Female	1,240,500	9.3
Total	13,335,500	
1998		
Male	14,079,000	90.1
Female	1,550,950	9.9
Total	15,629,950	

Source: Kasente and others 2000.

Nevertheless, exceptions to these patterns exist. Recent research in Guatemala found that women were neither marginalized from the income benefits of HVAE production, nor did they forego their own income-generating activities to work on HVAE crops (Hamilton, Asturias de Barrios, and Sullivan 2002).[62] Women shared control over incomes in 69 percent of producing households, with one-third of respondents claiming that they made joint decisions with respect to purchasing chemicals, seeds, and other inputs (Hamilton, Asturias de Barrios, and Tevalán 2001). Furthermore, in the Dominican Republic, women are partly remunerated for their labor by their husbands.

[62] Hamilton, Asturias de Barrios, and Tevalán (2001) cite a 1994 study in Guatemala showing that women in NTAE-producing households directly controlled 58% of all household income. In contrast, in households that derived all of their income from agriculture, women and men each controlled half of the income.

Food Security

While income and food security are interlinked, the promotion of HVAEs has come under criticism from researchers and policymakers concerned with gender equity, who make two pertinent points. First, literature suggests that gender differences exist in the allocation of household income and resources, with women being more likely to prioritize basic needs and collective welfare, particularly with regard to children.[63] Second, even though expanded cash crop production might increase overall household income, the well-being of women and children may not improve. Since men typically control agriculture export earnings, household food security actually can be eroded if these earnings are not directed toward food purchases or if household allocative priorities privilege men and boys.

Thus, the issue of food security is central to any discussion of export agriculture and gender. Gender-specific issues tend to emerge in three main areas:

- Amount of labor allocated to these crops (as discussed above)
- Amount of land allocated to subsistence vs. export horticulture crops
- Intrahousehold nutrition (amount of income allocated toward food purchases).

Following is a discussion of the last two issues.

Food vs. export crops

In contrast to large-scale producers–who might allocate up to 100 percent of their land to export vegetables–small-scale producers generally will plant only a portion of their land with HVAE crops. A recent study in Guatemala found that most farmers had holdings of approximately one ha (1.2 acres) each and planted less than one-quarter of this with NTAE crops (Hamilton, Sullivan, and Asturias de Barrios 2001). In the Dominican Republic, contract growers devote on average 4 of their 6- acre holdings to tomatoes, planting the remaining (typically nonirrigated) land with subsistence crops (Raynolds 2002). Overall, farmers tend to avoid crop specialization in order to guard against market shifts, weather-related problems, and pest and disease infestations. Farmers also cultivate in phases on different plots at different times of the year to further reduce the risks associated with fluctuating prices (Weinberg 1997).

In most cases, smallholders who cultivate export vegetables also grow crops for sale on the domestic market (strawberries, cabbages, potatoes) and for subsistence (maize, beans). Even Guatemalan growers who potentially had more land to devote to export cultivation claimed that exports were only one aspect of a diverse livelihood strategy (Hamilton, Asturias de Barrios, and Sullivan 2002).

Although these studies suggest that engaging in export vegetable production does not undermine subsistence farming, a recent study in Kenya draws different conclusions (Omosa 2002). The longer a Kenyan farmer is involved in the export market, the less likely s/he is to maintain a diversified production strategy (table 4.14). Nonetheless, this shift does not necessarily threaten food security within the household, since the income generated through enhanced export production could be directed toward purchasing food on the market.

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[63] For example, Duncan Thomas (1990) documents how the income accruing to women in Brazilian households raises the probability of child survival by 20 times that of a comparable increase in the income of the father. Similar evidence has been put forth by Kanbur and Squire (1999), Buvinic (1997), Kennedy (1989), Hoddinott and Haddad (1995), and Dwyer and Bruce (1988). This research suggests that the income under female control has a different effect on household expenditure patterns than income earned by men.

Nutrition

Table 4.14 Comparison between engagement in export horticulture and effect on land-use patterns

percent

Stopped growing other crops?	*Number of years engaged in export horticulture*				*Average*
	1 year or less	*2–4 years*	*5–7 years*	*8 years or more*	
Yes	33.3	60	60	80	69.9
No	66.7	40	40	20	39.1

Source: Omosa 2002.

Increases in household income do not necessarily yield greater access to and consumption of nutritious foods. A number of studies have shown that income controlled by women has a different effect on household expenditure patterns than income earned by men, with the former more likely to be spent in ways that have a positive impact on nutrition, health, and education of families than the latter.[64] This knowledge has given rise to concerns about the relationship between export horticulture production and household food security. Since contract income generally is awarded to men, and women forsake other opportunities to work on export crops, it can be expected that household food security will be at risk.

However, this is not always the case. In the Dominican Republic, men dominate purchasing decisions, but women play the key role in making food purchases (Raynolds 2002). Similar results were recorded in a study of the Kaqchikel community near Guatemala City, which showed that women in NTAE-producing households directly controlled 58 percent of all income; in households that derived all of their income from agriculture, women and men each controlled 50 percent (Asturias de Barrios and Tevalán 1996).

Furthermore, there is no indication that the nutritional and health status of contract growers are negatively affected through participation in export production. To the contrary, a study in Guatemala reported positive changes in family nutrition and health care (Hamilton, Asturias de Barrios, and Sullivan 2002). Nearly two-thirds of female respondents claimed that their families' diets had improved since HVAE adoption. Women were able to provide their families with more meat and produced an equal or greater amount of maize since they had been involved in export production (Hamilton, Asturias de Barrios, and Sullivan 2002).[65] Eighty-five of all NTAE-producing families said that the money from NTAEs was responsible for improvements in their households' diets.

Similarly, Katz (1999) found little evidence that contract households were worse off in terms of food availability, diversity, or nutrient intake.[66] Her study indicated that average spending on grains per adult was significantly higher than in noncontract households (Katz 1999). This increase was attributed to the fact that export households produced higher amounts of maize per ha due to their access to resources and technical expertise gained through their supply relationships with cooperatives and/or export companies. Katz's study also found that contract farmers tend to spend more money on nonfood items (agricultural inputs, loan payments, land purchases), which facilitate spin-off investments.

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[64] See Kanbur and Squire (1999), Buvinic (1997), Kennedy (1989), Hoddinott and Haddad (1995), and Dwyer and Bruce (1988).

[65] Fifty-eight percent said they ate the same amount of meat as before.

[66] However, there was no evidence that households were using their earnings to improve their nutritional status (Katz 1999).

5. The World Bank's Role

Many developing countries have promoted production of high-value agricultural exports to achieve national growth and development. Over the last decade, these exports have generated significant levels of foreign exchange, helped upgrade agricultural production skills, and created substantial opportunities for employment and self-employment in poor rural areas. Such opportunities have been particularly notable for women, who dominate in most aspects of production and processing as both smallholders and wage employees.

This report has traced the implications of HVA export promotion on women workers, identifying some of the main features and conditions of work that they face. It demonstrates that participating in these industries can bring positive consequences for women but that several challenges need to be addressed, ranging from occupational segregation and environmental health issues to gender-based constraints in rural farming systems.

The World Bank could play an important role in promoting trade in these commodities, as well as in raising the employment standards for workers in these industries. This role could be achieved through a combination of technical and financial assistance and through stimulating broad dialogue on these issues. There is, however, a need to better understand how this assistance can be developed, especially from a gender perspective, and what other partners can play a role. Below are a few examples of areas in which Bank assistance is warranted and suggestions for future studies in areas in which information is lacking.

Raising the issues of HVAEs and their gender implications in global discussion. As a multinational lending institution, the Bank has a unique opportunity to articulate a strong policy position in international conventions and debates, securing the rights of women working in these industries. The gender implications of HVAE production identified in this report could be highlighted and disseminated in a variety of fora, raising the profile of these issues in policy circles.

Supporting national governments and/or agribusinesses in developing countries to pursue export diversification into HVAE commodities. By providing market studies and support to relevant policy reforms, the Bank could assist national governments and private sector firms in developing countries to engage in the HVAE trade and benefit from the country's or the region's comparative advantages. While the Bank has supported these countries' entering these markets since the 1980s, the potential for developing countries to benefit from HVAEs is likely to expand under trade liberalization.

Supporting gender sensitivity in governments' legislative systems and in the enforcement of international trade agreements. As described earlier, national and international regulations have gender-differentiated impacts. First and foremost, the Bank could assist exporting countries to perform legal and regulatory analyses. These analyses should consider (1) whether the text of a particular trade measure reflects gender bias or could have disparate effects on women or other social groups, and (2) whether the particular trade measure would conflict with or undermine the country's international commitments and domestic laws relevant to women or other social groups. The Bank should encourage regulatory reform to establish equal rights and opportunities for men and women, in terms of both asset ownership (particularly land) and employment.

Strengthening local capacities to implement trade-promoting standards and technical regulations. Developing countries are confronting increasing regulatory challenges; yet most are not equipped to comply with evolving product standard requirements. These countries face constraints in adopting best-

practice information and mobilizing the resources necessary to implement appropriate process and production methods. An increase in efficiency and reform of their national regulatory systems will be required for these countries to maintain international competitiveness. A first step would be to identify donor–supported programs and/or civil society organizations within developing countries that are already working to strengthen the legal/regulatory framework and the technical capabilities of companies to comply with standards and codes of conduct.

Assisting in monitoring and auditing employment conditions. Involvement of civil society organizations should be encouraged in monitoring and auditing labor standards and the social aspects of codes of conduct. This involvement is essential to protect and enhance the working conditions and employment rights of workers in these industries.

Educating workers, especially women, on employment rights, the content of code, and relevant national regulations. As the new Rural Development Strategy highlights, development must be based on participation and empowerment. In high-value agriculture women's empowerment requires education and training, and must be based on participatory approaches to development (World Bank 2002). The Bank could advocate for the provision of training and educational programs to workers. These programs also could include the dissemination of information on labor standards, social clauses, and employment rights, and on the content of codes of conduct.

Expansion of codes. In general, retailers in the UK and continental Europe have progressed much further than the US in the application of labor codes. Consequently, companies supplying retailers in European markets are more likely to provide better employment conditions and more equitable opportunities to men and women. The Bank could open dialogues with agribusiness companies and large retailers in the US to support the introduction and monitoring of codes throughout their supply chains, thereby extending the coverage of labor standards.

Ratification of ILO standards. Codes are limited instruments in that they are based on voluntary agreements and inspections. However, international standards are binding to all countries. The Bank could work with national governments to ratify International Labour Organisation standards and to develop appropriate enforcement mechanisms.

Enhancing conditions within smallholder contract production. Gender equity within smallholder systems could be supported by ensuring equal opportunities for men and women to participate in contract production. The Bank should encourage export companies to issue contracts in women's names and to reduce the opportunity costs of women's time through investing in water, transport, and infrastructure.

Education and training. Support also should be given to local trade associations to provide training to smallholders on how to meet environmental, food safety, and social standards so that they retain access to northern markets.

Initiating public/private partnerships. The Bank could draw on its large network of national governments, private corporations, and civil society organizations to establish collaboration with agribusiness corporations at both national and international levels.

Additional studies

Gender-specific information. Available data on employment in these industries is inconsistent across commodities. For example, while there is substantial information on cut flowers and fruit production in Latin America, there is less data on the African experiences, while information on smallholders producing

commodities such as vanilla, paprika, and nuts is sparse to nonexistent. Developing and using materials on gender considerations in the development of HVAE programs would be useful for the Bank and other donors. The information could be further developed to be disseminated through training to enable effective work in this area.

Project design and implementation. A review of Bank projects promoting diversification into HVAEs should be encouraged. The review would identify the knowledge and experiences the Bank has gained to date and pinpoint areas in which Bank support is warranted. The review also would highlight key design and implementation issues that Bank projects need to consider to ensure that gender concerns are addressed.

Intervention points in the value chain. The varying institutional structures of the value chains[67] from field to market need analytical attention, since differing structures present differing points of possible intervention for Bank policies and projects. Having a clearer sense of how the various HVAE production, processing, and marketing chains are structured would provide a much more informed basis for Bank policy and programming, as well as for governance structures such as trade agreements. The Bank could examine the link between restructuring retail sectors and employment and the extent to which retail concentration is affecting the opportunities for firms and workers in developing countries. For example, which value chains are entirely vertically integrated? Which chains provide more opportunities for small and medium-sized firms? Is the trend toward increased processing creating more female employment? Are social codes of conduct that establish criteria for responsible production excluding certain suppliers in developing countries? Are prospects for smallholders diminishing? And what might be done to avert the exclusion of smallholders? Answering some of these questions would provide a much clearer picture of where and how Bank support could be most effective.

The Bank's objective to combat poverty and inequality as stated in the new Rural Development Strategy necessitates the promotion of pro-poor yet socially responsible growth. High-value agriculture commodities can help fulfill this mission. They offer substantial opportunities for countries to generate foreign exchange as well as new opportunities for women to enter the labor force. However, while it is important that the Bank support countries' entering these markets, it also must ensure that export growth does not come at the expense of rural women and their families. Negative repercussions can be averted or alleviated through effective worker training as well as the enforcement of national and international labor protections and codes of conduct.

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[67] The value chain concept examines the range of activities which are required to bring a product or service from conception, through production, logistics and to retail. It pays particular attention to inter-firm linkages and the geographical spread of value-adding activities.

Appendix 1. Public Governance: National and International Regulations Relevant to High-Value Agriculture Sectors

Trade policy has substantially altered the environment in which high-value agriculture industries operate. While the impacts vary across countries, markets, and products, several trade agreements hold particular significance for agriculture. It is important that policymakers consider the social implications of trade positions, particularly for poor women and other vulnerable groups in developing countries (Gammage and others 2002).

General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO)

Until recently the liberalization of agriculture markets was relatively limited. From its inception in 1947, GATT approached agriculture differently from other sectors, permitting the use of quantitative restrictions and trade-distorting subsidies (Gammage and others 2002).

However, the creation of the WTO in 1995 substantially liberalized agricultural trade, lifting trade barriers and reducing tariffs and other quantitative restrictions. In addition, current trade preferences (preferences providing relief from import tariffs) will be eroded as liberalization progresses (Stevens 2001). This liberalization has created opportunities for developing countries to exploit their national and regional comparative advantages and gain better access to the markets of developed countries. In addition, concurrent with the development of the GATT/WTO multilateral trading system, there has been a significant increase in the number of regional trading agreements (RTAs) slated to bring benefits through lower transaction costs, larger markets, and more effective competition (Bergsten 1997). [68, 69] Since 1995, at least 16 new RTAs have been reported to the WTO, and currently there are over 1,800 bilateral investment treaties (BITs), in contrast to under 400 at the end of the 1980s (Gammage and others 2002). The main trade agreements impacting the industries covered by this report include the following:

NAFTA

The principle trade agreement that affects countries exporting agricultural products to the US is the North American Free Trade Agreement (NAFTA) concluded in 1993. NAFTA instantly removed some tariffs on a number of agricultural products and applied a staged reduction program leading to the eventual elimination of remaining trade barriers. As contained in the earlier Canada-US Free Trade Agreement, most tariffs on agricultural trade between the United States and Canada expired on Jan. 1, 1998, while, under NAFTA, Mexico has a longer transition period (15 years maximum) to phase out most of its trade barriers with the US and Canada (Sheffield 2002) The significance of all tariffs varies by product but generally represents a small part of the total cost of producing and marketing these products.

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[68] GATT is technically a treaty and its signatories are considered contracting parties. In contrast, the WTO is an organization, of which the contracting parties to the GATT became members in 1995 (Sheffield 2002).

[69] However, RTAs have been somewhat less favorable to poultry, for which the process resulted in very high tariffs, particularly for chicken products. Canada, Egypt, the European Union, Honduras, and South Africa are examples–with much higher tariffs for poultry than for any other products–as high as 177.5% for chicken and 273% for turkeys (Colyer 2002).

MERCOSUR

The Southern Common Market (MERCOSUR) implemented in 1991 removed nearly all intraregional tariffs, with the exception of sugar. The agreement established a common external tariff ranging for agricultural products from 0 percent to 20 percent, generally lower than previously (Sheffield 2002).

Uruguay Round

The WTO's Agriculture Agreement was negotiated in the 1986 V94 final act of the Uruguay Round. Under the Uruguay Round, countries pursued liberalization of agricultural trade by agreeing to numerical targets for reducing subsidies and trade protections. Countries agreed to specific reform commitments in the areas of market access, export subsidies, and domestic support (Sheffield 2002). The Agreement on Agriculture was adopted at the conclusion of the Uruguay Round of multilateral trade talks on April 15, 1994. This agreement introduced important new disciplines on the trade of agricultural products that were implemented between 1995 and 2000. The efforts of the Uruguay Round to reduce domestic support to agriculture, export subsidies, quantitative restrictions, and other trade barriers generally are considered to have been benefited agricultural and food products (Henson and Loader 2001). For example, the Uruguay Round reduced tariffs for "cut flowers, plants and vegetable materials" by 48 percent and "tropical fruits and nuts" by 37 percent, with an average reduction in tariffs for tropical products of 43 percent (Henson and Loader 2001).

Lomé Conventions I–IV (1975–2000)

For 25 years, the Lomé Conventions were the primary foci of development cooperation between the EU and 71 African, Caribbean, and Pacific (ACP) countries. Under the Lomé Convention, the EU assisted ACP exports through price support schemes as well as through a framework of preferential tariffs and quotas. As signatories of the Lomé Conventions, certain African countries, Kenya and Zimbabwe, for example, have benefited from highly preferential access to the EU since 1975 (Stevens 2001). By relieving favored suppliers of all or part of the import restrictions designed to maintain the high European prices, the preferences allow their beneficiaries to enter the European markets without provoking downward pressure on price levels.[70]

Cotonou Agreement

The successor to the Lomé Convention–the Cotonou Agreement, signed by the European Union and 77 ACP countries in June 2000–replaces trade preferences with a framework for development cooperation over 20 years. ACP countries scored a victory when WTO Membership granted a most favored nation (MFN) waiver to the Cotonou Agreement that allows the EU to extend preferential treatment to imports from these countries. Cotonou departs significantly from Lomé in that it has poverty reduction and social development as central objectives. More specifically, the term "gender" is incorporated in the treaty's text, with gender-relevant positions contained in the preamble as well as in nine different articles and in a joint declaration on the actors of the partnership (Arts 2001).

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[70] While the Lomé Convention preferences have enhanced the access of developing countries, they also have opened up domestic food markets to considerable international competition.

Sanitary and Phytosanitary Standards

While agricultural trade has been increasingly liberalized, agriculture-exporting countries face a number of nontrade–related measures that potentially can restrict their access to Northern markets. For HVA producers, the most pressing of these are the Sanitary and Phytosanitary Standards (SPS) developed to prevent the diffusion of potentially dangerous toxins, chemicals, or diseases in importing countries.

The objective of the SPS Agreement is to reduce trade distortions caused by measures to protect food safety and animal and plant health. Under this agreement, SPS measures must be applied only to the extent necessary to protect human, animal, or plant life. They may not discriminate among countries in which the same conditions prevail or be applied as a disguised trade barrier. The agreement encourages countries to base their SPS measures on existing international standards and to recognize other countries' standards, to the extent that the SPS measures] realize the same degree of protection (Normile and Simone 2000).

Various international agreements have set specific standards for food hygiene and safety. These include the Montreal Biosafety Protocol; the food and food additive standards set by the CODEX Alimentarius Commission; and the rules and regulations set under the International Plant Protection Convention, the International Organization for Standardization, and the Office International des Epizooties. There are also regional and national food safety regulations. For example, the 1990 UK Food Safety Act established the criteria for traceability, documentation, and quality assurance in the UK food chain, requiring retailers to demonstrate "due diligence" in the manufacture, transportation, storage, and preparation of food. Similarly, at a regional level, the EU has initiated a program to harmonize maximum pesticide residue levels (MRLs) on food sold in the EU, removing individual regulation of pesticides used on food sold at a retail level (Chan and King 2000).

These regulations have a significant impact on developing countries' trade. They can restrict trade opportunities by imposing an import ban, divert trade by either discriminating certain trading partners or increasing the cost for production to such an extent that producers become noncompetitive (Henson and Loader 2001).[71]

Environmental Regulations

The WTO Committee on Trade and Environment (CTE) is the body responsible for identifying the relationships between trade and environmental measures and recommending modifications of WTO provisions.[72] There are approximately 200 multilateral environmental agreements. Agroindustries producing high-value agricultural products often are severely affected by environmental codes and standards since the production systems imply an intensive system and a high use of inputs. Effective regulatory mechanisms are particularly important for those countries whose comparative advantage lie in natural resource exports in environmentally sensitive sectors such as agriculture, minerals, forestry, fisheries, and tourism (DFID 2000).

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[71] The most expensive SPS controls involve products such as meat and other animal products and unprocessed vegetables and fruits.

[72] The CTE replaced the GATT Group on Environmental Measures and International Trade, which was initiated in 1971. The group did not become active until 1991, when Mexico disputed the US restrictions on tuna imports to protect dolphins.

A clear precedent also is set by the 1999 US Executive Order (EO) 13141, which requires the United States government, through the Council on Environmental Quality and the US Trade Representative (USTR), to conduct an environmental review of proposed trade agreements, including both domestic and "reasonably foreseeable global and transboundary impacts." The Executive Order covers "implications for US environmental regulations, statutes and other obligations and instruments." The overarching goal is to "ensure that....Environmental considerations are integrated into the development of US trade negotiating objectives and positions."[73] Environmental reviews already have been undertaken in connection with NAFTA, the US–Jordan Free Trade Agreement (FTA), the proposed FTAs with Chile and Singapore, and the proposed Free Trade Area of the Americas (FTAA).

Market Regulation

In many cases, international environmental regulations are less stringent than the standards set by the private sector. This is evident in the number of measures (ecolabels, requirements set by buyers, systems of financial incentives and disincentives, and certification of environmental management systems) that now operate in global industries.

Compliance with environmental guidelines can bestow a comparative advantage on companies. An example is the internationally accepted series of standards for the certification of environmental management systems (ISO 14000) stipulated by the International Organization for Standardization, These voluntary standards act as tools to spread knowledge and information, enabling the company utilizing the standards to access scientific data on the specific company's environmental impact and to develop a comprehensive environmental policy within the company The most relevant standard to the cut flower industry is ISO 14001. It requires registration of the environmental performance and documentary evidence of declared policies and procedures and allows growers to set their own environmental targets and choose concrete actions that are most suitable for their companies.

International Labour Organisation Conventions

Since its founding in 1918, the ILO has promulgated numerous labor standards in over 180 ILO Conventions and numerous Recommendations. In 1998 the ILO adopted the Declaration of Fundamental Principles and Rights at Work, which states that all human beings at work hold certain fundamental rights (Gammage and others 2002). These fundamental rights (core labor conventions) include: freedom of association and the effective recognition of the right to collective bargaining; elimination of all forms of forced or compulsory labor; effective abolition of child labor; and the elimination of discrimination in employment and occupation. These conventions have been internationally negotiated and agreed through a process involving governments, employers, and trade unions and can provide a basis to harmonize national labor regulations as well as industry-specific codes of conduct.

The EU further supports respect for core labor standards in its own trading system in the Generalized System of Preferences (GSP), under which countries that respect the core ILO standards are eligible for improved access to the European market. Countries engaging in forced labor have been liable to lose their duty-free access to the EU market since 1995, while revisions to the GSP protocol in 2001 have extended this liability to flagrant violation of any of the core labor standards (International Confederation of Free

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[73] Council on Environmental Quality and the United States Trade Representative, Guidelines for Implementation of Executive Order 13141< http://www.ustr.gov/releases/2000/12/guides.html>.

Trade Unions 2002). A list of relevant ILO conventions and international legal safeguards for women are provided in boxes A1.1. and A1.2

Box A1.1 Relevant ILO Conventions

- ILO Convention 29 Forced Labour Convention (1930)
- ILO Convention 83 Maternity Protection Convention, 2000 (effective 2002)
- ILO Convention 87 Freedom of Association and Protection of the Right to Organise Convention (1948)
- ILO Convention 98 Right to Organise and to Bargain Collectively Convention (1949)
- ILO Convention 105 Abolition of Forced Labour Convention (1957)
- ILO Convention 100 Equal Remuneration Convention (1951)
- ILO Convention 110 Plantations Convention (1958), and [??] Protocol to Plantations Convention (1982)
- ILO Convention 111 Discrimination (Employment and Occupation) Convention (1958)
- ILO Convention 138 Minimum Age Convention (1973)
- ILO Convention 155 Occupational Safety and Health Convention (1981)
- ILO Convention 156 Workers with Family Responsibilities (1981)
- ILO Convention 170 Chemicals Convention (1990)
- ILO Convention 175 on Part-Time Work (1994)
- ILO Convention 177 on Home Work (1996)
- ILO Convention 184 on Safety and Health in Agriculture (not yet in force)
- ILO Convention 192 Worst Forms of Child Labour (1999)

Box A1.2 International Treaties and Other Commitments Relevant to Women and Dates of Adoption

- Universal Declaration of Human Rights (1948)
- International Covenant on Economic, Social and Cultural Rights (1966)
- International Covenant on Civil and Political Rights (1966)
- Convention on the Elimination of All Forms of Discrimination against Women (1979)
- Convention on the Rights of the Child (1989)
- Convention on the Political Rights of Women (1952)Fourth World Conference on Women: Beijing Declaration and Platform for Action (1995)
- UN International Conference on Population and Development: Cairo Programme of Action (1994)
- World Conference on Human Rights: Vienna Declaration and Programme of Action (1993)
- International Convention on the Elimination of All Forms of Racial Discrimination (1965)
- Supplementary Convention on the Abolition of Slavery, the Slave Trade and Institutions and Practices Similar to Slavery (1956)
- Convention on the Suppression of the Traffic in Persons and the Exploitation of the Prostitution of Others (1949)
- Convention and Protocol Relating to the Status of Refugees (1950)
- International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (not yet in force)
- Protocol Against the Smuggling of Migrants by Land, Sea or Air (not yet in force)
- Protocol to Prevent, Suppress and Punish Trafficking of Persons, Especially Women and Children (not yet in force)
- UN Conference on Environment and Development: Rio Declaration and Agenda 21 Programme of Action for Sustainable Development (1992)

Sources: Gammage and others 2002, Office of the High Commissioner for Human Rights 2003.

Appendix 2. Emergence of Codes

Over the last few decades, codes of conduct covering the labor and environmental conditions in global supply chains have mushroomed. Several factors underlie this growth:

Changing public attitudes. Over the last decade, stakeholders have exerted pressure on companies to be more transparent and open in their activities, and more proactive in their protection of developing country workers. Throughout North America and Europe, consumer concerns about social and environmental accountability are having a visible impact on the commercial success of products and companies in the global marketplace. This impact is particularly felt regarding high-value agriculture commodities, for which tight margins mean that even a small loss of market share can have devastating consequences for a company. As corporate profitability increasingly hinges on responsible business, companies are taking ethical concerns more seriously and more closely monitoring the conditions throughout their global supply chains.

Liberalization and growth in global supply chains. Codes have emerged within a free market context, which has facilitated capital mobility and the movement of traded goods. Simultaneously, structural adjustment and stabilization policies have increased the export orientation of many developing countries. Much of this trade does not take place in a traditional "free market" context but within coordinated global supply chains that connect firms, workers, and activities across national boundaries. These supply chains form the channels through which codes operate.

Competitive pressures in global supply chains. In high-value agriculture industries, product differentiation and innovation have become important sources of competitive advantage, particularly as global competition reduces the potential for differentiating products on the basis of price or quality alone. As more consumers make choices on the basis of social and environmental concerns, global companies are aware that codes can be a key marketing tool to differentiate their products from competitors (Nadvi and Waltring 2002).

Weakening nation states. In many cases, structural adjustment, deregulation, and liberalization have eroded the capacity of nation states to provide social protections to their citizens. As a result, the responsibility for social welfare and "global governance" increasingly is transferred to the private sector, with more corporations being viewed as the vehicles for achieving social and economic development goals.

Improvements in global communications. Global communications, information technology, and advanced transport and distribution systems have collapsed the barrier of distance and stimulated increased integration of both countries and industries. Technology has made it relatively simple for global networks of NGOs and consumers to access and disseminate information on the labor and environmental conditions of transnational corporations TNCs [define] in developing countries. Armed with more detailed and reliable information, NGOs and consumer groups are now better able to publicize adverse conditions found in the suppliers of global retailers.

Appendix 3. Distribution of Wages in High-Value Agriculture Sectors

Basic needs. In the Dominican Republic, Kenya, and Mexico, workers used their wages to meet basic day-to-day needs, such as rent, utilities, fuel, food, and clothing (Raynolds 1998, Dolan and Sutherland 2002, Barrón and Rello 2000). In Kenya, comparable proportions of men and women allocate their wages to these items (Dolan and Sutherland 2002).

Expenditures on durable goods. In Kenya, many male workers re-invested their wages in agriculture (for example, tools and inputs), thereby enabling their households to straddle several different types of agrarian-based activities. Similarly, sewing machines and salons were common investments among women. More than 80 percent of workers surveyed in Kenya reported that they would not have been able to purchase these goods without their jobs in horticulture (Dolan and Sutherland 2002).

Remittances. Most workers send remittances to families in rural areas. In Kenya, 83 percent of men and 74 percent of women send regular remittances 6 to 8 times per year to family members living elsewhere (Dolan and Sutherland 2002). These remittances are particularly important for households that have lost a key asset, that is, their daughter or son's labor, and have assumed responsibility for grandchildren. In Mexico, where most of the workers in the tomato industry are temporary migrants from poor regions of southern Mexico, remittances have been identified as essential to the welfare of households and villages in poor regions (Rello 2001).

Savings/investment. A study conducted in Mexico found that the amount of savings accumulated by migrant workers in tomato processing was substantial. All the families in the study saved over 5,512 Peso (US$593) during their seasonal work, enabling them to live for 6 months in their home communities without having to earn additional money (Barrón and Rello 2000). In Kenya, approximately one-third of men's and one-fifth of women's wages are saved every month (Dolan and Sutherland 2002).

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